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Atomic and Ionic Spectrum Lines Below 2000 Angstroms

Hydrogen Through Argon

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ABSTRACT

A critical tabulation of observed spectral lines below 2000 Angstroms has been prepared from the published literature up to July 1978. It is intended principally as an aid to those physicists and astronomers who deal with the spectra of highly stripped atoms. This report includes the first 18 elements, from hydrogen (including deuterium) through argon. The tabulation is divided into two main sections: the spectrum lines by spectrum, and a finding list. The entries for each element give the ionization species, ground state term, and ionization potential, as well as the best values of vacuum wavelength, intensity, and classification. A list of the pertinent references is appended at the end.

ATOMIC AND IONIC SPECTRUM LINES BELOW 2000 ÅNGSTROMS

Volume 1: Hydrogen Through Argon

INTRODUCTION

This report is a critical tabulation of spectral lines below 2000 Ångstroms prepared primarily from information in the literature published up to July 1978, and from a few publications after that date. It is intended as an aid to those researchers who deal with the spectra of highly stripped atoms. This volume includes spectra of atoms and ions for the first 18 elements, from hydrogen (including deuterium) through argon. It adds to, revises, and supersedes portions of a previous report.* A second volume will cover the elements potassium through krypton.

In most cases, only those lines which have been observed are listed in the tables. Notable exceptions are the lines of the hydrogenic atoms for which few observations have been reported for elements beyond oxygen. Further, even in the case of some observed lines, the wavelengths given are those predicted from a comprehensive analysis of the spectrum rather than the measured values (Ar II is an example). Additional lines have been predicted from unpublished extrapolations along isoelectronic sequences, and some unobserved weak lines in multiplets have been included for completeness. Such predicted values of wavelength are marked by the symbol P in the appropriate column.

ARRANGEMENT OF THE TABLES

The tabulation is divided into two main sections. Section I lists the lines by spectrum, and Section II is the finding list of all the lines listed in Section I, plus the $K\alpha$ X-ray lines of the elements from carbon through krypton.

The entries in Section I are arranged by element (ordered by atomic number), with subdivision into the first spectrum, second spectrum, etc. Within each spectrum, the lines are arranged in order of increasing wavelength. This means that in a multiplet with several lines, those lines may not be listed consecutively.

*R. L. Kelly with L. J. Palumbo, "Atomic and Ionic Emission Lines Below 2000 Ångstroms: Hydrogen Through Krypton," NRL Report 7599, June 1973.

Ground State and Ionization Potential

The ground configuration and ground-state term description are given for each stage of ionization, whether spectra below 2000 Ångstroms have been observed or not. The ionization potentials are listed in electron volts (eV) and in reciprocal centimeters (cm^{-1}) and have been obtained from individual publications, from Moore's* critical survey, or from the comprehensive compilation by Kelly and Harrison.† The values which are based on extrapolation rather than observation are enclosed in square brackets. The conversion factor between eV and cm^{-1} is $8,065.479 \text{ cm}^{-1} = 1 \text{ eV}$.

Wavelengths

The vacuum wavelengths are given as they are reported in the reference listed first for each line. Where more than one publication reports the wavelength of the line, the decision as to which to retain was based primarily on the author's judgement of the best value. This judgement was based on consideration of the date of publications, on probable accuracy from the type of instrumentation used and the wavelength standards employed, on the spectroscopic source used, and on the comparison of the observations with the wavelengths predicted from the best known values of energy levels.

The accuracy of the wavelength varies with the date of observations (because of the wavelength standards) and also with the wavelength range covered, the type of source, etc. As a general guide, lines measured since 1960 and with wavelengths reported to a tenth of a milliangstrom have an uncertainty less than 2 milliangstroms; all other lines reported since 1940 have uncertainties of two to ten in the last figure given.

Wavelength standards recommended in 1962 by Commission 14 of the International Astronomical Union (Ref. 308) are indicated with the symbol ST

*C. E. Moore, Report NSRDS-NBS34, Nat. Bureau of Standards, Washington, D.C. 20234 (Sept. 1970).

†R. L. Kelly and D. E. Harrison, Atomic Data 3, 177-93 (1971), and R. L. Kelly and D. E. Harrison, Atomic Data and Nuc. Data Tables 19, 301-303 (1977).

in the wavelength column. Those proposed by various authors in Ne, Ar, and Si are indicated by the symbol st.

The vacuum wavenumber has been omitted since it can be obtained by a simple inversion of the vacuum wavelength.

Intensity

Only a single intensity is given for each line, selected where possible from the source in which the particular spectrum was reported as most prominent. The listed intensities have been normalized to a maximum of 1000 for convenience in comparing the different references. The normalization procedure used was generally a linear or logarithmic transformation of the intensities reported by the original authors. (There continues to be a need for a single, consistently used intensity scale. The normalization to 1000 in this report was adopted as a compromise between the long-standing scale extending from 00 to 10 and some later publications with maximum intensities of 100,000, or even more.)

As always the comparison of intensities presents a most vexing problem, particularly when one reference overlaps another. In most publications, the intensities are significant only over a limited range of wavelengths for a particular source operated in some particular way. For various reasons, intensities given by different observers are seldom compatible. No better statement on intensities can be made than that of Russell and Moore* in their analysis of the arc spectrum of iron.

"The recorded intensities of the lines in the great majority of spectra are in a state of primeval chaos. Different observers have used radically different scales. The older estimates were usually made on a scale from 1 for the weakest lines to 10 for the strongest. In some recent work a far more open scale has been adopted—from 1 to 1000 or even to 10000. Even the last probably falls short of representing the actual range.

"In a few cases where an experienced observer who has a fairly stable scale of estimation, has photographed the whole range of the spectrum, and made his estimates approximately homogeneous by comparison of overlapping plates, the recorded intensities give a good idea of the relative strengths of the lines on the photographs.

"In the present case, however, one has to deal with a hodge-podge of estimates on all sorts of scales. The attempt to reduce these to an even roughly homogeneous system is hopeless.

*H. N. Russell and C. E. Moore, Trans. Am. Phil. Soc. 34, 113-79 (1944).

"The intensities found in the tables have been taken from what seemed to be as good a source as any (not always the same as for the wavelength).

"All users of the tables should, however, be explicitly warned that the tabulated intensities afford only a rough general indication, and should not be used for any quantitative purpose without special study."

Energy Levels

The energy levels (energies above the ground state) are shown in the column headed Levels. The units are kilo-Kaysers (1000 cm^{-1}), each value being rounded off in order to conserve space. The levels are taken from the files of the Spectroscopic Data Center. The energy level data set, selected from the various sources to show "best" values, is available to interested users on magnetic tape or punched cards.

Notes

A few descriptive symbols are used, in the notes column. The symbols have the following meanings:

- A Observed in absorption
- F Forbidden by electric dipole selection rules
- N Not classified
- P Predicted value of wavelength*
- Q Uncertain classification
- ST Standard Line (recommended)
- st Standard Line (proposed)
- Z Autoionizing; upper state above the first ionization limit
- ZZ Both states above the first ionization limit

Multiplet Numbers

The multiplet numbers assigned by C. E. Moore (Ref. 488 and later publications) are given in a separate column. Some lines missing from the multiplet tables are added, but lines with the same wavelength in a multiplet have not been listed twice.

*There are three classes of predicted lines: (a) lines observed for which the calculations of energy levels are superior to the observations, as in the hydrogenic spectra and in other specific transitions; (b) those which have not been observed but for which Ritz calculations between known levels can be made, as in many of the forbidden lines; (c) those for which one or both of the energy levels have been found by Hartree-Fock type calculation, by interpolations, or by extrapolation. These three classes are not separately distinguished in the notes column.

Classification

The classifications of the transitions are given in the usual form, with the lower state listed first. They are divided into columns showing configuration, term, and J-value.

Configuration—The configurations are given in enough detail to be self-explanatory. In general, those parts of the configuration which are given represent electrons outside the next lower closed shell.

Term—The symbol g is used to denote the ground term. Otherwise, the term designation is given in a notation which follows that of Cowan and Andrew,* presented below in symbolic form for the two-electron case:

Type of Coupling	Description	Notation
LS	$[(l_1 l_2)L, (s_1 s_2)S]J$	$2s+1L_J$
LK	$[(l_1 l_2)L, s_1]K, s_2 J$	$L[K]_J$
jK	$[(l_1 s_1)j_1, l_2]K, s_2 J$	$j_1[K]_J$
jj	$[(l_1 s_1)j_1, (l_2 s_2)j_2]J$	$(j_1 j_2)_J$

J-Value—The J-values are given in a separate column to avoid the use of subscripts.

In general, the primary references for notation and classification of the observed spectra are the fine publications from the National Bureau of Standards. In all cases, the wavelength of the transition was compared with that predicted from the known "best" energy levels to verify the classification. Questionable or uncertain classifications are indicated with the letter Q.

We have departed from older notation in not using primes, double primes, etc., to indicate those configurations which have, as parent terms, excited states of the next higher ion. Instead, the parent terms are given where they are known and where they are not immediately obvious.

References

References (appearing at the end of this report) are given with each spectral line to allow the reader to refer to the original publications. In every case, the first reference refers to the publication giving the wavelength.

PREPARATION OF THE TABLES

The data were assembled from the literature and punched onto cards. Duplications were removed and disagreements resolved by comparing the observed spectra with the spectra predicted from

the atomic energy levels. These lengthy calculations were all carried out at the Naval Postgraduate School. The "best" classification was determined by the agreement, in the judgement of the author, between observed and predicted wavelengths.

The information was set in print at the Government Printing Office on the Videocomp, an automatic photocomposition machine which produces, directly from magnetic tapes, photographic negatives for making printing plates. The large number of page formats required to keep this volume fairly compact made it necessary to write a complex edit code which produced a tape to drive the Videocomp directly. The punched card information was copied onto magnetic tape. This tape was run through a special computer editing code which wrote another tape (containing the original data plus editing information) which then served as the input for the Videocomp. The writing and running of the edit code was carried out by Dr. L. J. Palumbo of the Naval Research Laboratory.

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Many spectroscopists have contributed preprints of their work for inclusion in these tables. It is a pleasure to thank V. A. Boiko, L. Cohen, A. M. Crooker, G. A. Doschek, B. Edén, B. C. Fawcett, U. Feldman, V. Kaufman, and E. Ya. Kononov for their numerous contributions. This extended data compilation could not have been completed had it not been for the careful programming of Dr. Don E. Harrison, Jr.

The author would like to point out that the handsome appearance of this volume is the result of the very fine capability and thoroughness demonstrated by Dr. Palumbo. The programming for the edit code was nontrivial, requiring continued cross checking and searches for internal consistency. Many minor errors were detected in these searches. If additional errors are found, particularly errors in judgement, they are the responsibility of the author and should be reported to him.

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*R. D. Cowan and K. L. Andrew, J. Opt. Soc. Am., 55, 502-516 (1965).

IONIZATION POTENTIAL REFERENCES

H I	1042	Ne I	382	Si I	106	Cl I	611
D I	1042	Ne II	563	Si II	504	Cl II	613
		Ne III	1116	Si III	504	Cl III	1116
He I	1037	Ne IV	1116	Si IV	504	Cl IV	1116
He II	1042	Ne V	1116	Si V	941	Cl V	1116
		Ne VI	1116	Si VI	1116	Cl VI	1116
Li I	1116	Ne VII	1116	Si VII	1116	Cl VII	753
Li II	1116	Ne VIII	1116	Si VIII	1116	Cl VIII	1116
Li III	1042	Ne IX	918	Si IX	1116	Cl IX	1116
		Ne X	1042	Si X	833	Cl X	1116
Be I	1116			Si XI	1116	Cl XI	1116
Be II	1116	Na I	1019	Si XII	234	Cl XII	1116
Be III	428	Na II	752	Si XIII	918	Cl XIII	1116
Be IV	1042	Na III	525	Si XIV	1042	Cl XIV	1116
		Na IV	1116			Cl XV	1116
B I	984	Na V	1116	P I	1086	Cl XVI	918
B II	532	Na VI	1116	P II	496	Cl XVII	1042
B III	531	Na VII	1116	P III	936		
B IV	1116	Na VIII	1116	P IV	937	Ar I	517
B V	1042	Na IX	1116	P V	524	Ar II	502
		Na X	918	P VI	734	Ar III	1116
C I	821	Na XI	1042	P VII	1116	Ar IV	1116
C II	287			P VIII	1116	Ar V	1116
C III	510	Mg I	96	P IX	1116	Ar VI	1116
C IV	510	Mg II	592	P X	1116	Ar VII	1116
C V	510	Mg III	426	P XI	1116	Ar VIII	753
C VI	1042	Mg IV	861	P XII	275	Ar IX	1116
		Mg V	1116	P XIII	1116	Ar X	1116
N I	214	Mg VI	1116	P XIV	918	Ar XI	1116
N II	521	Mg VII	1116	P XV	1042	Ar XII	1116
N III	521	Mg VIII	833			Ar XIII	1116
N IV	511	Mg IX	832	S I	841	Ar XIV	1116
N V	313	Mg X	234	S II	1116	Ar XV	1116
N VI	918	Mg XI	918	S III	1116	Ar XVI	977
N VII	1042	Mg XII	1042	S IV	1116	Ar XVII	918
				S V	1116	Ar XVIII	1042
O I	523	Al I	1006	S VI	753		
O II	1116	Al II	961	S VII	1116		
O III	1116	Al III	826	S VIII	1116		
O IV	86	Al IV	888	S IX	1116		
O V	83	Al V	113	S X	1116		
O VI	226	Al VI	1116	S XI	1116		
O VII	628	Al VII	1116	S XII	1116		
O VIII	1042	Al VIII	1116	S XIII	1116		
		Al IX	833	S XIV	1116		
P I	420	Al X	832	S XV	918		
P II	538	Al XI	1116	S XVI	1042		
P III	537	Al XII	918				
P IV	1116	Al XIII	1042				
P V	1116						
P VI	1116						
P VII	1116						
P VIII	918						
P IX	1042						

References not included in the main list, page 399

- 502 Minnhagen, L., Ark. Fys. 18, 97-132 (1960).
- 531 Olme, A., Ark. Fys. 40, 35-47 (1969).
- 1006 Erikson, K.B.S. and H.B.S. Isberg, Ark. Fys. 33, 593-95 (1966).
- 1019 Risberg, P., Ark. Fys. 10, 583-606 (1956).
- 1037 Martin, W.C., J. Phys. Chem. Ref. Data 2, 257-66 (1973).
- 1042 Erickson, G.W., J. Phys. Chem. Ref. Data 6, 831-69 (1977).
- 1086 Svendenius, N., Physica Scripta 22, 240-87 (1980).
- 1116 Moore, C.E., NSRDS-NBS 34 (Sept. 1970).

SECTION I

Spectrum Lines by Element and Stage of Ionization

H I

H I

HYDROGEN I (H^+), $Z = 1$ Ground State $1s \ ^2S_{1/2}$ (1 electron)Ionization Potential $109\,576.7737\text{ cm}^{-1}$; 13.599 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
17	2	914.576	0.0 - 109.34	$1s - 18p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
16	2	914.919	0.0 - 109.30	$1s - 17p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
15	2	915.329	0.0 - 109.25	$1s - 16p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
14	3	915.824	0.0 - 109.19	$1s - 15p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
13	3	916.429	0.0 - 109.12	$1s - 14p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
12	4	917.181	0.0 - 109.03	$1s - 13p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
11	5	918.129	0.0 - 108.92	$1s - 12p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
10	7	919.351	0.0 - 108.77	$1s - 11p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
9	9	920.963	0.0 - 108.58	$1s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
8	10	923.19 ^a	0.0 - 108.32	$1s - 9p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
7	20	926 ^a .26	0.0 - 107.97	$1s - 8p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
6	30	930.748	0.0 - 107.44	$1s - 7p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
5	40	937.803	0.0 - 106.63	$1s - 6p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
4	70	949.743	0.0 - 105.29	$1s - 5p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
3	130	972.537	0.0 - 102.82	$1s - 4p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
2	300	1025.722	0.0 - 97.49	$1s - 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
1	670	1215.6683	0.0 - 82.26	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
1	330	1215.6737	0.0 - 82.26	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 488

D I

D I

DEUTERIUM I (D^{+}), $Z = 1$ Ground State $1s\ ^2S_{1/2}$ (1 electron)Ionization Potential $109\,708.6165\text{ cm}^{-1}$; 13.603 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	$J - j$	Notes	References
7		920.712	0.0 - 108.61	$1s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		922.899	0.0 - 108.35	$1s - 9p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		925.974	0.0 - 107.99	$1s - 8p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		930.495	0.0 - 107.47	$1s - 7p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
6	40	937.548	0.0 - 106.66	$1s - 6p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 487
5								
4	70	949.485	0.0 - 105.32	$1s - 5p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 487
3	140	972.272	0.0 - 102.85	$1s - 4p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 487
2	320	1025.443	0.0 - 97.52	$1s - 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 487
1	330	1215.3376	0.0 - 82.28	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 487
1	670	1215.3430	0.0 - 82.28	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 487

HELIUM I (He^{+}), $Z = 2$ Ground State $1s^2\ ^1S_0$ (2 electrons)Ionization Potential $198\,310.76\text{ cm}^{-1}$; 24.588 eV

Multiplet	Ref. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
10	20	286.4	169.09 - 518.24	$1s2p - 2p4p$	$^3P - ^3D$	2-3	Z	398
	150	294.1	169.09 - 509.09	$1s2p - 2p3d$	$^3P - ^3D$	2-3	Z	398
	100	295.2	171.14 - 509.89	$1s2p - 2p3p$	$^3P - ^3P$	1-1	Z	398
	100	300.6	185.56 - 518.24	$1s3p - 2p4p$	$^3P - ^3D$	2-3	Z	398
	150	302.4	186.10 - 516.78	$1s3d - 2p3d$	$^3D - ^3P$	3-2	P, Z	398
	325	304.5	186.10 - 514.47	$1s3d - 2p3d$	$^3D - ^3D$	3-3	Z	398
	175	305.4	186.11 - 513.55	$1s3d - 2p3d$	$^3D - ^3D$	3-2	P, Z	398
	270	305.8	191.22 - 518.24	$1s4p - 2p4p$	$^3P - ^3D$	2-3	P, Z	398
	190	309.1	185.56 - 509.09	$1s3p - 2p3p$	$^3P - ^3D$	2-3	Z	398
	30	311.2	191.22 - 512.6	$1s4p - 2p3p$	$^3P - ^3P$	2-2	P, Z	398
	30	314.6	191.22 - 509.09	$1s4p - 2p3p$	$^3P - ^3D$	2-3	Z	398
	370	320.29	169.09 - 481.30	$1s2p - 2p^2$	$^3P - ^3P$	2-2	P, Z	398
	130	338.1	185.56 - 481.30	$1s3p - 2p^2$	$^3P - ^3P$	2-2	Z	398
	30	344.7	191.22 - 481.30	$1s4p - 2p^2$	$^3P - ^3P$	2-2	Z	398
	4	505.5001	0.0 - 197.82	$1s^2 - 1s13p$	$g^1S - ^1P$	0-1		45
	6	505.6840	0.0 - 197.75	$1s^2 - 1s14p$	$g^1S - ^1P$	0-1		497
	8	505.9122	0.0 - 197.66	$1s^2 - 1s13p$	$g^1S - ^1P$	0-1		497
	10	506.2000	0.0 - 197.55	$1s^2 - 1s12p$	$g^1S - ^1P$	0-1		497
	15	506.5702	0.0 - 197.41	$1s^2 - 1s11p$	$g^1S - ^1P$	0-1		497
	20	507.0576	0.0 - 197.22	$1s^2 - 1s10p$	$g^1S - ^1P$	0-1		497, 488
	9	507.7178	0.0 - 196.96	$1s^2 - 1s9p$	$g^1S - ^1P$	0-1		497, 488
	8	508.6431	0.0 - 196.60	$1s^2 - 1s8p$	$g^1S - ^1P$	0-1		497, 488
	7	509.9979	0.0 - 196.08	$1s^2 - 1s7p$	$g^1S - ^1P$	0-1		497, 488
		510.2586	0.0 - 195.98	$1s^2 - 1s7s$	$g^1S - ^1S$	0-0	F	497
	6	512.0982	0.0 - 195.28	$1s^2 - 1s6p$	$g^1S - ^1P$	0-1		497, 488
		512.5183	0.0 - 195.12	$1s^2 - 1s6s$	$g^1S - ^1S$	0-0	F	497
	5	515.6165	0.0 - 193.94	$1s^2 - 1s5p$	$g^1S - ^1P$	0-1		497, 488
		516.3592	0.0 - 193.66	$1s^2 - 1s5s$	$g^1S - ^1S$	0-0	F	497
	4	522.2128	0.0 - 191.49	$1s^2 - 1s4p$	$g^1S - ^1P$	0-1		497, 488
		523.7238	0.0 - 190.94	$1s^2 - 1s4s$	$g^1S - ^1S$	0-0	F	497
	3	537.0296	0.0 - 186.21	$1s^2 - 1s3p$	$g^1S - ^1P$	0-1		497, 488
		537.3309	0.0 - 186.11	$1s^2 - 1s3d$	$g^1S - ^1D$	0-2	F	497
		538.8956	0.0 - 185.56	$1s^2 - 1s3p$	$g^1S - ^3P$	0-1		497
		540.9354	0.0 - 184.86	$1s^2 - 1s3s$	$g^1S - ^1S$	0-0	F	497
	2	584.3340	0.0 - 171.14	$1s^2 - 1s2p$	$g^1S - ^1P$	0-1		497, 488
	1	591.4117	0.0 - 169.09	$1s^2 - 1s2p$	$g^1S - ^3P$	0-1		497, 488
		601.4041	0.0 - 166.28	$1s^2 - 1s2s$	$g^1S - ^1S$	0-0	F	497
		625.563	0.0 - 159.86	$1s^2 - 1s2s$	$g^1S - ^3S$	0-1	F, P	375

HELIUM II (He^{++}), $Z = 2$ Ground State $1s\ ^4S_{1/2}$ (1 electron)Ionization Potential $438\,908.8863\text{ cm}^{-1}$; 54.418 eV

Multiplet	Ref. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
11	5	229.431	0.0 - 435.86	$1s - 12p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
10	6	229.736	0.0 - 435.28	$1s - 11p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
9	9	230.139	0.0 - 434.52	$1s - 10p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
8	12	230.686	0.0 - 433.49	$1s - 9p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
7	17	231.454	0.0 - 432.05	$1s - 8p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
6	24	232.584	0.0 - 429.95	$1s - 7p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
5	40	234.347	0.0 - 426.72	$1s - 6p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
4	70	237.331	0.0 - 421.35	$1s - 5p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
3	130	243.027	0.0 - 411.49	$1s - 4p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
2	320	256.317	0.0 - 390.14	$1s - 3p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
1	665	303.7804	0.0 - 329.19	$1s - 2p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488
1	335	303.7858	0.0 - 329.18	$1s - 2p$	$g^4S - ^4P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 488
		942.490	329.18 - 435.28	$2s - 11p$	$^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		942.538	329.19 - 435.28	$2p - 11d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$	P	309
19	9	949.305	329.18 - 434.42	$2s - 10p$	$^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 488

He II

He II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
19	17	949.354	329.19 - 434.52	2p - 10d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
18	13	958.675	329.18 - 433.49	2s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
18	22	958.724	329.19 - 433.49	2p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
17	18	972.088	329.18 - 432.05	2s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
17	32	972.138	329.19 - 432.05	2p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
16	27	992.338	329.18 - 429.95	2s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
16	48	992.391	329.19 - 429.95	2p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
15	42	1025.246	329.18 - 426.72	2s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
15	77	1025.302	329.19 - 426.72	2p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
14	73	1084.913	329.18 - 421.35	2s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
14	132	1084.975	329.19 - 421.35	2p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
13	143	1215.095	329.18 - 411.48	2s - 4p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
13	260	1215.171	329.19 - 411.48	2p - 4d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
13	30	1215.175	329.19 - 411.48	2p - 4d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
12	333	1640.345	329.18 - 390.14	2s - 3p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309,488
12	600	1640.474	329.19 - 390.14	2p - 3d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488
12	70	1640.490	329.19 - 390.14	2p - 3d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309,488

Li I

Li II

LITHIUM I (Li^{+}), $Z = 3$ Ground State $1s^2 2s \ ^2S_{1/2}$ (3 electrons)Ionization Potential $43\,487.150\text{ cm}^{-1}$; 5.392 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		199.23	42.30 - 544.23	$1s^2 10s - 1s2p(^1P^o) 10s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.24	42.51 - 544.42	$1s^2 11s - 1s2p(^1P^o) 11s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.25	42.00 - 543.88	$1s^2 9s - 1s2p(^1P^o) 9s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.26	41.59 - 543.44	$1s^2 8s - 1s2p(^1P^o) 8s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.29	40.97 - 542.75	$1s^2 7s - 1s2p(^1P^o) 7s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.31	39.59 - 541.72	$1s^2 6s - 1s2p(^1P^o) 6s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.40	38.30 - 539.80	$1s^2 5s - 1s2p(^1P^o) 5s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		199.61	35.01 - 535.99	$1s^2 4s - 1s2p(^1P^o) 4s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		200.32	27.21 - 526.41	$1s^2 3s - 1s2p(^1P^o) 3s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		207.5	14.90 - 496.83	$1s^2 2p - 1s2p^o$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	126
		210.46	0.0 - 475.15	$1s^2 2s - 1s2p(^1P^o) 2s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	887
		1425.11	463.52 - 533.69	$1s2s \ ^1S - 1s2p^o 5p$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375
		1491.87	463.52 - 530.55	$1s2s \ ^3S - 1s2p^o 4p$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375
		1674.76	463.52 - 523.23	$1s2s2p - 1s2p^o 3p$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375
		1901.50	463.52 - 516.11	$1s2s2p - 1s2s6s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375
		1980.59	463.52 - 514.01	$1s2s2p - 1s2s5s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375

LITHIUM II (Li^{+}), $Z = 3$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential $610\,079.0\text{ cm}^{-1}$; 75.641 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		75.64	0.0 - 1322.01	$1s^2 - 2s4p$	$g^1S - ^1P^o$	0 - 1	Z	124
		76.98	0.0 - 1299.02	$1s^2 - 2s3p$	$g^1S - ^1P^o$	0 - 1	Z	124
		82.49	0.0 - 1212.16	$1s^2 - 2s2p$	$g^1S - ^1P^o$	0 - 1	Z	124
		125.5	494.26 - 1291.2	$1s2p - 2p3p$	$^3P^o - ^3D$	2 - 3	Z	126
		136.5	561.24 - 1293.8	$1s3d - 2p3d$	$^3D - ^3D^o$	3 - 3	Z	126
		140.5	494.26 - 1206.0	$1s2p - 2p^o$	$^1P^o - ^1P$	2 - 2	Z	126
		155.5						126
		166.39	0.0 - 601.00	$1s^2 - 1s7p$	$g^1S - ^1P^o$	0 - 1		124
		167.27	0.0 - 597.84	$1s^2 - 1s6p$	$g^1S - ^1P^o$	0 - 1		124
		168.74	0.0 - 592.63	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0 - 1		124
3	100	171.582	0.0 - 582.83	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1		168, 488, 596
2	100	178.015	0.0 - 561.75	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1		168, 488, 596
1	300	199.282	0.0 - 501.81	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1		168, 488, 596
		210.07	0.0 - 476.03	$1s^2 - 1s2s$	$g^1S - ^1S$	0 - 1	F, P	375
	5	944.73	476.03 - 581.89	$1s2s - 1s4p$	$^1S - ^1P^o$	1 - 2		562
	5	1017.88	494.26 - 592.50	$1s2p - 1s5d$	$^1P^o - ^1D$	2 - 3		562
		1036.						126
	15	1131.884	494.26 - 582.61	$1s2p - 1s4d$	$^1P^o - ^1D$	2 - 3		562
		1139.	1206.0 - 1293.8	$2p^o - 2p3d$	$^3P^o - ^3D^o$	2 - 3	P, ZZ	126
	5	1166.63	494.26 - 579.98	$1s2p - 1s4s$	$^1P^o - ^1S$	2 - 1		562
	700	1198.082	476.03 - 559.50	$1s2s - 1s3p$	$^1S - ^1P^o$	1 - 2		562
	10	1237.287	501.81 - 582.63	$1s2p - 1s4d$	$^1P^o - ^1D$	1 - 2		562
	5	1253.324	501.81 - 581.60	$1s2p - 1s4s$	$^1P^o - ^1S$	1 - 0		562
	60	1420.891	491.37 - 561.75	$1s2s - 1s3p$	$^1S - ^1P^o$	0 - 1		562
	300	1492.931	494.26 - 561.24	$1s2p - 1s3d$	$^1P^o - ^1D$	1 - 2		307, 562
	500	1492.973	494.26 - 561.24	$1s2p - 1s3d$	$^1P^o - ^1D$	2 - 3		307, 562
	100	1493.036	494.27 - 561.24	$1s2p - 1s3d$	$^1P^o - ^1D$	2 - 1		307, 562
	150	1653.076	494.26 - 554.75	$1s2p - 1s3s$	$^1P^o - ^1S$	1 - 1		307, 562
	250	1653.132	494.26 - 554.75	$1s2p - 1s3s$	$^1P^o - ^1S$	2 - 1		307, 562
	50	1653.212	494.27 - 554.75	$1s2p - 1s3s$	$^1P^o - ^1S$	0 - 1		307, 562
	400	1681.667	501.81 - 561.27	$1s2p - 1s3d$	$^1P^o - ^1D$	1 - 2		562
	100	1755.331	501.81 - 558.78	$1s2p - 1s3s$	$^1P^o - ^1S$	1 - 0		307, 788

Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential $987\,661.027\text{ cm}^{-1}$; 122.455 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
10 30 65 35		102.272	0.0 - 177.79	$1s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		102.515	0.0 - 575.47	$1s - 9p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		102.856	0.0 - 972.23	$1s - 8p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		103.359	0.0 - 967.51	$1s - 7p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		104.142	0.0 - 960.23	$1s - 6p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		105.468	0.0 - 948.16	$1s - 5p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		107.999	0.0 - 925.94	$1s - 4p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 185
		113.905	0.0 - 877.93	$1s - 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 185
		134.996	0.0 - 740.76	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 185
		135.001	0.0 - 740.73	$1s - 2p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 185
		421.854	740.74 - 977.79	$2s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		421.903	740.76 - 977.79	$2p - 10d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		426.017	740.74 - 975.47	$2s - 9p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		426.067	740.76 - 975.47	$2p - 9d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		431.977	740.74 - 972.23	$2s - 8p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		432.029	740.76 - 972.23	$2p - 8d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		440.976	740.74 - 967.51	$2s - 7p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		441.029	740.76 - 967.51	$2p - 7d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		455.598	740.74 - 960.23	$2s - 6p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		455.655	740.76 - 960.23	$2p - 6d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		482.112	740.74 - 948.16	$2s - 5p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		482.174	740.76 - 948.16	$2p - 5d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		539.957	740.74 - 925.94	$2s - 4p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		540.034	740.76 - 925.94	$2p - 4d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		728.908	740.74 - 877.93	$2s - 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		729.039	740.76 - 877.93	$2p - 3d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1001.347	877.92 - 977.79	$3s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1001.428	877.93 - 977.79	$3p - 10d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1001.457	877.93 - 977.79	$3d - 10f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1025.127	877.92 - 975.47	$3s - 9p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1025.211	877.93 - 975.47	$3p - 9d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1025.241	877.93 - 975.47	$3d - 9f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1060.330	877.92 - 972.23	$3s - 8p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1060.420	877.93 - 972.23	$3p - 8d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1060.452	877.93 - 972.23	$3d - 8f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1116.240	877.92 - 967.51	$3s - 7p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1116.339	877.93 - 967.51	$3p - 7d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1116.374	877.93 - 967.51	$3d - 7f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1214.945	877.92 - 960.23	$3s - 6p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1215.060	877.93 - 960.23	$3p - 6d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1215.100	877.93 - 960.23	$3d - 6f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1423.739	877.92 - 948.16	$3s - 5p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1423.892	877.93 - 948.16	$3p - 5d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1423.944	877.93 - 948.16	$3d - 5f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1928.552	925.93 - 977.79	$4s - 10p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1928.677	925.94 - 977.79	$4p - 10d$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1928.721	925.94 - 977.79	$4d - 10f$	$^2D - ^2F$	$\frac{1}{2} - \frac{3}{2}$	P	309

BERYLLIUM I (Be^{+}), $Z = 4$ Ground State $1s^2 2s^2 \ ^1S_0$ (4 electrons)Ionization Potential $75\,192.07\text{ cm}^{-1}$; 9.323 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		89.16	0.0 - 1121.6	$1s^2 2s^2 - 1s 2s(^1S)(3s 4p(^1P^*))$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		90.21	0.0 - 1108.5	$1s^2 2s^2 - 1s 2s(^1S)(3s 3p(^1P^*))$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		90.67	0.0 - 1102.9	$1s^2 2s^2 - 1s 2s(^1S)(3s 4p(^3P^*))$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		92.19	0.0 - 1084.8	$1s^2 2s^2 - 1s 2s(^1S)(3s 3p(^3P^*))$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		96.29	0.0 - 1038.5	$1s^2 2s^2 - 1s(2s 2p(^1P^*))4s$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		97.24	0.0 - 1028.4	$1s^2 2s^2 - 1s(2s 2p(^1P^*))3d$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		97.44	0.0 - 1026.3	$1s^2 2s^2 - 1s(2s 2p(^1P^*))3s$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		97.86	0.0 - 1021.9	$1s^2 2s^2 - 1s(2s 2p(^3P^*))4s$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		97.97	0.0 - 1020.7	$1s^2 2s^2 - 1s(2s 2p(^3P^*))4d$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		98.12	89.12 - 1108.5	$1s^2 2p(^1P^*)3p - 1s 2s(^1S)(3s 3p(^1P^*))$	$^1P - ^1P^*$	1 - 1	A, ZZ	519
		98.37	92.02 - 1108.5	$1s^2 2p(^1P^*)3p - 1s 2s(^1S)(3s 3p(^3P^*))$	$^1P - ^1P^*$	1 - 1	A, ZZ	519
		98.66	0.0 - 1013.6	$1s^2 2s^2 - 1s(2s 2p(^3P^*))3d$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		98.94	73.93 - 1084.8	$1s^2 2s 10s - 1s 2s(^1S)(3s 3p(^3P^*))$	$^1S - ^1P^*$	0 - 1	A, Z	519
		99.19	0.0 - 1008.2	$1s^2 2s^2 - 1s(2s 2p(^3P^*))3s$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		100.86	21.98 - 1013.5	$1s^2 2s 2p - 1s(2s 2p(^3P^*))3p$	$^1P^* - ^1D$	2 - 3	A, Z	519
		101.20	0.0 - 988.2	$1s^2 2s^2 - 1s 2s^2 4p$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		102.13	0.0 - 979.2	$1s^2 2s^2 - 1s 2s^2 3p$	$g^1S - ^1P^*$	0 - 1	A, Z	519
		104.67	21.98 - 977.4	$1s^2 2s 2p - 1s(2s(2p^2(^1P^*))(^1P^*))$	$^1P^* - ^1P$	2 - 2	A, Z	519
		105.80	21.98 - 967.2	$1s^2 2s 2p - 1s(2s(2p^2(^1S))(^1S))$	$^1P^* - ^1S$	2 - 1	A, Z	519
		107.26	21.98 - 954.3	$1s^2 2s 2p - 1s(2s(2p^2(^1D))(^1D))$	$^1P^* - ^1D$	2 - 3	A, Z	519
		107.38	0.0 - 931.3	$1s^2 2s^2 - 1s 2s^2 2p$	$g^1S - ^1P^*$	0 - 1	A, Z	519
125		1426.117	0.0 - 70.12	$1s^2 2s^2 - 1s^2 2s 5p$	$g^1S - ^1P^*$	0 - 1		333
250		1491.765	0.0 - 67.03	$1s^2 2s^2 - 1s^2 2s 4p$	$g^1S - ^1P^*$	0 - 1		333
1000		1661.478	0.0 - 60.19	$1s^2 2s^2 - 1s^2 2s 3p$	$g^1S - ^1P^*$	0 - 1		333, 541
100		1907.16	21.98 - 74.42	$1s^2 2s 2p - 1s^2 2s 12d$	$^1P^* - ^1D$	2 - 3		333, 541
100		1912.53	21.98 - 74.27	$1s^2 2s 2p - 1s^2 2s 11d$	$^1P^* - ^1D$	2 - 3		333, 541
200		1919.80	21.98 - 74.07	$1s^2 2s 2p - 1s^2 2s 10d$	$^1P^* - ^1D$	2 - 3		333, 541
300		1929.71	21.98 - 73.80	$1s^2 2s 2p - 1s^2 2s 9d$	$^1P^* - ^1D$	2 - 3		333, 541
500		1943.72	21.98 - 73.43	$1s^2 2s 2p - 1s^2 2s 8d$	$^1P^* - ^1D$	2 - 3		333, 541
100		1956.67	21.98 - 73.09	$1s^2 2s 2p - 1s^2 2s 8s$	$^1P^* - ^1S$	2 - 1		333, 541
900		1964.63	21.98 - 72.88	$1s^2 2s 2p - 1s^2 2s 7d$	$^1P^* - ^1D$	2 - 3		333, 541
300		1985.17	21.98 - 72.35	$1s^2 2s 2p - 1s^2 2s 7s$	$^1P^* - ^1S$	2 - 1		333, 541
100		1997.95	21.98 - 72.03	$1s^2 2s 2p - 1s^2 2s 6d$	$^1P^* - ^1D$	0 - 1		333, 541
300		1997.98	21.98 - 72.03	$1s^2 2s 2p - 1s^2 2s 5d$	$^1P^* - ^1D$	1 - 2		333, 541
600		1998.07	21.98 - 72.03	$1s^2 2s 2p - 1s^2 2s 6d$	$^1P^* - ^1D$	2 - 3		333, 541

BERYLLIUM II (Be^{++}), $Z = 4$ Ground State $1s^2 2s \ ^2S_{1/2}$ (3 electrons)Ionization Potential $146\,882.86\text{ cm}^{-1}$; 18.211 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		82.58	0.0 - 1211.0	$1s^2 2s - 1s(3s 3p(^1P^*))$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		83.66	0.0 - 1195.3	$1s^2 2s - 1s(3s 3p(^3P^*))$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		89.80	0.0 - 1113.5	$1s^2 2s - 1s 2p(^1P^*)6s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		90.04	0.0 - 1110.6	$1s^2 2s - 1s 2p(^1P^*)5s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		91.06	0.0 - 1098.2	$1s^2 2s - 1s 2p(^1P^*)4s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		91.36	0.0 - 1094.5	$1s^2 2s - 1s 2p(^3P^*)5s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		91.74	0.0 - 1090.0	$1s^2 2s - 1s 2p(^3P^*)4s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		92.61	0.0 - 1079.8	$1s^2 2s - 1s 2s(^1S)5p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		93.14	0.0 - 1073.7	$1s^2 2s - 1s 2p(^1P^*)3s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		93.42	0.0 - 1070.4	$1s^2 2s - 1s 2p(^3P^*)3s$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		93.93	0.0 - 1064.6	$1s^2 2s - 1s 2s(^1S)4p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		94.78	0.0 - 1055.1	$1s^2 2s - 1s 2s(^1S)3p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		95.76	0.0 - 1044.3	$1s^2 2s - 1s 2s(^1S)3p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		101.7	127.34 - 1110.6	$1s^2 5s - 1s 2p(^1P^*)5s$	$^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	Z	375
		102.49	0.0 - 975.7	$1s^2 2s - 1s(2s 2p(^1P^*))$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		104.40	0.0 - 957.8	$1s^2 2s - 1s(2s 2p(^3P^*))$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$	A, Z	519
		714.	1060. - 1200.06	$1s 2s 2p - 1s 2s 4d$	$^1P^* - ^1D$	$\frac{3}{2} - \frac{5}{2}$	A, ZZ	862
100		725.71	0.0 - 137.80	$1s^2 2s - 1s^2 7p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$		541
300		743.58	0.0 - 134.49	$1s^2 2s - 1s^2 6p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$		541
400		775.362	0.0 - 128.97	$1s^2 2s - 1s^2 5p$	$g^2S - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$		332, 541

Be II

Be III

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	500	842.025	0.0 - 118.76	$1s^2 2s - 1s^2 4p$	$g^4 S - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		332, 541
2	250	842.031	0.0 - 118.76	$1s^2 2s - 1s^2 4p$	$g^4 S - ^4 P$	$\frac{1}{2} - \frac{1}{2}$		332, 541
		865.3	1060. - 1175.57	$1s^2 2s 2p - 1s^2 5 3d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$	ZZ	862
	100	925.20	31.94 - 140.02	$1s^2 2p - 1s^2 8d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		541
	30	943.481	31.93 - 137.92	$1s^2 2p - 1s^2 7d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
	70	943.540	31.94 - 137.92	$1s^2 2p - 1s^2 7d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
	100	949.75	31.94 - 137.23	$1s^2 2p - 1s^2 7s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		541
	150	973.213	31.93 - 134.68	$1s^2 2p - 1s^2 6d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
	350	973.276	31.94 - 134.68	$1s^2 2p - 1s^2 6d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
		981.4	1050. - 1151.9	$1s^2 2p^2 - 1s^2 3d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$	ZZ	862
	50	983.984	31.93 - 133.56	$1s^2 2p - 1s^2 6s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 541
	150	984.048	31.94 - 133.56	$1s^2 2p - 1s^2 6s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 541
	200	1026.890	31.93 - 129.31	$1s^2 2p - 1s^2 5d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
	400	1026.959	31.94 - 129.31	$1s^2 2p - 1s^2 5d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
1	550	1036.299	0.0 - 96.50	$1s^2 2s - 1s^2 3p$	$g^4 S - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		332, 541
1	250	1036.319	0.0 - 96.50	$1s^2 2s - 1s^2 3p$	$g^4 S - ^4 P$	$\frac{1}{2} - \frac{1}{2}$		332, 541
	200	1048.147	31.93 - 127.34	$1s^2 2p - 1s^2 5s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 541
	400	1048.220	31.94 - 127.34	$1s^2 2p - 1s^2 5s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 541
	250	1142.956	31.93 - 119.42	$1s^2 2p - 1s^2 4d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
	500	1143.039	31.94 - 119.42	$1s^2 2p - 1s^2 4d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 541
		1155.9	1050. - 1136.5	$1s^2 2p^2 - 1s^2 3s$	$^4 P - ^4 P$	$\frac{1}{2} - \frac{3}{2}$	ZZ	862
5	330	1197.094	31.93 - 115.46	$1s^2 2p - 1s^2 4s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 541
5	670	1197.188	31.94 - 115.46	$1s^2 2p - 1s^2 4s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 488
4	555	1512.269	31.93 - 98.05	$1s^2 2p - 1s^2 3d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 488
4	1000	1512.407	31.94 - 98.06	$1s^2 2p - 1s^2 3d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 488
4	110	1512.419	31.94 - 98.05	$1s^2 2p - 1s^2 3d$	$^4 P - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		332, 488
3	500	1776.100	31.93 - 88.23	$1s^2 2p - 1s^2 3s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 488
3	1000	1776.307	31.94 - 88.23	$1s^2 2p - 1s^2 3s$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		332, 488
		1909.	1050. - 1102.58	$1s^2 2p^2 - 1s^2 3p$	$^4 P - ^4 P$	$\frac{1}{2} - \frac{3}{2}$	ZZ	862

BERYLLIUM III (Be^{2+}), $Z = 4$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 1241 242. cm^{-1} ; 153.896 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	0	76.096	1127.71 - 2441.8	$1s 3s - 2 3sp$	$^1 S - ^1 P$	0 - 1	Z	304
	10	76.477	1121.18 - 2428.7	$1s 3s - 2 3sp$	$^3 S - ^3 P$	1 - 2	Z	304
	40	78.530	956.50 - 2279.90	$1s 2s - 2s 2p$	$^3 S - ^3 P$	1 - 2	Z	304
	90	78.662	983.37 - 2254.68	$1s 2p - 2p^2$	$^3 P - ^3 P$	2 - 2	Z	304
	0	78.92	997.45 - 2264.54	$1s 2p - 2p^2$	$^1 P - ^1 D$	1 - 2	Z	304
	50	81.890	0.0 - 1221.14	$1s^2 - 1s 7p$	$g^1 S - ^1 P$	0 - 1		428, 217
	100	82.378	0.0 - 1213.93	$1s^2 - 1s 6p$	$g^1 S - ^1 P$	0 - 1		428, 217
	200	83.200	0.0 - 1201.89	$1s^2 - 1s 5p$	$g^1 S - ^1 P$	0 - 1		428, 217
	300	84.754	0.0 - 1179.83	$1s^2 - 1s 4p$	$g^1 S - ^1 P$	0 - 1		428, 217
	500	88.309	0.0 - 1132.39	$1s^2 - 1s 3p$	$g^1 S - ^1 P$	0 - 1		428, 217
	1000	100.2552	0.0 - 997.45	$1s^2 - 1s 2p$	$g^1 S - ^1 P$	0 - 1		715, 217
		104.55	0.0 - 956.50	$1s^2 - 1s 2s$	$g^1 S - ^1 S$	0 - 1	F, P	375
	25	509.99	983.37 - 1179.45	$1s 2p - 1s 4d$	$^3 P - ^3 D$	2 - 3		428
	10	519.31	997.45 - 1179.50	$1s 2p - 1s 4d$	$^1 P - ^1 D$	1 - 2		428
	90	582.078	956.50 - 1128.30	$1s 2s - 1s 3p$	$^3 S - ^3 P$	1 - 2		428
	40	661.322	981.18 - 1132.39	$1s 2s - 1s 3p$	$^1 S - ^1 P$	0 - 1		428
	150	675.593	983.37 - 1131.38	$1s 2p - 1s 3d$	$^3 P - ^3 D$	2 - 3		428
	40	725.586	983.37 - 1121.18	$1s 2p - 1s 3s$	$^3 P - ^3 S$	2 - 1		428
	30	746.228	997.45 - 1131.46	$1s 2p - 1s 3d$	$^1 P - ^1 D$	1 - 2		428, 217
	10	767.75	997.45 - 1127.71	$1s 2p - 1s 3s$	$^1 P - ^1 S$	1 - 0		428
	10	1114.69	1131.38 - 1221.09	$1s 3d - 1s 7f$	$^3 D - ^3 F$	3 - 4		217
	20	1213.12	1131.38 - 1213.82	$1s 3d - 1s 6f$	$^3 D - ^3 F$	3 - 4		217
	10	1214.32	1131.46 - 1213.81	$1s 3d - 1s 6f$	$^1 D - ^1 F$	2 - 3		217
	20	1362.36	1128.30 - 1201.70	$1s 3p - 1s 5d$	$^3 P - ^3 D$	2 - 3	P	217
	10	1401.52	1128.30 - 1199.65	$1s 3p - 1s 5s$	$^3 P - ^3 S$	2 - 1		217
	100	1421.26	1131.38 - 1201.74	$1s 3d - 1s 5f$	$^3 D - ^3 F$	2 - 3		217
	50	1422.86	1131.46 - 1201.74	$1s 3d - 1s 5f$	$^1 D - ^1 F$	2 - 3		217
	10	1435.17	1131.38 - 1201.06	$1s 3d - 1s 5p$	$^3 D - ^3 P$	3 - 2		217
	20	1440.77	1132.39 - 1201.80	$1s 3p - 1s 5d$	$^1 P - ^1 D$	1 - 2		217
	50	1754.69	1121.18 - 1178.17	$1s 3s - 1s 4p$	$^1 S - ^1 P$	1 - 2		428, 217

Be III

Be IV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
30 500		1918.46 1954.97	1127.71 - 1179.83 1178.30 - 1179.45	1s3s - 1s4p 1s3p - 1s4d	$^1S - ^1P$ $^3P - ^3D$	0 - 1 2 - 3	P	217 428, 217

BERYLLIUM IV (Be^{3+}), $Z = 4$ Ground State 1s $^2S_{1/2}$ (1 electron)Ionization Potential 1 756 018.824 cm^{-1} ; 217.720 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		57.522	0.0 - 1738.46	1s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		57.659	0.0 - 1734.34	1s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		57.851	0.0 - 1728.58	1s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		58.133	0.0 - 1720.19	1s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		58.574	0.0 - 1707.25	1s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.320	0.0 - 1685.79	1s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
10		60.743	0.0 - 1646.28	1s - 4p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 765
30		64.064	0.0 - 1560.93	1s - 3p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 765
65		75.926	0.0 - 1317.07	1s - 2p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 197
35		75.931	0.0 - 1316.98	1s - 2p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 197
		237.261	1316.99 - 1738.46	2s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		237.311	1317.07 - 1738.46	2p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		239.603	1316.99 - 1734.34	2s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		239.653	1317.07 - 1734.34	2p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		242.954	1316.99 - 1728.58	2s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		243.006	1317.07 - 1728.59	2p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		248.015	1316.99 - 1720.19	2s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		248.068	1317.07 - 1720.19	2p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		256.238	1316.99 - 1707.25	2s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		256.295	1317.07 - 1707.25	2p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		271.148	1316.99 - 1685.79	2s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		271.212	1317.07 - 1685.79	2p - 5d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		303.678	1316.99 - 1646.28	2s - 4p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		303.756	1317.07 - 1646.28	2p - 4d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		409.932	1316.99 - 1560.93	2s - 3p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		410.064	1317.07 - 1560.94	2p - 3d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		563.193	1560.90 - 1738.46	3s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		563.275	1560.93 - 1738.46	3p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		563.304	1560.94 - 1738.46	3d - 10f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		576.567	1560.90 - 1734.34	3s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		576.652	1560.93 - 1734.34	3p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		576.682	1560.94 - 1734.34	3d - 9f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		596.365	1560.90 - 1728.58	3s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		596.455	1560.93 - 1728.59	3p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		596.487	1560.94 - 1728.59	3d - 8f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		627.808	1560.90 - 1720.19	3s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		627.908	1560.93 - 1720.19	3p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		627.942	1560.94 - 1720.19	3d - 7f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		683.318	1560.90 - 1707.25	3s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		683.434	1560.93 - 1707.25	3p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		683.474	1560.94 - 1707.25	3d - 6f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		800.739	1560.90 - 1685.79	3s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		800.892	1560.93 - 1685.79	3p - 5d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		800.945	1560.94 - 1685.79	3d - 5f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1084.700	1646.27 - 1738.46	4s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1084.827	1646.28 - 1738.46	4p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1084.871	1646.28 - 1738.46	4d - 10f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1135.424	1646.27 - 1734.34	4s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1135.561	1646.28 - 1734.34	4p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1135.609	1646.28 - 1734.34	4d - 9f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1171.254	1560.90 - 1646.28	3s - 4p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1171.558	1560.93 - 1646.28	3p - 4d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1171.657	1560.94 - 1646.29	3d - 4f	$^2D - ^2F$	$\frac{3}{2} - \frac{5}{2}$	P	309
		1214.845	1646.27 - 1728.58	4s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1215.000	1646.28 - 1728.59	4p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309

Be IV

Be IV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		1215.053	1646.28 - 1728.59	4d - 8f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1352.873	1646.27 - 1720.19	4s - 7p	$^1S - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1353.061	1646.28 - 1720.19	4p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1353.125	1646.28 - 1720.19	4d - 7f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1639.959	1646.27 - 1707.25	4s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1640.224	1646.28 - 1707.25	4p - 6d	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1640.312	1646.28 - 1707.25	4d - 6f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1898.258	1685.78 - 1738.46	5s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1898.452	1685.79 - 1738.46	5p - 10d	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1898.519	1685.79 - 1738.46	5d - 10f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309

BORON I (B^{+}), $Z = 5$ Ground State $1s^2 2s^2 2p^1 P_{1/2}$ (5 electrons)Ionization Potential $66\,928.0\text{ cm}^{-1}$; 8.298 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		993.380	0.02 - 100.68	$2s^2 2p - 2s 2p(^3P^{\circ})6p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1010.902	0.0 - 98.92	$2s^2 2p - 2s 2p(^3P^{\circ})5p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1011.058	0.02 - 98.92	$2s^2 2p - 2s 2p(^3P^{\circ})5p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1047.647	0.0 - 95.45	$2s^2 2p - 2s 2p(^3P^{\circ})4p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1047.695	0.0 - 95.45	$2s^2 2p - 2s 2p(^3P^{\circ})4p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1047.825	0.02 - 95.45	$2s^2 2p - 2s 2p(^3P^{\circ})4p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1047.867	0.02 - 95.45	$2s^2 2p - 2s 2p(^3P^{\circ})4p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1129.701	0.0 - 88.52	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{1}{2}$	A, Z	919
		1129.881	0.02 - 88.52	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{1}{2}$	A, Z	919
		1142.105	0.0 - 87.56	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	375
		1142.269	0.02 - 87.56	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1142.304	0.02 - 87.56	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1151.207	0.0 - 86.86	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1151.281	0.0 - 86.86	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1151.422	0.02 - 86.86	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1151.489	0.02 - 86.86	$2s^2 2p - 2s 2p(^3P^{\circ})3p$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
10		1378.654	0.0 - 72.53	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	102, 274
20		1378.875	0.0 - 72.52	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	102, 274
40		1378.943	0.02 - 72.53	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	102, 274
10		1379.166	0.02 - 72.52	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	102, 274
		1413.940	$28.88 + X - 99.61 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})5d$	$^{\circ}P - ^{\circ}D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
30		1465.548	$28.87 + X - 97.10 + X$	$2s 2p^{\circ} - 2p^{\circ}$	$^{\circ}P - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919, 274
40		1465.663	$28.88 + X - 97.10 + X$	$2s 2p^{\circ} - 2p^{\circ}$	$^{\circ}P - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919, 274
20		1465.801	$28.88 + X - 97.10 + X$	$2s 2p^{\circ} - 2p^{\circ}$	$^{\circ}P - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919, 274
		1469.015	$28.88 + X - 96.95 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})4d$	$^{\circ}P - ^{\circ}D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1469.070	$28.88 + X - 96.95 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})4d$	$^{\circ}P - ^{\circ}D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1469.297	$28.88 + X - 96.94 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})4d$	$^{\circ}P - ^{\circ}D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1505.171	0.0 - 66.44	$2s^2 2p - 2s^2 15d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1505.517	0.02 - 66.44	$2s^2 2p - 2s^2 15d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1506.820	0.0 - 66.36	$2s^2 2p - 2s^2 14d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1507.168	0.02 - 66.36	$2s^2 2p - 2s^2 14d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1508.872	0.0 - 66.27	$2s^2 2p - 2s^2 13d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1509.220	0.02 - 66.27	$2s^2 2p - 2s^2 13d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1511.465	0.0 - 66.16	$2s^2 2p - 2s^2 12d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1511.816	0.02 - 66.16	$2s^2 2p - 2s^2 12d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1514.816	0.0 - 66.01	$2s^2 2p - 2s^2 11d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1515.168	0.02 - 66.01	$2s^2 2p - 2s^2 11d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1519.246	0.0 - 65.82	$2s^2 2p - 2s^2 10d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1519.598	0.02 - 65.82	$2s^2 2p - 2s^2 10d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1524.170	0.0 - 65.61	$2s^2 2p - 2s^2 10s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1524.530	0.02 - 65.61	$2s^2 2p - 2s^2 10s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1525.281	0.0 - 65.56	$2s^2 2p - 2s^2 9d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1525.637	0.02 - 65.56	$2s^2 2p - 2s^2 9d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1532.094	0.0 - 65.27	$2s^2 2p - 2s^2 9s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1532.451	0.02 - 65.27	$2s^2 2p - 2s^2 9s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1533.806	0.0 - 65.20	$2s^2 2p - 2s^2 8d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1534.166	0.02 - 65.20	$2s^2 2p - 2s^2 8d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1543.398	0.0 - 64.79	$2s^2 2p - 2s^2 8s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
		1543.763	0.02 - 64.79	$2s^2 2p - 2s^2 8s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102
20		1546.423	0.0 - 64.67	$2s^2 2p - 2s^2 7d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
30		1546.789	0.02 - 64.67	$2s^2 2p - 2s^2 7d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
5		1558.701	0.0 - 64.16	$2s^2 2p - 2s^2 7s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102, 134
10		1559.071	0.02 - 64.16	$2s^2 2p - 2s^2 7s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
10		1566.286	0.0 - 63.85	$2s^2 2p - 2s^2 6d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
20		1566.660	0.02 - 63.85	$2s^2 2p - 2s^2 6d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
30		1573.301	0.0 - 63.56	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
50		1573.679	0.02 - 63.56	$2s^2 2p - 2s 2p^{\circ}$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
		1574.868	$28.88 + X - 92.38 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})4s$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.340	$28.87 + X - 91.87 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.385	$28.87 + X - 91.87 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.451	$28.88 + X - 91.87 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.500	$28.88 + X - 91.87 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.596	$28.88 + X - 91.86 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.653	$28.88 + X - 91.87 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1587.747	$28.88 + X - 91.86 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1600.373	0.0 - 62.49	$2s^2 2p - 2s^2 5d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102
70		1600.455	0.0 - 62.48	$2s^2 2p - 2s^2 6s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
120		1600.761	0.02 - 62.49	$2s^2 2p - 2s^2 5d$	$g^{\circ}P^{\circ} - ^{\circ}D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
1		1600.846	0.02 - 62.48	$2s^2 2p - 2s^2 6s$	$g^{\circ}P^{\circ} - ^{\circ}S$	$\frac{3}{2} - \frac{3}{2}$	P	984
		1607.645	$28.87 + X - 91.07 + X$	$2s 2p^{\circ} - 2s 2p(^3P^{\circ})3d$	$^{\circ}P - ^{\circ}D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919

B I

B II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3		1607.733	28.88 + X - 91.07 + X	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1607.820	28.88 + X - 91.08 + X	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1607.890	28.88 + X - 91.07 + X	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
		1607.932	28.88 + X - 91.07 + X	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	A, Z	919
	50	1662.608	0.0 - 60.15	$2s^22p - 2s^25s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$	A	102, 274
	100	1663.031	0.02 - 60.15	$2s^22p - 2s^25s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	A	102, 274
	5	1664.25						134
	5	1664.76						134
	150	1666.850	0.0 - 59.99	$2s^22p - 2s^24d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	A	102, 274
	200	1667.272	0.02 - 59.99	$2s^22p - 2s^24d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	A	102, 274
	150	1817.843	0.0 - 55.01	$2s^22p - 2s^24s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		984, 274
	200	1818.348	0.02 - 55.01	$2s^22p - 2s^24s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		984, 274
	300	1825.891	0.0 - 54.77	$2s^22p - 2s^23d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		984, 274
	300	1826.400	0.02 - 54.77	$2s^22p - 2s^23d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		984, 274

BORON II (B^{+}), Z = 5Ground State $1s^22s^2 \ ^1S_0$ (4 electrons)Ionization Potential 202 887.4 cm^{-1} ; 25.155 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3		632.8	37.36 - 195.38	$2s2p - 2p3p$	$^3P^o - ^3P$	2 - 2		532
		641.5	37.36 - 193.24	$2s2p - 2p3p$	$^3P^o - ^3S$	2 - 1		532
		652.0	37.36 - 190.73	$2s2p - 2p3p$	$^3P^o - ^3D$	2 - 3		532
	200	693.947	0.0 - 144.10	$2s^2 - 2s3p$	$g^1S - ^1P^o$	0 - 1		532
	100	731.357	37.34 - 174.07	$2s2p - 2s4d$	$^3P^o - ^3D$	1 - 2		168
	100	731.442	37.36 - 174.07	$2s2p - 2s4d$	$^3P^o - ^3D$	2 - 3		168, 195
		770.8	73.40 - 203.13	$2s2p - 2p3p$	$^1P^o - ^1S$	1 - 0	Z	532
		808.7	73.40 - 197.05	$2s2p - 2p3p$	$^1P^o - ^1D^o$	1 - 2		532
	10	864.08	73.40 - 189.13	$2s2p - 2p3p$	$^1P^o - ^1P$	1 - 1		168
	300	882.543	37.34 - 150.65	$2s2p - 2s3d$	$^3P^o - ^3D$	1 - 2		532
	300	882.681	37.36 - 150.65	$2s2p - 2s3d$	$^3P^o - ^3D$	2 - 3		532
	10	978.938	73.40 - 175.55	$2s2p - 2s4d$	$^1P^o - ^1D^o$	1 - 2		532
	100	984.673	98.93 - 200.49	$2p^2 - 2p3d$	$^3P - ^3D^o$	2 - 3		532
	1	1048.70	102.36 - 197.72	$2p^2 - 2p3d$	$^1D - ^1D^o$	2 - 2		532
	300	1081.875	37.34 - 129.77	$2s2p - 2s3s$	$^3P^o - ^3S$	1 - 1		532
	300	1082.073	37.36 - 129.77	$2s2p - 2s3s$	$^3P^o - ^3S$	2 - 1		532
	1	1208.36	98.92 - 181.68	$2p^2 - 2p3s$	$^3P - ^3P^o$	1 - 2		532
	40	1208.546	98.93 - 181.68	$2p^2 - 2p3s$	$^3P - ^3P^o$	2 - 2		532
	10	1208.825	98.92 - 181.65	$2p^2 - 2p3s$	$^3P - ^3P^o$	1 - 0		532
	300	1230.160	73.40 - 154.69	$2s2p - 2s3d$	$^1P^o - ^1D$	1 - 2		532
		1324.	102.36 - 177.88	$2p^2 - 2p3s$	$^1D - ^1P^o$	2 - 1	Q	392
	600	1362.461	0.0 - 73.40	$2s^2 - 2s2p$	$g^1S - ^1P^o$	0 - 1		532
	1	1378.18	102.36 - 174.92	$2p^2 - 2s4f$	$^1D - ^1F^o$	2 - 3		532
	10	1607.76	73.40 - 135.59	$2s2p - 2s3s$	$^1P^o - ^1S$	1 - 0		532
	450	1623.582	37.34 - 98.93	$2s2p - 2p^2$	$^3P^o - ^3P$	1 - 2		532
	300	1623.771	37.34 - 98.92	$2s2p - 2p^2$	$^3P^o - ^3P$	0 - 1		532
	600	1624.018	37.36 - 98.93	$2s2p - 2p^2$	$^3P^o - ^3P$	2 - 2		532
	400	1624.16	37.34 - 98.91	$2s2p - 2p^2$	$^3P^o - ^3P$	1 - 0		168
	450	1624.340	37.36 - 98.92	$2s2p - 2p^2$	$^3P^o - ^3P$	2 - 1		532
	300	1842.811	73.40 - 127.66	$2s2p - 2p^2$	$^1P^o - ^1S$	1 - 0		532
	10	1926.65	129.77 - 181.68	$2s3s - 2p3s$	$^3S - ^3P^o$	1 - 2		532
	1	1927.45	129.77 - 181.66	$2s3s - 2p3s$	$^3S - ^3P^o$	1 - 1		532
	1	1927.78	129.77 - 181.65	$2s3s - 2p3s$	$^3S - ^3P^o$	1 - 0		532
		1937.2	143.99 - 195.61	$2s3p - 2p3p$	$^3P^o - ^3P$	2 - 2		532

B III

BORON III (B^{2+}), $Z = 5$ Ground State $1s^2 2s \ ^2S_{1/2}$ (3 electrons)Ionization Potential $305\,931.1\text{ cm}^{-1}$; 37.931 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		62.0	48.39 - 1661.4 + B	$1s^2 2p - 1s 2p^2$	$^2P - ^2P$	$\frac{1}{2} - \frac{1}{2}$	Q, Z	95
100	376.372		0.0 - 265.72	$1s^2 2s - 1s^2 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		195
300	411.810		0.0 - 242.83	$1s^2 2s - 1s^2 4p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		168, 195
100	434.627		48.39 - 278.47	$1s^2 2p - 1s^2 6d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		195
100	458.72		48.39 - 266.39	$1s^2 2p - 1s^2 5d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		195
200	510.777		48.36 - 244.14	$1s^2 2p - 1s^2 4d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		168
300	510.865		48.39 - 244.14	$1s^2 2p - 1s^2 4d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		168, 195
460	518.244		0.0 - 192.96	$1s^2 2s - 1s^2 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		168
230	518.271		0.0 - 192.95	$1s^2 2s - 1s^2 3p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		168, 197
10	528.25		48.39 - 237.70	$1s^2 2p - 1s^2 4s$	$^2P - ^2S$	$\frac{1}{2} - \frac{1}{2}$		195
500	677.004		48.36 - 196.07	$1s^2 2p - 1s^2 3d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		168
600	677.147		48.39 - 196.07	$1s^2 2p - 1s^2 3d$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		168
100	758.476		48.36 - 180.20	$1s^2 2p - 1s^2 3s$	$^2P - ^2S$	$\frac{1}{2} - \frac{1}{2}$		168
200	758.673		48.39 - 180.20	$1s^2 2p - 1s^2 3s$	$^2P - ^2S$	$\frac{1}{2} - \frac{1}{2}$		168
	1701.							392

BORON IV (B^{3+}), $Z = 5$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential $2\,092\,001.4\text{ cm}^{-1}$; 259.377 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		44.8	1637.00 - 3869.1	$1s 2p - 2p 3p$	$^2P - ^2D$	2 - 3	Z	95
		48.939	0.0 - 2043.36	$1s^2 - 1s 6p$	$^1S - ^1P$	0 - 1		764
		49.4549	0.0 - 2022.04	$1s^2 - 1s 5p$	$^1S - ^1P$	0 - 1		715
100	50.4347		0.0 - 1982.76	$1s^2 - 1s 4p$	$^1S - ^1P$	0 - 1		715, 197
330	52.6853		0.0 - 1898.06	$1s^2 - 1s 3p$	$^1S - ^1P$	0 - 1		715, 197
1000	60.3144		0.0 - 1657.58	$1s^2 - 1s 2p$	$^1S - ^1P$	0 - 1		715, 197
	61.088		0.0 - 1636.94	$1s^2 - 1s 2p$	$^1S - ^1P$	0 - 1		764
	62.44		0.0 - 1601.55	$1s^2 - 1s 2s$	$^1S - ^1S$	0 - 1	F, P	375
5	264.02		1601.53 - 1980.29	$1s 2s - 1s 4p$	$^2S - ^1P$	1 - 1		221
5	289.64		1637.00 - 1982.14	$1s 2p - 1s 4d$	$^2P - ^2D$	2 - 3		221
20	308.41		1657.98 - 1982.22	$1s 2p - 1s 4d$	$^2P - ^2D$	1 - 2		221
160	344.01		1601.53 - 1892.22	$1s 2s - 1s 3p$	$^2S - ^1P$	1 - 1		221
5	380.94		1635.56 - 1898.06	$1s 2s - 1s 3p$	$^1S - ^1P$	0 - 1		221
450	385.00		1637.00 - 1896.73	$1s 2p - 1s 3d$	$^2P - ^2D$	2 - 3		221
5	406.84		1636.94 - 1862.74	$1s 2p - 1s 3s$	$^2P - ^2S$	1 - 1		221
285	418.66		1657.98 - 1896.84	$1s 2p - 1s 3d$	$^2P - ^2D$	1 - 2		221
5	427.70		1657.98 - 1891.79	$1s 2p - 1s 3s$	$^2P - ^2S$	1 - 0		221
	682.60		1896.73 - 2043.21	$1s 3d - 1s 6f$	$^2D - ^2F$	3 - 4	P	87
	683.39		1896.84 - 2043.18	$1s 3d - 1s 6f$	$^2D - ^2F$	2 - 3	P	87
20	799.66		1896.73 - 2021.73	$1s 3d - 1s 5f$	$^2D - ^2F$	3 - 4		221
	800.6		1896.84 - 2021.76	$1s 3d - 1s 5f$	$^2D - ^2F$	2 - 3	P	87
20	1025.10		1882.74 - 1980.29	$1s 3s - 1s 4p$	$^2S - ^1P$	1 - 1		221
70	1112.20		1892.23 - 1982.14	$1s 3p - 1s 4d$	$^2P - ^2D$	2 - 3		221
450	1168.90		1896.73 - 1952.27	$1s 3d - 1s 4f$	$^2D - ^2F$	3 - 4		221
70	1170.86		1896.84 - 1982.24	$1s 3d - 1s 4f$	$^2D - ^2F$	2 - 3		221
5	1187.60		1892.22 - 1976.42	$1s 3p - 1s 4s$	$^2P - ^2S$	1 - 1		221
5	1190.56							221
5	1196.06		1896.73 - 1980.29	$1s 3d - 1s 4p$	$^2D - ^2P$	3 - 2		221

Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential $2\,744\,107.87\text{ cm}^{-1}$; 340.229 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10 30 65 35		36.810	0.0 - 2716.67	$1s - 10p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		36.897	0.0 - 2710.24	$1s - 9p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		37.020	0.0 - 2701.24	$1s - 8p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		37.201	0.0 - 2688.12	$1s - 7p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		37.483	0.0 - 2667.90	$1s - 6p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		37.960	0.0 - 2634.37	$1s - 5p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		38.871	0.0 - 2572.63	$1s - 4p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 168
		40.996	0.0 - 2439.26	$1s - 3p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 168
		48.586	0.0 - 2058.23	$1s - 2p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 197
		48.591	0.0 - 2058.00	$1s - 2p$	$^1S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 197
		151.823	2058.01 - 2716.67	$2s - 10p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		151.872	2058.23 - 2716.67	$2p - 10d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		153.321	2058.01 - 2710.24	$2s - 9p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		153.372	2058.23 - 2710.24	$2p - 9d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		155.466	2058.01 - 2701.24	$2s - 8p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		155.517	2058.23 - 2701.24	$2p - 8d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		158.703	2058.01 - 2688.12	$2s - 7p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		158.757	2058.23 - 2688.12	$2p - 7d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		163.965	2058.01 - 2667.90	$2s - 6p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		164.022	2058.23 - 2667.90	$2p - 6d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		173.504	2058.01 - 2634.37	$2s - 5p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		173.568	2058.23 - 2634.37	$2p - 5d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		194.317	2058.01 - 2572.63	$2s - 4p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		194.395	2058.23 - 2572.64	$2p - 4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		262.294	2058.01 - 2439.26	$2s - 3p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		262.427	2058.23 - 2439.29	$2p - 3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		360.394	2439.20 - 2716.67	$3s - 10p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		360.477	2439.26 - 2716.67	$3p - 10d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		360.505	2439.29 - 2716.67	$3d - 10f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		368.952	2439.20 - 2710.24	$3s - 9p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		369.037	2439.26 - 2710.24	$3p - 9d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		369.067	2439.29 - 2710.24	$3d - 9f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		381.619	2439.20 - 2701.24	$3s - 8p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		381.710	2439.26 - 2701.24	$3p - 8d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		381.742	2439.29 - 2701.24	$3d - 8f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		401.738	2439.20 - 2688.12	$3s - 7p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		401.838	2439.26 - 2688.12	$3p - 7d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		401.873	2439.29 - 2688.12	$3d - 7f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		437.256	2439.20 - 2667.90	$3s - 6p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		437.372	2439.26 - 2667.90	$3p - 6d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		437.413	2439.29 - 2667.90	$3d - 6f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		512.384	2439.20 - 2634.37	$3s - 5p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		512.539	2439.26 - 2634.37	$3p - 5d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		512.591	2439.29 - 2634.37	$3d - 5f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		694.125	2572.61 - 2716.67	$4s - 10p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		694.252	2572.63 - 2716.67	$4p - 10d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		694.296	2572.64 - 2716.67	$4d - 10f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		726.582	2572.61 - 2710.24	$4s - 9p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		726.719	2572.63 - 2710.24	$4p - 9d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		726.767	2572.64 - 2710.24	$4d - 9f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		749.432	2439.20 - 2572.63	$3s - 4p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		749.737	2439.26 - 2572.64	$3p - 4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		749.837	2439.29 - 2572.65	$3d - 4f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		777.401	2572.61 - 2701.24	$4s - 8p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		777.556	2572.63 - 2701.24	$4p - 8d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		777.610	2572.64 - 2701.24	$4d - 8f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		865.719	2572.61 - 2688.12	$4s - 7p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		865.907	2572.63 - 2688.12	$4p - 7d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		865.972	2572.64 - 2688.12	$4d - 7f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1049.409	2572.61 - 2667.90	$4s - 6p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1049.675	2572.63 - 2667.90	$4p - 6d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1049.764	2572.64 - 2667.90	$4d - 6f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1214.752	2634.35 - 2716.67	$5s - 10p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1214.947	2634.37 - 2716.67	$5p - 10d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1215.014	2634.37 - 2716.67	$5d - 10f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1317.768	2634.35 - 2710.24	$5s - 9p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1317.993	2634.37 - 2710.24	$5p - 9d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1318.070	2634.37 - 2710.24	$5d - 9f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1495.016	2634.35 - 2701.24	$5s - 8p$	$^1S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1495.298	2634.37 - 2701.24	$5p - 8d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	309

B V

B V

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		1495.392	2634.37 - 2701.24	5d - 8f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1619.205	2572.61 - 2634.37	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1619.785	2572.63 - 2634.37	4p - 5d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1619.970	2572.64 - 2634.37	4d - 5f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1859.911	2634.35 - 2688.12	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1860.327	2634.37 - 2688.12	5s - 7d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		1860.464	2634.37 - 2688.12	5d - 7f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309

CARBON I (C^+), $Z = 6$
 Ground State $1s^2 2s^2 2p^2 \ ^3P_0$ (6 electrons)
 Ionization Potential $90\,820.42\text{ cm}^{-1}$; 11.260 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
31	20	945.191	0.0 - 105.80	$2s^2 2p^2 - 2s^2 2p^2$	$g^2P - ^3S$	0 - 1	Z	821, 168
31	50	945.338	0.02 - 105.80	$2s^2 2p^2 - 2s^2 2p^2$	$g^2P - ^3S$	1 - 1	Z	821, 168
31	75	945.579	0.04 - 105.80	$2s^2 2p^2 - 2s^2 2p^2$	$g^2P - ^3S$	2 - 1	Z	821, 168
		1102.409	0.04 - 90.75	$2s^2 2p^2 - 2s^2 2p(^3P)29d$	$g^2P - ^1F$	2 - 3	P	908
		1102.550	0.04 - 90.74	$2s^2 2p^2 - 2s^2 2p(^3P)28d$	$g^2P - ^1F$	2 - 3	P	908
		1102.666	0.04 - 90.73	$2s^2 2p^2 - 2s^2 2p(^3P)27d$	$g^2P - ^1F$	2 - 3	P	908
		1102.81	0.04 - 90.72	$2s^2 2p^2 - 2s^2 2p(^3P)26d$	$g^2P - ^1F$	2 - 3	P	908
		1102.97	0.04 - 90.71	$2s^2 2p^2 - 2s^2 2p(^3P)25d$	$g^2P - ^1F$	2 - 3	P	908
		1103.185	0.04 - 90.69	$2s^2 2p^2 - 2s^2 2p(^3P)24d$	$g^2P - ^1F$	2 - 3	P	908
		1103.36	0.04 - 90.68	$2s^2 2p^2 - 2s^2 2p(^3P)23d$	$g^2P - ^1F$	2 - 3	P	908
		1103.60	0.04 - 90.66	$2s^2 2p^2 - 2s^2 2p(^3P)21d$	$g^2P - ^1F$	2 - 3	P	908
		1103.629	0.0 - 90.61	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$g^2P - ^1P$	0 - 1	P	908
		1103.828	0.02 - 90.61	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$g^2P - ^1P$	1 - 1	P	908
		1103.865	0.04 - 90.63	$2s^2 2p^2 - 2s^2 2p(^3P)21d$	$g^2P - ^1F$	2 - 3	P	908
		1104.157	0.04 - 90.61	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$g^2P - ^1P$	2 - 1	P	908
		1104.165	0.04 - 90.61	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$g^2P - ^1F$	2 - 3	P	908
		1104.374	0.04 - 90.59	$2s^2 2p^2 - 2s^2 2p(^3P)22d$	$g^2P - ^1F$	2 - 3	P	908
		1104.427	0.0 - 90.54	$2s^2 2p^2 - 2s^2 2p(^3P)18d$	$g^2P - ^1P$	0 - 1	P	908
		1104.543	0.04 - 90.58	$2s^2 2p^2 - 2s^2 2p(^3P)19d$	$g^2P - ^1F$	2 - 3	P	908
		1104.627	0.02 - 90.54	$2s^2 2p^2 - 2s^2 2p(^3P)18d$	$g^2P - ^1P$	1 - 1	P	908
		1104.644	0.04 - 90.57	$2s^2 2p^2 - 2s^2 2p(^3P)21d$	$g^2P - ^1F$	2 - 3	P	908
		1104.942	0.0 - 90.50	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$g^2P - ^1P$	0 - 1	P	908
		1104.957	0.04 - 90.54	$2s^2 2p^2 - 2s^2 2p(^3P)18d$	$g^2P - ^1P$	2 - 1	P	908
		1104.966	0.04 - 90.54	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$g^2P - ^1F$	2 - 3	P	908
		1105.142	0.02 - 90.50	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$g^2P - ^1P$	1 - 1	P	908
		1105.329	0.04 - 90.51	$2s^2 2p^2 - 2s^2 2p(^3P)19d$	$g^2P - ^1F$	2 - 3	P	908
		1105.472	0.04 - 90.50	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$g^2P - ^1P$	2 - 1	P	908
		1105.477	0.04 - 90.50	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$g^2P - ^1F$	2 - 3	P	908
		1105.532	0.0 - 90.45	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$g^2P - ^1P$	0 - 1	P	908
		1105.732	0.02 - 90.45	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$g^2P - ^1P$	1 - 1	P	908
		1105.757	0.04 - 90.48	$2s^2 2p^2 - 2s^2 2p(^3P)18d$	$g^2P - ^1F$	2 - 3	P	908
		1106.063	0.04 - 90.45	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$g^2P - ^1P$	2 - 1	P	908
		1106.076	0.04 - 90.45	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$g^2P - ^1F$	2 - 3	P	908
		1106.250	0.0 - 90.40	$2s^2 2p^2 - 2s^2 2p(^3P)15d$	$g^2P - ^1P$	0 - 1	P	908
		1106.263	0.04 - 90.44	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$g^2P - ^1F$	2 - 3	P	908
		1106.450	0.02 - 90.40	$2s^2 2p^2 - 2s^2 2p(^3P)15d$	$g^2P - ^1P$	1 - 1	P	908
		1106.781	0.04 - 90.40	$2s^2 2p^2 - 2s^2 2p(^3P)15d$	$g^2P - ^1P$	2 - 1	P	908
		1106.800	0.04 - 90.39	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$g^2P - ^1F$	2 - 3	P	908
		1107.146	0.0 - 90.32	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	0 - 1	P	908
		1107.347	0.02 - 90.32	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	1 - 1	P	908
		1107.591	0.04 - 90.33	$2s^2 2p^2 - 2s^2 2p(^3P)15d$	$g^2P - ^1F$	2 - 3	P	908
		1107.679	0.04 - 90.32	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	2 - 1	P	908
		1107.703	0.04 - 90.32	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1F$	2 - 3	P	908
		1107.908	0.0 - 90.26	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^3D$	0 - 1	P	908
		1108.109	0.02 - 90.26	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^3D$	1 - 1	P	908
		1108.260	0.0 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	0 - 1	P	908
		1108.283	0.0 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	0 - 1	P	908
		1108.441	0.04 - 90.26	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^3D$	2 - 1	P	908
		1108.462	0.02 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	1 - 1	P	908
		1108.484	0.02 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	1 - 1	P	908
		1108.488	0.04 - 90.26	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1F$	2 - 3	P	908
		1108.794	0.04 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	2 - 1	P	908
		1108.804	0.04 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1F$	2 - 3	P	908
		1108.816	0.04 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$g^2P - ^1P$	2 - 1	P	908
		1109.031	0.0 - 90.17	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^3D$	0 - 1	P	908
		1109.233	0.02 - 90.17	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^3D$	1 - 1	P	908
		1109.565	0.04 - 90.17	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^3D$	2 - 1	P	908
		1109.605	0.04 - 90.17	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1F$	2 - 3	P	908
		1109.634	0.0 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$g^2P - ^1P$	0 - 1	P	908
		1109.676	0.0 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	0 - 1	P	908
		1109.836	0.02 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$g^2P - ^1P$	1 - 1	P	908
		1109.878	0.02 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	1 - 1	P	908
		1110.169	0.04 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$g^2P - ^1P$	2 - 1	P	908
		1110.198	0.04 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$g^2P - ^1F$	2 - 3	P	908
		1110.211	0.04 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$g^2P - ^1P$	2 - 1	P	908
		1111.010	0.04 - 90.05	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$g^2P - ^1F$	2 - 3	P	908
		1111.421	0.0 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$g^2P - ^1P$	0 - 1	P	908
		1111.624	0.02 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$g^2P - ^1P$	1 - 1	P	908
		1111.957	0.04 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$g^2P - ^1P$	2 - 1	P	908
		1112.003	0.04 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$g^2P - ^1F$	2 - 3	P	908

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
30.01	10	1112.058	0.04 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P) 11d$	$g^3P - ^3D^*$	2-3		821, 168
30.01		1112.269	0.0 - 89.91	$2s^2 2p^2 - 2s^2 2p(^3P) 11d$	$g^3P - ^3D^*$	0-1	P	908
30.01		1112.472	0.02 - 89.91	$2s^2 2p^2 - 2s^2 2p(^3P) 11d$	$g^3P - ^3D^*$	1-1	P	908
30.01		1112.806	0.04 - 89.91	$2s^2 2p^2 - 2s^2 2p(^3P) 11d$	$g^3P - ^3D^*$	2-1	P	908
		1112.825	0.04 - 89.90	$2s^2 2p^2 - 2s^2 2p(^3P) 11d$	$g^3P - ^3F^*$	2-3	P	908
		1113.793	0.0 - 89.78	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3P^*$	0-1	P	908
		1113.996	0.02 - 89.78	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3P^*$	1-1	P	908
		1114.332	0.04 - 89.78	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3P^*$	2-1	P	908
		1114.380	0.04 - 89.78	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3F^*$	2-3	P	908
30	50	1114.457	0.04 - 89.77	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3D^*$	2-3		821, 168
30		1114.628	0.0 - 89.72	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3D^*$	0-1	P	908
30		1114.832	0.02 - 89.72	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3D^*$	1-1	P	908
30		1115.168	0.04 - 89.72	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3D^*$	2-1	P	908
		1115.225	0.04 - 89.71	$2s^2 2p^2 - 2s^2 2p(^3P) 10d$	$g^3P - ^3F^*$	2-3	P	908
		1117.000	0.0 - 89.53	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3P^*$	0-1	P	908
		1117.132	0.0 - 89.51	$2s^2 2p^2 - 2s^2 2p(^3P) 10s$	$g^3P - ^3P^*$	0-1	P	908
		1117.205	0.02 - 89.53	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3P^*$	1-1	P	908
		1117.337	0.02 - 89.51	$2s^2 2p^2 - 2s^2 2p(^3P) 10s$	$g^3P - ^3P^*$	1-1	P	908
		1117.542	0.04 - 89.53	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3P^*$	2-1	P	908
	20	1117.581	0.04 - 89.52	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3P^*$	2-2		821, 816
		1117.674	0.04 - 89.51	$2s^2 2p^2 - 2s^2 2p(^3P) 10s$	$g^3P - ^3P^*$	2-1	P	908
29	50	1117.724	0.04 - 89.51	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3D^*$	2-3		821, 816
29		1117.866	0.0 - 89.46	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3D^*$	0-1	P	908
29		1118.070	0.02 - 89.46	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3D^*$	1-1	P	908
	50	1118.180	0.02 - 89.45	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3F^*$	1-2		821, 168
29		1118.408	0.04 - 89.46	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3D^*$	2-1	P	908
		1118.491	0.04 - 89.45	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$g^3P - ^3F^*$	2-3	P	908
		1121.452	0.0 - 89.17	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3P^*$	0-1	P	908
		1121.658	0.02 - 89.17	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3P^*$	1-1	P	908
		1121.998	0.04 - 89.17	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3P^*$	2-1	P	908
28	20	1122.098	0.04 - 89.16	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3P^*$	2-2		821, 168
27.01	50	1122.260	0.04 - 89.15	$2s^2 2p^2 - 2s^2 2p(^3P) 9s$	$g^3P - ^3P^*$	2-1		821, 816
27	100	1122.334	0.04 - 89.14	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3D^*$	2-3	P	908, 816
27	20	1122.438	0.0 - 89.09	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3D^*$	0-1	P	908, 816
27		1122.644	0.02 - 89.09	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3D^*$	1-1	P	908
26.03	50	1122.725	0.02 - 89.09	$2s^2 2p^2 - 2s^2 2p(^3P) 9s$	$g^3P - ^3P^*$	1-1		821, 816
	20	1122.794	0.02 - 89.08	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3F^*$	1-2		821, 168
27		1122.985	0.04 - 89.09	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3D^*$	2-1	P	908
	20	1123.107	0.04 - 89.08	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$g^3P - ^3F^*$	2-3		821, 816
26		1128.079	0.0 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3P^*$	0-1	P	908
26	50	1128.252	0.02 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3P^*$	1-0		821, 816
26		1128.287	0.02 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3P^*$	1-1	P	908
26		1128.631	0.04 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3P^*$	2-1	P	908
25.01	20	1128.686	0.02 - 88.62	$2s^2 2p^2 - 2s^2 2p(^3P) 8s$	$g^3P - ^3P^*$	1-1		821, 816
26	100	1128.752	0.04 - 88.64	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3P^*$	2-2		821, 816
25.02	20	1128.903	0.04 - 88.63	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3F^*$	2-3		821, 816
25.01	100	1129.030	0.04 - 88.62	$2s^2 2p^2 - 2s^2 2p(^3P) 8s$	$g^3P - ^3P^*$	2-1		821, 816
25	200	1129.141	0.04 - 88.61	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	2-3	P	908, 816
25		1129.161	0.04 - 88.60	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	2-2		821
25		1129.196	0.0 - 88.56	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	0-1		821
25	20	1129.405	0.02 - 88.56	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	1-1		821, 816
24	50	1129.624	0.02 - 88.54	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3F^*$	1-2		821, 816
25	20	1129.749	0.04 - 88.56	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	2-1		821, 816
24	50	1129.924	0.04 - 88.54	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3F^*$	2-3		821, 816
23.01	20	1130.171	0.02 - 88.50	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$g^3P - ^3D^*$	1-2		821, 816
23	20	1138.383	0.0 - 87.84	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3P^*$	0-1		821, 816
23	30	1138.557	0.02 - 87.85	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3P^*$	1-0		821, 816
23	20	1138.595	0.02 - 87.84	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3P^*$	1-1		821, 816
23	50	1138.946	0.04 - 87.84	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3P^*$	2-1		821, 816
23	100	1139.093	0.04 - 87.83	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3P^*$	2-2		821, 816
22.01	20	1139.300	0.02 - 87.79	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$g^3P - ^3P^*$	1-1		821, 816
22.02	50	1139.426	0.04 - 87.81	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3F^*$	2-3		821, 816
22	20	1139.514	0.02 - 87.77	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	1-2		821, 816
22.01	20	1139.650	0.04 - 87.79	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$g^3P - ^3P^*$	2-1		821, 816
21.01	150	1139.766	0.02 - 87.75	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$g^3P - ^3P^*$	1-2		821, 816
22		1139.793	0.0 - 87.74	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	0-1	P	908
22	150	1139.812	0.04 - 87.78	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	2-3		821, 816
22	50	1139.865	0.04 - 87.77	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	2-2		821, 816
22	50	1140.005	0.02 - 87.74	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	1-1		821, 816
21.01	20	1140.223	0.02 - 87.72	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$g^3P - ^3P^*$	1-1		821, 816
21	100	1140.357	0.02 - 87.71	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3F^*$	1-2		821, 816
21.01	20	1140.574	0.04 - 87.72	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$g^3P - ^3P^*$	2-1		821, 816
21	150	1140.641	0.04 - 87.71	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3F^*$	2-3		821, 816
20	20	1141.327	0.02 - 87.63	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	1-2		821, 816
20	20	1141.678	0.04 - 87.63	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$g^3P - ^3D^*$	2-2		821, 816

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
19	50	1155.809	0.0 - 86.52	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	0-1		821, 816
19	150	1156.028	0.02 - 86.52	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	1-1		821, 816
19	20	1156.199	0.02 - 86.51	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	1-2		821, 816
19	100	1156.389	0.04 - 86.52	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-1		821, 816
19	200	1156.560	0.04 - 86.51	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-2		821, 816
18.01	20	1156.765	0.04 - 86.49	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-1		821, 816
17	20	1157.186	0.0 - 86.42	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	0-1		821, 816
18	50	1157.330	0.04 - 86.45	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-1		821, 816
17	150	1157.405	0.02 - 86.42	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	1-1		821, 816
16	350	1157.770	0.02 - 86.39	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3D$	1-2		821, 816
16	730	1157.910	0.0 - 86.36	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3D$	0-1		821, 816
16	750	1158.019	0.04 - 86.40	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3D$	2-3		821, 816
16	400	1158.132	0.04 - 86.39	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3D$	2-2		321, 816
15.01	100	1158.324	0.0 - 86.33	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	0-1		821, 816
15.01	100	1158.397	0.04 - 86.37	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	2-2		821, 816
16	20	1158.492	0.04 - 86.36	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3D$	2-1		821, 816
15.01	100	1158.674	0.02 - 86.32	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	1-0		821, 816
15	100	1158.732	0.02 - 86.32	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	1-2		821, 816
15.01	50	1158.907	0.04 - 86.33	$2s^2 2p^3 - 2s^2 2p^3(^3P) 6s$	$g^3P - ^3P$	2-1		821, 816
15	200	1158.967	0.04 - 86.33	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-3		821, 816
15	2	1159.126	0.04 - 86.32	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5d$	$g^3P - ^3P$	2-2		908
14	200	1188.833	0.0 - 84.12	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	0-1		821, 816
14	500	1188.992	0.02 - 84.12	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	1-0		821, 816
14	200	1189.065	0.02 - 84.12	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	1-1		821, 816
14	250	1189.249	0.02 - 84.10	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	1-2		821, 816
14	500	1189.447	0.04 - 84.12	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	2-1		821, 816
14	700	1189.631	0.04 - 84.10	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	2-2		821, 816
13.01	35	1190.021	0.0 - 84.03	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	0-1		821, 816
13.01	35	1190.253	0.02 - 84.03	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	1-1		821, 816
13	120	1191.838	0.04 - 83.95	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	2-3		821, 816
12	70	1192.218	0.0 - 83.88	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	0-1		821, 816
12	120	1192.451	0.02 - 83.88	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	1-1		821, 816
	3	1192.83	0.04 - 83.88	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	2-1		908
11	700	1193.009	0.02 - 83.84	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	1-2		821, 816
11	300	1193.031	0.0 - 83.82	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	0-1		821, 816
11	850	1193.240	0.04 - 83.85	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	2-3		821, 816
11	150	1193.264	0.02 - 83.82	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	1-1		821, 816
11	350	1193.393	0.04 - 83.84	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	2-2		821, 816
9.02	500	1193.679	0.02 - 83.79	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	1-2		821, 816
9.02	120	1193.996	0.0 - 83.75	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	0-1		821, 816
9.02	350	1194.064	0.04 - 83.79	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	2-2		821, 816
9.02	120	1194.229	0.02 - 83.75	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	1-1		821, 816
10	120	1194.301	0.02 - 83.75	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	1-2		821, 816
9.02	200	1194.406	0.02 - 83.74	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	1-0		821, 816
10	350	1194.488	0.04 - 83.76	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3P$	2-3		821, 816
9.02	250	1194.615	0.04 - 83.75	$2s^2 2p^3 - 2s^2 2p^3(^3P) 5s$	$g^3P - ^3P$	2-1		821, 816
9.01	1	1197.577	0.02 - 83.50	$2s^2 2p^3 - 2s^2 2p^3(^3P) 4d$	$g^3P - ^3D$	1-2		908
	1	1241.293	10.19 - 90.75	$2s^2 2p^3 - 2s^2 2p^3(^3P) 29d$	$^1D - ^1F$	2-3		908
	1	1241.472	10.19 - 90.74	$2s^2 2p^3 - 2s^2 2p^3(^3P) 28d$	$^1D - ^1F$	2-3		908
	1	1241.617	10.19 - 90.73	$2s^2 2p^3 - 2s^2 2p^3(^3P) 27d$	$^1D - ^1F$	2-3		908
	6	1242.278	10.19 - 90.69	$2s^2 2p^3 - 2s^2 2p^3(^3P) 24d$	$^1D - ^1F$	2-3		908
	7	1243.14	10.19 - 90.63	$2s^2 2p^3 - 2s^2 2p^3(^3P) 21d$	$^1D - ^1F$	2-3		908
	8	1243.518	10.19 - 90.61	$2s^2 2p^3 - 2s^2 2p^3(^3P) 20d$	$^1D - ^1F$	2-3		908
	2	1243.784	10.19 - 90.59	$2s^2 2p^3 - 2s^2 2p^3(^3P) 22d$	$^1D - ^1F$	2-3		908
	7	1243.998	10.19 - 90.58	$2s^2 2p^3 - 2s^2 2p^3(^3P) 19d$	$^1D - ^1F$	2-3		908
	4	1244.127	10.19 - 90.57	$2s^2 2p^3 - 2s^2 2p^3(^3P) 21d$	$^1D - ^1F$	2-3		908
	10	1244.535	10.19 - 90.54	$2s^2 2p^3 - 2s^2 2p^3(^3P) 18d$	$^1D - ^1F$	2-3		908
	5	1244.996	10.19 - 90.51	$2s^2 2p^3 - 2s^2 2p^3(^3P) 19d$	$^1D - ^1F$	2-3		908
	9	1245.183	10.19 - 90.50	$2s^2 2p^3 - 2s^2 2p^3(^3P) 17d$	$^1D - ^1F$	2-3		908
	5	1245.538	10.19 - 90.48	$2s^2 2p^3 - 2s^2 2p^3(^3P) 18d$	$^1D - ^1F$	2-3		908
	10	1245.943	10.19 - 90.45	$2s^2 2p^3 - 2s^2 2p^3(^3P) 16d$	$^1D - ^1F$	2-3		908
	4	1246.180	10.19 - 90.44	$2s^2 2p^3 - 2s^2 2p^3(^3P) 17d$	$^1D - ^1F$	2-3		908
	30	1246.862	10.19 - 90.39	$2s^2 2p^3 - 2s^2 2p^3(^3P) 15d$	$^1D - ^1F$	2-3		908
	15	1247.867	10.19 - 90.33	$2s^2 2p^3 - 2s^2 2p^3(^3P) 15d$	$^1D - ^1F$	2-3		908
	30	1248.009	10.19 - 90.32	$2s^2 2p^3 - 2s^2 2p^3(^3P) 14d$	$^1D - ^1F$	2-3		908
	10	1249.004	10.19 - 90.26	$2s^2 2p^3 - 2s^2 2p^3(^3P) 14d$	$^1D - ^1F$	2-3		908
	20	1249.405	10.19 - 90.23	$2s^2 2p^3 - 2s^2 2p^3(^3P) 13d$	$^1D - ^1F$	2-3		908
	30	1250.423	10.19 - 90.17	$2s^2 2p^3 - 2s^2 2p^3(^3P) 13d$	$^1D - ^1F$	2-3		908
	40	1251.176	10.19 - 90.12	$2s^2 2p^3 - 2s^2 2p^3(^3P) 12d$	$^1D - ^1F$	2-3		908
	12	1252.208	10.19 - 90.05	$2s^2 2p^3 - 2s^2 2p^3(^3P) 12d$	$^1D - ^1F$	2-3		908
	50	1253.467	10.19 - 89.97	$2s^2 2p^3 - 2s^2 2p^3(^3P) 11d$	$^1D - ^1F$	2-3		821, 168
	15	1254.513	10.19 - 89.90	$2s^2 2p^3 - 2s^2 2p^3(^3P) 11d$	$^1D - ^1F$	2-3		908
	200	1256.498	10.19 - 89.78	$2s^2 2p^3 - 2s^2 2p^3(^3P) 10d$	$^1D - ^1F$	2-3		821, 168
	20	1257.565	10.19 - 89.71	$2s^2 2p^3 - 2s^2 2p^3(^3P) 10d$	$^1D - ^1F$	2-3		908
59	200	1260.613	10.19 - 89.52	$2s^2 2p^3 - 2s^2 2p^3(^3P) 9d$	$^1D - ^1F$	2-3		821, 168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
9	250	1260.736	0.0 - 79.32	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	0-1		821, 816
9	200	1260.927	0.02 - 79.32	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	1-0		821, 816
9	150	1260.996	0.02 - 79.32	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	1-1		821, 816
9	250	1261.122	0.02 - 79.31	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	1-2		821, 816
9	250	1261.426	0.04 - 79.32	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	2-1		821, 816
9	300	1261.552	0.04 - 79.31	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	2-2		821, 816
	30	1261.719	10.19 - 89.45	$2s^2 2p^2 - 2s^2 2p(^3P) 9d$	$^1D - ^3F^*$	2-3		908
58.01	20	1266.270	10.19 - 89.16	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$^1D - ^3P^*$	2-1		821, 816
58	100	1266.415	10.19 - 89.16	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$^1D - ^3F^*$	2-3		821, 816
57.03	15	1266.517	10.19 - 89.15	$2s^2 2p^2 - 2s^2 2p(^3P) 9s$	$^1D - ^3P^*$	2-1	P	908
57.02	10	1266.604	10.19 - 89.14	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$^1D - ^3F^*$	2-3	P	908
57	50	1267.596	10.19 - 89.08	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$^1D - ^3F^*$	2-3		821, 816
56.01	2	1268.051	10.19 - 89.05	$2s^2 2p^2 - 2s^2 2p(^3P) 8d$	$^1D - ^3D^*$	2-2		908
8.01	3	1270.144	0.0 - 78.73	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	0-1		908
8.01	2	1270.408	0.02 - 78.73	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3P^*$	1-1		908
8	50	1274.109	0.04 - 78.53	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3F^*$	2-1		821, 816
	3	1274.624	10.19 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3P^*$	2-1		908
56	20	1274.756	10.19 - 88.64	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3P^*$	2-1		821, 816
55	150	1274.984	10.19 - 88.63	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3F^*$	2-3		821, 816
54.05	2	1275.146	10.19 - 88.62	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$^1D - ^3P^*$	2-1	P	908
54.04	12	1275.288	10.19 - 88.61	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3D^*$	2-3		908
54.03	20	1276.220	10.19 - 88.55	$2s^2 2p^2 - 2s^2 2p(^3P) 8s$	$^1D - ^3P^*$	2-1	P	908
	50	1276.287	10.19 - 88.54	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3F^*$	2-3		821, 816
7.01	100	1276.483	0.0 - 78.74	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	0-1		821, 816
7.01	200	1276.750	0.02 - 78.34	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	1-1		821, 816
54.02	5	1277.041	10.19 - 88.50	$2s^2 2p^2 - 2s^2 2p(^3P) 7d$	$^1D - ^3D^*$	2-2		908
7	300	1277.245	0.0 - 78.29	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	0-1		821, 816
7	700	1277.282	0.02 - 78.31	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	1-2		821, 816
7	100	1277.513	0.02 - 78.29	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	1-1		821, 816
7	1000	1277.550	0.04 - 78.32	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	2-3		821, 816
7	250	1277.723	0.04 - 78.31	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	2-2		821, 816
7	70	1277.954	0.04 - 78.29	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	2-1		821, 816
6	100	1279.056	0.02 - 78.20	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3F^*$	1-2		821, 816
6	150	1279.229	0.04 - 78.22	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3F^*$	2-3		821, 816
6	70	1279.498	0.04 - 78.20	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3F^*$	2-2		821, 816
5	250	1279.890	0.02 - 78.15	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	1-2		821, 816
5	200	1280.135	0.0 - 78.12	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	0-1		821, 816
5	700	1280.333	0.04 - 78.15	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	2-2		821, 816
5	75	1280.404	0.02 - 78.12	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	1-1		821, 816
5	200	1280.597	0.02 - 78.10	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	1-0		821, 816
5	250	1280.847	0.04 - 78.12	$2s^2 2p^2 - 2s^2 2p(^3P) 4s$	$g^3P - ^3P^*$	2-1		821, 816
4.01	5	1287.609	0.02 - 77.68	$2s^2 2p^2 - 2s^2 2p(^3P) 3d$	$g^3P - ^3D^*$	1-2		908
54.01	1	1287.805	10.19 - 87.84	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3P^*$	2-1		908
54	200	1288.037	10.19 - 87.83	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3P^*$	2-1		821, 816
53	500	1288.422	10.19 - 87.81	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3F^*$	2-3		821, 816
52	100	1288.710	10.19 - 87.79	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$^1D - ^3P^*$	2-1		821, 816
51.02	100	1288.917	10.19 - 87.78	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3D^*$	2-3		821, 816
51.01	50	1289.891	10.19 - 87.72	$2s^2 2p^2 - 2s^2 2p(^3P) 7s$	$^1D - ^3P^*$	2-1		821, 816
51	300	1289.977	10.19 - 87.71	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3F^*$	2-3		821, 816
50	100	1291.304	10.19 - 87.63	$2s^2 2p^2 - 2s^2 2p(^3P) 6d$	$^1D - ^3D^*$	2-2		821, 816
49.01	10	1310.187	10.19 - 86.52	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3P^*$	2-1		908
49	200	1310.637	10.19 - 86.49	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3P^*$	2-1		821, 816
48	1000	1311.363	10.19 - 86.45	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3F^*$	2-3		821, 816
47	200	1311.924	10.19 - 86.42	$2s^2 2p^2 - 2s^2 2p(^3P) 6s$	$^1D - ^3P^*$	2-1		821, 816
46	100	1312.247	10.19 - 86.40	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3D^*$	2-3		821, 816
46	3	1312.853	10.19 - 86.36	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3D^*$	2-1		908
45.01	100	1313.387	10.19 - 86.33	$2s^2 2p^2 - 2s^2 2p(^3P) 6s$	$^1D - ^3P^*$	2-1		821, 816
45	300	1313.464	10.19 - 86.33	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3F^*$	2-3		821, 816
45	3	1313.629	10.19 - 86.32	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3F^*$	2-2	P	908
44	200	1315.918	10.19 - 86.19	$2s^2 2p^2 - 2s^2 2p(^3P) 5d$	$^1D - ^3D^*$	2-2		821, 816
4	150	1328.8332 ST	0.0 - 75.25	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	0-1		308, 816, 821
4	150	1329.0863 ST	0.02 - 75.26	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	1-0		308, 816, 821
4	200	1329.1001 ST	0.02 - 75.26	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	1-2		308, 816, 821
4	110	1329.1230 ST	0.02 - 75.25	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	1-1		308, 816, 821
4	600	1329.5775 ST	0.04 - 75.26	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	2-2		308, 816, 821
4	200	1329.6005 ST	0.04 - 75.25	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^3P^*$	2-1		308, 816, 821
43.01	1	1352.745	10.19 - 84.12	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3P^*$	2-1		908
43	500	1354.288	10.19 - 84.03	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3P^*$	2-1		821, 816
42	750	1355.844	10.19 - 83.95	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3F^*$	2-3		821, 816
41	300	1357.134	10.19 - 83.88	$2s^2 2p^2 - 2s^2 2p(^3P) 5s$	$^1D - ^3P^*$	2-1		821, 816
40.01	100	1357.659	10.19 - 83.85	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3D^*$	2-3		821, 816
40.01	85	1358.188	10.19 - 83.82	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3D^*$	2-1		908
40	200	1359.275	10.19 - 83.76	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3F^*$	2-3		821, 816
39.01	50	1359.438	10.19 - 83.75	$2s^2 2p^2 - 2s^2 2p(^3P) 5s$	$^1D - ^3P^*$	2-1		821, 816
40	5	1359.531	10.19 - 83.75	$2s^2 2p^2 - 2s^2 2p(^3P) 4d$	$^1D - ^3P^*$	2-2	P	908

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
39	600	1364.164	10.19 - 83.50	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1D - ^1D'$	2-2		821, 816
65	100	1431.597	33.74 - 103.59	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^1S - ^1P$	2-3	Z	821, 816
65	75	1432.105	33.74 - 103.56	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^1S - ^1P$	2-2	Z	821, 668
65	50	1432.530	33.74 - 103.54	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^1S - ^1P$	2-1	Z	821, 668
	1	1450.07	21.65 - 90.61	$2s^2 2p^2 - 2s^2 2p(^3P)20d$	$^1S - ^1P$	0-1		908
	3	1450.73	21.65 - 90.58	$2s^2 2p^2 - 2s^2 2p(^3P)19d$	$^1S - ^1P$	0-1		719
	2	1451.448	21.65 - 90.54	$2s^2 2p^2 - 2s^2 2p(^3P)18d$	$^1S - ^1P$	0-1		908
	10	1452.338	21.65 - 90.50	$2s^2 2p^2 - 2s^2 2p(^3P)17d$	$^1S - ^1P$	0-1		908
	4	1453.357	21.65 - 90.45	$2s^2 2p^2 - 2s^2 2p(^3P)16d$	$^1S - ^1P$	0-1		908
	2	1454.599	21.65 - 90.40	$2s^2 2p^2 - 2s^2 2p(^3P)15d$	$^1S - ^1P$	0-1		908
	15	1456.149	21.65 - 90.32	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$^1S - ^1P$	0-1		908
	10	1457.468	21.65 - 90.26	$2s^2 2p^2 - 2s^2 2p(^3P)14d$	$^1S - ^1D$	0-1		908
	7	1458.078	21.65 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$^1S - ^1P$	0-1		908
	8	1458.114	21.65 - 90.23	$2s^2 2p^2 - 2s^2 2p(^3P)14s$	$^1S - ^1P$	0-1		908
38	300	1459.0317	10.19 - 78.73	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1P$	2-1		371, 816, 821
	5	1459.41	21.65 - 90.17	$2s^2 2p^2 - 2s^2 2p(^3P)13d$	$^1S - ^1D$	0-1		908
	10	1460.455	21.65 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$^1S - ^1P$	0-1		908
	4	1460.53	21.65 - 90.12	$2s^2 2p^2 - 2s^2 2p(^3P)13s$	$^1S - ^1P$	0-1		908
	7	1461.854	21.65 - 90.05	$2s^2 2p^2 - 2s^2 2p(^3P)12d$	$^1S - ^1D$	0-1		719
37	600	1463.3360	10.19 - 78.53	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1F$	2-3		371, 816, 821
	40	1463.552	21.65 - 89.97	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$^1S - ^1P$	0-1		908
	20	1465.023	21.65 - 89.91	$2s^2 2p^2 - 2s^2 2p(^3P)11d$	$^1S - ^1D$	0-1		908
36	350	1467.402	10.19 - 78.34	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^1D - ^1P$	2-1		821, 816
	8	1467.668	21.65 - 89.78	$2s^2 2p^2 - 2s^2 2p(^3P)10d$	$^1S - ^1P$	0-1		908
35.01	30	1467.877	10.19 - 78.32	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1D$	2-3		821, 816
35.01	100	1468.410	10.19 - 78.29	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1D$	2-1		821, 816
	10	1469.119	21.65 - 89.72	$2s^2 2p^2 - 2s^2 2p(^3P)10d$	$^1S - ^1D$	0-1		908
35	100	1470.094	10.19 - 78.22	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1F$	2-3		821, 816
35	8	1470.447	10.19 - 78.20	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1F$	2-2		908
34.01	60	1472.231	10.19 - 78.12	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^1D - ^1P$	2-1		821, 816
64.13	40	1473.242	21.65 - 89.53	$2s^2 2p^2 - 2s^2 2p(^3P)9d$	$^1S - ^1P$	0-1		908
	5	1473.473	21.65 - 89.51	$2s^2 2p^2 - 2s^2 2p(^3P)10s$	$^1S - ^1P$	0-1		908
	15	1474.748	21.65 - 89.46	$2s^2 2p^2 - 2s^2 2p(^3P)9d$	$^1S - ^1D$	0-1		908
	10	1480.998	21.65 - 89.17	$2s^2 2p^2 - 2s^2 2p(^3P)8d$	$^1S - ^1P$	0-1		908
64.11	65	1481.118	21.65 - 89.16	$2s^2 2p^2 - 2s^2 2p(^3P)8d$	$^1S - ^1P$	0-1		908
64.10	12	1481.451	21.65 - 89.15	$2s^2 2p^2 - 2s^2 2p(^3P)9s$	$^1S - ^1P$	0-1		908
34	450	1481.7635	10.19 - 77.68	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1D$	2-2		371, 816, 821
	20	1482.716	21.65 - 89.09	$2s^2 2p^2 - 2s^2 2p(^3P)8d$	$^1S - ^1D$	0-1		908
	50	1492.575	21.65 - 88.65	$2s^2 2p^2 - 2s^2 2p(^3P)7d$	$^1S - ^1P$	0-1		908
64.08	60	1492.738	21.65 - 88.64	$2s^2 2p^2 - 2s^2 2p(^3P)7d$	$^1S - ^1P$	0-1		821, 816
64.07	10	1493.273	21.65 - 88.62	$2s^2 2p^2 - 2s^2 2p(^3P)8s$	$^1S - ^1P$	0-1		821, 816
	25	1494.532	21.65 - 88.56	$2s^2 2p^2 - 2s^2 2p(^3P)7d$	$^1S - ^1D$	0-1		821, 816
64.05	25	1510.668	21.65 - 87.84	$2s^2 2p^2 - 2s^2 2p(^3P)6d$	$^1S - ^1P$	0-1		821, 816
64.04	100	1510.981	21.65 - 87.83	$2s^2 2p^2 - 2s^2 2p(^3P)6d$	$^1S - ^1P$	0-1		821, 816
64.03	25	1511.907	21.65 - 87.79	$2s^2 2p^2 - 2s^2 2p(^3P)7s$	$^1S - ^1P$	0-1		821, 816
	50	1513.150	21.65 - 87.74	$2s^2 2p^2 - 2s^2 2p(^3P)6d$	$^1S - ^1D$	0-1		821, 816
64.01	40	1541.510	21.65 - 86.52	$2s^2 2p^2 - 2s^2 2p(^3P)5d$	$^1S - ^1P$	0-1		821, 816
64	160	1542.1766	21.65 - 86.49	$2s^2 2p^2 - 2s^2 2p(^3P)5d$	$^1S - ^1P$	0-1		371, 816, 821
63.04	60	1543.960	21.65 - 86.42	$2s^2 2p^2 - 2s^2 2p(^3P)6s$	$^1S - ^1P$	0-1		821, 816
63.03	40	1545.249	21.65 - 86.36	$2s^2 2p^2 - 2s^2 2p(^3P)5d$	$^1S - ^1D$	0-1		821, 816
	3	1560.3095	0.0 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	0-1		371, 796, 821
	3	1560.6832	0.02 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	1-2		371, 796, 821
	3	1560.7079	0.02 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	1-1		371, 796, 821
	3	1561.3407	0.04 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	2-2		371, 908, 821
	3	1561.3568	0.04 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	2-1		821, 908
	3	1561.4382	0.04 - 64.09	$2s^2 2p^2 - 2s^2 2p^2$	$^3P - ^1D$	2-3		371, 796, 821
63.01	5	1600.821	21.65 - 84.12	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1S - ^1P$	0-1		908
63	200	1602.9715	21.65 - 84.03	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1S - ^1P$	0-1		371, 816, 821
62.04	50	1606.960	21.65 - 83.88	$2s^2 2p^2 - 2s^2 2p(^3P)5s$	$^1S - ^1P$	0-1		821, 816
62.03	70	1608.438	21.65 - 83.82	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1S - ^1D$	0-1		821, 816
	2.01	1613.378	0.0 - 61.98	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	0-1		908
	2.01	1613.804	0.02 - 61.98	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	1-1		908
	2.01	1614.522	0.04 - 61.98	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	2-1		908
	2	1656.2665	0.02 - 60.39	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	1-2		371, 816, 821
	2	1656.9282	0.0 - 60.35	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	0-1		371, 816, 821
	2	1657.0078	0.04 - 60.39	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	2-2		371, 816, 821
	2	1657.3797	0.02 - 60.35	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	1-1		371, 816, 821
	2	1657.9070	0.02 - 60.33	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	1-0		371, 816, 821
	2	1658.1222	0.04 - 60.35	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3P - ^1P$	2-1		371, 816, 821
62	800	1751.8277	21.65 - 78.73	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1S - ^1P$	0-1		371, 816, 821
61.06	120	1763.909	21.65 - 78.34	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^1S - ^1P$	0-1		821, 816
61.05	50	1765.366	21.65 - 78.29	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1S - ^1D$	0-1		821, 816
33	1000	1930.9054	10.19 - 61.98	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^1D - ^1P$	2-1		371, 816, 821
32	50	1993.620	10.19 - 60.35	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^1D - ^1P$	2-1		821, 816

CARBON II (C^{+}), $Z = 6$ Ground State $1s^2 2s^2 2p^1 P_{1/2}^o$ (5 electrons)Ionization Potential 196 664.7 cm^{-1} ; 24.384 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	425.326						168
	100	437.102						168
6.09		438.824	0.0 - 227.88	$2s^2(^1S)2p - 2s2p(^3P)5p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287
6.09	100	438.897	0.06 - 227.91	$2s^2(^1S)2p - 2s2p(^3P)5p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
	100	461.120	0.06 - 216.93	$2s^2(^1S)2p - 2s2p(^3P)4p$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.07	10	466.352	0.0 - 214.43	$2s^2(^1S)2p - 2s2p(^3P)4p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.07	100	466.407	0.0 - 214.40	$2s^2(^1S)2p - 2s2p(^3P)4p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.07	200	466.491	0.06 - 214.43	$2s^2(^1S)2p - 2s2p(^3P)4p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.07	10	466.547	0.06 - 214.40	$2s^2(^1S)2p - 2s2p(^3P)4p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
	10	516.652	43.05 - 236.61	$2s2p^2 - 2s2p(^3P)6d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	168, 287
	100	517.07	43.05 - 236.45	$2s2p^2 - 2s2p(^3P)6d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	168, 287
6.06	300	530.274	0.0 - 188.58	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168
6.06	400	530.359	0.06 - 188.62	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168
6.06		530.454	0.06 - 188.58	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287
9.07	5	531.721	43.00 - 231.07	$2s2p^2 - 2s2p(^3P)5d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.07	5	531.742	43.03 - 231.09	$2s2p^2 - 2s2p(^3P)5d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.07	100	531.917	43.05 - 231.05	$2s2p^2 - 2s2p(^3P)5d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.06	100	532.659	43.03 - 230.76	$2s2p^2 - 2s2p(^3P)5d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.06	200	532.705	43.05 - 230.78	$2s2p^2 - 2s2p(^3P)5d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
	100	533.935	0.06 - 187.35	$2s^2(^1S)2p - 2s^2(^1S)7d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		168
6.05	200	543.257	0.0 - 184.08	$2s^2(^1S)2p - 2s^2(^1S)6d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168
6.05	300	543.444	0.06 - 184.08	$2s^2(^1S)2p - 2s^2(^1S)6d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168
9.05		547.140	43.00 - 225.77	$2s2p^2 - 2s2p(^3P)5s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		287
9.05	10	547.153	43.05 - 225.82	$2s2p^2 - 2s2p(^3P)5s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.05	5	547.277	43.03 - 225.75	$2s2p^2 - 2s2p(^3P)5s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.05	5	547.291	43.05 - 225.77	$2s2p^2 - 2s2p(^3P)5s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.04	300	549.3195 ST	0.0 - 182.04	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
6.04	400	549.3785 ST	0.0 - 182.02	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
6.04	500	549.5110 ST	0.06 - 182.04	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
6.04	300	549.5700 ST	0.06 - 182.02	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^4P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
6.03	10	551.874	0.06 - 181.26	$2s^2(^1S)2p - 2s^2(^1S)6s$	$g^4P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		287, 168
6.02	400	560.2394 ST	0.0 - 178.50	$2s^2(^1S)2p - 2s^2(^1S)5d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
6.02	500	560.4367 ST	0.06 - 178.50	$2s^2(^1S)2p - 2s^2(^1S)5d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 306, 287
6.02	40	560.4386 ST	0.06 - 178.50	$2s^2(^1S)2p - 2s^2(^1S)5d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 287
9.04	150	562.338	43.00 - 220.83	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.04	150	562.367	43.03 - 220.85	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.04	150	562.473	43.03 - 220.81	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.04	150	562.497	43.05 - 220.83	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.04	300	562.562	43.05 - 220.81	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	40	564.565	43.00 - 220.13	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	40	564.582	43.00 - 220.13	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	100	564.608	43.03 - 220.14	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	50	564.635	43.03 - 220.13	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	200	564.663	43.05 - 220.15	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.03	40	564.698	43.05 - 220.14	$2s2p^2 - 2s2p(^3P)4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
6.01	100	576.8748	0.0 - 173.35	$2s^2(^1S)2p - 2s^2(^1S)5s$	$g^4P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		306, 168, 287
6.01	200	577.0859	0.06 - 173.35	$2s^2(^1S)2p - 2s^2(^1S)5s$	$g^4P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		306, 168, 287
6	600	594.8000 ST	0.0 - 168.12	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
6	700	595.0219 ST	0.06 - 168.12	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
6	70	595.0245 ST	0.06 - 168.12	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^4P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
9.02	100	600.251	43.03 - 209.62	$2s2p^2 - 2s2p(^3P)4s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.02	100	600.337	43.00 - 209.58	$2s2p^2 - 2s2p(^3P)4s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287
9.02	300	600.353	43.05 - 209.62	$2s2p^2 - 2s2p(^3P)4s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.02	100	600.503	43.03 - 209.55	$2s2p^2 - 2s2p(^3P)4s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.02	100	600.518	43.05 - 209.58	$2s2p^2 - 2s2p(^3P)4s$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
5.01	300	635.9945 ST	0.0 - 157.23	$2s^2(^1S)2p - 2s^2(^1S)4s$	$g^4P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
5.01	400	636.2511 ST	0.06 - 157.23	$2s^2(^1S)2p - 2s^2(^1S)4s$	$g^4P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		308, 168, 287
9.01	250	641.593	43.00 - 198.87	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.01	250	641.627	43.03 - 198.88	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.01	300	641.771	43.03 - 198.84	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.01	300	641.800	43.05 - 198.87	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9.01	650	641.888	43.05 - 198.84	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
9	150	651.211	43.00 - 196.56	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
9	150	651.234	43.00 - 196.56	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168
9	400	651.269	43.03 - 196.57	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
9	300	651.304	43.03 - 196.56	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287
9	800	651.345	43.05 - 196.58	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
9	150	651.389	43.05 - 196.57	$2s2p^2 - 2s2p(^3P)3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		287
12.08	120	686.416	74.93 - 220.61	$2s2p^2 - 2s2p(^3P)4d$	$^1D - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
12.08	80	686.488	74.93 - 220.60	$2s2p^2 - 2s2p(^3P)4d$	$^1D - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	800	687.0526 ST	0.0 - 145.55	$2s^2(^1S)2p - 2s^2(^1S)3d$	$g^4P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		308, 197, 287
5	1000	687.3453 ST	0.06 - 145.55	$2s^2(^1S)2p - 2s^2(^1S)3d$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		308, 197, 287
5	110	687.3521 ST	0.06 - 145.55	$2s^2(^1S)2p - 2s^2(^1S)3d$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		308, 197, 287
		759.09	0.0 - 131.74	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^4P^o - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	F, P	375
		759.46	0.06 - 131.74	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^4P^o - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$	F, P	375
		759.53	0.06 - 131.72	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^4P^o - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$	F, P	375
13.05	10	794.964	96.49 - 222.29	$2s2p^2 - 2s2p(^1P^o)4d$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	168
13.05	100	795.134	96.49 - 222.26	$2s2p^2 - 2s2p(^1P^o)4d$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	168
12.06	500	799.660	74.93 - 199.98	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$	Z	287, 168
12.06	25	799.928	74.93 - 199.94	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$	Z	287
12.06	350	799.944	74.93 - 199.94	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{5}{2}$	Z	287, 168
8	500	806.384	43.03 - 167.04	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
8	200	806.533	43.00 - 166.99	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
8	500	806.568	43.05 - 167.04	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168
8	250	806.676	43.03 - 166.99	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
8	150	806.686	43.00 - 166.97	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168
8	300	806.830	43.03 - 166.97	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
8	300	806.860	43.05 - 166.99	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168, 488
12.05	400	809.677	74.93 - 198.44	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
12.05	30	809.693	74.93 - 198.44	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$	Z	287, 168
12.05	30	809.747	74.93 - 198.43	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
12.05	300	809.764	74.93 - 198.43	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$	Z	287, 168
4	500	858.0918 ST	0.0 - 116.54	$2s^2(^1S)2p - 2s^2(^1S)3s$	$g^4P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
4	900	858.5590 ST	0.06 - 116.54	$2s^2(^1S)2p - 2s^2(^1S)3s$	$g^4P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		308, 197, 287
3	600	903.6235 ST	0.0 - 110.67	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
3	800	903.9616 ST	0.0 - 110.62	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
3	1000	904.1416 ST	0.06 - 110.67	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		308, 197, 287
3	600	904.4801 ST	0.06 - 110.62	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		308, 197, 287
13.04	100	945.977	96.49 - 202.20	$2s2p^2 - 2s2p(^1P^o)3d$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
13.04	200	946.198	96.49 - 202.18	$2s2p^2 - 2s2p(^1P^o)3d$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
7	400	1009.858	43.00 - 142.03	$2s2p^2 - 2p^2$	$^1P^o - ^1S^o$	$\frac{1}{2} - \frac{3}{2}$		287, 488
7	600	1010.083	43.03 - 142.03	$2s2p^2 - 2p^2$	$^1P^o - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		287, 488
7	1000	1010.371	43.05 - 142.03	$2s2p^2 - 2p^2$	$^1P^o - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		287, 488
2	800	1036.3367 ST	0.0 - 96.49	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		308, 197, 287
2	1000	1037.0182 ST	0.06 - 96.49	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		308, 197, 287
12.01	5	1063.285	74.93 - 168.98	$2s2p^2 - 2s^2(^1S)4f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		287, 168
12.01	5	1063.313	74.93 - 168.98	$2s2p^2 - 2s^2(^1S)4f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		287, 168
12	700	1065.8913 ST	74.93 - 168.75	$2s2p^2 - 2p^2$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		308, 197, 287
12	100	1065.9199 ST	74.93 - 168.75	$2s2p^2 - 2p^2$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		308, 197, 287
12	500	1066.1332 ST	74.93 - 168.73	$2s2p^2 - 2p^2$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		308, 197, 287
14.05	100	1091.937	110.62 - 202.20	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	287, 168
14.05	10	1092.232	110.62 - 202.18	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	287, 163
14.05	10	1092.431	110.67 - 202.20	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	287, 168
14.05	200	1092.726	110.67 - 202.18	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	Z	287, 168
14.04	200	1138.9358 ST	110.62 - 198.43	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	308, 168, 287
14.04	300	1139.3317 ST	110.67 - 198.44	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$	Z	308, 168, 287
14.04	10	1139.4730 ST	110.67 - 198.43	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P^o - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$	Z	308, 168, 287
11.01	300	1141.6246 ST	74.93 - 162.53	$2s2p^2 - 2s^2(^1S)4p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		308, 168, 287
11.01	30	1141.6574 ST	74.93 - 162.53	$2s2p^2 - 2s^2(^1S)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		308, 287
11.01	200	1141.7445 ST	74.93 - 162.52	$2s2p^2 - 2s^2(^1S)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		308, 168, 287
11	30	1323.8617 ST	74.93 - 150.47	$2s2p^2 - 2p^2$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		308, 287
11	300	1323.9059 ST	74.93 - 150.47	$2s2p^2 - 2p^2$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		308, 287
11	450	1323.9513 ST	74.93 - 150.46	$2s2p^2 - 2p^2$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		308, 287
11	30	1323.9955 ST	74.93 - 150.46	$2s2p^2 - 2p^2$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		308, 287
1	800	1334.5323 ST	0.0 - 74.93	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		308, 488, 287
1	100	1335.6627 ST	0.06 - 74.93	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		308, 488, 287
1	1000	1335.7077 ST	0.06 - 74.93	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		308, 488, 287
14.02	10	1720.456	110.62 - 168.75	$2s2p^2 - 2p^2$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168
14.02	100	1721.012	110.62 - 168.73	$2s2p^2 - 2p^2$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168
14.02	200	1721.682	110.67 - 168.75	$2s2p^2 - 2p^2$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		287, 168
14.02	10	1722.238	110.67 - 168.73	$2s2p^2 - 2p^2$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		287, 168
10	450	1760.3954 ST	74.93 - 131.74	$2s2p^2 - 2s^2(^1S)3p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		308, 488, 287
10	100	1760.4735 ST	74.93 - 131.74	$2s2p^2 - 2s^2(^1S)3p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		308, 197, 287
10	300	1760.8191 ST	74.93 - 131.72	$2s2p^2 - 2s^2(^1S)3p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		308, 488, 287
	5	1927.02	110.62 - 162.52	$2s2p^2 - 2s^2(^1S)4p$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Q	816, 375
	10	1928.30	110.67 - 162.53	$2s2p^2 - 2s^2(^1S)4p$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	816, 375
19	40	1987.33	131.72 - 182.04	$2s^2(^1S)3p - 2s2p(^1P^o)3p$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		287
19	120	1987.76	131.74 - 182.04	$2s^2(^1S)3p - 2s2p(^1P^o)3p$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		287
19	80	1988.09	131.72 - 182.02	$2s^2(^1S)3p - 2s2p(^1P^o)3p$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		287, 168
19	40	1988.51	131.74 - 182.02	$2s^2(^1S)3p - 2s2p(^1P^o)3p$	$^1P^o - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		287

CARBON III (C^{2+}), $Z = 6$ Ground State $1s^2 2s^2 \ ^1S_0$ (4 electrons)Ionization Potential $386\,241.0\text{ cm}^{-1}$; 47.888 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
7.27	10	265.029	52.45 - 429.76	$2s2p - 2p7p$	$^3P - ^3P$	2 - 2	Z	168, 510
7.26	10	265.287	52.45 - 429.40	$2s2p - 2p7p$	$^3P - ^3D$	2 - 3	Z	168, 510
3.09	10	270.324	0.0 - 369.93	$2s^2 - 2s8p$	$^3S - ^3P$	0 - 1		168, 510
7.25	100	270.583	52.45 - 422.02	$2s2p - 2p6p$	$^3P - ^3P$	2 - 2	Z	168, 510
7.24	100	271.014	52.45 - 421.43	$2s2p - 2p6p$	$^3P - ^3D$	2 - 3	Z	168, 510
3.08	200	274.051	0.0 - 364.90	$2s^2 - 2s7p$	$^3S - ^3P$	0 - 1		168, 510
3.07	300	280.043	0.0 - 357.11	$2s^2 - 2s6p$	$^3S - ^3P$	0 - 1		510
7.23	200	280.522	52.45 - 408.93	$2s2p - 2p5p$	$^3P - ^3P$	2 - 2	Z	168, 510
7.22	200	281.390	52.45 - 407.83	$2s2p - 2p5p$	$^3P - ^3D$	2 - 3	Z	168, 510
3.05	10	288.423	0.0 - 346.71	$2s^2 - 2p3d$	$^3S - ^3P$	0 - 1		170, 510
3.03	500	291.3261	0.0 - 343.26	$2s^2 - 2s5p$	$^3S - ^3P$	0 - 1		197, 168, 510
7.21	200	301.206	52.39 - 384.41	$2s2p - 2p4p$	$^3P - ^3P$	1 - 2		168, 510
7.21	300	301.243	52.45 - 384.41	$2s2p - 2p4p$	$^3P - ^3P$	2 - 2		168, 510
7.21	100	301.279	52.45 - 384.37	$2s2p - 2p4p$	$^3P - ^3P$	2 - 1		168, 510
7.20	400	303.432	52.45 - 382.01	$2s2p - 2p4p$	$^3P - ^3D$	2 - 3		168, 510
7.20	100	303.468	52.45 - 381.97	$2s2p - 2p4p$	$^3P - ^3D$	2 - 2		168, 510
3	700	310.1697	0.0 - 322.40	$2s^2 - 2s4p$	$^3S - ^3P$	0 - 1		197, 168, 510
7.19	10	311.157	52.45 - 373.83	$2s2p - 2s9d$	$^3P - ^3D$	2 - 3		168, 510
7.18	100	314.41	52.45 - 370.50	$2s2p - 2s8d$	$^3P - ^3D$	2 - 3		168, 510
7.16	300	319.29	52.45 - 365.64	$2s2p - 2s7d$	$^3P - ^3D$	2 - 3		168, 510
7.15	10	321.372	52.45 - 363.61	$2s2p - 2s7s$	$^3P - ^3S$	2 - 1		168, 510
2.03	800	322.5741	0.0 - 310.01	$2s^2 - 2p3s$	$^3S - ^3P$	0 - 1		197, 168, 510
11.13	100	325.570	102.35 - 409.51	$2s2p - 2p5p$	$^3P - ^3D$	1 - 2	Z	168, 510
7.13	400	327.112	52.39 - 358.10	$2s2p - 2s6d$	$^3P - ^3D$	1 - 2		168, 510
7.13	400	327.176	52.45 - 358.10	$2s2p - 2s6d$	$^3P - ^3D$	2 - 3		168, 510
11.12	100	327.784	102.35 - 407.43	$2s2p - 2p5p$	$^3P - ^3P$	1 - 1	Z	168, 510
7.12	100	330.617	52.39 - 354.86	$2s2p - 2s6s$	$^3P - ^3S$	1 - 1		168, 510
7.12	100	330.687	52.45 - 354.86	$2s2p - 2s6s$	$^3P - ^3S$	2 - 1		168, 510
7.10	500	341.143	52.37 - 345.50	$2s2p - 2s5d$	$^3P - ^3D$	0 - 1		168, 510
7.10	600	341.179	52.39 - 345.50	$2s2p - 2s5d$	$^3P - ^3D$	1 - 2		168, 510
7.10	700	341.242	52.45 - 345.50	$2s2p - 2s5d$	$^3P - ^3D$	2 - 3		168, 510
7.08	300	347.777	52.39 - 339.93	$2s2p - 2s5s$	$^3P - ^3S$	1 - 1		168, 510
7.08	300	347.854	52.45 - 339.93	$2s2p - 2s5s$	$^3P - ^3S$	2 - 1		168, 510
11.27	10	350.132	137.50 - 423.11	$2p^2 - 2p6d$	$^3P - ^3P$	2 - 2	Z	168, 510
11.26	200	350.35	137.50 - 422.93	$2p^2 - 2p6d$	$^3P - ^3D$	2 - 3	Z	168, 510
11.11	300	353.000	102.35 - 385.64	$2s2p - 2p4p$	$^3P - ^3D$	1 - 2		168, 510
11.10	400	358.740	102.35 - 381.11	$2s2p - 2p4p$	$^3P - ^3P$	1 - 1		168, 510
7.05	600	360.557	52.39 - 329.74	$2s2p - 2p3p$	$^3P - ^3P$	1 - 2		168, 510
7.05	700	360.623	52.45 - 329.74	$2s2p - 2p3p$	$^3P - ^3P$	2 - 2		168, 510
7.05	500	360.675	52.45 - 329.71	$2s2p - 2p3p$	$^3P - ^3P$	2 - 1		168, 510
7.04	400	363.7538	52.37 - 327.28	$2s2p - 2p3p$	$^3P - ^3S$	0 - 1		34, 168, 510
7.04	500	363.7852	52.39 - 327.28	$2s2p - 2p3p$	$^3P - ^3S$	1 - 1		34, 168, 510
7.04	600	363.8598	52.45 - 327.28	$2s2p - 2p3p$	$^3P - ^3S$	2 - 1		34, 168, 510
11.25	100	365.778	137.50 - 410.89	$2p^2 - 2p5d$	$^3P - ^3P$	2 - 2	Z	168, 510
11.24	400	366.19	137.50 - 410.59	$2p^2 - 2p5d$	$^3P - ^3D$	2 - 3	Z	168, 510
7.02	500	369.415	52.45 - 323.14	$2s2p - 2p3p$	$^3P - ^3D$	2 - 3		168, 510
7.02	200	369.472	52.45 - 323.10	$2s2p - 2p3p$	$^3P - ^3D$	2 - 2		168, 510
7	1000	371.694	52.39 - 321.43	$2s2p - 2s4d$	$^3P - ^3D$	1 - 2		168, 510
7	1000	371.747	52.45 - 321.45	$2s2p - 2s4d$	$^3P - ^3D$	2 - 3		168, 510
7	800	371.784	52.45 - 321.43	$2s2p - 2s4d$	$^3P - ^3D$	2 - 2		168, 510
11.43	100	379.065	145.88 - 409.68	$2p^2 - 2p5d$	$^3D - ^3D$	2 - 2	Z	168, 510
11.09	10	379.254	102.35 - 366.03	$2s2p - 2s7d$	$^3P - ^3D$	1 - 2		168, 510
2.01		385.043	0.0 - 259.71	$2s^2 - 2s3p$	$^3S - ^3P$	0 - 1		510
2	850	386.2028	0.0 - 258.93	$2s^2 - 2s3p$	$^3S - ^3P$	0 - 1		197, 168, 510
6.02	500	388.9687	52.37 - 309.46	$2s2p - 2s3s$	$^3P - ^3S$	0 - 1		197, 168, 510
6.02	600	389.0045	52.39 - 309.46	$2s2p - 2s3s$	$^3P - ^3S$	1 - 1		197, 168, 510
6.02	700	389.0898	52.45 - 309.46	$2s2p - 2s3s$	$^3P - ^3S$	2 - 1		197, 168, 510
11.08	300	390.055	102.35 - 358.73	$2s2p - 2s6d$	$^3P - ^3D$	1 - 2		168, 510
11.23	200	398.42	137.50 - 388.49	$2p^2 - 2p4d$	$^3P - ^3P$	2 - 2	Z	168, 510
11.22	600	399.612	137.45 - 387.70	$2p^2 - 2p4d$	$^3P - ^3D$	1 - 2	Z	168, 510
11.22	600	399.688	137.50 - 387.70	$2p^2 - 2p4d$	$^3P - ^3D$	2 - 3	Z	168, 510
11.07	600	409.325	102.35 - 346.66	$2s2p - 2s5d$	$^3P - ^3D$	1 - 2		168, 510
11.42	10	411.697	145.88 - 388.77	$2p^2 - 2p4d$	$^3D - ^3F$	2 - 3	Z	168, 510
11.06	300	411.9577	102.35 - 345.10	$2s2p - 2p3p$	$^3P - ^3S$	1 - 0		34, 168, 510
11.41	500	416.769	145.88 - 385.82	$2p^2 - 2p4d$	$^3D - ^3D$	2 - 2		168, 510
11.21	200	418.609	137.50 - 376.39	$2p^2 - 2p4s$	$^3P - ^3P$	2 - 2		510, 168
11.05		423.438	102.35 - 338.51	$2s2p - 2s5s$	$^3P - ^3S$	1 - 0		510
11.04	800	433.3391	102.35 - 333.12	$2s2p - 2p3p$	$^3P - ^3D$	1 - 2		197, 168, 510
11.03	800	450.7338	102.35 - 324.21	$2s2p - 2s4d$	$^3P - ^3D$	1 - 2		197, 168, 510
	0	455.5	137.50 - 357.05	$2p^2 - 2s6p$	$^3P - ^3P$	2 - 2		565, 510

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
6	900	459.462	52.37 - 270.01	2s2p - 2s3d	$^1P^o - ^1D$	0 - 1		197, 168, 510
6	950	459.521	52.39 - 270.01	2s2p - 2s3d	$^1P^o - ^1D$	1 - 2		197, 168, 510
6	1000	459.633	52.45 - 270.01	2s2p - 2s3d	$^1P^o - ^1D$	2 - 3		197, 168, 510
11.02	800	460.0487	102.35 - 319.72	2s2p - 2p3p	$^1P^o - ^1P$	1 - 1		197, 168, 510
11.38	10	468.94	145.88 - 359.12	2p ² - 2s6f	$^1D - ^1F^o$	2 - 3		168, 510
11.37		473.410	145.88 - 357.11	2p ² - 2s6p	$^1D - ^1P^o$	2 - 1		510
11.01	300	477.6246	102.35 - 311.72	2s2p - 2s4s	$^1P^o - ^1S$	1 - 0		34, 168, 510
11.19	300	483.567	137.45 - 344.24	2p ² - 2s5p	$^1P^o - ^1P^o$	1 - 0		168, 510
11.19	400	483.618	137.45 - 344.23	2p ² - 2s5p	$^1P^o - ^1P^o$	1 - 2		168, 510
11.19	500	483.733	137.50 - 344.23	2p ² - 2s5p	$^1P^o - ^1P^o$	2 - 2		168, 510
11.36	700	492.6500	145.88 - 348.86	2p ² - 2s5f	$^1D - ^1F^o$	2 - 3		197, 168, 510
11.18	500	493.341	137.43 - 340.13	2p ² - 2p3d	$^1P^o - ^1P^o$	0 - 1		168, 510
11.18	500	493.364	137.45 - 340.14	2p ² - 2p3d	$^1P^o - ^1P^o$	1 - 0		168, 510
11.18	500	493.396	137.45 - 340.13	2p ² - 2p3d	$^1P^o - ^1P^o$	1 - 1		168, 510
11.18	500	493.464	137.45 - 340.10	2p ² - 2p3d	$^1P^o - ^1P^o$	1 - 2		168, 510
11.18	500	493.519	137.50 - 340.13	2p ² - 2p3d	$^1P^o - ^1P^o$	2 - 1		168, 510
11.18	700	493.587	137.50 - 340.10	2p ² - 2p3d	$^1P^o - ^1P^o$	2 - 2		168, 510
11.35	100	497.910	145.88 - 346.71	2p ² - 2p3d	$^1D - ^1P^o$	2 - 1		168, 510
11.17	700	499.425	137.43 - 337.66	2p ² - 2p3d	$^1P^o - ^1D^o$	0 - 1		168, 510
11.17	800	499.462	137.45 - 337.67	2p ² - 2p3d	$^1P^o - ^1D^o$	1 - 2		168, 510
11.17	900	499.530	137.50 - 337.69	2p ² - 2p3d	$^1P^o - ^1D^o$	2 - 3		168, 510
11.17	700	499.583	137.50 - 337.67	2p ² - 2p3d	$^1P^o - ^1D^o$	2 - 2		168, 510
11.34	10	506.63	145.88 - 343.26	2p ² - 2s5p	$^1D - ^1P^o$	2 - 1		168, 510
11.33	1000	511.5225	145.88 - 341.37	2p ² - 2p3d	$^1D - ^1F^o$	2 - 3		197, 168, 510
11.32	850	535.2885	145.88 - 332.69	2p ² - 2p3d	$^1D - ^1D^o$	2 - 2		197, 168, 510
5	900	538.0801	52.37 - 238.21	2s2p - 2s3s	$^1P^o - ^1S$	0 - 1		197, 168, 510
5	950	538.1487	52.39 - 238.21	2s2p - 2s3s	$^1P^o - ^1S$	1 - 1		197, 168, 510
5	1000	538.3120	52.45 - 238.21	2s2p - 2s3s	$^1P^o - ^1S$	2 - 1		197, 168, 510
11.16	200	554.63	137.50 - 317.80	2p ² - 2s4p	$^1P^o - ^1P^o$	2 - 2		168, 510
11.31	700	565.5280	145.88 - 322.70	2p ² - 2s4f	$^1D - ^1F^o$	2 - 3		197, 168, 510
11.30	400	566.48	145.88 - 322.40	2p ² - 2s4p	$^1D - ^1P^o$	2 - 1		168, 510
11	1000	574.2809	102.35 - 276.48	2s2p - 2s3d	$^1P^o - ^1D$	1 - 2		197, 168, 510
11.15	600	585.261	137.45 - 308.32	2p ² - 2p3s	$^1P^o - ^1P^o$	1 - 2		168, 510
11.15	800	585.417	137.50 - 308.32	2p ² - 2p3s	$^1P^o - ^1P^o$	2 - 2		168, 510
11.15	500	585.496	137.45 - 308.25	2p ² - 2p3s	$^1P^o - ^1P^o$	1 - 1		168, 510
11.15	600	585.608	137.45 - 308.22	2p ² - 2p3s	$^1P^o - ^1P^o$	1 - 0		168, 510
11.15	600	585.666	137.50 - 308.25	2p ² - 2p3s	$^1P^o - ^1P^o$	2 - 1		168, 510
11.48	400	609.04	182.52 - 346.71	2p ² - 2p3d	$^1S - ^1P^o$	0 - 1		168, 510
11.29	600	609.275	145.88 - 310.01	2p ² - 2p3s	$^1D - ^1P^o$	2 - 1		168, 510
11.47	200	622.13	182.52 - 343.26	2p ² - 2s5p	$^1S - ^1P^o$	0 - 1		168, 510
10	700	690.526	102.35 - 247.17	2s2p - 2s3s	$^1P^o - ^1S$	1 - 0		168, 510
11.46	100	714.879	182.52 - 322.40	2p ² - 2s4p	$^1S - ^1P^o$	0 - 1		168, 510
11.45	300	784.393	182.52 - 310.01	2p ² - 2p3s	$^1S - ^1P^o$	0 - 1		168, 510
11.14		817.950	137.45 - 259.71	2p ² - 2s3p	$^1P^o - ^1P^o$	1 - 1		510
11.14		818.181	137.50 - 259.72	2p ² - 2s3p	$^1P^o - ^1P^o$	2 - 2		510
11.28	800	884.516	145.88 - 258.93	2p ² - 2s3p	$^1D - ^1P^o$	2 - 1		168, 510
11.56		943.218	238.21 - 344.23	2s3s - 2s5p	$^1S - ^1P^o$	1 - 2		510
1	1000	977.020	0.0 - 102.35	2s ² - 2s2p	$^1S - ^1P^o$	0 - 1		197, 168, 510
	25	1016.5	259.72 - 358.10	2s3p - 2s6d	$^1P^o - ^1D$	2 - 3		565, 510
11.60		1040.715	247.17 - 343.26	2s3s - 2s5p	$^1S - ^1P^o$	0 - 1		510
11.7s	10	1165.698	259.71 - 345.50	2s3p - 2s5d	$^1P^o - ^1D$	1 - 2		168, 510
11.76	100	1165.870	259.72 - 345.50	2s3p - 2s5d	$^1P^o - ^1D$	2 - 3		168, 510
4	800	1174.933	52.39 - 137.50	2s2p - 2p ²	$^1P^o - ^1P$	1 - 2		197, 510
4	700	1175.263	52.37 - 137.45	2s2p - 2p ²	$^1P^o - ^1P$	0 - 1		197, 510
4	600	1175.590	52.39 - 137.45	2s2p - 2p ²	$^1P^o - ^1P$	1 - 1		197, 510
4	1000	1175.711	52.45 - 137.50	2s2p - 2p ²	$^1P^o - ^1P$	2 - 2		197, 168, 510
4	700	1175.987	52.39 - 137.43	2s2p - 2p ²	$^1P^o - ^1P$	1 - 0		197, 510
4	800	1176.370	52.45 - 137.45	2s2p - 2p ²	$^1P^o - ^1P$	2 - 1		197, 510
9	600	1247.383	102.35 - 182.52	2s2p - 2p ²	$^1P^o - ^1S$	1 - 0		197, 168, 510
11.53	100	1256.47	238.21 - 317.80	2s3s - 2s4p	$^1S - ^1P^o$	1 - 2		168, 510
12.07	200	1296.33	270.01 - 347.16	2s3d - 2s5f	$^1D - ^1F^o$	3 - 4		168, 510
11.44	200	1308.70	182.52 - 258.93	2p ² - 2s3p	$^1S - ^1P^o$	0 - 1		168, 510
11.59		1329.187	247.17 - 322.40	2s3s - 2s4p	$^1S - ^1P^o$	0 - 1		510
12.05	10	1426.22	270.01 - 340.13	2s3d - 2p3d	$^1D - ^1P^o$	2 - 1		168, 510
11.52	400	1426.45	238.21 - 308.32	2s3s - 2p3s	$^1S - ^1P^o$	1 - 2		168, 510
12.05	100	1426.80	270.01 - 340.10	2s3d - 2p3d	$^1D - ^1P^o$	3 - 2		168, 510
11.52	300	1427.85	238.21 - 308.25	2s3s - 2p3s	$^1S - ^1P^o$	1 - 1		168, 510
11.75	200	1428.17	259.72 - 329.74	2s3p - 2p3p	$^1P^o - ^1P$	2 - 2		168, 510
11.52	200	1428.50	238.21 - 308.22	2s3s - 2p3s	$^1S - ^1P^o$	1 - 0		168, 510
11.75	10	1428.66	259.71 - 329.71	2s3p - 2p3p	$^1P^o - ^1P$	1 - 1		168, 510
11.75	100	1428.95	259.72 - 329.71	2s3p - 2p3p	$^1P^o - ^1P$	2 - 1		168, 510
11.75	10	1429.10	259.71 - 329.69	2s3p - 2p3p	$^1P^o - ^1P$	1 - 0		168, 510
12.04	300	1477.68	270.01 - 337.69	2s3d - 2p3d	$^1D - ^1D^o$	3 - 3		168, 510
12.04	200	1478.05	270.01 - 337.67	2s3d - 2p3d	$^1D - ^1D^o$	2 - 2		168, 510
12.04	100	1478.30	270.01 - 337.66	2s3d - 2p3d	$^1D - ^1D^o$	1 - 1		168, 510

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
11.65	200	1531.83	258.93 - 324.21	2s3p - 2s4d	$^1P - ^1D$	1 - 2		168, 510
17		1541.115	276.48 - 341.37	2s3d - 2p3d	$^1D - ^1F$	2 - 3		510
12.03	300	1576.48	270.01 - 333.45	2s3d - 2p3d	$^1D - ^1F$	3 - 4		168, 510
12.03	200	1577.30	270.01 - 333.41	2s3d - 2p3d	$^1D - ^1F$	2 - 3		168, 510
12.03	200	1577.89	270.01 - 333.39	2s3d - 2p3d	$^1D - ^1F$	1 - 2		168, 510
11.58	200	1591.44	247.17 - 310.01	2s3s - 2p3s	$^1S - ^1P$	0 - 1		168, 510
11.72	300	1620.07	259.72 - 321.45	2s3p - 2s4d	$^1P - ^1D$	2 - 3		168, 510
11.72	200	1620.33	259.71 - 321.43	2s3p - 2s4d	$^1P - ^1D$	1 - 2		168, 510
11.72	10	1620.59	259.71 - 321.41	2s3p - 2s4d	$^1P - ^1D$	0 - 1		168, 510
11.72	100	1620.68	259.72 - 321.43	2s3p - 2s4d	$^1P - ^1D$	2 - 2		168, 510
11.64	100	1645.03	258.93 - 319.72	2s3p - 2p3p	$^1P - ^1P$	1 - 1		168, 510
16	10	1779.09	276.48 - 332.69	2s3d - 2p3d	$^1D - ^1D$	2 - 2		168, 510
11.63	200	1894.29	258.93 - 311.72	2s3p - 2s4s	$^1P - ^1S$	1 - 0		168, 510
0.01		1908.734	0.0 - 52.39	2s ² - 2s2p	$^1S - ^1P$	0 - 1		510
12.02	300	1922.96	270.01 - 322.02	2s3d - 2s4f	$^1D - ^1F$	3 - 4		168, 510
12.02	200	1923.16	270.01 - 322.01	2s3d - 2s4f	$^1D - ^1F$	2 - 3		168, 510
12.02	200	1923.34	270.01 - 322.00	2s3d - 2s4f	$^1D - ^1F$	1 - 2		168, 510
41	100	1979.16	337.69 - 388.21	2p3d - 2p4f	$^1D - ^1F$	3 - 4	Z	34, 510
41	50	1979.62	337.67 - 388.18	2p3d - 2p4f	$^1D - ^1F$	2 - 3	Z	34, 510

CARBON IV (C^{3+}), $Z = 6$ Ground State $1s^2 2s^2 S_{1/2}$ (3 electrons)Ionization Potential $520\,178.4 \text{ cm}^{-1}$; 64.494 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5.07	2	196.27	0.0 - 509.50	$1s^2 2s - 1s^2 13p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		536
5.06	2	196.96	0.0 - 507.72	$1s^2 2s - 1s^2 12p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		536
5.05	5	197.82	0.0 - 505.51	$1s^2 2s - 1s^2 11p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168
5.04	10	199.04	0.0 - 502.41	$1s^2 2s - 1s^2 10p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168
5.03	25	200.68	0.0 - 498.32	$1s^2 2s - 1s^2 9p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168
5.02	50	203.057	0.0 - 492.48	$1s^2 2s - 1s^2 8p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168
		206.6	2377.1 + X - 2861.2 + X	$1s^2 2s2p - 1s^2 2s5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	ZZ	94
5.01	150	206.641	0.0 - 483.95	$1s^2 2s - 1s^2 7p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168
5	250	212.421	0.0 - 470.78	$1s^2 2s - 1s^2 6p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168, 488
		218.	2451.39 + X - 2910.15 + X	$1s^2 2p^2 - 1s^2 2p5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	ZZ	94
4	350	222.791	0.0 - 448.86	$1s^2 2s - 1s^2 5p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168, 488
11.11	2	223.9	64.59 - 511.25	$1s^2 2p - 1s^2 14d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		536
		224.4	2377.1 - 2822.8	$1s^2 2s2p - 1s^2 2s4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	ZZ	94
11.10	2	224.6	64.59 - 509.82	$1s^2 2p - 1s^2 13d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	536
11.09	4	225.49	64.59 - 508.02	$1s^2 2p - 1s^2 12d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		536
11.08	6	226.72	64.59 - 505.70	$1s^2 2p - 1s^2 11d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		536
11.07	25	228.27	64.59 - 502.60	$1s^2 2p - 1s^2 10d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168
11.06	25	230.43	64.59 - 498.49	$1s^2 2p - 1s^2 9d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168
11.05	2	230.9	64.59 - 497.74	$1s^2 2p - 1s^2 9s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		536
11.04	100	233.53	64.48 - 492.73	$1s^2 2p - 1s^2 8d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168
11.03	4	234.19	64.59 - 491.65	$1s^2 2p - 1s^2 8s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		536
11.02	100	238.200	64.48 - 484.32	$1s^2 2p - 1s^2 7d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168
11.02	150	238.250	64.59 - 484.32	$1s^2 2p - 1s^2 7d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168
11.01	25	239.196	64.59 - 482.71	$1s^2 2p - 1s^2 7s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168
		240.5	2451.39 + X - 2867.2 + X	$1s^2 2p^2 - 1s^2 2p4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	ZZ	94
3	500	244.907	0.0 - 408.32	$1s^2 2s - 1s^2 4p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		168, 488
11	200	245.775	64.48 - 471.37	$1s^2 2p - 1s^2 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
11	250	245.830	64.59 - 471.37	$1s^2 2p - 1s^2 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
10.01	25	247.357	64.59 - 468.78	$1s^2 2p - 1s^2 6s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		163
10.01	50	247.415	64.59 - 468.78	$1s^2 2p - 1s^2 6s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168
		254.3	2377.1 + X - 2770.4 + X	$1s^2 2s2p - 1s^2 2s4s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$	ZZ	94
10	300	259.471	64.48 - 449.89	$1s^2 2p - 1s^2 5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
10	350	259.542	64.59 - 449.89	$1s^2 2p - 1s^2 5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
9.01	150	262.550	64.48 - 445.37	$1s^2 2p - 1s^2 5s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168
9.01	200	262.624	64.59 - 445.37	$1s^2 2p - 1s^2 5s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168
		284.	2377.1 + X - 2729.25 + X	$1s^2 2s2p - 1s^2 2s3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	ZZ	94
9	450	289.143	64.48 - 410.34	$1s^2 2p - 1s^2 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
9	500	289.230	64.59 - 410.34	$1s^2 2p - 1s^2 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		168, 488
8	300	296.857	64.48 - 401.35	$1s^2 2p - 1s^2 4s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168, 488
8	350	296.951	64.59 - 401.35	$1s^2 2p - 1s^2 4s$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		168, 488

C IV

C V

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
2.01	50	303.4	2451.39 + X - 2781. + X	$1s^2p - 1s^2p^3d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$	ZZ	94
2	750	307.806	0.0 - 324.88	$1s^2s - 1s^2d$	$^3S - ^1D$	$\frac{1}{2} - \frac{1}{2}$	F	168
2	700	312.422	0.0 - 320.08	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
		312.453	0.0 - 320.05	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
		314.6	2377.1 + X - 2695. + X	$1s^2s^2p - 1s^2s^3s$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$	ZZ	94
7	800	384.032	64.48 - 324.88	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
7	850	384.178	64.59 - 324.89	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
6	650	419.525	64.48 - 302.85	$1s^2p - 1s^2s$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
6	700	419.714	64.59 - 302.85	$1s^2p - 1s^2s$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		197, 168, 488
	0	627.1	324.89 - 484.34	$1s^2d - 1s^2f$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		565
	5	661.0	320.08 - 471.37	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		565
	5	682.5	324.89 - 471.40	$1s^2d - 1s^2f$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		565
11.17	25	770.379	320.08 - 449.89	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		168
	100	799.7	324.89 - 449.94	$1s^2d - 1s^2f$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		565
11.12	50	948.098	302.85 - 408.32	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		168
11.12	25	948.214	302.85 - 408.31	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		168
11.15	50	1107.600	320.05 - 410.34	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		168
11.15	100	1107.933	320.08 - 410.34	$1s^2p - 1s^2d$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		168
11.19	150	1168.873	324.88 - 410.43	$1s^2d - 1s^2f$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		168
11.19	200	1168.990	324.89 - 410.43	$1s^2d - 1s^2f$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		168
11.18	50	1198.58	324.89 - 408.32	$1s^2d - 1s^2p$	$^1D - ^1P$	$\frac{1}{2} - \frac{1}{2}$		168
11.14	100	1230.046	320.05 - 401.35	$1s^2p - 1s^2s$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		168
11.14	150	1230.511	320.08 - 401.35	$1s^2p - 1s^2s$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		168
		1346.	2377.1 + X - 2451.39 + X	$1s^2s^2p - 1s^2p^2$	$^1P - ^1P$	$\frac{1}{2} - \frac{1}{2}$	ZZ	94
1	1000	1548.202	0.0 - 64.59	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		510, 488
1	950	1550.774	0.0 - 64.48	$1s^2s - 1s^2p$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		510, 488

CARBON V (C⁺), Z = 6Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 3 152 395 cm^{-1} ; 392.090 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
11		32.064	0.0 - 3119.62	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		510
10		32.188	0.0 - 3106.54	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		510
9	4	32.3998	0.0 - 3086.44	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
8	10	32.7542	0.0 - 3053.04	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
7		32.773	0.0 - 3051.33	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		510
6	30	33.4257	0.0 - 2991.71	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
5		33.463	0.0 - 2988.36	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1	P	510
	3	33.925	2839.56 - 5786.7	$1s^2s - 2p^3s$	$^3S - ^1P$	1 - 1	Z	235
	1	34.022	2851.18 - 5789.3	$1s^2s - 2p^3s$	$^3S - ^1P$	0 - 1	Z	235
	1	34.283	2455.02 - 5371.4	$1s^2s - 2s^2p$	$^1S - ^1P$	0 - 1	Z	235
	2	34.520	2411.26 - 5308.2	$1s^2s - 2s^2p$	$^3S - ^1P$	1 - 1	Z	235
	1	34.598	2455.28 - 5345.5	$1s^2p - 2p^2$	$^1P - ^1P$	2 - 2	Z	235
	2	34.699	2483.37 - 5365.1	$1s^2p - 2p^2$	$^1P - ^1D$	1 - 2	Z	235
4	100	34.9728	0.0 - 2859.38	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
3		35.070	0.0 - 2851.42	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1	P	510
2	500	40.2680	0.0 - 2483.37	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
1	30	40.7306	0.0 - 2455.15	$1s^2 - 1s^2p$	$^3S - ^1P$	0 - 1		212
		41.47	0.0 - 2411.26	$1s^2 - 1s^2s$	$^1S - ^1S$	0 - 1	F	277
		138.2	2411.26 - 3134.86	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1	P	262
		139.5	2411.26 - 3128.12	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1	P	262
		141.27	2411.26 - 3119.21	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1	P	262
		143.94	2411.26 - 3105.93	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1		262
		147.1	2455.28 - 3135.06	$1s^2p - 1s^2d$	$^1P - ^1D$	2 - 3	P	262
		148.35	2411.26 - 3085.44	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1		262
		148.5	2455.28 - 3128.65	$1s^2p - 1s^2d$	$^1P - ^1D$	2 - 3	P	267
		150.55	2455.28 - 3119.51	$1s^2p - 1s^2d$	$^1P - ^1D$	2 - 3	P	262
		153.33	2455.15 - 3106.37	$1s^2p - 1s^2d$	$^1P - ^1D$	1 - 2		262
15	4	156.233	2411.26 - 3051.33	$1s^2s - 1s^2p$	$^3S - ^1P$	1 - 1		212
		157.2	2483.37 - 3119.53	$1s^2p - 1s^2d$	$^1P - ^1D$	1 - 2	P	262
20		158.374	2455.02 - 3086.44	$1s^2s - 1s^2p$	$^3S - ^1P$	0 - 1	P	510

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
19	4	158.47	2455.28 - 3086.14	1s2p - 1s6d	$^3P^o - ^3D$	2 - 3		262
		160.53	2483.37 - 3106.41	1s2p - 1s7d	$^1P^o - ^1D$	1 - 2	P	262
		165.91	2483.37 - 3086.19	1s2p - 1s6d	$^1P^o - ^1D$	1 - 2	P	262
		167.218	2455.02 - 3053.04	1s2s - 1s5p	$^1S - ^1P^o$	0 - 1	P	510
		167.402	2455.28 - 3052.59	1s2p - 1s5d	$^3P^o - ^3D$	2 - 3		212
14	10	173.281	2411.26 - 2988.36	1s2s - 1s4p	$^3S - ^3P^o$	1 - 1		212
		175.67	2483.37 - 3052.66	1s2p - 1s5d	$^1P^o - ^1D$	1 - 2		262
		186.329	2455.02 - 2991.71	1s2s - 1s4p	$^1S - ^1P^o$	0 - 1	P	510
23	30	186.697	2455.15 - 2990.78	1s2p - 1s4d	$^3P^o - ^3D$	1 - 2		212
23	30	186.745	2455.28 - 2990.78	1s2p - 1s4d	$^3P^o - ^3D$	2 - 3		212
26	4	197.024	2483.37 - 2990.92	1s2p - 1s4d	$^1P^o - ^1D$	1 - 2		212
13	100	227.192	2411.26 - 2851.42	1s2s - 1s3p	$^3S - ^3P^o$	1 - 1		212
17		247.31	2455.02 - 2859.38	1s2s - 1s3p	$^1S - ^1P^o$	0 - 1		212
22		248.661	2455.15 - 2857.31	1s2p - 1s3d	$^3P^o - ^3D$	1 - 2		212
22	200	248.738	2455.28 - 2857.32	1s2p - 1s3d	$^3P^o - ^3D$	2 - 3		212
21	4	260.136	2455.15 - 2839.56	1s2p - 1s3s	$^3P^o - ^3S$	1 - 1		212
21	4	260.229	2455.28 - 2839.56	1s2p - 1s3s	$^3P^o - ^3S$	2 - 1		212
25	30	267.267	2483.37 - 2857.53	1s2p - 1s3d	$^1P^o - ^1D$	1 - 2		212
		436.94	2857.32 - 3086.19	1s3d - 1s6f	$^3D - ^3F^o$	3 - 4	P	87
		437.37	2857.53 - 3086.19	1s3d - 1s6f	$^1D - ^1F^o$	2 - 3	P	87
29		472.21	2839.56 - 3051.33	1s3s - 1s5p	$^3S - ^3P^o$	1 - 2	P	510
33		497.09	2851.42 - 3052.59	1s3p - 1s5d	$^3P^o - ^3D$	2 - 3	P	510
32		506.31	2851.42 - 3048.93	1s3p - 1s5s	$^3P^o - ^3S$	2 - 1	P	510
		511.94	2857.32 - 3052.65	1s3d - 1s5f	$^3D - ^3F^o$	3 - 4	P	87
		512.54	2857.53 - 3052.65	1s3d - 1s5f	$^1D - ^1F^o$	2 - 3	P	87
	28		672.06	2839.56 - 2988.36	1s3s - 1s4p	$^3S - ^3P^o$	1 - 2	P
31	0	711.59	2851.18 - 2991.71	1s3s - 1s4p	$^1S - ^1P^o$	0 - 1	P	375
		717.58	2851.42 - 2990.78	1s3p - 1s4d	$^3P^o - ^3D$	2 - 3	P	510
		728.1	2990.78 - 3128.12	1s4d - 1s9p	$^3D - ^3P^o$	3 - 2		565
35		748.43	2857.32 - 2990.92	1s3d - 1s4f	$^3D - ^3F^o$	3 - 4	P	510
36		749.66	2857.53 - 2990.92	1s3d - 1s4f	$^1D - ^1F^o$	2 - 3	P	510
30		756.87	2851.42 - 2983.54	1s3p - 1s4s	$^3P^o - ^3S$	2 - 1	P	510
37		760.18	2859.38 - 2990.92	1s3p - 1s4d	$^1P^o - ^1D$	1 - 2	P	510
34		763.07	2857.32 - 2988.36	1s3d - 1s4p	$^3D - ^3P^o$	3 - 2	P	510
38		1619.80	2990.92 - 3052.66	1s4f - 1s5g	$^3F^o - ^3G$	4 - 5	P	510

CARBON VI (C^{+}), $Z = 6$ Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential $3\,952\,061.52 \text{ cm}^{-1}$; 489.997 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	10	25.559	0.0 - 3912.55	1s - 10p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		25.619	0.0 - 3903.29	1s - 9p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		25.705	0.0 - 3890.33	1s - 8p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		25.830	0.0 - 3871.43	1s - 7p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		26.026	0.0 - 3842.32	1s - 6p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		26.357	0.0 - 3794.03	1s - 5p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		26.990	0.0 - 3705.13	1s - 4p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 765
		28.466	0.0 - 3513.06	1s - 3p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 765
		33.734	0.0 - 2964.35	1s - 2p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 197
		33.740	0.0 - 2963.88	1s - 2p	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 197
1	35	105.413	2963.90 - 3912.55	2s - 10p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		105.463	2964.35 - 3912.56	2p - 10d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		106.453	2963.90 - 3903.29	2s - 9p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		106.504	2964.35 - 3903.29	2p - 9d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		107.942	2963.90 - 3890.33	2s - 8p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		107.994	2964.35 - 3890.33	2p - 8d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		110.189	2963.90 - 3871.43	2s - 7p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		110.243	2964.35 - 3871.44	2p - 7d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		113.842	2963.90 - 3842.32	2s - 6p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		113.899	2964.35 - 3842.32	2p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
1	35	120.464	2963.90 - 3794.03	2s - 5p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		120.528	2964.35 - 3794.04	2p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		134.912	2963.90 - 3705.13	2s - 4p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		134.990	2964.35 - 3705.15	2p - 4d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		182.097	2963.90 - 3513.06	2s - 3p	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		182.230	2964.35 - 3513.11	2p - 3d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		250.234	3512.93 - 3912.55	3s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		250.317	3513.06 - 3912.56	3p - 10d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		250.346	3513.11 - 3912.56	3d - 10f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		256.175	3512.93 - 3903.29	3s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		256.261	3513.06 - 3903.29	3p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		256.291	3513.11 - 3903.29	3d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		264.970	3512.93 - 3890.33	3s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		265.061	3513.06 - 3890.33	3p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		265.093	3513.11 - 3890.33	3d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		278.937	3512.93 - 3871.43	3s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		279.033	3513.06 - 3871.44	3p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		279.073	3513.11 - 3871.44	3d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		303.595	3512.93 - 3842.32	3s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		303.712	3513.06 - 3842.32	3p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		303.752	3513.11 - 3842.32	3d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		355.750	3512.93 - 3794.03	3s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		355.906	3513.06 - 3794.04	3p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		355.958	3513.11 - 3794.04	3d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		481.965	3705.07 - 3912.55	4s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		482.093	3705.13 - 3912.56	4p - 10d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		482.137	3705.15 - 3912.56	4d - 10f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		504.499	3705.07 - 3903.29	4s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		504.638	3705.13 - 3903.29	4p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		504.685	3705.15 - 3903.29	4d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		520.298	3512.93 - 3705.13	3s - 4p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		520.605	3513.06 - 3705.15	3p - 4d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		520.704	3513.11 - 3705.16	3d - 4f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		539.781	3705.07 - 3890.33	4s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		539.938	3705.13 - 3890.33	4p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		539.991	3705.15 - 3890.33	4d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		601.098	3705.07 - 3871.43	4s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		601.287	3705.13 - 3871.44	4p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		601.352	3705.15 - 3871.44	4d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		728.623	3705.07 - 3842.32	4s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		728.890	3705.13 - 3842.32	4p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		728.978	3705.15 - 3842.32	4d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		843.473	3794.00 - 3912.55	5s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		843.668	3794.03 - 3912.56	5p - 10d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		843.734	3794.04 - 3912.56	5d - 10f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		914.996	3794.00 - 3903.29	5s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		915.222	3794.03 - 3903.29	5p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		915.298	3794.04 - 3903.29	5d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1038.056	3794.00 - 3890.33	5s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1038.339	3794.03 - 3890.33	5p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1038.434	3794.04 - 3890.33	5d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1124.164	3705.07 - 3794.03	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1124.747	3705.13 - 3794.04	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1124.930	3705.15 - 3794.04	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1291.389	3794.00 - 3871.43	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1291.806	3794.03 - 3871.44	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1291.943	3794.04 - 3871.44	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

NITROGEN II (N^{+}), $Z = 7$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 117 225.4 cm^{-1} ; 14.534 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3.47	1	611.998	0.0 - 163.40	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 14p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
		612.378	0.0 - 163.30	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 13p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.46	2	612.883	0.0 - 163.16	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 12p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
		613.500	0.0 - 163.00	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 11p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.45	2	614.364	0.0 - 162.77	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 10p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.44	3	615.627	0.0 - 162.44	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 9p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
		617.265	0.0 - 162.01	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 8p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.42	4	619.847	0.0 - 161.33	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 7p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
		624.059	0.0 - 160.24	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 6p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.40	8	631.624	0.0 - 158.32	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 5p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.39	14	647.505	0.0 - 154.44	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 4p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
		692.70	0.0 - 144.36	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 3p$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	A, Z	460
3.38	2	857.77	0.0 - 116.58	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 12d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
		858.80	0.0 - 116.44	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
	3	859.35	0.0 - 116.37	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		334
3.37	2	859.76	0.0 - 116.31	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 12s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
		860.004	0.0 - 116.28	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 3s$	$f^4S - ^4S$	$\frac{3}{2} - \frac{3}{2}$	P	521
	4	860.15	0.0 - 116.26	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
		860.85	0.0 - 116.16	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		334
	1	861.15	0.0 - 116.12	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
	5	862.14	0.0 - 115.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
		862.91	0.0 - 115.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		334
3.36	3	862.99	0.0 - 115.88	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
		864.868	0.0 - 115.63	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
	5	865.65	28.84 - 144.36	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 3p$	$f^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	334
	3	865.95	0.0 - 115.48	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		334
		868.865	0.0 - 115.09	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
3.35	8	869.413	0.0 - 115.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
		869.424	0.0 - 115.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.34	4	869.482	0.0 - 115.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.33	6	869.546	0.0 - 115.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
		869.878	0.0 - 114.96	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
3.32	4	869.925	0.0 - 114.95	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
		870.029	0.0 - 114.94	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
3.31	5	870.367	0.0 - 114.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.31	3	870.37	0.0 - 114.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
		874.934	0.0 - 114.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
3.30	4	875.067	0.0 - 114.28	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
		875.100	0.0 - 114.27	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
3.29	10	875.277	0.0 - 114.25	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.25	2	875.598	0.0 - 114.21	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
		875.656	0.0 - 114.20	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
3.28	6	875.721	0.0 - 114.19	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
		875.791	0.0 - 114.18	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
3.24	7	876.066	0.0 - 114.15	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
3.26	6	876.172	0.0 - 114.13	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
		876.238	0.0 - 114.12	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.25	6	876.331	0.0 - 114.11	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
		876.645	0.0 - 114.07	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
3.24	5	876.987	0.0 - 114.03	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
3.23	5	885.380	0.0 - 112.95	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
		885.387	0.0 - 112.95	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
3.23	5	885.527	0.0 - 112.93	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
		885.656	0.0 - 112.91	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.22	5	885.668	0.0 - 112.91	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.22	6	885.704	0.0 - 112.90	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
		885.973	0.0 - 112.87	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.21	9	886.226	0.0 - 112.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
		886.332	0.0 - 112.82	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.20	8	886.428	0.0 - 112.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
3.19	6	886.465	0.0 - 112.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
		886.517	0.0 - 112.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.18	6	886.829	0.0 - 112.76	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
		886.840	0.0 - 112.76	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$f^4S - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.17	4	887.016	0.0 - 112.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.17	4	887.375	0.0 - 112.69	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
		887.457	0.0 - 112.68	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.16	10	888.022	0.0 - 112.61	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
		888.372	0.0 - 112.57	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$f^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.15	6	905.223	0.0 - 110.47	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$f^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3.15	2	905.411	0.0 - 110.45	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
3.14	11	905.787	0.0 - 110.40	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
3.14	12	905.839	0.0 - 110.40	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
3.14	11	905.916	0.0 - 110.39	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
3.13	11	906.206	0.0 - 110.35	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.13	13	906.433	0.0 - 110.32	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.13	12	906.617	0.0 - 110.30	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
3.12	12	906.730	0.0 - 110.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
3.11	2	907.069	0.0 - 110.25	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.11		907.275	0.0 - 110.22	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.10	7	907.337	0.0 - 110.21	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
3.10		907.485	0.0 - 110.19	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.09	3	908.2332	0.0 - 110.10	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.09	1	908.7958	0.0 - 110.04	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.08	9	909.6976 ST	0.0 - 109.93	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.08	6	910.2785 ST	0.0 - 109.86	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.08	5	910.6456 ST	0.0 - 109.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.07	5	951.0791	0.0 - 105.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
3.07	3	951.2947	0.0 - 105.12	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
3.06	18	952.3037 ST	0.0 - 105.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.06	14	952.4151 ST	0.0 - 105.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.06	10	952.5231 ST	0.0 - 104.98	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		306, 376
3.05	25	953.4150	0.0 - 104.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.05	27	953.6548	0.0 - 104.86	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.05	30	953.9698	0.0 - 104.83	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.04	30	954.1040	0.0 - 104.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
3.03	4	955.2647 ST	0.0 - 104.68	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		306, 334
3.03	4	955.4376 ST	0.0 - 104.66	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		306, 334
3.02	3	955.5292	0.0 - 104.65	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.02	5	955.8814	0.0 - 104.62	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.01	5	959.4936	0.0 - 104.22	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.01		960.2017	0.0 - 104.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		197, 487
3	25	963.9904 ST	0.0 - 103.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		308, 376
3	23	964.6258 ST	0.0 - 103.67	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		308, 376
3	23	965.0415 ST	0.0 - 103.62	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		308, 376
7.33	6	1000.183	19.22 - 119.21	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 4s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	Z	224
	2	1028.68	19.22 - 116.44	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1029.50	19.22 - 116.36	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
7.32		1030.446	19.23 - 116.28	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 3s$	$^4D^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$	P	521
	2	1030.76	19.22 - 116.24	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1031.62	19.22 - 116.16	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1032.18	19.22 - 116.11	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	3	1033.42	19.22 - 115.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	191, 334
	0	1033.70	19.23 - 115.97	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1034.37	19.22 - 115.90	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
	0	1034.67	19.22 - 115.88	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1035.00	19.22 - 115.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
7.31	5	1037.382	19.22 - 115.62	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
		1037.64	19.22 - 115.60	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	3	1038.28	19.22 - 115.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
7.31		1038.366	19.23 - 115.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
	1	1038.73	19.22 - 115.50	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1038.90	19.22 - 115.48	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
7.30	8	1043.080	19.22 - 115.09	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
7.28	8	1043.166	19.22 - 115.09	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
7.26	6	1043.739	19.22 - 115.03	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.26	6	1043.845	19.23 - 115.03	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.29	6	1043.991	19.22 - 115.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.25		1044.069	19.22 - 115.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.27	8	1044.087	19.23 - 115.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.28		1044.171	19.23 - 115.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.27	7	1044.188	19.22 - 114.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		521
7.26		1044.606	19.23 - 114.96	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.25	8	1044.633	19.22 - 114.95	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
7.24	7	1051.868	19.22 - 114.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
7.24	5	1051.956	19.23 - 114.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
7.23	9	1052.082	19.22 - 114.27	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
7.21	9	1052.215	19.22 - 114.26	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
7.18	8	1052.834	19.22 - 114.21	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.22	6	1052.909	19.22 - 114.20	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.22	11	1053.088	19.23 - 114.19	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.19	8	1053.184	19.22 - 114.18	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		224
7.20	8	1053.184	19.23 - 114.18	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
7.20		1053.231	19.22 - 114.17	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.17	5	1053.33	19.23 - 114.17	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
7.17		1053.496	19.22 - 114.15	$2s^2 2p^3 - 2s^2 2p^2(^3P)7s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.19	7	1053.656	19.22 - 114.13	$2s^2 2p^3 - 2s^2 2p^2(^3P)6d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		224
7.19	7	1053.744	19.23 - 114.13	$2s^2 2p^3 - 2s^2 2p^2(^3P)6d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		224
7.18	12	1053.988	19.23 - 114.11	$2s^2 2p^3 - 2s^2 2p^2(^3P)7s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		224
7.17	20	1054.333	19.22 - 114.07	$2s^2 2p^3 - 2s^2 2p^2(^3P)7s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.17		1054.430	19.23 - 114.07	$2s^2 2p^3 - 2s^2 2p^2(^3P)7s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.16	10	1066.992	19.22 - 112.95	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.16		1067.092	19.23 - 112.95	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.16		1067.206	19.22 - 112.93	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.16	8	1067.308	19.23 - 112.93	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.15	10	1067.386	19.22 - 112.91	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.15	1	1067.399	19.22 - 112.91	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.15		1067.493	19.23 - 112.91	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.13	15	1067.616	19.22 - 112.89	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.14		1067.953	19.23 - 112.87	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.14		1068.221	19.22 - 112.84	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.14		1068.321	19.23 - 112.84	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.14		1068.376	19.22 - 112.82	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.14	13	1068.477	19.23 - 112.82	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.13	8	1068.512	19.22 - 112.81	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.13	8	1068.612	19.23 - 112.81	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	521, 375
7.12	4	1068.644	19.22 - 112.80	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521, 375
7.12	2	1068.668	19.23 - 112.81	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521, 375
7.14	10	1068.681	19.22 - 112.80	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	521, 375
7.11	8	1069.110	19.22 - 112.76	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.11	9	1069.206	19.23 - 112.76	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.10	7	1069.374	19.22 - 112.74	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.10	6	1069.468	19.23 - 112.74	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.10	11	1069.990	19.23 - 112.69	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.09		1070.012	19.22 - 112.68	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.09		1070.111	19.23 - 112.68	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.09	1	1070.821	19.22 - 112.61	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		794, 191
7.09		1070.834	19.22 - 112.61	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.09		1070.935	19.23 - 112.61	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.09		1071.441	19.23 - 112.57	$2s^2 2p^3 - 2s^2 2p^2(^3P)6s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.08	13	1095.942	19.22 - 110.47	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.08		1096.046	19.23 - 110.47	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.08		1096.220	19.22 - 110.45	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.08	11	1096.325	19.23 - 110.45	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.07	13	1096.749	19.22 - 110.40	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		214
7.07		1096.769	19.22 - 110.40	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.07		1096.874	19.23 - 110.40	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.07		1096.945	19.23 - 110.40	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.05	21	1097.237	19.22 - 110.36	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.06		1097.492	19.23 - 110.35	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.06		1097.716	19.22 - 110.32	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.06		1097.821	19.23 - 110.32	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.06	8	1097.995	19.22 - 110.30	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.06	17	1098.097	19.23 - 110.30	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.05	17	1098.261	19.23 - 110.29	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.03	12	1098.625	19.22 - 110.25	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.04	6	1098.759	19.23 - 110.25	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.04	9	1098.952	19.22 - 110.22	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		214
7.03	8	1099.042	19.22 - 110.21	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.03	13	1099.150	19.23 - 110.21	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.03	8	1099.263	19.22 - 110.19	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		214
7.02	50	1100.3593	19.22 - 110.10	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
7.02	15	1100.4649	19.23 - 110.10	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
7.02	45	1101.2910	19.23 - 110.04	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
7.01		1102.509	19.22 - 109.93	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.01		1103.36	19.22 - 109.86	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.01		1103.468	19.23 - 109.86	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
7.01		1104.008	19.23 - 109.81	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	521
42		1106.547	28.84 - 119.21	$2s^2 2p^3 - 2s^2 2p^2(^1D)4s$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	224
2	569	1134.1651	0.0 - 88.17	$2s^2 2p^3 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
2	550	1134.4147	0.0 - 88.15	$2s^2 2p^3 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
2	780	1134.9801	0.0 - 88.11	$2s^2 2p^3 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		376
	1	1139.14	28.84 - 116.63	$2s^2 2p^3 - 2s^2 2p^2(^3P)12d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1140.74	28.84 - 116.50	$2s^2 2p^3 - 2s^2 2p^2(^3P)12d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1141.19	28.84 - 116.47	$2s^2 2p^3 - 2s^2 2p^2(^3P)13s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1141.60	28.84 - 116.44	$2s^2 2p^3 - 2s^2 2p^2(^3P)11d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1142.70	28.84 - 116.35	$2s^2 2p^3 - 2s^2 2p^2(^3P)11d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1143.31	28.84 - 116.31	$2s^2 2p^3 - 2s^2 2p^2(^3P)12s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	334
41	15	1143.6458	28.84 - 116.28	$2s^2 2p^3 - 2s^2 2p^2(^1S)3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{3}{2}$		376
41	30	1143.6508	28.84 - 116.28	$2s^2 2p^3 - 2s^2 2p^2(^1S)3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{3}{2}$		376

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
40	2	1144.16	28.84 - 116.24	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1145.27	28.84 - 116.16	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1145.90	28.84 - 116.11	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 11s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	4	1147.42	28.84 - 115.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	4	1148.77	28.84 - 115.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	2	1149.39	28.84 - 115.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 10s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	4	1152.15	28.84 - 115.63	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1152.63	28.84 - 115.60	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{3}{2}$	P	334
	2	1153.453	28.84 - 115.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
	3	1154.19	28.84 - 115.48	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 9s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
39	4	1159.193	28.84 - 115.11	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
39	1	1159.273	28.84 - 115.10	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{3}{2}$		224
38	3	1159.344	28.84 - 115.09	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
1.01	4	1159.8172	0.0 - 86.22	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		197, 224
36	1	1160.171	28.84 - 115.03	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
37	3	1160.39	28.84 - 115.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	334
	1	1160.476	28.84 - 115.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		224
	2	1160.713	28.84 - 114.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
	2	1160.9370	0.0 - 86.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		197, 224
	2	1161.118	28.84 - 114.96	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 8s$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		224
	7	1163.8835	19.22 - 105.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
	30	1164.0016	19.23 - 105.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
	60	1164.2064	19.22 - 105.12	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
	95	1164.3246	19.23 - 105.12	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
	40	1165.5943	19.22 - 105.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
6.02		1165.717	19.22 - 105.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
6.02	15	1165.8358	19.23 - 105.01	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
6.02		1166.003	19.23 - 105.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
6	350	1167.4484	19.22 - 104.88	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{1}{2}$		376
6.01		1167.502	19.23 - 104.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
6.01		1167.743	19.22 - 104.86	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
6.01		1167.862	19.23 - 104.86	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
6.01	50	1168.2154	19.22 - 104.83	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
6.01	200	1168.3344	19.23 - 104.83	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
6	60	1168.4157	19.22 - 104.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
6	300	1168.5358	19.23 - 104.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
5.04	80	1169.6933	19.22 - 104.72	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
5.04	10	1170.1572	19.22 - 104.68	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
35	6	1170.220	28.84 - 114.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		224
5.04	80	1170.270	19.23 - 104.68	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
5.04	5	1170.4165	19.22 - 104.66	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
35	7	1170.432	28.84 - 114.28	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{3}{2}$		224
34		1170.485	28.84 - 114.27	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
34	3	1170.499	28.84 - 114.27	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{3}{2}$		224
5.04		1170.536	19.23 - 104.66	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
5.03	20	1170.6743	19.23 - 104.65	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		376
33	2	1170.815	28.84 - 114.25	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		224
5.03	60	1171.0434	19.22 - 104.62	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
31	6	1171.418	28.84 - 114.21	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 7s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
33	3	1171.502	28.84 - 114.20	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
32	4	1171.722	28.84 - 114.18	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		224
32	5	1171.904	28.84 - 114.17	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		224
	3	1172.42	28.84 - 114.13	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6d$	$^4P^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	334
5.02	350	1176.5097	19.22 - 104.22	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
5.02	180	1176.6304	19.23 - 104.22	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
5.02	320	1177.6948	19.23 - 104.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		376
5.01		1183.278	19.22 - 103.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
5.01		1183.400	19.23 - 103.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
5.01		1184.235	19.22 - 103.67	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
5.01		1184.357	19.23 - 103.67	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
5.01		1184.984	19.23 - 103.62	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
29	14	1188.971	28.84 - 112.95	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
29	14	1189.249	28.84 - 112.93	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
27	5	1190.031	28.84 - 112.87	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		214
27	6	1190.494	28.84 - 112.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
27	2	1190.688	28.84 - 112.82	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
26	6	1190.855	28.84 - 112.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
25	8	1190.923	28.84 - 112.81	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		214
25	12	1191.019	28.84 - 112.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
24	2	1191.603	28.84 - 112.76	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
23	8	1191.925	28.84 - 112.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
23	4	1192.563	28.84 - 112.69	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		214
22	4	1192.718	28.84 - 112.68	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
22		1193.735	28.84 - 112.61	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 6s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
1	1000	1199.5490 ST	0.0 - 83.36	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		308, 376

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	950	1200.2238 ST	0.0 - 83.32	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		308, 376
1	700	1200.7113 ST	0.0 - 83.28	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		308, 376
21	21	1225.027	28.84 - 110.47	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		214
21	20	1225.374	28.84 - 110.45	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		214
7		1226.060	28.84 - 110.40	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
20		1226.143	28.84 - 110.40	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$	P	521
19	8	1226.833	28.84 - 110.35	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
19	7	1227.241	28.84 - 110.32	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		214
19		1227.586	28.84 - 110.30	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
18	8	1227.793	28.84 - 110.29	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
17	265	1228.4067	28.84 - 110.25	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$	P	521
17	225	1228.4125	28.84 - 110.25	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
17	225	1228.7852	28.84 - 110.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
17	325	1228.7911	28.84 - 110.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
16		1228.907	28.84 - 110.21	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
16	14	1229.174	28.84 - 110.19	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		214
15	40	1230.5434	28.84 - 110.10	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
15	40	1230.5492	28.84 - 110.10	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
15	120	1231.5756	28.84 - 110.04	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$	P	521
15	120	1231.5815	28.84 - 110.04	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
14	4	1233.238	28.84 - 109.93	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
14		1234.300	28.84 - 109.86	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 5s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
5	50	1243.1711	19.22 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
5	700	1243.1786	19.22 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
5	600	1243.3058	19.23 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
5	50	1243.3133	19.23 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
13	200	1310.5401	28.84 - 105.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
13	150	1310.9429	28.84 - 105.12	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		376
13	25	1310.9495	28.84 - 105.12	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
12.04		1312.866	28.84 - 105.01	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	521
12.04		1313.071	28.84 - 105.00	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$	P	521
12.03		1315.429	28.84 - 104.86	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
12.03		1316.035	28.84 - 104.83	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
12.02	2	1316.2906	28.84 - 104.81	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		376
12.01		1316.500	28.84 - 104.68	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
12.01	5	1318.8224	28.84 - 104.66	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$		376
12.01	12	1318.8293	28.84 - 104.66	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	P	521
12	150	1318.9981	28.84 - 104.65	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		376
12	80	1319.0048	28.84 - 104.65	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
12	50	1319.6693	28.84 - 104.62	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		376
12	250	1319.6760	28.84 - 104.62	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
11	10	1326.5639	28.84 - 104.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		376
11	50	1326.5707	28.84 - 104.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
11	25	1327.9170	28.84 - 104.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		376
11	15	1327.9238	28.84 - 104.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		376
10.01		1335.182	28.84 - 103.74	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
10.01		1336.394	28.84 - 103.67	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
10	150	1411.9318	28.84 - 99.65	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		376
10	30	1411.9395	28.84 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
10	300	1411.9494	28.84 - 99.66	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		376
4.01		1450.592	19.23 - 88.17	$2s^2 2p^2 - 2s^2 2p^2$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
4.01		1450.816	19.22 - 88.15	$2s^2 2p^2 - 2s^2 2p^2$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
4.01		1451.000	19.23 - 88.15	$2s^2 2p^2 - 2s^2 2p^2$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
4.01		1451.741	19.22 - 88.11	$2s^2 2p^2 - 2s^2 2p^2$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
4.01		1451.925	19.23 - 88.11	$2s^2 2p^2 - 2s^2 2p^2$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
4	620	1492.6254	19.22 - 86.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
4	100	1492.8195	19.23 - 86.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
4	400	1494.6751	19.23 - 86.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
3.50		1559.086	19.22 - 83.36	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.50		1559.298	19.23 - 83.36	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.50		1560.224	19.22 - 83.32	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.50		1560.436	19.23 - 83.32	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
3.50		1561.258	19.23 - 83.28	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521
	20	1592.61	95.53 - 158.32	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^o) 5p$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	191
9.61		1685.992	28.84 - 88.15	$2s^2 2p^2 - 2s^2 2p^2$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
9.01		1687.252	28.84 - 88.11	$2s^2 2p^2 - 2s^2 2p^2$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
9	50	1742.7189	28.84 - 86.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		376
9	350	1742.7306	28.84 - 86.22	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		376
9	150	1745.2482	28.84 - 86.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		376
9	50	1745.2600	28.84 - 86.14	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		376
8		1834.011	28.84 - 83.36	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	521
8		1835.573	28.84 - 83.32	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	521
8	4	1836.712	28.84 - 83.28	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		796, 191
8	50	1836.724	28.84 - 83.28	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$	P	521

NITROGEN II (N^{+}), $Z = 7$ Ground State $1s^2 2s^2 2p^2 \ ^3P_0$ (6 electrons)Ionization Potential 238 750.50 cm^{-1} ; 29.602 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
6.11	20	453.257	0.05 - 220.67	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$g^3P - ^3D^o$	1-2		168, 200
6.11	100	453.340	0.13 - 220.72	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$g^3P - ^3D^o$	2-3		168, 200
6.10		453.624	0.05 - 220.50	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$g^3P - ^1D^o$	1-2	P	521
6.10		453.793	0.13 - 220.50	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$g^3P - ^1D^o$	2-2	P	521
6.09		465.486	0.0 - 214.83	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^1P^o$	0-1	P	521
6.09		465.592	0.05 - 214.83	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^1P^o$	1-1	P	521
6.09		465.770	0.13 - 214.83	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^1P^o$	2-1	P	521
6.08		466.558	0.05 - 214.38	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	1-2	P	521
6.08		466.728	0.0 - 214.26	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	0-1	P	521
6.08		466.737	0.13 - 214.38	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	2-2	P	521
6.08		466.834	0.05 - 214.26	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	1-1	P	521
6.08		466.934	0.05 - 214.21	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	1-0	P	521
6.08		467.013	0.13 - 214.26	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$g^3P - ^3P^o$	2-1	P	521
6.07		473.180	0.0 - 211.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1P^o$	0-1	P	521
6.07		473.289	0.05 - 211.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1P^o$	1-1	P	521
6.07		473.473	0.13 - 211.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1P^o$	2-1	P	521
6.06	10	474.493	0.0 - 210.75	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	0-1		200, 168
6.06	10	474.546	0.05 - 210.78	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	1-0		200, 168
6.06	10	474.602	0.05 - 210.75	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	1-1		200, 168
6.06	20	474.706	0.05 - 210.71	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	1-2		200, 168
6.06	20	474.787	0.13 - 210.75	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	2-1		200, 168
6.06	200	474.891	0.13 - 210.71	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^3P^o$	2-2		200, 168
6.05	100	475.647	0.0 - 210.24	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	0-1		200, 162
6.05	200	475.698	0.05 - 210.27	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	1-2		200, 168
6.05		475.757	0.05 - 210.24	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	1-1		200
6.05	250	475.803	0.13 - 210.30	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	2-3		200, 168
6.05	100	475.884	0.13 - 210.27	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	2-2		200, 168
6.04		476.469	0.05 - 209.93	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	1-2	P	521
6.04		476.656	0.13 - 209.93	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$g^3P - ^1D^o$	2-2	P	521
11.14		485.602	15.32 - 221.25	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$^1D - ^1P^o$	2-1	P	521
11.13	10	485.849	15.32 - 221.14	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$^1D - ^1F^o$	2-3		200, 168
6.03		505.411	0.0 - 197.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^1P^o$	0-1	P	521
6.03		505.536	0.05 - 197.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^1P^o$	1-1	P	521
6.03		505.746	0.13 - 197.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^1P^o$	2-1	P	521
13.13	100	505.986	46.78 - 244.42	$2s 2p^3 - 2s 2p^3(^3P) 3d$	$^3S^o - ^3P^o$	2-1	Z	200, 168
13.13	200	506.054	46.78 - 244.39	$2s 2p^3 - 2s 2p^3(^3P) 3d$	$^3S^o - ^3P^o$	2-2	Z	200, 168
13.13	300	506.153	46.78 - 244.35	$2s 2p^3 - 2s 2p^3(^3P) 3d$	$^3S^o - ^3P^o$	2-3	Z	200, 168
6.02	10	508.484	0.05 - 196.71	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	1-2		200, 168
6.02		508.668	0.0 - 196.59	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	0-1		200
6.02	150	508.697	0.13 - 196.71	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	2-2		270, 168
6.02		508.794	0.05 - 196.59	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	1-1	P	521
6.02	10	508.928	0.05 - 196.54	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	1-0		200, 168
6.02	15	509.006	0.13 - 196.59	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^3P^o$	2-1		200, 168
11.09		510.152	15.32 - 211.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^1D - ^1P^o$	2-1	P	521
11.08	250	510.758	15.32 - 211.10	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^1D - ^1F^o$	2-3		200, 168
11.05		513.849	15.32 - 209.93	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^1D - ^1D^o$	2-2		200, 168
6.01		525.983	0.0 - 190.12	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1P^o$	0-1	P	521
6.01		526.118	0.05 - 190.12	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1P^o$	1-1	P	521
6.01		526.345	0.13 - 190.12	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1P^o$	2-1	P	521
6	250	529.355	0.0 - 188.91	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	0-1		197, 168
6	250	529.413	0.05 - 188.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1-0		197, 168
6	250	529.491	0.05 - 188.91	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1-1		197, 168
6	250	529.637	0.05 - 188.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1-2		197, 168
6	250	529.722	0.13 - 188.91	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	2-1		197, 168
6	400	529.867	0.13 - 188.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	2-2		197, 168
13.06		530.343	32.69 - 221.25	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^3S - ^1P^o$	0-1	P	521
5	350	533.511	0.0 - 187.44	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	0-1		197, 168
5	400	533.581	0.05 - 187.46	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	1-2		197, 168
5	350	533.650	0.05 - 187.44	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	1-1		197, 168
5	500	533.729	0.13 - 187.49	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	2-3		197, 168
5	350	533.815	0.13 - 187.46	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	2-2		197, 168
4.02		534.637	0.05 - 187.09	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	1-2	P	521
4.02		534.872	0.13 - 187.09	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^1D^o$	2-2	P	521
11.03	10	547.818	15.32 - 197.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$^1D - ^1P^o$	2-1		200, 168
13.05		549.027	32.69 - 214.83	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5s$	$^3S - ^1P^o$	0-1	P	521
11.01	10	559.762	32.69 - 211.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^3S - ^1P^o$	0-1		200, 168
11.01		572.069	15.32 - 190.12	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1P^o$	2-1		200
11	500	574.650	15.32 - 189.34	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1F^o$	2-3		197, 168
10	400	582.156	15.32 - 187.09	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1D^o$	2-2		197, 168
4.01		599.644	0.0 - 166.77	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^1P^o$	0-1	P	521

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
4.01		599.819	0.05 - 166.77	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	1 - 1	P	521
4.01		600.115	0.13 - 166.77	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	2 - 1	P	521
13.02		605.437	32.69 - 197.86	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$^1 S - ^1 P^o$	0 - 1	P	521
13.12		605.902	46.78 - 211.83	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^3 S^o - ^1 P$	2 - 2	P	521
13.12		606.080	46.78 - 211.78	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^3 S^o - ^1 P$	2 - 1	P	521
13.11	300	629.167	46.78 - 205.72	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^3 S^o - ^1 P$	2 - 3		200, 168
13.11	200	629.447	46.78 - 205.65	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^3 S^o - ^1 P$	2 - 2		200, 168
13.11		629.670	46.78 - 205.60	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^3 S^o - ^1 P$	2 - 1		200
13	400	635.197	32.69 - 190.12	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1 S - ^1 P^o$	0 - 1		197, 168
13.09		639.082	46.78 - 203.26	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^3 S^o - ^1 P$	2 - 2	P	521
13.09		639.368	46.78 - 203.19	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^3 S^o - ^1 P$	2 - 1	P	521
12.01		640.21	32.69 - 188.91	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1 S - ^1 P^o$	0 - 1	P	521
4	650	644.634	0.0 - 155.13	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^3 S^o$	0 - 1		197, 168
4	750	644.837	0.05 - 155.13	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^3 S^o$	1 - 1		197, 168
4	850	645.178	0.13 - 155.13	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^3 S^o$	2 - 1		197, 168
9	750	660.286	15.32 - 166.77	$2s^2 2p^2 - 2s 2p^3$	$^1 D - ^1 P^o$	2 - 1		197, 168
3.01	220	670.296	0.0 - 149.19	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	0 - 1		200, 168
3.01	120	670.515	0.05 - 149.19	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	1 - 1		200, 168
3.01	100	670.884	0.13 - 149.19	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	2 - 1		200, 168
3	500	671.016	0.05 - 149.08	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	1 - 2		197, 168
3	500	671.386	0.13 - 149.08	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	2 - 2		197, 168
3	650	671.411	0.0 - 148.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	0 - 1		197, 168
3	500	671.630	0.05 - 148.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	1 - 1		197, 168
3	500	671.773	0.05 - 148.91	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	1 - 0		197, 168
3	500	672.001	0.13 - 148.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3 P - ^1 P^o$	2 - 1		197, 168
2.01		693.774	0.05 - 144.19	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	1 - 2	P	521
2.01		694.169	0.13 - 144.19	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	2 - 2	P	521
12	500	745.841	32.69 - 166.77	$2s^2 2p^2 - 2s 2p^3$	$^1 S - ^1 P^o$	0 - 1		197, 168
8	650	746.984	15.32 - 149.19	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1 D - ^1 P^o$	2 - 1		197, 168
7.01		747.606	15.32 - 149.08	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1 D - ^1 P^o$	2 - 2	P	521
7.01		748.369	15.32 - 148.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1 D - ^1 P^o$	2 - 1		197, 200
7	1000	775.965	15.32 - 144.19	$2s^2 2p^2 - 2s 2p^3$	$^1 D - ^1 D^o$	2 - 2		197, 168
		780.9	92.24 - 220.29	$2s 2p^3 - 2p^4$	$^1 D^o - ^1 P$	3 - 2	P	934
13.08		807.222	46.78 - 170.67	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^3 S^o - ^1 P$	2 - 2	P	521
13.08		807.603	46.78 - 170.61	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^3 S^o - ^1 P$	2 - 1	P	521
13.23	10	836.187	92.24 - 211.83	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	3 - 2		200, 521
13.23	1	836.279	92.25 - 211.83	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	2 - 2		200, 521
13.23	0	836.289	92.25 - 211.83	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	1 - 2		200, 521
13.23	5	836.616	92.25 - 211.78	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	2 - 1		200, 521
13.23	2	836.627	92.25 - 211.78	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	1 - 1		200, 521
13.23	2	836.837	92.25 - 211.75	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 D^o - ^1 P$	1 - 0		200, 521
11.18	100	858.376	32.69 - 149.19	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1 S - ^1 P^o$	0 - 1		200, 168
11.17		860.205	32.69 - 148.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1 S - ^1 P^o$	0 - 1		200
13.21		900.724	92.24 - 203.26	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 P$	3 - 2	P	521
13.21		901.398	92.25 - 203.19	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 P$	2 - 1	P	521
13.21		901.626	92.25 - 203.16	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 P$	1 - 0	P	521
13.20		903.962	92.24 - 202.86	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 D$	3 - 3	P	521
13.20		904.855	92.25 - 202.77	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 D$	2 - 2	P	521
13.20		905.286	92.25 - 202.71	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 D^o - ^1 D$	1 - 1	P	521
2	700	915.612	0.0 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	0 - 1		197, 168
2	700	915.962	0.05 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	1 - 0		197, 168
2	800	916.012	0.05 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	1 - 2		197, 168
2	600	916.020	0.05 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	1 - 1		197, 168
2	1000	916.701	0.13 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	2 - 2		197, 168
2	800	916.710	0.13 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 P^o$	2 - 1		197, 168
13.33		974.563	109.22 - 211.83	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 P^o - ^1 P$	2 - 2	P	521
13.33		975.012	109.22 - 211.78	$2s 2p^3 - 2s^2 2p(^3P) 3s$	$^1 P^o - ^1 P$	1 - 1	P	521
13.31		1063.350	109.22 - 203.26	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	1 - 2	P	521
13.31		1063.362	109.22 - 203.26	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	2 - 2	P	521
13.31		1064.142	109.22 - 203.19	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	1 - 1	P	521
13.31		1064.153	109.22 - 203.19	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	2 - 1	P	521
13.31		1064.220	109.22 - 203.19	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	0 - 1	P	521
13.31		1064.443	109.22 - 203.16	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 P$	1 - 0	P	521
6.13		1064.947	15.32 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$^1 D - ^1 P^o$	2 - 2	P	521
6.13		1064.958	15.32 - 109.22	$2s^2 2p^2 - 2s 2p^3$	$^1 D - ^1 P^o$	2 - 1	P	521
13.33		1067.877	109.22 - 202.86	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 D$	2 - 3	P	521
13.30		1068.962	109.22 - 202.77	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 D$	1 - 2	P	521
13.30		1069.626	109.22 - 202.71	$2s 2p^3 - 2s^2 2p(^3P^o) 4p$	$^1 P^o - ^1 D$	0 - 1	P	521
1	400	1083.990	0.0 - 92.25	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	0 - 1		197, 168
1	150	1084.562	0.05 - 92.25	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	1 - 1		197, 168
1	750	1084.580	0.05 - 92.25	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	1 - 2		197, 168
1		1085.529	0.13 - 92.25	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	2 - 1		197, 200
1	400	1085.546	0.13 - 92.25	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	2 - 2		197, 168
1	1000	1085.701	0.13 - 92.24	$2s^2 2p^2 - 2s 2p^3$	$g^3 P - ^1 D^o$	2 - 3		197, 168
13.17	300	1275.038	92.24 - 170.67	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^1 D^o - ^1 P$	3 - 2		200, 168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
13.17		1275.251	92.25 - 170.67	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3P$	2 - 2		200
13.17		1275.275	92.25 - 170.67	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3P$	1 - 2		200
13.17	200	1276.201	92.25 - 170.61	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3P$	2 - 1		200, 168
13.17		1276.225	92.25 - 170.61	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3P$	1 - 1		200
13.17	100	1276.800	92.25 - 170.57	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3P$	1 - 0		200, 168
6.12		1299.788	15.32 - 92.25	$2s^22p^2 - 2s2p^2$	$^1D - ^3C^o$	2 - 1	P	521
6.12		1299.814	15.32 - 92.25	$2s^22p^2 - 2s2p^2$	$^1D - ^3D^o$	2 - 2	P	521
6.12		1300.035	15.32 - 92.24	$2s^22p^2 - 2s2p^2$	$^1D - ^3F^o$	2 - 3	P	521
13.16		1304.769	92.25 - 168.89	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3S$	2 - 1	P	521
13.16		1304.795	92.25 - 168.89	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3S$	1 - 1	P	521
13.15	200	1343.338	92.24 - 166.68	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	3 - 3		200, 168
13.15		1343.574	92.25 - 166.68	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	2 - 3		200
13.15		1345.076	92.24 - 166.58	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	3 - 2		200
13.15	100	1345.313	92.25 - 166.58	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	2 - 2		200, 168
13.15		1345.340	92.25 - 166.58	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	1 - 2		200
13.15		1346.413	92.25 - 166.52	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	2 - 1		200
13.15	10	1346.441	92.25 - 166.52	$2s2p^2 - 2s^22p(^3P)3p$	$^1D^o - ^3D$	1 - 1		200, 168
13.43		1590.141	148.94 - 211.83	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	1 - 2	P	521
13.43		1590.562	148.91 - 211.78	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	0 - 1	P	521
13.43		1591.361	148.94 - 211.78	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	1 - 1	P	521
13.43		1592.124	148.94 - 211.75	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	1 - 0	P	521
13.43		1593.596	149.08 - 211.83	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	2 - 2	P	521
13.43		1594.822	149.08 - 211.78	$2s^22p(^3P)3s - 2s2p(^3P)3s$	$^3P^o - ^3P$	2 - 1	P	521
13.27	33	1627.349	109.22 - 170.67	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	1 - 2		200, 521
13.27	100	1627.376	109.22 - 170.67	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	2 - 2		200, 168
13.27	20	1628.896	109.22 - 170.61	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	1 - 1		200, 521
13.27	33	1628.922	109.22 - 170.61	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	2 - 1		200, 521
13.27	100	1629.079	109.22 - 170.61	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	0 - 1		200, 168
13.27	10	1629.832	109.22 - 170.57	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3P$	1 - 0		200, 168
13.35		1634.996	144.19 - 205.35	$2s2p^2 - 2s^22p(^3P)4p$	$^1D^o - ^3D$	2 - 2	P	521
13.26	150	1675.726	109.22 - 168.89	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3S$	1 - 1		200
13.26	300	1675.755	109.22 - 168.89	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3S$	2 - 1		200, 168
13.26	100	1675.920	109.22 - 168.89	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3S$	0 - 1		200, 243
15.07		1709.663	164.61 - 223.10	$2s^22p(^3P)3p - 2s^22p(^3P)6s$	$^1P - ^1P^o$	1 - 1	P	521
13.34		1724.653	144.19 - 202.17	$2s2p^2 - 2s^22p(^3P)4p$	$^1D^o - ^3P$	2 - 1	P	521
13.42		1725.028	148.94 - 206.91	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	1 - 0		200
14.05		1732.428	149.19 - 206.91	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	1 - 0		200
13.25	400	1740.310	109.22 - 166.68	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	2 - 3		200, 168
13.25	200	1743.197	109.22 - 166.58	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	1 - 2		200, 168
13.25		1743.228	109.22 - 166.58	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	2 - 2		200
13.25		1745.046	109.22 - 166.52	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	1 - 1		200
13.25		1745.076	109.22 - 166.52	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	2 - 1		200
13.25		1745.256	109.22 - 166.52	$2s2p^2 - 2s^22p(^3P)3p$	$^3P^o - ^3D$	0 - 1		200
14.10	100	1763.639	155.13 - 211.83	$2s2p^2 - 2s2p(^3P)3s$	$^3S^o - ^3P$	1 - 2		200, 243
14.10	50	1765.140	155.13 - 211.78	$2s2p^2 - 2s2p(^3P)3s$	$^3S^o - ^3P$	1 - 1		200, 243
15.06		1765.680	164.61 - 221.25	$2s^22p(^3P)3p - 2s^22p(^3P)5d$	$^1P - ^1P^o$	1 - 1	P	521
14.10	100	1766.079	155.13 - 211.75	$2s2p^2 - 2s2p(^3P)3s$	$^3S^o - ^3P$	1 - 0		200, 243
13.40		1772.735	148.94 - 205.35	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 2		200
14.04		1780.551	149.19 - 205.35	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 2		200
15.05		1789.402	164.61 - 220.50	$2s^22p(^3P)3p - 2s^22p(^3P)5d$	$^1P - ^1D^o$	1 - 2	P	521
13.39	1	1830.527	148.91 - 203.54	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	0 - 1		200, 243
13.39	10	1831.586	148.94 - 203.54	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	1 - 1		200, 243
13.39	100	1836.172	149.08 - 203.54	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	2 - 1		200, 243
14.03		1839.931	149.19 - 203.54	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3S$	1 - 1		200
13.38	100	1840.983	148.94 - 203.26	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 2		200, 247
13.38	10	1842.284	148.91 - 203.19	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	0 - 1		200, 247
13.38	10	1843.357	148.94 - 203.19	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 1		200, 247
13.38	10	1844.259	148.94 - 203.16	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 0		200, 247
13.38	100	1845.616	149.08 - 203.26	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	2 - 2		200, 247
13.38	10	1848.002	149.08 - 203.19	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	2 - 1		200, 247
14.02	100	1849.414	149.19 - 203.26	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 2		200, 168
14.02		1851.810	149.19 - 203.19	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 1		200
14.02		1852.721	149.19 - 203.16	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 0		200
13.37	300	1857.870	148.94 - 202.77	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 2		200, 243
13.37	200	1858.545	148.91 - 202.71	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	0 - 1		200, 243
13.37	500	1859.260	149.08 - 202.86	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	2 - 3		200, 243
13.37		1859.636	148.94 - 202.71	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 1		200
13.37	200	1862.588	149.08 - 202.77	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	2 - 2		200, 243
13.37		1864.364	149.08 - 202.71	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	2 - 1		200
14.01		1866.457	149.19 - 202.77	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 2		200
14.01	10	1868.240	149.19 - 202.71	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3D$	1 - 1		200, 168
13.36	200	1878.624	148.94 - 202.17	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 1		200, 168
14	350	1887.404	149.19 - 202.17	$2s^22p(^3P)3s - 2s^22p(^3P)4p$	$^3P^o - ^3P$	1 - 1		200, 168
15.04	10	1991.301	164.61 - 214.83	$2s^22p(^3P)3p - 2s^22p(^3P)5s$	$^1P - ^1P^o$	1 - 1		200, 168

Ground State $1s^2 2s^2 2p^2 P^0_{1/2}$ (5 electrons)Ionization Potential 382 703.8 cm^{-1} ; 47.450 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
11.37	30	208.510	57.33 - 536.92	$2s2p^2 - 2p^2(^3P)7p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.36	50	208.670	57.33 - 536.55	$2s2p^2 - 2p^2(^3P)7p$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.35	50	208.730	57.33 - 536.42	$2s2p^2 - 2p^2(^3P)7p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.34	20	212.019	57.19 - 528.83	$2s2p^2 - 2p^2(^3P)6p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.34	50	212.049	57.25 - 528.83	$2s2p^2 - 2p^2(^3P)6p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.34	80	212.087	57.33 - 528.83	$2s2p^2 - 2p^2(^3P)6p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.33	50	212.359	57.33 - 528.23	$2s2p^2 - 2p^2(^3P)6p$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.32	100	212.465	57.33 - 527.99	$2s2p^2 - 2p^2(^3P)6p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.44	100	213.086	0.0 - 469.30	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.44	200	213.164	0.17 - 469.30	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.43	50	213.364	0.0 - 468.68	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.43	100	213.447	0.17 - 468.68	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.31	50	218.349	57.19 - 515.17	$2s2p^2 - 2p^2(^3P)5p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.31	70	218.378	57.25 - 515.17	$2s2p^2 - 2p^2(^3P)5p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.31	100	218.416	57.33 - 515.17	$2s2p^2 - 2p^2(^3P)5p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.30	100	218.949	57.33 - 514.06	$2s2p^2 - 2p^2(^3P)5p$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.29	250	219.168	57.33 - 513.60	$2s2p^2 - 2p^2(^3P)5p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.42	50	224.873	0.17 - 444.87	$2s^2(^1S)2p - 2s2p(^1P)14p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.41	70	225.302	0.17 - 444.02	$2s^2(^1S)2p - 2s2p(^1P)13p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.40	300	225.837	0.17 - 442.97	$2s^2(^1S)2p - 2s2p(^1P)12p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.39	120	226.030	0.0 - 442.41	$2s^2(^1S)2p - 2s2p(^1P)4p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.39	300	226.122	0.17 - 442.41	$2s^2(^1S)2p - 2s2p(^1P)4p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.38	50	226.520	0.17 - 441.64	$2s^2(^1S)2p - 2s2p(^1P)11p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.37	350	226.832	0.0 - 440.85	$2s^2(^1S)2p - 2s2p(^1P)4p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.37	400	226.910	0.17 - 440.88	$2s^2(^1S)2p - 2s2p(^1P)4p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.36	150	227.479	0.0 - 439.60	$2s^2(^1S)2p - 2s2p(^1P)10p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.36	250	227.515	0.17 - 439.71	$2s^2(^1S)2p - 2s2p(^1P)10p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.35	150	228.762	0.0 - 437.14	$2s^2(^1S)2p - 2s2p(^1P)9p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.35	250	228.790	0.17 - 437.26	$2s^2(^1S)2p - 2s2p(^1P)9p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.35	25	228.844	0.17 - 437.14	$2s^2(^1S)2p - 2s2p(^1P)9p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.34	200	230.591	0.0 - 433.67	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.34	300	230.626	0.17 - 433.78	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.34	50	230.681	0.17 - 433.67	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.33	100	230.765	0.0 - 433.34	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.33	150	230.789	0.0 - 433.30	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.33	250	230.861	0.17 - 433.34	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.33	100	230.879	0.17 - 433.30	$2s^2(^1S)2p - 2s2p(^1P)8p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
11.28	100	231.465	57.19 - 489.22	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.28	150	231.497	57.25 - 489.22	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.28	200	231.540	57.33 - 489.22	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.27	300	232.854	57.33 - 486.78	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.32	250	233.332	0.0 - 428.57	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.32	400	233.368	0.17 - 428.68	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.26	350	233.393	57.33 - 485.79	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.32	50	233.424	57.19 - 485.60	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.26	150	233.459	57.33 - 485.67	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.26	50	233.498	57.33 - 485.60	$2s2p^2 - 2p^2(^3P)4p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.31	80	233.599	0.0 - 428.08	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.31	150	233.620	0.0 - 428.05	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.31	300	233.696	0.17 - 428.08	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.31	80	233.716	0.17 - 428.05	$2s^2(^1S)2p - 2s2p(^1P)7p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.30	250	237.532	0.0 - 421.00	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.30	450	237.565	0.17 - 421.11	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.30	50	237.624	0.17 - 421.00	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.29	80	237.994	0.0 - 420.18	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Z	521
7.29	200	238.034	0.0 - 420.11	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.29	350	238.093	0.17 - 420.18	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.29	100	238.134	0.17 - 420.11	$2s^2(^1S)2p - 2s2p(^1P)6p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.28	200	245.021	0.0 - 408.13	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.28	400	245.115	0.17 - 408.13	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.27	400	246.206	0.0 - 406.16	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.27	650	246.249	0.17 - 406.27	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.27	100	246.311	0.17 - 406.16	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.26	100	248.320	0.0 - 402.71	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.26	150	248.371	0.0 - 402.62	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
7.26	350	248.428	0.17 - 402.71	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.26	100	248.478	0.17 - 402.62	$2s^2(^1S)2p - 2s2p(^1P)5p$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
11.25	300	257.502	57.33 - 445.67	$2s2p^2 - 2s2p(^1P)13d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.24	500	257.953	57.33 - 445.00	$2s2p^2 - 2s2p(^1P)14d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.23	650	258.499	57.33 - 444.18	$2s2p^2 - 2s2p(^1P)13d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508

Multiplet	Rel. Int.	λ_{vac} (in Å)	L (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
11.22	700	259.189	57.33 - 443.15	$2s2p^2 - 2s2p(^3P^o)12d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.21	800	260.090	57.33 - 441.81	$2s2p^2 - 2s2p(^3P^o)11d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.20	800	261.282	57.33 - 440.06	$2s2p^2 - 2s2p(^3P^o)10d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.25	450	262.184	0.0 - 381.41	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.25	800	262.233	0.17 - 381.51	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.25	100	262.304	0.17 - 381.41	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		521
11.19	400	262.867	57.33 - 437.75	$2s2p^2 - 2s2p(^3P^o)9d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.18	500	262.914	57.33 - 437.68	$2s2p^2 - 2s2p(^3P^o)9d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.24	100	264.822	0.0 - 377.61	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.24	200	264.846	0.0 - 377.58	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.24	400	264.945	0.17 - 377.61	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.24	100	264.966	0.17 - 377.58	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.23	100	265.216	0.0 - 377.05	$2s^2(^1S)2p - 2s^2(^1S)14s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		521
11.17	500	265.232	57.33 - 434.36	$2s2p^2 - 2s2p(^3P^o)8d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.16	500	265.271	57.33 - 434.30	$2s2p^2 - 2s2p(^3P^o)8d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.23	200	265.339	0.17 - 377.05	$2s^2(^1S)2p - 2s^2(^1S)14s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.22	100	265.852	0.0 - 376.15	$2s^2(^1S)2p - 2s^2(^1S)13s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.22	200	265.977	0.17 - 376.15	$2s^2(^1S)2p - 2s^2(^1S)13s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.21	300	266.132	0.0 - 375.75	$2s^2(^1S)2p - 2s^2(^1S)12d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		521
7.21	500	266.255	0.17 - 375.75	$2s^2(^1S)2p - 2s^2(^1S)12d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.20	200	266.613	0.0 - 375.08	$2s^2(^1S)2p - 2s^2(^1S)12s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.20	250	266.737	0.17 - 375.08	$2s^2(^1S)2p - 2s^2(^1S)12s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.19	200	266.805	0.0 - 374.80	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.19	200	266.847	0.0 - 374.75	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.19	400	266.930	0.17 - 374.80	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.19	200	266.974	0.17 - 374.75	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
7.18	300	267.075	0.0 - 374.43	$2s^2(^1S)2p - 2s^2(^1S)11d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		521
7.18	500	267.199	0.17 - 374.43	$2s^2(^1S)2p - 2s^2(^1S)11d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.17	250	267.661	0.0 - 373.61	$2s^2(^1S)2p - 2s^2(^1S)11s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.17	300	267.787	0.17 - 373.61	$2s^2(^1S)2p - 2s^2(^1S)11s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.16	300	267.848	0.0 - 373.35	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.16	500	267.952	0.17 - 373.38	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.16	50	267.966	0.17 - 373.35	$2s^2(^1S)2p - 2s2p(^3P^o)3p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
11.15	200	268.212	57.19 - 430.03	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.15	300	268.255	57.25 - 430.03	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.15	400	268.314	57.33 - 430.03	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.15	350	268.347	0.0 - 372.65	$2s^2(^1S)2p - 2s^2(^1S)10d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.15	600	268.473	0.17 - 372.65	$2s^2(^1S)2p - 2s^2(^1S)10d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
11.14	500	268.703	57.33 - 429.49	$2s2p^2 - 2s2p(^3P^o)7d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.13	400	268.756	57.33 - 429.41	$2s2p^2 - 2s2p(^3P^o)7d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.14	150	269.072	0.0 - 371.65	$2s^2(^1S)2p - 2s^2(^1S)10s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.14	300	269.199	0.17 - 371.65	$2s^2(^1S)2p - 2s^2(^1S)10s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.13	400	270.004	0.0 - 370.37	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.12	400	270.073	0.0 - 370.27	$2s^2(^1S)2p - 2s^2(^1S)9d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.13		270.131	0.17 - 370.37	$2s^2(^1S)2p - 2s2p(^3P^o)4p$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		521
7.12	650	270.201	0.17 - 370.27	$2s^2(^1S)2p - 2s^2(^1S)9d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
11.12	50	270.554	57.25 - 426.86	$2s2p^2 - 2s2p(^3P^o)7s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.12	150	270.613	57.33 - 426.86	$2s2p^2 - 2s2p(^3P^o)7s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.12	50	270.685	57.33 - 426.76	$2s2p^2 - 2s2p(^3P^o)7s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.11	200	271.077	0.0 - 368.89	$2s^2(^1S)2p - 2s^2(^1S)9s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.11	350	271.209	0.17 - 368.89	$2s^2(^1S)2p - 2s^2(^1S)9s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.10	400	272.523	0.0 - 366.94	$2s^2(^1S)2p - 2s^2(^1S)8d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.10	650	272.654	0.17 - 366.94	$2s^2(^1S)2p - 2s^2(^1S)8d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
11.11	200	273.462	57.25 - 422.93	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.11	100	273.503	57.25 - 422.88	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.11	450	273.524	57.33 - 422.93	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.11	200	273.562	57.33 - 422.88	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.09	200	273.977	0.0 - 364.99	$2s^2(^1S)2p - 2s^2(^1S)8s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
7.09	400	274.108	0.17 - 364.99	$2s^2(^1S)2p - 2s^2(^1S)8s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		508
11.10	50	274.213	57.19 - 421.87	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	521
11.10	160	274.258	57.25 - 421.87	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.10	100	274.276	57.25 - 421.84	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.10	200	274.316	57.25 - 421.79	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.10	200	274.337	57.33 - 421.84	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	521
11.10	400	274.374	57.33 - 421.79	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.08	400	275.829	57.33 - 419.87	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.08	100	275.852	57.19 - 419.70	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.08	150	275.871	57.25 - 419.74	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.08	100	275.883	57.33 - 419.80	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.08	50	275.931	57.33 - 419.74	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
7.08	400	276.193	0.0 - 362.07	$2s^2(^1S)2p - 2s^2(^1S)7d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.08	700	276.326	0.17 - 362.07	$2s^2(^1S)2p - 2s^2(^1S)7d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
11.07	150	277.813	57.25 - 417.20	$2s2p^2 - 2s2p(^3P^o)6s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.07	300	277.873	57.33 - 417.20	$2s2p^2 - 2s2p(^3P^o)6s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.07	50	277.901	57.25 - 417.09	$2s2p^2 - 2s2p(^3P^o)6s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
11.07	150	277.961	57.33 - 417.09	$2s2p^2 - 2s2p(^3P)6s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
7.07	200	278.436	0.0 - 359.15	$2s^2(^1S)2p - 2s^2(^1S)7s$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
7.07	400	278.572	0.17 - 359.15	$2s^2(^1S)2p - 2s^2(^1S)7s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508
7.06	400	282.070	0.0 - 354.53	$2s^2(^1S)2p - 2s^2(^1S)6d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.06	700	282.209	0.17 - 354.53	$2s^2(^1S)2p - 2s^2(^1S)6d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
11.06	30	283.850	57.19 - 409.49	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P, Z	508
11.06	180	283.882	57.19 - 409.45	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	521
11.06	180	283.898	57.25 - 409.49	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Z	508
11.06	50	283.937	57.25 - 409.45	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.06	200	283.977	57.25 - 409.39	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.06	200	283.996	57.33 - 409.45	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.06	400	284.040	57.33 - 409.39	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.05	100	284.277	57.19 - 408.96	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.05	250	284.308	57.25 - 408.98	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.05	400	284.336	57.33 - 409.02	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	Z	508
11.05	150	284.365	57.33 - 408.98	$2s2p^2 - 2s2p(^3P)5d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
7.05	225	285.855	0.0 - 349.82	$2s^2(^1S)2p - 2s^2(^1S)6s$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
7.05	450	286.000	0.17 - 349.82	$2s^2(^1S)2p - 2s^2(^1S)6s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508
16.13	300	287.56	101.02 - 448.78	$2s2p^2 - 2s2p(^3P)4d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.04	200	290.865	57.25 - 401.05	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.04	160	290.916	57.19 - 400.93	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.04	400	290.930	57.33 - 401.05	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.04	100	290.965	57.25 - 400.93	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.04	160	291.023	57.25 - 400.86	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Z	508
11.04	200	291.031	57.33 - 400.93	$2s2p^2 - 2s2p(^3P)5s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
7.04	450	292.447	0.0 - 341.95	$2s^2(^1S)2p - 2s^2(^1S)5d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.04	750	292.595	0.17 - 341.95	$2s^2(^1S)2p - 2s^2(^1S)5d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
7.03	300	299.661	0.0 - 333.71	$2s^2(^1S)2p - 2s^2(^1S)5s$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
7.03	550	299.818	0.17 - 333.71	$2s^2(^1S)2p - 2s^2(^1S)5s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508
16.12	200	299.903	101.03 - 434.47	$2s2p^2 - 2s2p(^3P)8d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.03	50	303.825	57.19 - 386.32	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
11.03	180	303.856	57.19 - 386.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.03	180	303.880	57.25 - 386.32	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Z	508
11.03	100	303.910	57.25 - 386.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.03	200	303.960	57.25 - 386.24	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.03	200	303.985	57.33 - 386.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.03	450	304.035	57.33 - 386.24	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
16.11	300	304.103	101.02 - 429.86	$2s2p^2 - 2s2p(^3P)7d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Z	508
16.11	200	304.203	101.03 - 429.76	$2s2p^2 - 2s2p(^3P)7d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.02	100	304.786	57.19 - 385.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11.02	250	304.812	57.25 - 385.32	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
11.02	110	304.837	57.25 - 385.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
11.02	500	304.860	57.33 - 385.25	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	P, Z	508
11.02	100	304.887	57.33 - 385.25	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	508
11.02	100	304.921	57.33 - 385.29	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
7.02	250	305.761	0.0 - 327.06	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
7.02	500	305.920	0.17 - 327.06	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508
16.10	50	310.746	101.03 - 422.84	$2s2p^2 - 2s2p(^3P)6d$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Z	508
16.10	100	310.803	101.02 - 422.77	$2s2p^2 - 2s2p(^3P)6d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
16.09	350	311.007	101.02 - 422.56	$2s2p^2 - 2s2p(^3P)6d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$	Z	508
16.09	200	311.113	101.03 - 422.46	$2s2p^2 - 2s2p(^3P)6d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Z	508
7.01	300	311.550	0.0 - 320.98	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7.01	500	311.636	0.17 - 321.07	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
7.01	50	311.721	0.17 - 320.98	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
7	450	314.715	0.0 - 317.75	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		508
7	800	314.850	0.17 - 317.78	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
7	80	314.877	0.17 - 317.75	$2s^2(^1S)2p - 2s^2(^1S)4d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		508
11.01	220	321.079	57.25 - 368.70	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		508
11.01	200	321.135	57.19 - 368.58	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
11.01	500	321.162	57.33 - 368.70	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		508
11.01	100	321.198	57.25 - 368.58	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		508
11.01	200	321.261	57.25 - 368.51	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		521
11.01	220	321.278	57.33 - 368.58	$2s2p^2 - 2s2p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		508
16.08	600	323.263	101.03 - 410.38	$2s2p^2 - 2s2p(^3P)5d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Z	508
6	100	323.436	0.0 - 309.19	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		508
6	200	323.493	0.0 - 309.13	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		508
6	500	323.620	0.17 - 309.19	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		508
6	100	323.675	0.17 - 309.13	$2s^2(^1S)2p - 2s2p(^3P)3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		508
18.07	20	325.788	131.00 - 437.95	$2s2p^2 - 2s2p(^3P)9d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.07	50	325.841	131.00 - 437.90	$2s2p^2 - 2s2p(^3P)9d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
18.06	50	329.242	131.00 - 434.73	$2s2p^2 - 2s2p(^3P)8d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.06	100	329.307	131.00 - 434.67	$2s2p^2 - 2s2p(^3P)8d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	508
20.10	300	330.26	145.99 - 448.78	$2s2p^2 - 2s2p(^3P)4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	508
5.01	350	332.140	0.0 - 301.08	$2s^2(^1S)2p - 2s^2(^1S)4s$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
5.01	650	332.333	0.17 - 301.08	$2s^2(^1S)2p - 2s^2(^1S)4s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
18.05	200	334.407	131.00 - 430.04	$2s2p^2 - 2s2p(^3P^o)7d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.05	250	334.476	131.00 - 429.98	$2s2p^2 - 2s2p(^3P^o)7d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
16.07	500	338.349	101.02 - 396.58	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.09	250	338.808	145.88 - 441.03	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.09	300	338.937	145.99 - 441.03	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
16.06	500	340.20	101.02 - 394.97	$2s2p^2 - 2s2p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
18.04	250	342.665	131.00 - 422.84	$2s2p^2 - 2s2p(^3P^o)6d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.04	300	342.741	131.00 - 422.77	$2s2p^2 - 2s2p(^3P^o)6d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
16.05	100	347.072	101.03 - 389.15	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
16.05	200	347.148	101.02 - 389.08	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
16.04	800	348.683	101.02 - 387.82	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
16.04	800	348.816	101.03 - 387.72	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.08		351.909	145.88 - 430.04	$2s2p^2 - 2s2p(^3P^o)7d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	521
16.03	500	351.779	101.02 - 385.13	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.08	20	352.114	145.99 - 429.98	$2s2p^2 - 2s2p(^3P^o)7d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Z	508
18.03	250	357.238	131.00 - 410.93	$2s2p^2 - 2s2p(^3P^o)5d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.03	450	357.324	131.00 - 410.86	$2s2p^2 - 2s2p(^3P^o)5d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
11	50	358.278	57.19 - 336.30	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		508
11	250	358.327	57.19 - 336.26	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		508
11	250	358.356	57.25 - 336.30	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		508
11	50	358.401	57.25 - 336.26	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		508
11	260	358.449	57.25 - 336.21	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		508
11	260	358.501	57.33 - 336.26	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		508
11	600	359.578	57.33 - 336.21	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		508
20.07	100	361.061	145.88 - 422.84	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.07	50	361.143	145.88 - 422.77	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
20.07	50	361.205	145.99 - 422.84	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.07	200	361.288	145.99 - 422.77	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Z	508
10	150	362.831	57.19 - 332.80	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		508
10	400	362.876	57.25 - 332.83	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		508
10	200	362.902	57.25 - 332.80	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		508
10	700	362.949	57.33 - 332.85	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		508
10	150	362.982	57.33 - 332.83	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		508
10	30	363.004	57.33 - 332.80	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		508
20.06	300	370.640	145.88 - 415.68	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.06	350	370.794	145.99 - 415.68	$2s2p^2 - 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
5	500	374.204	0.0 - 267.24	$2s^2(^1S)2p - 2s^2(^1S)3d$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		508
5	900	374.441	0.17 - 267.24	$2s^2(^1S)2p - 2s^2(^1S)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		508
20.05	100	377.286	145.88 - 410.93	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.05	100	377.380	145.88 - 410.86	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
20.05	100	377.444	145.99 - 410.93	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.05	250	377.540	145.99 - 410.86	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Z	508
18.02	300	387.375	131.00 - 389.15	$2s2p^2 - 2s2p(^3P^o)4d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	521
18.02	500	387.483	131.00 - 389.08	$2s2p^2 - 2s2p(^3P^o)4d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
16.02	450	396.186	101.03 - 353.44	$2s2p^2 - 2s2p(^1P^o)3s$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		508
20.04	500	398.885	145.88 - 396.57	$2s2p^2 - 2s2p(^1P^o)3d$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
20.04	600	399.045	145.99 - 396.58	$2s2p^2 - 2s2p(^1P^o)3d$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.04	60	399.060	145.99 - 396.57	$2s2p^2 - 2s2p(^1P^o)3d$	$^3P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		508
		407.00	0.0 - 245.70	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^3P^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	F, P	375
		407.29	0.17 - 245.70	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^3P^o - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
		407.35	0.17 - 245.67	$2s^2(^1S)2p - 2s^2(^1S)3p$	$g^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
20.03	350	411.056	145.88 - 389.15	$2s2p^2 - 2s2p(^3P^o)4d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	508
20.03	200	411.173	145.88 - 389.08	$2s2p^2 - 2s2p(^3P^o)4d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	508
20.03	200	411.243	145.99 - 389.15	$2s2p^2 - 2s2p(^3P^o)4d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.03	400	411.361	145.99 - 389.08	$2s2p^2 - 2s2p(^3P^o)4d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Z	508
16.01	450	413.681	101.03 - 342.76	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		508
16.01	450	413.797	101.02 - 342.69	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		508
16	650	418.712	101.02 - 339.86	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		508
16	500	418.919	101.03 - 339.74	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		508
15	600	428.180	101.02 - 334.57	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		508
15	400	428.244	101.03 - 334.54	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		508
9	300	433.911	57.25 - 287.71	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		508
9	260	434.014	57.19 - 287.59	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		508
9	650	434.066	57.33 - 287.71	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		508
9	150	434.129	57.25 - 287.59	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		508
9	260	434.246	57.25 - 287.53	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		508
9	300	434.280	57.33 - 287.59	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		508
20.12	350	448.285	186.80 - 409.87	$2p^2 - 2p^2(^3P)3d$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Z	508
20.12	400	448.384	186.80 - 409.82	$2p^2 - 2p^2(^3P)3d$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
20.12	450	448.549	186.80 - 409.74	$2p^2 - 2p^2(^3P)3d$	$^3S^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	508
18.01	450	449.559	131.00 - 353.44	$2s2p^2 - 2s2p(^1P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		508
4	450	451.869	0.0 - 221.30	$2s^2(^1S)2p - 2s^2(^1S)3s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		508
4	900	452.226	0.17 - 221.30	$2s^2(^1S)2p - 2s^2(^1S)3s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		508
14.01	600	456.077	101.02 - 320.29	$2s2p^2 - 2s^2(^1S)4f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		508
20.11	500	467.432	186.80 - 400.73	$2p^2 - 2p^2(^3P)3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
20.11	450	467.649	186.80 - 400.63	$2p^2 - 2p^2(^1P)3s$	$^1S - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
20.11	350	467.795	186.80 - 400.57	$2p^2 - 2p^2(^1P)3s$	$^1S - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	508
18	300	472.239	131.00 - 342.76	$2s2p^2 - 2s2p(^1P^{\circ})3d$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		508
18	550	472.399	131.00 - 342.69	$2s2p^2 - 2s2p(^1P^{\circ})3d$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		508
20.02	200	481.778	145.88 - 353.44	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		508
20.02	500	482.030	145.99 - 353.44	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		508
14	400	509.586	101.02 - 297.26	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		168
14	350	509.897	101.03 - 297.15	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		168
20.01	200	530.037	145.88 - 334.54	$2s2p^2 - 2s2p(^1P^{\circ})3d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		168
20.01	250	530.268	145.99 - 334.57	$2s2p^2 - 2s2p(^1P^{\circ})3d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		168
17.02	100	601.468	131.00 - 297.26	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		168
17.02	10	601.878	131.00 - 297.15	$2s2p^2 - 2s2p(^1P^{\circ})3s$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		168
3	700	684.996	0.0 - 145.99	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		197, 168
3	750	685.513	0.0 - 145.88	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 168
3	800	685.816	0.17 - 145.99	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		197, 168
3	700	686.335	0.17 - 145.88	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		197, 168
13.01	100	691.187	101.02 - 245.70	$2s2p^2 - 2s^2(^1S)3p$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		168
13.01	50	691.388	101.03 - 245.67	$2s2p^2 - 2s^2(^1S)3p$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		168
		758.09	245.70 - 377.61	$2s^2(^1S)3p - 2s^2(^1P^{\circ})3p$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	934
2	700	763.340	0.0 - 131.00	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$		197, 168
2	750	764.357	0.17 - 131.00	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		197, 168
8	500	771.544	57.19 - 186.80	$2s2p^2 - 2p^2$	$^1P - ^1S$	$\frac{1}{2} - \frac{3}{2}$		197, 168
8	550	771.901	57.25 - 186.80	$2s2p^2 - 2p^2$	$^1P - ^1S$	$\frac{3}{2} - \frac{3}{2}$		197, 168
8	600	772.385	57.33 - 186.80	$2s2p^2 - 2p^2$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		197, 168
13	450	772.891	101.02 - 230.41	$2s2p^2 - 2p^2$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		168
13	400	772.955	101.03 - 230.40	$2s2p^2 - 2p^2$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	P	168
		783.24	245.70 - 373.38	$2s^2(^1S)3p - 2s2p(^1P^{\circ})3p$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	934
17.01	25	871.870	131.00 - 245.70	$2s2p^2 - 2s^2(^1S)3p$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		521
17.01	10	872.143	131.00 - 245.67	$2s2p^2 - 2s^2(^1S)3p$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		521
		884.76	287.71 - 400.73	$2s2p(^1P^{\circ})3s - 2p^2(^1P^{\circ})3s$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	934
12	400	979.842	101.03 - 203.09	$2s2p^2 - 2p^2$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		168
12	450	979.919	101.02 - 203.07	$2s2p^2 - 2p^2$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		168
1	900	989.790	0.0 - 101.03	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		521
1	700	991.514	0.17 - 101.03	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		521
1	1000	991.579	0.17 - 101.02	$2s^2(^1S)2p - 2s2p^2$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{1}{2}$		521
17	300	1006.015	131.00 - 230.41	$2s2p^2 - 2p^2$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		168
7.47		1126.900	57.25 - 145.99	$2s2p^2 - 2s2p^2$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	F, P	521
7.47		1127.931	57.33 - 145.99	$2s2p^2 - 2s2p^2$	$^1P - ^1P$	$\frac{3}{2} - \frac{1}{2}$	F, P	521
7.47		1128.300	57.25 - 145.88	$2s2p^2 - 2s2p^2$	$^1P - ^1P$	$\frac{3}{2} - \frac{1}{2}$	F, P	521
20	350	1183.030	145.88 - 230.40	$2s2p^2 - 2p^2$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		168
20	400	1184.514	145.99 - 230.41	$2s2p^2 - 2p^2$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	P	521
		1324.188	321.07 - 396.58	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	P, Z	375
	90	1324.361	321.07 - 396.57	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	P, Z	521
	150	1324.40	267.24 - 342.75	$2s^2(^1S)3d - 2s^2(^1S)5f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	246
25.02	200	1345.78	309.75 - 384.06	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P, Z	246
25.02	200	1346.18	309.85 - 384.13	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1D - ^1F$	$\frac{1}{2} - \frac{3}{2}$	P, Z	246
25.02	10	1347.52	309.85 - 384.06	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P, Z	246
7.46		1354.698	57.19 - 131.00	$2s2p^2 - 2s2p^2$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$	F, P	521
7.46		1355.794	57.25 - 131.00	$2s2p^2 - 2s2p^2$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$	F, P	521
22.02	50	1387.303	245.67 - 317.75	$2s^2(^1S)3p - 2s^2(^1S)4d$	$^1P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	521
22.02	100	1387.382	245.70 - 317.78	$2s^2(^1S)3p - 2s^2(^1S)4d$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	521
22.02	40	1387.995	245.70 - 317.75	$2s^2(^1S)3p - 2s^2(^1S)4d$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{1}{2}$		521
25.06	4	1470.68	317.29 - 385.29	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	P, Z	521
25.06	40	1470.98	317.34 - 385.32	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
25.06	60	1471.63	317.40 - 385.35	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	P, Z	521
22.01	25	1574.32	245.67 - 309.19	$2s^2(^1S)3p - 2s2p(^1P^{\circ})3p$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		521
22.01	60	1575.21	245.70 - 309.19	$2s^2(^1S)3p - 2s2p(^1P^{\circ})3p$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		521
22.01	40	1575.65	245.67 - 309.13	$2s^2(^1S)3p - 2s2p(^1P^{\circ})3p$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		521
22.01	25	1576.54	245.70 - 309.13	$2s^2(^1S)3p - 2s2p(^1P^{\circ})3p$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		521
25.01	1	1694.786	309.69 - 368.70	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	P	521
25.01	10	1696.560	309.75 - 368.70	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	P	521
25.01	4	1697.156	309.66 - 368.58	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	P	521, 375
25.01		1698.999	309.66 - 368.51	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$	P	521
25.01	90	1699.336	309.85 - 368.70	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$	P	521
25.01	60	1699.963	309.75 - 368.58	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	P	521
25.01	25	1700.027	309.69 - 368.51	$2s2p(^1P^{\circ})3p - 2s2p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	P	521
26.04	4	1725.315	330.32 - 388.28	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{1}{2} - \frac{3}{2}$	Z	521
26.04	4	1726.776	330.27 - 388.18	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.04	60	1727.426	330.39 - 388.28	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{3}{2} - \frac{1}{2}$	Z	521
26.04	4	1728.318	330.32 - 388.18	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{1}{2} - \frac{1}{2}$	Z	521
26.03	250	1729.945	330.32 - 388.12	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{1}{2} - \frac{3}{2}$	Z	521
	400	1730.04	330.27 - 388.07	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{3}{2} - \frac{3}{2}$	Z	168
26.03	10	1730.863	330.27 - 388.04	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{3}{2} - \frac{1}{2}$	Z	521
26.03	10	1731.561	330.32 - 388.07	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{1}{2} - \frac{1}{2}$	Z	521
26.03	10	1732.089	330.39 - 388.12	$2s2p(^1P^{\circ})3d - 2s2p(^1P^{\circ})4f$	$^1F^{\circ} - ^1G$	$\frac{3}{2} - \frac{3}{2}$	Z	521

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
0.01		1746.822	0.0 - 57.25	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	209
19	450	1747.848	145.88 - 203.09	$2s2p^2 - 2p^3$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	P	168
0.01	25	1748.646	0.0 - 57.19	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	209
0.01	25	1749.674	0.17 - 57.33	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	209
19	300	1751.218	145.99 - 203.09	$2s2p^2 - 2p^3$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	P	168
19	500	1751.657	145.99 - 203.07	$2s2p^2 - 2p^3$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	P	168
0.01		1752.160	0.17 - 57.25	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	209
0.01	4	1753.986	0.17 - 57.19	$2s^2(^1S)2p - 2s2p^2$	$g^4P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	209
26.02	25	1762.09	330.23 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	4	1762.426	330.23 - 386.97	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	4	1762.592	330.27 - 387.00	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	10	1763.16	330.27 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02		1763.51	330.27 - 386.97	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	60	1763.84	330.32 - 387.01	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	4	1764.218	330.32 - 387.00	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	4	1764.79	330.32 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.02	25	1766.059	330.39 - 387.01	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1F - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.10	1	1797.277	332.80 - 388.44	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1798.733	332.79 - 388.39	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1799.180	332.80 - 388.39	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1799.660	332.79 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	25	1800.131	332.80 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	10	1800.789	332.83 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1801.639	332.80 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	40	1802.365	332.83 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1803.255	332.85 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09	4	1803.525	332.83 - 388.27	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.09		1804.44	332.85 - 388.27	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
22	150	1804.486	245.67 - 301.08	$2s^2(^1S)3p - 2s^2(^1S)4s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		521
22	200	1805.669	245.70 - 301.08	$2s^2(^1S)3p - 2s^2(^1S)4s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		521
25.04	25	1835.568	314.22 - 368.70	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^3S - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.04	25	1839.541	314.22 - 368.58	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^3S - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.04	10	1841.718	314.22 - 368.51	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^3S - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		521
26.08	80	1845.689	332.79 - 386.97	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
26.08	120	1845.754	332.80 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
26.08	120	1845.865	332.83 - 387.00	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.08	25	1846.142	332.80 - 386.97	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.08	150	1846.415	332.85 - 387.01	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
26.07	60	1846.694	332.83 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
27.03	4	1855.232	334.54 - 388.44	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
27.03	25	1858.48	334.57 - 388.38	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
27.02	4	1860.733	334.57 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
24	350	1885.058	267.24 - 320.29	$2s^2(^1S)3d - 2s^2(^1S)4f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		521
24	400	1885.215	267.24 - 320.29	$2s^2(^1S)3d - 2s^2(^1S)4f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		521
27.01	40	1906.247	334.54 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
27.01	90	1907.209	334.57 - 387.00	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
27	100	1907.916	334.54 - 386.95	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
27	150	1908.080	334.57 - 386.98	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
27	25	1908.936	334.57 - 386.95	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29.01	4	1916.41	336.26 - 388.44	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	521
29.01	4	1916.849	336.21 - 388.38	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	1	1917.572	336.21 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	10	1918.53	336.26 - 388.39	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29.01	40	1918.87	336.26 - 388.38	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	90	1919.288	336.21 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	150	1919.547	336.26 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	150	1919.768	336.30 - 388.39	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	300	1920.654	336.21 - 388.27	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	150	1920.838	336.30 - 388.36	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
29	200	1921.299	336.26 - 388.31	$2s2p(^3P^o)3d - 2s2p(^3P^o)4f$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	521
25.05	40	1947.049	317.34 - 368.70	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05	90	1949.285	317.40 - 368.70	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05	40	1949.909	317.29 - 368.58	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05	25	1951.521	317.34 - 368.58	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05	10	1952.330	317.29 - 368.51	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05	25	1953.784	317.40 - 368.58	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521
25.05		1953.957	317.34 - 368.51	$2s2p(^3P^o)3p - 2s2p(^3P^o)4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		521

NITROGEN IV (N^{3+}), $Z = 7$ Ground State $1s^2 2s^2 \ ^1S_0$ (4 electrons)Ionization Potential $624\,866\text{ cm}^{-1}$; 77.474 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
6.38	1	159.366	67.42 - 694.90	$2s2p - 2p(^3P)13p$	$^3P^o - ^3P$	2-2	Z	508
6.37	1	159.833	67.42 - 693.07	$2s2p - 2p(^3P)12p$	$^3P^o - ^3P$	2-2	Z	508
6.36	1	160.451	67.42 - 690.66	$2s2p - 2p(^3P)11p$	$^3P^o - ^3P$	2-2	Z	508
6.35	2	161.256	67.42 - 687.55	$2s2p - 2p(^3P)10p$	$^3P^o - ^3P$	2-2	Z	508
6.34	2	161.286	67.42 - 687.38	$2s2p - 2p(^3P)10p$	$^3P^o - ^3D$	2-2	Z	508
6.33	2	162.374	67.42 - 683.28	$2s2p - 2p(^3P)9p$	$^3P^o - ^3P$	2-2	Z	508
6.32	10	162.423	67.42 - 683.09	$2s2p - 2p(^3P)9p$	$^3P^o - ^3D$	2-3	Z	508
2.16	1	162.816	0.0 - 614.19	$2s^2 - 2s13p$	$g^1S - ^1P^o$	0-1		508
2.15	1	163.311	0.0 - 612.33	$2s^2 - 2s12p$	$g^1S - ^1P^o$	0-1		508
2.14	10	163.949	0.0 - 609.95	$2s^2 - 2s11p$	$g^1S - ^1P^o$	0-1		508
6.31	2	163.972	67.42 - 677.28	$2s2p - 2p(^3P)8p$	$^3P^o - ^3P$	2-2	Z	508
6.30	50	164.048	67.42 - 676.99	$2s2p - 2p(^3P)8p$	$^3P^o - ^3D$	2-3	Z	508
2.13	30	164.794	0.0 - 606.82	$2s^2 - 2s10p$	$g^1S - ^1P^o$	0-1		508
2.12	50	165.945	0.0 - 602.61	$2s^2 - 2s9p$	$g^1S - ^1P^o$	0-1		508
6.29	10	166.337	67.27 - 668.46	$2s2p - 2p(^3P)7p$	$^3P^o - ^3P$	1-2	Z	508
6.29	20	166.377	67.42 - 668.46	$2s2p - 2p(^3P)7p$	$^3P^o - ^3P$	2-2	Z	508
6.28	20	166.496	67.42 - 668.03	$2s2p - 2p(^3P)7p$	$^3P^o - ^3D$	2-3	Z	508
6.28	75	166.540	67.42 - 667.87	$2s2p - 2p(^3P)7p$	$^3P^o - ^3D$	2-2	Z	508
2.11	150	167.074	0.0 - 598.54	$2s^2 - 2p(^3P_{3/2})4d$	$g^1S - ^1P^o$	0-1	P	511
2.10	150	167.709	0.0 - 596.27	$2s^2 - 2s8p$	$g^1S - ^1P^o$	0-1		508
2.09	200	170.074	0.0 - 587.98	$2s^2 - 2s7p$	$g^1S - ^1P^o$	0-1		508
6.27	50	170.208	67.27 - 654.79	$2s2p - 2p(^3P)6p$	$^3P^o - ^3P$	1-2	Z	508
6.27	100	170.249	67.42 - 654.79	$2s2p - 2p(^3P)6p$	$^3P^o - ^3P$	2-2	Z	508
6.26	50	170.463	67.42 - 654.05	$2s2p - 2p(^3P)6p$	$^3P^o - ^3D$	2-3	Z	508
6.26	100	170.505	67.42 - 653.91	$2s2p - 2p(^3P)6p$	$^3P^o - ^3D$	2-2	Z	508
2.08	200	172.171	0.0 - 580.82	$2s^2 - 2p(^3P_{3/2})4s$	$g^1S - ^1P^o$	0-1	P	511
2.07	200	174.602	0.0 - 572.73	$2s^2 - 2s6p$	$g^1S - ^1P^o$	0-1		508
6.25	100	177.119	67.27 - 631.87	$2s2p - 2p(^3P)5p$	$^3P^o - ^3P$	1-2	Z	508
6.25	80	177.142	67.27 - 631.78	$2s2p - 2p(^3P)5p$	$^3P^o - ^3P$	1-0	Z	508
6.25	200	177.163	67.42 - 631.87	$2s2p - 2p(^3P)5p$	$^3P^o - ^3P$	2-2	Z	508
6.25	100	177.182	67.42 - 631.81	$2s2p - 2p(^3P)5p$	$^3P^o - ^3P$	2-1	Z	508
6.24	100	177.602	67.42 - 630.47	$2s2p - 2p(^3P)5p$	$^3P^o - ^3D$	2-3	Z	508
6.24	100	177.621	67.27 - 630.27	$2s2p - 2p(^3P)5p$	$^3P^o - ^3D$	1-1	Z	508
6.24	250	177.646	67.42 - 630.33	$2s2p - 2p(^3P)5p$	$^3P^o - ^3D$	2-2	Z	508
12.29	1	178.547	130.69 - 690.77	$2s2p - 2p(^3P_{3/2})11p$	$^1P^o - ^1D$	1-2	Z	508
12.28	2	179.554	130.69 - 687.63	$2s2p - 2p(^3P_{3/2})10p$	$^1P^o - ^1D$	1-2	Z	508
12.27	5	180.928	130.69 - 683.40	$2s2p - 2p(^3P_{3/2})9p$	$^1P^o - ^1D$	1-2	Z	508
2.06	400	181.746	0.0 - 550.23	$2s^2 - 2s5p$	$g^1S - ^1P^o$	0-1		508
6.23	10	181.895	67.27 - 617.04	$2s2p - 2s15d$	$^3P^o - ^3D$	1-2	P	511
6.23	10	181.943	67.42 - 617.04	$2s2p - 2s15d$	$^3P^o - ^3D$	2-3		508
6.22	20	182.275	67.27 - 615.89	$2s2p - 2s14d$	$^3P^o - ^3D$	1-2	P	511
6.22	20	182.323	67.42 - 615.89	$2s2p - 2s14d$	$^3P^o - ^3D$	2-3		508
6.21	30	182.779	67.27 - 614.38	$2s2p - 2s13d$	$^3P^o - ^3D$	1-2	P	511
6.21	30	182.827	67.42 - 614.38	$2s2p - 2s13d$	$^3P^o - ^3D$	2-3		508
12.26	10	182.894	130.69 - 677.46	$2s2p - 2p(^3P_{3/2})8p$	$^1P^o - ^1D$	1-2	Z	508
12.25	5	183.146	130.69 - 676.71	$2s2p - 2p(^3P_{3/2})8p$	$^1P^o - ^1P$	1-1	Z	508
6.20	35	183.402	67.27 - 612.53	$2s2p - 2s12d$	$^3P^o - ^3D$	1-2		508
6.20	50	183.450	67.42 - 612.53	$2s2p - 2s12d$	$^3P^o - ^3D$	2-3		508
6.19	50	184.200	67.27 - 610.17	$2s2p - 2s11d$	$^3P^o - ^3D$	1-2		508
6.19	75	184.247	67.42 - 610.17	$2s2p - 2s11d$	$^3P^o - ^3D$	2-3		508
6.18	1	184.437	67.27 - 609.47	$2s2p - 2s11s$	$^3P^o - ^3S$	1-1		508
6.18	2	184.485	67.42 - 609.47	$2s2p - 2s11s$	$^3P^o - ^3S$	2-1		508
6.17	50	185.237	67.21 - 607.06	$2s2p - 2s10d$	$^3P^o - ^3D$	0-1		508
6.17	150	185.257	67.27 - 607.06	$2s2p - 2s10d$	$^3P^o - ^3D$	1-2		508
6.17	200	185.306	67.42 - 607.06	$2s2p - 2s10d$	$^3P^o - ^3D$	2-3		508
6.16	3	185.568	67.27 - 606.14	$2s2p - 2s10s$	$^3P^o - ^3S$	1-1		508
6.16	5	185.623	67.42 - 606.14	$2s2p - 2s10s$	$^3P^o - ^3S$	2-1		508
12.24	75	185.853	130.69 - 668.75	$2s2p - 2p(^3P_{3/2})7p$	$^1P^o - ^1D$	1-2	Z	508
12.23	50	186.218	130.69 - 667.70	$2s2p - 2p(^3P_{3/2})7p$	$^1P^o - ^1P$	1-1	Z	508
6.15	150	186.690	67.21 - 602.87	$2s2p - 2s9d$	$^3P^o - ^3D$	0-1		508
6.15	250	186.709	67.27 - 602.87	$2s2p - 2s9d$	$^3P^o - ^3D$	1-2		508
6.15	300	186.759	67.42 - 602.87	$2s2p - 2s9d$	$^3P^o - ^3D$	2-3		508
6.14	10	187.123	67.21 - 601.62	$2s2p - 2s9s$	$^3P^o - ^3S$	0-1		508
6.14	10	187.142	67.27 - 601.62	$2s2p - 2s9s$	$^3P^o - ^3S$	1-1		508
6.14	20	187.194	67.42 - 601.62	$2s2p - 2s9s$	$^3P^o - ^3S$	2-1		508
6.13	100	188.583	67.21 - 597.48	$2s2p - 2s8s$	$^3P^o - ^3S$	0-1		508
6.13	200	188.606	67.27 - 597.48	$2s2p - 2s8s$	$^3P^o - ^3S$	1-1		508
6.13	250	188.656	67.42 - 597.48	$2s2p - 2s8s$	$^3P^o - ^3S$	2-1		508
6.12	100	188.743	67.21 - 597.03	$2s2p - 2s8d$	$^3P^o - ^3D$	0-1		508
6.12	200	188.762	67.27 - 597.03	$2s2p - 2s8d$	$^3P^o - ^3D$	1-2		508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
6.12	30C	188.818	67.42 - 597.03	2s2p - 2s8d	$^1P^o - ^3D$	2 - 3		508
6.11	1	189.365	67.21 - 595.30	2s2p - 2p($^1P_{1/2}^o$)4p	$^1P^o - ^3S$	0 - 1		508
6.11	5	189.386	67.27 - 595.30	2s2p - 2p($^3P_{2/2}^o$)4p	$^1P^o - ^3S$	1 - 1		508
6.11	10	189.437	67.42 - 595.30	2s2p - 2p($^3P_{3/2}^o$)4p	$^1P^o - ^3S$	2 - 1		508
12.22	200	190.625	130.69 - 655.28	2s2p - 2p($^1P_{1/2}^o$)6p	$^1P^o - ^3D$	1 - 2	Z	508
12.21	100	191.228	130.69 - 653.63	2s2p - 2p($^3P_{1/2}^o$)6p	$^1P^o - ^3P$	1 - 1	Z	508
6.10	250	191.651	67.21 - 588.99	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3P$	0 - 1		508
6.10	100	191.676	67.27 - 588.99	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3P$	1 - 1		508
6.10	400	191.702	67.42 - 589.06	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3P$	2 - 2		508
6.10	150	191.727	67.42 - 588.99	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3P$	2 - 1		508
6.10	120	191.748	67.27 - 588.79	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3P$	1 - 0		508
6.09	150	191.868	67.21 - 588.38	2s2p - 2s7d	$^1P^o - ^3D$	0 - 1		508
6.09	350	191.898	67.27 - 588.38	2s2p - 2s7d	$^1P^o - ^3D$	1 - 2		508
6.09	350	191.951	67.42 - 588.38	2s2p - 2s7d	$^1P^o - ^3D$	2 - 3		508
15.23	10	192.533	175.73 - 695.12	2p ² - 2p($^1P^o$)13d	$^1P - ^3D^o$	2 - 3	Z	508
2.05		192.823	0.0 - 518.61	2s ² - 2p($^1P_{3/2}^o$)3d	$g^1S - ^1P^o$	0 - 1	P	511
6.08	400	192.859	67.42 - 585.93	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3D$	2 - 3		508
6.08	100	192.888	67.27 - 58 ⁺ 71	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3D$	1 - 1		508
6.08	100	192.908	67.42 - 585.80	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3D$	2 - 2		508
6.08	10	192.941	67.42 - 585.71	2s2p - 2p($^3P^o$)4p	$^1P^o - ^3D$	2 - 1	P	511
6.07	200	193.139	67.21 - 584.98	2s2p - 2s7s	$^1P^o - ^3S$	0 - 1		508
6.07	300	193.160	67.27 - 584.98	2s2p - 2s7s	$^1P^o - ^3S$	1 - 1		508
6.07	350	193.214	67.42 - 584.98	2s2p - 2s7s	$^1P^o - ^3S$	2 - 1		508
15.22	75	194.083	175.73 - 690.98	2p ² - 2p($^1P^o$)11d	$^1P - ^3D^o$	2 - 3	Z	508
15.21	20	195.202	175.73 - 688.02	2p ² - 2p($^1P^o$)10d	$^1P - ^3P^o$	2 - 2	Z	508
15.20	100	195.258	175.73 - 687.88	2p ² - 2p($^1P^o$)10d	$^1P - ^3D^o$	2 - 3	Z	508
15.19	1	195.610	175.73 - 686.95	2p ² - 2p($^1P^o$)10s	$^1P - ^3P^o$	2 - 2	Z	508
15.18	100	196.802	175.73 - 683.86	2p ² - 2p($^1P^o$)9d	$^1P - ^3P^o$	2 - 2	Z	508
15.17	500	196.866	175.73 - 683.69	2p ² - 2p($^1P^o$)9d	$^1P - ^3D^o$	2 - 3	Z	508
6.06	200	196.921	67.21 - 575.03	2s2p - 2s6d	$^1P^o - ^3D$	0 - 1		508
6.06	400	196.944	67.27 - 575.03	2s2p - 2s6d	$^1P^o - ^3D$	1 - 1		508
6.06	400	197.000	67.42 - 575.03	2s2p - 2s6d	$^1P^o - ^3D$	2 - 1		508
2.04	500	197.230	0.0 - 507.03	2s ² - 2s4p	$g^1S - ^1P^o$	0 - 1		508
15.16	2	197.343	175.73 - 682.46	2p ² - 2p($^1P^o$)9s	$^1P - ^3P^o$	2 - 2	Z	508
6.05	150	198.740	67.21 - 570.38	2s2p - 2s6s	$^1P^o - ^3S$	0 - 1		508
6.05	250	198.764	67.27 - 570.38	2s2p - 2s6s	$^1P^o - ^3S$	1 - 1		508
6.05	300	198.821	67.42 - 570.38	2s2p - 2s6s	$^1P^o - ^3S$	2 - 1		508
15.15	200	199.087	175.73 - 678.03	2p ² - 2p($^1P^o$)8d	$^1P - ^3P^o$	2 - 2	Z	508
15.14	450	199.159	175.73 - 677.84	2p ² - 2p($^1P^o$)8d	$^1P - ^3D^o$	2 - 3	Z	508
15.13	20	199.806	175.61 - 676.09	2p ² - 2p($^1P^o$)8s	$^1P - ^3P^o$	1 - 2	Z	508
15.13	50	199.857	175.73 - 676.09	2p ² - 2p($^1P^o$)8s	$^1P - ^3P^o$	2 - 2	Z	508
18.23		200.316	188.88 - 688.09	2p ² - 2p($^1P_{3/2}^o$)10d	$^1D - ^1P^o$	2 - 1	P, Z	511
12.20	300	200.340	130.69 - 629.85	2s2p - 2p($^1P_{1/2}^o$)5p	$^1P^o - ^1P$	1 - 1	Z	508
18.22	100	201.988	188.88 - 684.02	2p ² - 2p($^1P_{3/2}^o$)9d	$^1D - ^1P^o$	2 - 1	Z	508
15.12	300	202.485	175.73 - 669.60	2p ² - 2p($^1P^o$)7d	$^1P - ^3P^o$	2 - 2	Z	508
15.11	500	202.595	175.73 - 669.33	2p ² - 2p($^1P^o$)7d	$^1P - ^3D^o$	2 - 3	Z	508
15.10	50	203.642	175.61 - 666.67	2p ² - 2p($^1P^o$)7s	$^1P - ^3P^o$	1 - 2	Z	508
15.10	50	203.694	175.73 - 666.67	2p ² - 2p($^1P^o$)7s	$^1P - ^3P^o$	2 - 2	Z	508
15.10	10	203.728	175.61 - 666.46	2p ² - 2p($^1P^o$)7s	$^1P - ^3P^o$	1 - 1	P, Z	511
15.10	50	203.780	175.73 - 666.46	2p ² - 2p($^1P^o$)7s	$^1P - ^3P^o$	2 - 1	Z	508
18.21	150	204.302	188.88 - 678.36	2p ² - 2p($^1P_{3/2}^o$)8d	$^1D - ^1P^o$	2 - 1	Z	511
6.04	200	205.940	67.21 - 552.79	2s2p - 2s5d	$^1P^o - ^3D$	0 - 1		508
6.04	300	205.968	67.27 - 552.79	2s2p - 2s5d	$^1P^o - ^3D$	1 - 2		508
6.04	500	206.028	67.42 - 552.79	2s2p - 2s5d	$^1P^o - ^3D$	2 - 3		508
12.19	10	206.707	130.69 - 614.47	2s2p - 2s13d	$^1P^o - ^3D$	1 - 2		508
12.18	20	207.500	130.69 - 612.62	2s2p - 2s12d	$^1P^o - ^3D$	1 - 2		508
18.20	200	207.812	188.88 - 670.09	2p ² - 2p($^1P_{3/2}^o$)7a	$^1D - ^1P^o$	2 - 1	P, Z	511
15.09	150	208.012	175.61 - 656.35	2p ² - 2p($^1P^o$)6d	$^1P - ^3P^o$	1 - 1	P, Z	511
15.09	400	208.066	175.73 - 656.35	2p ² - 2p($^1P^o$)6d	$^1P - ^3P^o$	2 - 2	Z	508
15.08	150	208.113	175.54 - 656.04	2p ² - 2p($^1P^o$)6d	$^1P - ^3D^o$	0 - 1	Z	508
15.08	250	208.131	175.61 - 656.07	2p ² - 2p($^1P^o$)6d	$^1P - ^3D^o$	1 - 2	Z	508
15.08	400	208.150	175.73 - 656.16	2p ² - 2p($^1P^o$)6d	$^1P - ^3D^o$	2 - 3	Z	508
15.08	100	208.185	175.73 - 656.07	2p ² - 2p($^1P^o$)6d	$^1P - ^3D^o$	2 - 2	P, Z	511
12.17	100	208.510	130.69 - 610.29	2s2p - 2s11d	$^1P^o - ^3D$	1 - 2		508
6.03	100	209.378	67.21 - 544.81	2s2p - 2s5s	$^1P^o - ^3S$	0 - 1		508
6.03	300	209.407	67.27 - 544.81	2s2p - 2s5s	$^1P^o - ^3S$	1 - 1		508
6.03	400	209.471	67.42 - 544.81	2s2p - 2s5s	$^1P^o - ^3S$	2 - 1		508
12.16	150	209.842	130.69 - 607.24	2s2p - 2s10d	$^1P^o - ^3D$	1 - 2		508
15.07	100	209.976	175.61 - 651.86	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	1 - 2	Z	508
15.07	80	210.024	175.54 - 651.67	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	0 - 1	P, Z	511
15.07	200	210.028	175.73 - 651.86	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	2 - 2	Z	508
15.07	50	210.056	175.61 - 651.67	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	1 - 1	P, Z	511
15.07	100	210.092	175.61 - 651.59	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	1 - 0	Z	508
15.07	100	210.111	175.73 - 651.67	2p ² - 2p($^1P^o$)6s	$^1P - ^3P^o$	2 - 1	Z	508
2.03	400	211.405	0.0 - 473.03	2s ² - 2p($^1P_{3/2}^o$)3s	$g^1S - ^1P^o$	0 - 1		508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
12.15	250	211.679	130.69 - 603.11	2s2p - 2s9d	$^1P^o - ^1D$	1-2		508
18.19	300	213.443	188.88 - 657.39	2p ² - 2p($^2P_{3/2}$)6d	$^1D - ^1P^o$	2-1	P, Z	511
12.14	250	214.291	130.69 - 597.35	2s2p - 2s8d	$^1P^o - ^1D$	1-2		508
18.17	50	214.414	188.88 - 655.27	2p ² - 2p($^2P_{3/2}$)6d	$^1D - ^1F^o$	2-3	Z	508
12.13	10	214.843	130.69 - 596.15	2s2p - 2s8s	$^1P^o - ^1S$	1-0		508
12.12	75	215.755	130.69 - 594.18	2s2p - 2p($^2P_{3/2}$)4p	$^1P^o - ^1S$	1-0		508
12.11	500	217.218	130.69 - 591.06	2s2p - 2p($^2P_{3/2}$)4p	$^1P^o - ^1D$	1-2		508
15.06	200	217.836	175.61 - 634.67	2p ² - 2p($^2P^o$)5d	$^1P - ^1P^o$	1-2	P, Z	511
15.06	500	217.895	175.73 - 634.67	2p ² - 2p($^2P^o$)5d	$^1P - ^1P^o$	2-2	Z	508
15.05	150	218.044	175.54 - 634.16	2p ² - 2p($^2P^o$)5d	$^1P - ^1D^o$	0-1	Z	508
15.05	250	218.067	175.61 - 634.18	2p ² - 2p($^2P^o$)5d	$^1P - ^1D^o$	1-2	Z	508
15.05	100	218.079	175.61 - 634.16	2p ² - 2p($^2P^o$)5d	$^1P - ^1D^o$	1-1	P, Z	511
15.05	400	218.088	175.73 - 634.26	2p ² - 2p($^2P^o$)5d	$^1P - ^1D^o$	2-3	Z	508
15.05	100	218.116	175.73 - 634.18	2p ² - 2p($^2P^o$)5d	$^1P - ^1D^o$	2-2	Z	508
12.10	400	218.250	130.69 - 588.88	2s2p - 2s7d	$^1P^o - ^1D$	1-2		508
12.09	50	220.124	130.69 - 584.98	2s2p - 2s7s	$^1P^o - ^1S$	1-0		508
12.08	400	220.280	130.69 - 584.66	2s2p - 2p($^2P_{3/2}$)4p	$^1P^o - ^1P$	1-1		508
18.42	2	220.885	235.37 - 688.09	2p ² - 2p($^2P_{3/2}$)10d	$^1S - ^1P^o$	0-1	Z	508
15.04	300	221.729	175.61 - 626.61	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	1-2	Z	508
15.04	250	221.774	175.54 - 626.45	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	0-1	P, Z	511
15.04	450	221.789	175.73 - 626.61	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	2-2	Z	508
15.04	200	221.810	175.61 - 626.45	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	1-1	P, Z	511
15.04	250	221.854	175.61 - 626.36	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	1-0	Z	508
15.04	300	221.871	175.73 - 626.45	2p ² - 2p($^2P^o$)5s	$^1P - ^1P^o$	2-1	Z	508
18.41	30	222.893	235.37 - 684.02	2p ² - 2p($^2P_{3/2}$)9d	$^1S - ^1P^o$	0-1	Z	508
6.02		223.066	67.27 - 515.57	2s2p - 2p($^2P_{3/2}$)3p	$^1P^o - ^1S$	1-0	P	511
18.16	500	223.421	188.88 - 636.47	2p ² - 2p($^2P_{3/2}$)5d	$^1D - ^1P^o$	2-1	P, Z	511
12.07	450	224.629	130.69 - 577.87	2s2p - 2s6d	$^1P^o - ^1D$	1-2		508
6	300	225.110	67.21 - 511.44	2s2p - 2s4d	$^1P^o - ^1D$	0-1		508
6	500	225.142	67.27 - 511.44	2s2p - 2s4d	$^1P^o - ^1D$	1-1		508
6	800	225.212	67.42 - 511.45	2s2p - 2s4d	$^1P^o - ^1D$	2-3		508
18.40	50	225.741	235.37 - 678.36	2p ² - 2p($^2P_{3/2}$)8d	$^1S - ^1P^o$	0-1	Z	508
12.06	100	227.026	130.69 - 571.17	2s2p - 2s6s	$^1P^o - ^1S$	1-0		508
18.15		227.446	188.88 - 628.55	2p ² - 2p($^2P_{3/2}$)5s	$^1D - ^1P^o$	2-1	P, Z	511
18.39	100	230.035	235.37 - 670.09	2p ² - 2p($^2P_{3/2}$)7d	$^1S - ^1P^o$	0-1	Z	508
5.07	100	232.112	67.21 - 498.05	2s2p - 2p($^2P_{3/2}$)3p	$^1P^o - ^1S$	0-1		508
5.07	150	232.145	67.27 - 498.05	2s2p - 2p($^2P_{3/2}$)3p	$^1P^o - ^1S$	1-1		508
5.07	200	232.223	67.42 - 498.05	2s2p - 2p($^2P_{3/2}$)3p	$^1P^o - ^1S$	2-1		508
5.06		233.762	67.27 - 495.06	2s2p - 2s4s	$^1P^o - ^1S$	1-0	P	511
5.05	600	234.124	67.27 - 494.40	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1P$	1-2		508
5.05	150	234.172	67.27 - 494.31	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1P$	1-1	P	511
5.05	600	234.195	67.42 - 494.40	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1P$	2-2		508
5.05	180	234.203	67.27 - 494.25	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1P$	1-0	P	511
5.05	600	234.249	67.42 - 494.31	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1P$	2-1		508
12.05	550	236.068	130.69 - 554.30	2s2p - 2s5d	$^1P^o - ^1D$	1-2		508
18.38	150	236.954	235.37 - 657.39	2p ² - 2p($^2P_{3/2}$)6d	$^1S - ^1P^o$	0-1	Z	508
5.04	200	237.873	67.21 - 487.61	2s2p - 2s4s	$^1P^o - ^1S$	0-1		508
5.04	400	237.908	67.27 - 487.61	2s2p - 2s4s	$^1P^o - ^1S$	1-1		508
5.04	500	237.991	67.42 - 487.61	2s2p - 2s4s	$^1P^o - ^1S$	2-1		508
15.03	450	238.657	175.54 - 594.55	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	0-1		508
15.03	450	238.683	175.61 - 594.57	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	1-0		508
15.03	400	238.694	175.61 - 594.55	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	1-1		508
15.03	500	238.731	175.61 - 594.49	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	1-2		508
15.03	500	238.769	175.73 - 594.55	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	2-1		508
15.03	600	238.802	175.73 - 594.49	2p ² - 2p($^2P^o$)4d	$^1P - ^1P^o$	2-2		508
15.02	200	239.146	175.54 - 593.69	2p ² - 2p($^2P^o$)4d	$^1P - ^1D^o$	0-1		508
15.02	300	239.174	175.61 - 593.71	2p ² - 2p($^2P^o$)4d	$^1P - ^1D^o$	1-2		508
15.02	450	239.212	175.73 - 593.77	2p ² - 2p($^2P^o$)4d	$^1P - ^1D^o$	2-3		508
15.02	180	239.243	175.73 - 593.71	2p ² - 2p($^2P^o$)4d	$^1P - ^1D^o$	2-2		508
5.03	500	239.616	67.42 - 484.75	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	2-3		508
5.03	300	239.632	67.27 - 484.59	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	1-2		508
5.03	200	239.659	67.21 - 484.50	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	0-1		508
5.03	100	239.679	67.27 - 484.50	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	1-1		508
5.03	100	239.708	67.42 - 484.59	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	2-2		508
5.03	10	239.763	67.42 - 484.50	2s2p - 2p($^2P^o$)3p	$^1P^o - ^1D$	2-1		508
12.04	200	240.363	130.69 - 546.73	2s2p - 2s5s	$^1P^o - ^1S$	1-0		508
18.14	300	244.100	188.88 - 598.54	2p ² - 2p($^2P_{3/2}$)4d	$^1D - ^1P^o$	2-1		508
2	900	247.205	0.0 - 404.52	2s ² - 2s3p	$^3S - ^1P^o$	0-1		508
15.01	500	248.383	175.61 - 578.21	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	1-2		508
15.01	500	248.433	175.54 - 578.05	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	0-1		508
15.01	500	248.461	175.73 - 578.21	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	2-2		508
15.01	500	248.484	175.61 - 578.05	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	1-1		508
15.01	450	248.540	175.61 - 577.96	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	1-0		508
15.01	500	248.563	175.73 - 578.05	2p ² - 2p($^2P^o$)4s	$^1P - ^1P^o$	2-1		508
18.13	450	248.654	188.88 - 591.05	2p ² - 2p($^2P_{3/2}$)4d	$^1D - ^1F^o$	2-3		508

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
18.37	300	249.316	235.37 - 636.47	$2p^2 - 2p(^3P_{2/2})5d$	$^1S - ^1P$	0 - 1	Z	508
18.12	300	250.121	188.88 - 588.69	$2p^2 - 2p(^3P_{1/2})4d$	$^1D - ^1D$	2 - 2		508
18.11		250.566	188.88 - 587.98	$2p^2 - 2s7p$	$^1D - ^1P$	2 - 1	P	511
18.36	100	254.338	235.37 - 628.55	$2p^2 - 2p(^3P_{2/2})5s$	$^1S - ^1P$	0 - 1	Z	508
18.10	380	255.148	188.88 - 580.82	$2p^2 - 2p(^3P_{2/2})4s$	$^1D - ^1P$	2 - 1		508
18.09	150	258.320	188.88 - 576.00	$2p^2 - 2s6f$	$^1D - ^1F$	2 - 3		508
12.03	450	259.824	130.69 - 515.57	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1S$	1 - 0		508
12.02	600	260.447	130.69 - 514.65	$2s2p - 2s4d$	$^1P - ^1D$	1 - 2		508
18.08		260.519	188.88 - 572.73	$2p^2 - 2s6p$	$^1D - ^1P$	2 - 1	P	511
12	650	270.994	130.69 - 499.71	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1D$	1 - 2		508
11.05		272.219	130.69 - 498.05	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1S$	1 - 1	P	511
18.07	300	273.140	188.88 - 555.00	$2p^2 - 2s5f$	$^1D - ^1F$	2 - 3		508
11.94	250	274.451	130.69 - 495.06	$2s2p - 2s4s$	$^1P - ^1S$	1 - 0		508
11.03		274.946	130.69 - 494.40	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1P$	1 - 2	P	511
11.03		275.016	130.69 - 494.31	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1P$	1 - 1	P	511
18.35	450	275.354	235.37 - 598.54	$2p^2 - 2p(^3P_{2/2})4d$	$^1S - ^1P$	0 - 1		508
18.06	10	276.741	188.88 - 550.23	$2p^2 - 2s5p$	$^1D - ^1P$	2 - 1		508
11.02		280.180	130.69 - 487.61	$2s2p - 2s4s$	$^1P - ^1S$	1 - 1	P	511
5	500	283.419	67.21 - 420.05	$2s2p - 2s3d$	$^1P - ^1D$	0 - 1		508
5	700	283.476	67.27 - 420.05	$2s2p - 2s3d$	$^1P - ^1D$	1 - 2		508
5	900	283.583	67.42 - 420.06	$2s2p - 2s3d$	$^1P - ^1D$	2 - 3		508
18.34		283.599	235.37 - 587.98	$2p^2 - 2s7p$	$^1S - ^1P$	0 - 1	P	511
11	600	285.561	130.69 - 480.88	$2s2p - 2p(^3P_{2/2})3p$	$^1P - ^1P$	1 - 1		508
18.33	300	289.479	235.37 - 580.82	$2p^2 - 2p(^3P_{2/2})4s$	$^1S - ^1P$	0 - 1		508
18.32		296.418	235.37 - 572.73	$2p^2 - 2s6p$	$^1S - ^1P$	0 - 1	P	511
15	500	297.595	175.54 - 511.56	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	0 - 1		508
15	500	297.634	175.61 - 511.59	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	1 - 0		508
15	400	297.657	175.61 - 511.56	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	1 - 1		508
15	600	297.704	175.61 - 511.51	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	1 - 2		508
15	600	297.770	175.73 - 511.56	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	2 - 1		508
15	700	297.816	175.73 - 511.51	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1P$	2 - 2		508
18.05	650	300.318	188.88 - 521.86	$2p^2 - 2s4f$	$^1D - ^1F$	2 - 3		508
14	150	303.006	175.54 - 505.55	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	0 - 1		508
14	300	303.048	175.61 - 505.59	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	1 - 2		508
14	100	303.078	175.61 - 505.55	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	1 - 1		508
14	500	303.124	175.73 - 505.63	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	2 - 3		508
14	100	303.162	175.73 - 505.59	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	2 - 2		508
1	10	303.191	175.73 - 505.55	$2p^2 - 2p(^3P_{2/2})3d$	$^1P - ^1D$	2 - 1		508
18.04	500	303.280	188.88 - 518.61	$2p^2 - 2p(^3P_{2/2})3d$	$^1D - ^1P$	2 - 1		508
13.03		304.733	175.54 - 503.69	$2p^2 - 2s4p$	$^1P - ^1P$	0 - 1	P	511
13.03		304.793	175.61 - 503.70	$2p^2 - 2s4p$	$^1P - ^1P$	1 - 0	P	511
13.03		304.800	175.61 - 503.69	$2p^2 - 2s4p$	$^1P - ^1P$	1 - 1	P	511
13.03		304.811	175.61 - 503.68	$2p^2 - 2s4p$	$^1P - ^1P$	1 - 2	P	511
13.03		304.916	175.73 - 503.69	$2p^2 - 2s4p$	$^1P - ^1P$	2 - 1	P	511
13.03		304.927	175.73 - 503.68	$2p^2 - 2s4p$	$^1P - ^1P$	2 - 2	P	511
4.01		310.962	67.27 - 388.85	$2s2p - 2s3s$	$^1P - ^1S$	1 - 0	P	511
18.01	20	314.324	188.88 - 507.03	$2p^2 - 2s4p$	$^1D - ^1P$	2 - 1		508
18	600	315.060	188.88 - 506.28	$2p^2 - 2p(^3P_{2/2})3d$	$^1D - ^1F$	2 - 3		508
18.31	200	317.596	235.37 - 550.23	$2p^2 - 2s5p$	$^1S - ^1P$	0 - 1		508
4	700	322.506	67.21 - 377.28	$2s2p - 2s3s$	$^1P - ^1S$	0 - 1		508
4	700	322.572	67.27 - 377.28	$2s2p - 2s3s$	$^1P - ^1S$	1 - 1		508
4	700	322.722	67.42 - 377.28	$2s2p - 2s3s$	$^1P - ^1S$	2 - 1		508
17	600	323.178	188.88 - 498.31	$2p^2 - 2p(^3P_{2/2})3d$	$^1D - ^1D$	2 - 2		508
10	850	335.052	130.69 - 429.16	$2s2p - 2s3d$	$^1P - ^1D$	1 - 2		508
13	250	344.916	175.61 - 465.54	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	1 - 2		508
13	200	345.025	175.54 - 465.37	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	0 - 1		508
13	600	345.062	175.73 - 465.54	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	2 - 2		508
13	150	345.111	175.61 - 465.37	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	1 - 1		508
13	200	345.207	175.61 - 465.29	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	1 - 0		508
13	250	345.261	175.73 - 465.37	$2p^2 - 2p(^3P_{2/2})3s$	$^1P - ^1P$	2 - 1		508
16	500	351.931	188.88 - 473.03	$2p^2 - 2p(^3P_{2/2})3s$	$^1D - ^1P$	2 - 1		508
18.30	700	353.056	235.37 - 518.61	$2p^2 - 2p(^3P_{2/2})3d$	$^1S - ^1P$	0 - 1		508
18.29	450	368.108	235.37 - 507.03	$2p^2 - 2s4p$	$^1S - ^1P$	0 - 1		508
9	500	387.353	130.69 - 388.85	$2s2p - 2s3s$	$^1P - ^1S$	1 - 0		508
18.01		405.530	130.69 - 377.28	$2s2p - 2s3s$	$^1P - ^1S$	1 - 1	P	511
18.27	500	420.769	235.37 - 473.03	$2p^2 - 2p(^3P_{2/2})3s$	$^1S - ^1P$	0 - 1		508
1.03		424.864	0.0 - 235.37	$2s^2 - 2p^2$	$^1S - ^1S$	0 - 0	F, P	511
12.31		433.930	175.54 - 405.99	$2p^2 - 2s3p$	$^1P - ^1P$	0 - 1	P	511
12.31		434.000	175.54 - 406.02	$2p^2 - 2s3p$	$^1P - ^1P$	1 - 2	P	511
12.31		434.067	175.61 - 405.99	$2p^2 - 2s3p$	$^1P - ^1P$	1 - 1	P	511
12.31		434.097	175.61 - 405.97	$2p^2 - 2s3p$	$^1P - ^1P$	1 - 0	P	511
12.31		434.235	175.73 - 406.02	$2p^2 - 2s3p$	$^1P - ^1P$	2 - 2	P	511
12.31		434.302	175.73 - 405.99	$2p^2 - 2s3p$	$^1P - ^1P$	2 - 1	P	511
18.47		460.217	377.28 - 594.57	$2s3s - 2p(^3P_{2/2})4d$	$^1S - ^1P$	1 - 0	P	511
18.47		460.272	377.28 - 594.55	$2s3s - 2p(^3P_{2/2})4d$	$^1S - ^1P$	1 - 1	P	511

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm $^{-1}$)	Configurations	Terms	J - J	Notes	References
18.47	650	460.394	377.28 - 594.49	2s3s - 2p(3P)4d	3S - 3P	1-2	P	511
15.24		463.740	188.88 - 404.52	2p 2 - 2s3p	1D - 1P	2-1		508
18.54		476.909	388.85 - 598.54	2s3s - 2p($^1P_{1/2}$)4d	1S - 1P	0-1	P	511
18.46		497.696	377.28 - 578.21	2s3s - 2p(3P)4s	3S - 3P	1-2	P	511
18.46		498.106	377.28 - 578.05	2s3s - 2p(3P)4s	3S - 3P	1-1	P	511
18.46		498.323	377.28 - 577.96	2s3s - 2p(3P)4s	3S - 3P	1-0	P	511
18.74		518.600	404.52 - 597.35	2s3p - 2s8d	1P - 1D	1-2	P	511
18.53		520.934	388.85 - 580.82	2s3s - 2p($^1P_{1/2}$)4s	1S - 1P	0-1	P	511
18.73		521.845	404.52 - 596.15	2s3p - 2s8s	1P - 1S	1-0	P	511
18.72		527.259	404.52 - 594.18	2s3p - 2p($^1P_{1/2}$)4p	1P - 1S	1-0	P	511
1.02		529.430	0.0 - 188.88	2s 2 - 2p 2	g^1S - 1D	0-2	F, P	511
18.71		536.082	404.52 - 591.06	2s3p - 2p(3F)4p	1P - 1D	1-2	P	511
18.70		542.412	404.52 - 588.88	2s3p - 2s7d	1P - 1D	1-2	P	511
18.69		554.137	404.52 - 584.98	2s3p - 2s7s	1P - 1S	1-0	P	511
18.68		555.126	404.52 - 584.66	2s3p - 2p($^1P_{1/2}$)4p	1P - 1P	1-1	P	511
1.01		569.450	0.0 - 175.61	2s 2 - 2p 2	g^1S - 3P	0-1	F, P	511
18.67		583.601	404.52 - 575.87	2s3p - 2s6d	1P - 1D	1-2	P	511
18.25		586.104	235.37 - 405.99	2p 2 - 2s3p	1S - 3P	0-1	P	511
18.24		591.180	235.37 - 404.52	2p 2 - 2s3p	1S - 3P	0-1	P	511
3.02		594.895	67.27 - 235.37	2s2p - 2p 2	3P - 1S	1-0	P	511
18.66	750	600.061	404.52 - 571.17	2s3p - 2s6s	1P - 1S	1-0	P	511
18.52		619.663	388.85 - 550.23	2s3s - 2s5p	1S - 1P	0-1	P	511
18.65		667.653	404.52 - 554.30	2s3p - 2s5d	1P - 1D	1-2	P	511
18.64		703.191	404.52 - 546.73	2s3p - 2s5s	1P - 1S	1-0	P	511
18.80		720.244	405.97 - 544.81	2s3p - 2s5s	3P - 3S	0-1	P	511
18.80		720.327	405.99 - 544.81	2s3p - 2s5s	3P - 3S	1-1	P	511
18.80		720.510	406.02 - 544.81	2s3p - 2s5s	3P - 3S	2-1	P	511
18.45		744.566	377.28 - 511.59	2s3s - 2p($^3P_{1/2}$)3d	3S - 3P	1-0	P	511
18.45		744.737	377.28 - 511.56	2s3s - 2p($^3P_{1/2}$)3d	3S - 3P	1-1	P	511
18.45		745.020	377.28 - 511.51	2s3s - 2p($^3P_{1/2}$)3d	3S - 3P	1-2	P	511
1		765.148	0.0 - 130.69	2s 2 - 2s2p	g^1S - 1P	0-1		824
18.51		770.678	388.85 - 518.61	2s3s - 2p($^1P_{1/2}$)3d	1S - 1P	0-1	P	511
18.44		791.045	377.28 - 503.70	2s3s - 2s4p	3S - 3P	1-0	P	511
18.44		791.095	377.28 - 503.69	2s3s - 2s4p	3S - 3P	1-1	P	511
18.44		791.167	377.28 - 503.68	2s3s - 2s4p	3S - 3P	1-2	P	511
3.01		822.299	67.27 - 188.88	2s2p - 2p 2	3P - 1D	1-2	P	511
3.01		823.273	67.42 - 188.88	2s2p - 2p 2	3P - 1D	2-2		824
		825.4	473.03 - 594.18	2p($^3P_{1/2}$)3s - 2p($^3P_{1/2}$)4p	1P - 1S	1-0	P	934
		830.6	465.54 - 585.93	2p($^3P_{1/2}$)3s - 2p($^3P_{1/2}$)4p	1P - 1D	2-3	P	934
18.50		846.215	388.85 - 507.03	2s3s - 2s4p	1S - 1P	0-1	P	511
18.63	100	900.516	404.52 - 515.57	2s3p - 2p($^3P_{1/2}$)3p	1P - 1S	1-0	P	511
18.62		908.057	404.52 - 514.65	2s 2 - 2s4d	1P - 1D	1-2	P	511
3		921.992	67.27 - 175.73	2s2p - 2p 2	3P - 3P	1-2		824
3		922.519	67.21 - 175.61	2s2p - 2p 2	3P - 3P	0-1		824
3		923.057	67.27 - 175.61	2s2p - 2p 2	3P - 3P	1-1		824
3		923.220	67.42 - 175.73	2s2p - 2p 2	3P - 3P	2-2		824
3		923.675	67.27 - 175.54	2s2p - 2p 2	3P - 3P	1-0		824
3		924.283	67.42 - 175.61	2s2p - 2p 2	3P - 3P	2-1		824
18.79		948.155	405.97 - 511.44	2s3p - 2s4d	1P - 1D	0-1		824
18.79		948.244	405.99 - 511.45	2s3p - 2s4d	1P - 1D	1-2		824
18.79		948.540	406.02 - 511.45	2s3p - 2s4d	3P - 1D	2-3		824
8		955.335	130.69 - 235.37	2s2p - 2p 2	1P - 1S	1-0		824
18.84		1036.16	420.05 - 516.56	2s3d - 2s4f	1D - 1F	2-3		824
18.61		1050.602	404.52 - 499.71	2s3p - 2p($^3P_{1/2}$)3p	1P - 1D	1-2	P	511
18.88		1078.708	429.16 - 521.86	2s3d - 2s4f	1D - 1F	2-3		824
18.78		1086.084	405.97 - 498.05	2s3p - 2p($^3P_{1/2}$)3p	3P - 3S	0-1	P	511
18.78		1086.269	405.99 - 498.05	2s3p - 2p($^3P_{1/2}$)3p	3P - 3S	1-1		824
18.78		1086.691	406.02 - 498.05	2s3p - 2p($^3P_{1/2}$)3p	3P - 3S	2-1		824
18.59		1104.542	404.52 - 495.06	2s3p - 2s4s	1P - 1S	1-0	P	511
	200	1123.8	499.71 - 588.69	2p($^3P_{1/2}$)3p - 2p($^3P_{1/2}$)4d	1D - 1D	2-2	P	934
18.77		1131.488	406.02 - 494.40	2s3p - 2p(3P)3p	3P - 3P	2-2	P	511
18.77		1132.225	405.99 - 494.31	2s3p - 2p(3P)3p	3P - 3P	1-1	P	511
18.43		1133.117	377.28 - 465.54	2s3s - 2p(3P)3s	3S - 3P	1-2		824
18.43		1135.244	377.28 - 465.37	2s3s - 2p(3P)3s	3S - 3P	1-1		824
18.43		1136.241	377.28 - 465.29	2s3s - 2p(3P)3s	3S - 3P	1-0		824
18.83		1168.599	420.06 - 505.63	2s3d - 2p(3P)3d	1D - 1D	3-3		824
18.83		1169.063	420.05 - 505.59	2s3d - 2p(3P)3d	1D - 1D	2-2		824
18.83		1169.478	420.05 - 505.55	2s3d - 2p(3P)3d	1D - 1D	1-1		824
18.49		1188.006	388.85 - 473.03	2s3s - 2p($^3P_{1/2}$)3s	1S - 3P	0-1		824
18.82		1195.400	420.05 - 503.70	2s3d - 2s4p	1D - 1P	1-0	P	511
18.82		1195.567	420.05 - 503.69	2s3d - 2s4p	1D - 1P	2-1	P	511
18.82		1195.852	420.06 - 503.68	2s3d - 2s4p	1D - 1P	3-2	P	511
18.76		1224.960	405.97 - 487.61	2s3p - 2s4s	3P - 3S	0-1		824
18.76		1225.192	405.99 - 487.61	2s3p - 2s4s	3P - 3S	1-1		824
18.76		1225.719	406.02 - 487.61	2s3p - 2s4s	3P - 3S	2-1		824

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
18.92		1243.73	495.41 - 575.81	2p(⁴ P°)3d - 2s6g	⁴ F° - ⁴ G	2 - 3		824
18.92	50	1244.92	495.48 - 575.81	2p(⁴ P°)3d - 2s6g	⁴ F° - ⁴ G	3 - 4		824
18.92	100	1246.51	495.59 - 575.81	2p(⁴ P°)3d - 2s6g	⁴ F° - ⁴ G	4 - 5		824
18.75	250	1270.280	406.02 - 484.75	2s3p - 2p(⁴ P°)3p	⁴ P° - ⁴ D	2 - 3		824
18.75	200	1272.160	405.99 - 484.59	2s3p - 2p(⁴ P°)3p	⁴ P° - ⁴ D	1 - 2		824
18.75	100	1272.74	406.02 - 484.59	2s3p - 2p(⁴ P°)3p	⁴ P° - ⁴ D	2 - 2		824
18.75	150	1273.47	405.97 - 484.50	2s3p - 2p(⁴ P°)3p	⁴ P° - ⁴ D	0 - 1		824
18.75	100	1273.716	405.99 - 484.50	2s3p - 2p(⁴ P°)3p	⁴ P° - ⁴ D	1 - 1		824
18.87	150	1284.218	429.16 - 507.03	2s3d - 2s4p	⁴ D - ⁴ P°	2 - 1		824
18.86	250	1296.600	429.16 - 506.28	2s3d - 2p(⁴ P° _{3/2})3d	⁴ D - ⁴ F°	2 - 3		824
18.48		1306.909	389.85 - 465.37	2s3s - 2p(⁴ P°)3s	⁴ S - ⁴ P°	0 - 1	P	511
18.55	200	1309.557	404.52 - 480.88	2s3p - 2p(⁴ P° _{1/2})3p	⁴ P° - ⁴ P	1 - 1		824
18.81	100	1323.98	420.06 - 495.59	2s3d - 2p(⁴ P°)3d	⁴ D - ⁴ F°	3 - 4		824
18.81	50	1325.685	420.05 - 495.48	2s3d - 2p(⁴ P°)3d	⁴ D - ⁴ F°	2 - 3		824
18.81	20	1326.964	420.05 - 495.41	2s3d - 2p(⁴ P°)3d	⁴ D - ⁴ F°	1 - 2		824
18.96	150	1438.37	506.28 - 575.81	2p(⁴ P° _{3/2})3d - 2s6g	⁴ F° - ⁴ G	3 - 4		824
18.85	250	1446.114	429.16 - 478.31	2s3d - 2p(⁴ P° _{1/2})3d	⁴ D - ⁴ D°	2 - 2		824
0.01	100	1486.496	0.0 - 67.27	2s ² - 2s2p	⁴ S - ⁴ P°	0 - 1		824
20	50	1687.60	516.55 - 575.81	2s4f - 2s6g	⁴ F° - ⁴ G	2 - 3		824
20	100	1687.82	516.56 - 575.81	2s4f - 2s6g	⁴ F° - ⁴ G	3 - 4		824
20	150	1688.11	516.57 - 575.81	2s4f - 2s6g	⁴ F° - ⁴ G	4 - 5		824
18.91	150	1696.86	495.41 - 554.34	2p(⁴ P°)3d - 2s5g	⁴ F° - ⁴ G	2 - 3		824
18.91	200	1699.03	495.48 - 554.34	2p(⁴ P°)3d - 2s5g	⁴ F° - ⁴ G	3 - 4		824
18.91	250	1702.006	495.59 - 554.34	2p(⁴ P°)3d - 2s5g	⁴ F° - ⁴ G	4 - 5		824
7	1000	1718.551	130.69 - 188.88	2s2p - 2p ²	⁴ P° - ⁴ D	1 - 2		824

NITROGEN V (N⁺⁺), Z = 7Ground State 1s²2s ²S_{1/2} (3 electrons)Ionization Potential 789 537.2 cm⁻¹; 97.891 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3.13	1	128.229	0.0 - 779.86	2s - 17p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.12	1	128.430	0.0 - 778.63	2s - 16p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.11	10	128.662	0.0 - 777.23	2s - 15p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.10	10	128.954	0.0 - 775.47	2s - 14p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.09	20	129.337	0.0 - 773.17	2s - 13p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.08	30	129.811	0.0 - 770.35	2s - 12p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.07	40	130.431	0.0 - 766.69	2s - 11p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.06	50	131.254	0.0 - 761.92	2s - 10p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.05	60	132.383	0.0 - 755.41	2s - 9p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.04	70	133.994	0.0 - 746.31	2s - 8p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.03	80	136.429	0.0 - 733.01	2s - 7p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		770
3.02	160	140.356	0.0 - 712.47	2s - 6p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		313, 770
3.02		140.358	0.0 - 712.46	2s - 6p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{1}{2}$	P	511
26	1	142.797	80.72 - 781.07	2p - 18d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
25	1	142.981	80.72 - 780.12	2p - 17d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
24	10	143.241	80.72 - 778.85	2p - 16d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
23	10	143.520	80.72 - 777.49	2p - 15d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
22	20	143.914	80.72 - 775.58	2p - 14d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
21	30	144.392	80.72 - 773.28	2p - 13d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
20	40	144.978	80.72 - 770.48	2p - 12d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
19	50	145.742	80.72 - 766.87	2p - 11d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
18	30	146.716	80.46 - 762.05	2p - 10d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
18	60	146.767	80.72 - 762.07	2p - 10d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
17	30	146.921	80.72 - 761.38	2p - 10s	⁴ P° - ⁴ S	$\frac{3}{2}$ - $\frac{1}{2}$		770
3.01	240	147.424	0.0 - 678.32	2s - 5p	⁴ S - ⁴ P°	$\frac{1}{2}$ - $\frac{3}{2}$		313, 770
16	40	148.116	80.46 - 755.61	2p - 9d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
16	70	148.168	80.72 - 755.63	2p - 9d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
15	10	148.328	80.46 - 754.68	2p - 9s	⁴ P° - ⁴ S	$\frac{3}{2}$ - $\frac{1}{2}$		770
15	40	148.387	80.72 - 754.68	2p - 9s	⁴ P° - ⁴ S	$\frac{3}{2}$ - $\frac{1}{2}$		770
14	70	150.116	80.46 - 746.65	2p - 8d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
14	140	150.171	80.72 - 746.65	2p - 8d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
13	20	150.429	80.46 - 745.26	2p - 8s	⁴ P° - ⁴ S	$\frac{3}{2}$ - $\frac{1}{2}$		770
13	50	150.488	80.72 - 745.26	2p - 8s	⁴ P° - ⁴ S	$\frac{3}{2}$ - $\frac{1}{2}$		770
12	180	153.136	80.46 - 733.52	2p - 7d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770
12	280	153.192	80.72 - 733.52	2p - 7d	⁴ P° - ⁴ D	$\frac{3}{2}$ - $\frac{5}{2}$		770

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
11	30	153.624	80.46 - 731.43	2p - 7s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		770
11	60	153.683	80.72 - 731.43	2p - 7s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		770
10	240	158.024	80.46 - 713.28	2p - 6d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313, 770
10	360	158.088	80.72 - 713.28	2p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313, 770
9	40	158.862	80.46 - 709.94	2p - 6s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		313, 770
9	70	158.928	80.72 - 709.94	2p - 6s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		313, 770
3	480	162.556	0.0 - 615.17	2s - 4p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		313, 770
8	440	166.875	80.46 - 679.71	2p - 5d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313, 770
8	520	166.946	80.72 - 679.72	2p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313, 770
7	50	168.514	80.46 - 673.89	2p - 5s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		313, 770
7	120	168.587	80.72 - 673.89	2p - 5s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		313, 770
		177.1	3344.07 + B - 3908.69 + B	1s2s2p - 1s2s4s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$	P, ZZ	103
6	520	186.063	80.46 - 617.92	2p - 4d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313, 770
6	620	186.149	80.72 - 617.93	2p - 4d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313, 770
5.01	200	190.155	80.46 - 606.35	2p - 4s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		313, 770
5.01	320	190.249	80.72 - 606.35	2p - 4s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		313, 770
		193.4	3344.07 + B - 3861.13 + B	1s2s2p - 1s2s3d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	ZZ	103
		202.5	3433.53 + B - 3927.36 + B	1s2p ² - 1s2p3d	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	ZZ	103
		204.3	3433.53 + B - 3923.03 + B	1s2p ² - 1s2p3d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P, ZZ	103
2	800	209.274	0.0 - 477.84	2s - 3p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		313, 770
2	800	209.308	0.0 - 477.77	2s - 3p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		313, 770
		211.3	3344.07 + B - 3817.35 + B	1s2s2p - 1s2s3s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$	P, ZZ	103
		223.3	3433.53 + B - 3881.36 + B	1s2p ² - 1s2p3s	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	ZZ	103
5	85	247.561	80.46 - 484.40	2p - 3d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313
5	100	247.706	80.72 - 484.43	2p - 3d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313
4	120	266.196	80.46 - 456.13	2p - 3s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		313
4	150	266.379	80.72 - 456.13	2p - 3s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		313
29		390.102	456.13 - 712.47	3s - 6p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	511
29		390.116	456.13 - 712.46	3s - 6p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	511
37		391.008	477.77 - 733.52	3p - 7d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	511
37		391.123	477.84 - 733.52	3p - 7d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	511
36		394.228	477.77 - 731.43	3p - 7s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P	511
36		394.348	477.84 - 731.43	3p - 7s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P	511
35	35	424.61	477.77 - 713.28	3p - 6d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313
35	40	424.75	477.84 - 713.28	3p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313
34		430.714	477.77 - 709.94	3p - 6s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P	511
34		430.857	477.84 - 709.94	3p - 6s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P	511
42	60	436.85	484.43 - 713.32	3d - 6f	$^1D - ^1F$	$\frac{1}{2} - \frac{7}{2}$		313
28	50	450.072	456.13 - 678.32	3s - 5p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	511
28	30	450.105	456.13 - 678.30	3s - 5p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	511
33		495.180	477.77 - 679.71	3p - 5d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	511
33		495.356	477.84 - 679.72	3p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	511
32		509.896	477.77 - 673.89	3p - 5s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P	511
32		510.096	477.84 - 673.89	3p - 5s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P	511
41	30	511.804	484.40 - 679.79	3d - 5f	$^1D - ^1F$	$\frac{1}{2} - \frac{7}{2}$	P	313
41	40	511.865	484.43 - 679.79	3d - 5f	$^1D - ^1F$	$\frac{3}{2} - \frac{7}{2}$	P	313
40		515.741	484.40 - 678.30	3d - 5p	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	511
40		515.757	484.43 - 678.32	3d - 5p	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	511
27	70	628.744	456.13 - 615.17	3s - 4p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		313
27	50	628.874	456.13 - 615.14	3s - 4p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		313
31	85	713.518	477.77 - 617.92	3p - 4d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		313
31	120	713.860	477.84 - 617.93	3p - 4d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		313
39	120	748.195	484.40 - 618.06	3d - 4f	$^1D - ^1F$	$\frac{1}{2} - \frac{7}{2}$		313
39	150	748.291	484.43 - 618.06	3d - 4f	$^1D - ^1F$	$\frac{3}{2} - \frac{7}{2}$		313
38		764.833	484.43 - 615.17	3d - 4p	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	511
38		764.896	484.40 - 615.14	3d - 4p	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	511
30	35	777.712	477.77 - 606.35	3p - 4s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		313
30	40	778.172	477.84 - 606.35	3p - 4s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		313
44		942.278	606.35 - 712.47	4s - 6p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	511
44		942.380	606.35 - 712.46	4s - 6p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	511
48		1018.973	615.14 - 713.28	4p - 6d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	511
48		1019.288	615.17 - 713.28	4p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	511
51	40	1048.20	617.93 - 713.32	4d - 6f	$^1D - ^1F$	$\frac{1}{2} - \frac{7}{2}$		313
54	50	1049.65	618.06 - 713.33	4f - 6g	$^1F - ^1G$	$\frac{1}{2} - \frac{7}{2}$		313
47		1054.871	615.14 - 709.94	4p - 6s	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P	511
47		1055.238	615.17 - 709.94	4p - 6s	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P	511
1	1000	1238.821	0.0 - 80.72	2s - 2p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		313
1	800	1242.804	0.0 - 80.46	2s - 2p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		313
43	50	1389.514	606.35 - 678.32	4s - 5p	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		313
43	40	1389.822	606.35 - 678.30	4s - 5p	$^3S - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		313
63	40	1495.5	679.80 - 746.67	5g - 8f	$^3G - ^1F$	$\frac{1}{2} - \frac{7}{2}$		313
46		1548.647	615.14 - 679.71	4p - 5d	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	511
46	85	1549.336	615.17 - 679.72	4p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	511
50	100	1616.185	617.92 - 679.79	4d - 5f	$^1D - ^1F$	$\frac{1}{2} - \frac{7}{2}$	P	313
50	150	1616.426	617.93 - 679.79	4d - 5f	$^1D - ^1F$	$\frac{3}{2} - \frac{7}{2}$	P	313

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
53	100	1619.617	618.06 - 679.80	4f - 5g	$^4F - ^4G$	$\frac{1}{2} - \frac{1}{2}$	P	313
53	130	1619.743	618.06 - 679.80	4f - 5g	$^4F - ^4G$	$\frac{1}{2} - \frac{1}{2}$	P	313
52	35	1621.966	618.06 - 679.72	4f - 5d	$^4F - ^4D$	$\frac{1}{2} - \frac{1}{2}$	P	313
49	40	1655.876	617.93 - 678.32	4d - 5p	$^4D - ^4P$	$\frac{1}{2} - \frac{1}{2}$	P	313
49	25	1656.065	617.92 - 678.30	4d - 5p	$^4D - ^4P$	$\frac{1}{2} - \frac{1}{2}$	P	313
45	50	1702.267	615.14 - 673.89	4p - 5s	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$	P	511
45	60	1703.218	615.17 - 673.89	4p - 5s	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		313
58	30	1811.08	678.30 - 733.52	5p - 7d	$^4P - ^4D$	$\frac{1}{2} - \frac{1}{2}$		313
58	35	1811.62	678.32 - 733.52	5p - 7d	$^4P - ^4D$	$\frac{1}{2} - \frac{1}{2}$		313
60	45	1857.69	679.71 - 733.54	5d - 7f	$^4D - ^4F$	$\frac{1}{2} - \frac{1}{2}$		313
60	50	1857.88	679.72 - 733.54	5d - 7f	$^4D - ^4F$	$\frac{1}{2} - \frac{1}{2}$		313
62	85	1860.5	679.80 - 733.55	5g - 7h	$^4G - ^4H$	$\frac{1}{2} - \frac{1}{2}$		313
57	30	1882.36	678.30 - 731.43	5p - 7s	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		313
57	35	1882.92	678.32 - 731.43	5p - 7s	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		313

NITROGEN VI (N^{5+}), $Z = 7$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 4 452 745 cm^{-1} ; 552.074 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	1	22.765	0.0 - 4392.71	$1s^2 - 1s8p$	$g^1S - ^1P$	0 - 1		138
	4	22.870	0.0 - 4372.54	$1s^2 - 1s7p$	$g^1S - ^1P$	0 - 1		138
	9	23.024	0.0 - 4343.29	$1s^2 - 1s6p$	$g^1S - ^1P$	0 - 1		138
	10	23.277	0.0 - 4296.09	$1s^2 - 1s5p$	$g^1S - ^1P$	0 - 1		138
		23.293	0.0 - 4293.08	$1s^2 - 1s5p$	$g^1S - ^3P$	0 - 1	P	728
	10	23.771	0.0 - 4206.81	$1s^2 - 1s4p$	$g^1S - ^1P$	0 - 1		197, 764
		23.795	0.0 - 4202.62	$1s^2 - 1s4p$	$g^1S - ^3P$	0 - 1	P	728
	3	24.898	0.0 - 4016.39	$1s^2 - 1s3p$	$g^1S - ^1P$	0 - 1		197, 764
		24.962	0.0 - 4006.16	$1s^2 - 1s3p$	$g^1S - ^3P$	0 - 1	P	728
	2	28.787	0.0 - 3473.79	$1s^2 - 1s2p$	$g^1S - ^1P$	0 - 1		197, 764
1	15	29.084	0.0 - 3438.32	$1s^2 - 1s2p$	$g^1S - ^3P$	0 - 1		764, 138
	19	29.52	0.0 - 3385.89	$1s^2 - 1s2s$	$g^1S - ^3S$	0 - 1	F	856
		97.4	3385.89 - 4412.5	$1s2s - 1s10p$	$^3S - ^1P$	1 - 2		262
		98.3	3385.89 - 4403.1	$1s2s - 1s9p$	$^3S - ^1P$	1 - 2		262
		99.5	3385.89 - 4390.9	$1s2s - 1s8p$	$^3S - ^1P$	1 - 2		262
		101.46	3385.89 - 4371.46	$1s2s - 1s7p$	$^3S - ^1P$	1 - 2		262
		102.6	3438.61 - 4413.3	$1s2p - 1s10d$	$^1P - ^1D$	2 - 3		262
		103.6	3438.61 - 4403.8	$1s2p - 1s9d$	$^1P - ^1D$	2 - 3		262
	1	104.551	3385.89 - 4342.36	$1s2s - 1s6p$	$^3S - ^1P$	1 - 2		138
		105.0	3438.61 - 4391.	$1s2p - 1s8d$	$^1P - ^1D$	2 - 3		262
8		107.15	3438.61 - 4371.84	$1s2p - 1s7d$	$^1P - ^1D$	2 - 3		262
	4	110.231	3385.89 - 4293.08	$1s2s - 1s5p$	$^3S - ^1P$	1 - 2		138
	2	110.541	3438.61 - 4343.25	$1s2p - 1s6d$	$^1P - ^1D$	2 - 3		138
	11	6	116.809	3438.61 - 4294.57	$1s2p - 1s5d$	$^1P - ^1D$	2 - 3	138
	1	121.820	3473.79 - 4294.67	$1s2p - 1s5d$	$^1P - ^1D$	1 - 2		138
	7	5	122.445	3385.89 - 4202.62	$1s2s - 1s4p$	$^3S - ^1P$	1 - 2	138
	10	25	130.340	3438.61 - 4205.82	$1s2p - 1s4d$	$^1P - ^1D$	2 - 3	138
		2	136.604	3473.79 - 4205.83	$1s2p - 1s4d$	$^1P - ^1D$	1 - 2	138
	6	14	161.223	3385.89 - 4006.16	$1s2s - 1s3p$	$^3S - ^1P$	1 - 2	138
			173.28	3439.27 - 4016.39	$1s2s - 1s3p$	$^1S - ^1P$	0 - 1	P 375
9	20	173.871	3438.32 - 4013.46	$1s2p - 1s3d$	$^1P - ^1D$	1 - 2	P	138
	30	173.958	3438.61 - 4013.46	$1s2p - 1s3d$	$^1P - ^1D$	2 - 3	P	138
	9		185.192	3473.79 - 4013.77	$1s2p - 1s3d$	$^1P - ^1D$	1 - 2	138
			303.46	4013.77 - 4343.29	$1s3d - 1s6p$	$^1D - ^1P$	2 - 1	87
			303.75	4013.77 - 4342.99 + B	$1s3d - 1s6f$	$^1D - ^1F$	2 - 3	87
			355.57	4013.46 - 4294.70 + B	$1s3d - 1s5f$	$^1D - ^1F$	3 - 4	87
			355.96	4013.77 - 4294.70 + B	$1s3d - 1s5f$	$^1D - ^1F$	2 - 3	87
			474.48	3991.86 - 4202.62	$1s3s - 1s4p$	$^3S - ^1P$	1 - 2	P 375
			497.98	4006.00 - 4206.81	$1s3s - 1s4p$	$^1S - ^1P$	0 - 1	P 375
			519.88	4013.46 - 4205.81 + B	$1s3d - 1s4f$	$^1D - ^1F$	3 - 4	87
5			520.72	4013.77 - 4205.82 + B	$1s3d - 1s4f$	$^1D - ^1F$	2 - 3	87
	300	1896.82	3385.89 - 3438.61	$1s2s - 1s2p$	$^3S - ^1P$	1 - 2		72
	200	1907.34	3385.89 - 3438.32	$1s2s - 1s2p$	$^3S - ^1P$	1 - 1		72
	200	1907.87	3385.89 - 3438.30	$1s2s - 1s2p$	$^3S - ^1P$	1 - 0		72

Ground State 1s ²S_{1/2} (1 electron)Ionization Potential 5 380 089.3 cm⁻¹; 667.051 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁶ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
13		18.682	0.0 - 5352.66	1s - 14p	² S - ² P	1/2 - 3/2	P	309
12		18.698	0.0 - 5348.27	1s - 13p	² S - ² P	1/2 - 3/2	P	309
11		18.717	0.0 - 5342.75	1s - 12p	² S - ² P	1/2 - 3/2	P	309
10		18.742	0.0 - 5335.65	1s - 11p	² S - ² P	1/2 - 3/2	P	309
9		18.774	0.0 - 5326.31	1s - 10p	² S - ² P	1/2 - 3/2	P	309
8		18.819	0.0 - 5313.70	1s - 9p	² S - ² P	1/2 - 3/2	P	309
7		18.882	0.0 - 5296.06	1s - 8p	² S - ² P	1/2 - 3/2	P	309
6		18.974	0.0 - 5270.34	1s - 7p	² S - ² P	1/2 - 3/2	P	309
5		19.118	0.0 - 5230.71	1s - 6p	² S - ² P	1/2 - 3/2	P	309
4		19.361	0.0 - 5164.97	1s - 5p	² S - ² P	1/2 - 3/2	P	309
3	10	19.826	0.0 - 5043.96	1s - 4p	² S - ² P	1/2 - 3/2	P	309
2	30	20.910	0.0 - 4782.52	1s - 3p	² S - ² P	1/2 - 3/2	P	309
1	70	24.779	0.0 - 4035.64	1s - 2p	² S - ² P	1/2 - 3/2	P	309
1	30	24.785	0.0 - 4034.76	1s - 2p	² S - ² P	1/2 - 3/2	P	309
50		77.429	4034.81 - 5326.31	2s - 10p	² S - ² P	1/2 - 3/2	P	309
35		77.479	4035.64 - 5326.32	2p - 10d	² P - ² D	3/2 - 5/2	P	309
49		78.193	4034.81 - 5313.70	2s - 9p	² S - ² P	1/2 - 3/2	P	309
33		78.244	4035.64 - 5313.70	2p - 9d	² P - ² D	3/2 - 5/2	P	309
48		79.286	4034.81 - 5296.06	2s - 8p	² S - ² P	1/2 - 3/2	P	309
31		79.338	4035.64 - 5296.07	2p - 8d	² P - ² D	3/2 - 5/2	P	309
47		80.937	4034.81 - 5270.34	2s - 7p	² S - ² P	1/2 - 3/2	P	309
29		80.991	4035.64 - 5270.35	2p - 7d	² P - ² D	3/2 - 5/2	P	309
46		83.619	4034.81 - 5230.71	2s - 6p	² S - ² P	1/2 - 3/2	P	309
27		83.677	4035.64 - 5230.72	2p - 6d	² P - ² D	3/2 - 5/2	P	309
45		88.482	4034.81 - 5164.97	2s - 5p	² S - ² P	1/2 - 3/2	P	309
25		88.546	4035.64 - 5164.99	2p - 5d	² P - ² D	3/2 - 5/2	P	309
44		99.093	4034.81 - 5043.96	2s - 4p	² S - ² P	1/2 - 3/2	P	309
23		99.171	4035.64 - 5044.00	2p - 4d	² P - ² D	3/2 - 5/2	P	309
43		133.740	4034.81 - 4782.52	2s - 3p	² S - ² P	1/2 - 3/2	P	309
21		133.874	4035.64 - 4782.61	2p - 3d	² P - ² D	3/2 - 5/2	P	309
		183.811	4782.28 - 5326.31	3s - 10p	² S - ² P	1/2 - 3/2	P	309
		183.894	4782.52 - 5326.32	3p - 10d	² P - ² D	3/2 - 5/2	P	309
68		183.923	4782.61 - 5326.32	3d - 10f	² D - ² F	3/2 - 5/2	P	309
		188.174	4782.28 - 5313.70	3s - 9p	² S - ² P	1/2 - 3/2	P	309
		188.261	4782.52 - 5313.70	3p - 9d	² P - ² D	3/2 - 5/2	P	309
67		188.291	4782.61 - 5313.70	3d - 9f	² D - ² F	3/2 - 5/2	P	309
		194.633	4782.28 - 5296.06	3s - 8p	² S - ² P	1/2 - 3/2	P	309
		194.725	4782.52 - 5296.07	3p - 8d	² P - ² D	3/2 - 5/2	P	309
66		194.757	4782.61 - 5296.07	3d - 8f	² D - ² F	3/2 - 5/2	P	309
61		204.891	4782.28 - 5270.34	3s - 7p	² S - ² P	1/2 - 3/2	P	309
		204.993	4782.52 - 5270.35	3p - 7d	² P - ² D	3/2 - 5/2	P	309
65		205.027	4782.61 - 5270.35	3d - 7f	² D - ² F	3/2 - 5/2	P	309
60		223.000	4782.28 - 5230.71	3s - 6p	² S - ² P	1/2 - 3/2	P	309
		223.119	4782.52 - 5230.72	3p - 6d	² P - ² D	3/2 - 5/2	P	309
64		223.158	4782.61 - 5230.72	3d - 6f	² D - ² F	3/2 - 5/2	P	309
59		261.303	4782.28 - 5164.97	3s - 5p	² S - ² P	1/2 - 3/2	P	309
		261.460	4782.52 - 5164.99	3p - 5d	² P - ² D	3/2 - 5/2	P	309
63		261.512	4782.61 - 5165.00	3d - 5f	² D - ² F	3/2 - 5/2	P	309
		354.039	5043.86 - 5326.31	4s - 10p	² S - ² P	1/2 - 3/2	P	309
		354.167	5043.96 - 5326.32	4p - 10d	² P - ² D	3/2 - 5/2	P	309
80		354.210	5044.00 - 5326.32	4d - 10f	² D - ² F	3/2 - 5/2	P	309
		370.590	5043.86 - 5313.70	4s - 9p	² S - ² P	1/2 - 3/2	P	309
		370.729	5043.96 - 5313.70	4p - 9d	² P - ² D	3/2 - 5/2	P	309
79		370.776	5044.00 - 5313.70	4d - 9f	² D - ² F	3/2 - 5/2	P	309
58		382.136	4782.28 - 5043.96	3s - 4p	² S - ² P	1/2 - 3/2	P	309
		382.446	4782.52 - 5044.00	3p - 4d	² P - ² D	3/2 - 5/2	P	309
62		382.544	4782.61 - 5044.02	3d - 4f	² D - ² F	3/2 - 5/2	P	309
		396.504	5043.86 - 5296.06	4s - 8p	² S - ² P	1/2 - 3/2	P	309
		396.660	5043.96 - 5296.07	4p - 8d	² P - ² D	3/2 - 5/2	P	309
78		396.714	5044.00 - 5296.07	4d - 8f	² D - ² F	3/2 - 5/2	P	309
		441.538	5043.86 - 5270.34	4s - 7p	² S - ² P	1/2 - 3/2	P	309
		441.729	5043.96 - 5270.35	4p - 7d	² P - ² D	3/2 - 5/2	P	309
77		441.792	5044.00 - 5270.35	4d - 7f	² D - ² F	3/2 - 5/2	P	309
		535.197	5043.86 - 5230.71	4s - 6p	² S - ² P	1/2 - 3/2	P	309
		535.467	5043.96 - 5230.72	4p - 6d	² P - ² D	3/2 - 5/2	P	309
76		535.553	5044.00 - 5230.72	4d - 6f	² D - ² F	3/2 - 5/2	P	309
		619.601	5164.92 - 5326.31	5s - 10p	² S - ² P	1/2 - 3/2	P	309
		619.798	5164.97 - 5326.32	5p - 10d	² P - ² D	3/2 - 5/2	P	309
90		619.863	5164.99 - 5326.32	5d - 10f	² D - ² F	3/2 - 5/2	P	309
		672.133	5164.92 - 5313.70	5s - 9p	² S - ² P	1/2 - 3/2	P	309

N VII

N VII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
		672.364	5164.97 - 5313.70	5p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		672.439	5164.99 - 5313.70	5d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		762.521	5164.92 - 5296.06	5s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		762.806	5164.97 - 5296.07	5p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		762.901	5164.99 - 5296.07	5d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		825.668	5043.86 - 5164.97	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		826.252	5043.96 - 5164.99	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		826.437	5044.00 - 5165.00	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		948.584	5164.92 - 5270.34	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		949.004	5164.97 - 5270.35	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		949.141	5164.99 - 5270.35	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1520.076	5164.92 - 5230.71	5s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1521.061	5164.97 - 5230.72	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1521.368	5164.99 - 5230.72	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	140 60 1 5	130.25 130.85 145.203 145.677						301 391 226 226

OXYGEN I (O^{+}), Z = 8Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 109 837.02 cm^{-1} ; 13.618 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
145	2	666.663	0.0 - 150.00	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 19d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
144	5	666.829	0.0 - 149.96	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 18d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
143	10	667.006	0.0 - 149.92	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 17d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
142	10	667.487	0.0 - 149.82	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 15d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
140	10	668.211	0.0 - 149.65	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 13d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
139	2	668.307	0.0 - 149.63	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 14s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
141	5	668.509	0.16 - 149.74	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 14d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
138	20	668.720	0.0 - 149.54	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 12d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
137	2	668.832	0.0 - 149.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 13s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
140	2	668.928	0.16 - 149.65	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 13d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
136	20	669.371	0.0 - 149.39	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 11d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
135	5	669.526	0.0 - 149.36	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 12s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
136	5	670.091	0.16 - 149.39	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 11d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
134	20	670.237	0.0 - 149.20	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 10d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
133	5	670.425	0.0 - 149.16	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 11s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
136	5	670.425	0.23 - 149.39	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 11d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
134	10	670.952	0.16 - 149.20	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 10d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
132	30	671.406	0.0 - 148.95	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 9d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
131	5	671.669	0.0 - 148.88	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 10s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
132	10	672.090	0.16 - 148.95	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 9d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
132	5	672.404	0.23 - 148.95	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 9d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
130	30	673.052	0.0 - 148.58	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 8d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
129	5	673.421	0.0 - 148.50	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 9s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
128	30	675.463	0.0 - 148.05	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 7d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
127	5	676.033	0.0 - 147.92	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 8s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
128	10	676.183	0.16 - 148.05	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 7d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
128	5	676.487	0.23 - 148.05	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 7d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
127	2	676.763	0.16 - 147.92	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 8s$	$g^3P - ^3P^o$	1 - 1	A, Z	523
126	20	679.202	0.0 - 147.23	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
126	20	679.948	0.16 - 147.23	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
125	5	680.146	0.0 - 147.03	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 7s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
126	5	680.256	0.23 - 147.23	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
125	5	680.866	0.16 - 147.03	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 7s$	$g^3P - ^3P^o$	1 - 1	A, Z	523
124	55	685.544	0.0 - 145.87	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3P^o$	2 - 2	A, Z	523
124	30	686.284	0.16 - 145.87	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3P^o$	1 - 1	A, Z	523
124	10	686.603	0.23 - 145.87	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3P^o$	0 - 1	A, Z	523
123	20	687.202	0.0 - 145.52	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3P^o$	2 - 2	A, Z	523
123	5	687.997	0.16 - 145.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3P^o$	1 - 0	A, Z	523
123	5	688.245	0.23 - 145.52	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 6d$	$g^3P - ^3P^o$	0 - 1	A, Z	523
122	40	697.532	0.0 - 143.36	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
122	20	698.297	0.16 - 143.36	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
122	10	698.631	0.23 - 143.36	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
121	5	701.014	0.0 - 142.65	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5s$	$g^3P - ^3P^o$	2 - 2	A, Z	523
120	40	724.830	0.0 - 137.96	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3D^o$	2 - 3	A, Z	523
119	30	724.932	0.0 - 137.94	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	2 - 2	A, Z	523
120	30	725.665	0.16 - 137.96	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3D^o$	1 - 2	A, Z	523
119	20	725.748	0.16 - 137.95	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 0	A, Z	523
120	10	726.035	0.23 - 137.56	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3D^o$	0 - 1	A, Z	523
119	10	726.104	0.23 - 137.95	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	0 - 1	A, Z	523
118	5	733.987	0.0 - 136.24	$2s^2 2p^4 - 2s^2 2p^3(^3D_{3/2}) 16d$	$g^3P - ^3P^o$	2 - 2	A, Z	523

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
117	10	734.251	0.0 - 136.19	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 16d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
116	10	734.251	0.0 - 136.19	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 16d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
115	5	734.368	0.0 - 136.17	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 15d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
114	10	734.544	0.0 - 136.14	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 15d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
113	10	734.544	0.0 - 136.14	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 15d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
112	5	734.746	0.0 - 136.10	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 14d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
111	20	734.913	0.0 - 136.07	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 14d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
110	20	734.913	0.0 - 136.07	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 14c$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
117	5	735.092	0.16 - 136.19	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 16d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
116	5	735.092	0.16 - 136.19	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 16d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
109	10	735.234	0.0 - 136.01	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 13d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
108	20	735.367	0.0 - 135.99	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 13d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
107	20	735.367	0.0 - 135.99	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 13d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
112	10	735.616	0.16 - 136.10	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 14d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
110	5	735.760	0.16 - 136.07	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 14d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
111	5	735.760	0.16 - 136.07	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 14d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
106	5	735.840	0.0 - 135.90	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
105	20	735.960	0.0 - 135.88	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
104	20	735.960	0.0 - 135.88	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
109	10	736.092	0.16 - 136.01	$2s^2 2p^4 - 2s^2 2p^3(^4D_{3/2}) 13d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
103	10	736.092	0.0 - 135.85	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 13d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
108	10	736.225	0.16 - 135.99	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 13d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
107	10	736.225	0.16 - 135.99	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 13d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
109	5	736.460	0.23 - 136.01	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 13d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
102	10	736.629	0.0 - 135.75	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4D^{\circ}$	2 - 2	A, Z	523
101	30	736.734	0.0 - 135.73	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
100	30	736.734	0.0 - 135.73	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
105	10	736.824	0.16 - 135.88	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
104	10	736.824	0.16 - 135.88	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
99	10	736.910	0.0 - 135.70	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 12s$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
98	5	737.019	0.0 - 135.68	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 4s$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
106	10	737.083	0.23 - 135.90	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 12d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
102	20	737.495	0.16 - 135.75	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
100	10	737.614	0.16 - 135.73	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
101	10	737.614	0.16 - 135.73	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 11d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
97	10	737.683	0.0 - 135.56	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
95	30	737.779	0.0 - 135.54	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
96	30	737.779	0.0 - 135.54	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
102	10	737.873	0.16 - 135.68	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 4s$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
94	10	737.995	0.0 - 135.50	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 11s$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
97	20	738.537	0.16 - 135.56	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
96	10	738.644	0.16 - 135.54	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
95	10	738.644	0.16 - 135.54	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
97	5	738.906	0.23 - 135.56	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 10d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
93	20	739.085	0.0 - 135.30	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
92	30	739.188	0.0 - 135.28	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
91	30	739.188	0.0 - 135.28	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
90	10	739.499	0.0 - 135.23	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 10s$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
93	20	739.940	0.16 - 135.30	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
92	10	740.053	0.16 - 135.28	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
91	10	740.053	0.16 - 135.28	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
93	1	740.313	0.23 - 135.31	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 9d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
89	30	741.055	0.0 - 134.94	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
88	40	741.177	0.0 - 134.92	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
87	40	741.177	0.0 - 134.92	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
86	20	741.625	0.0 - 134.84	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 9s$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
89	20	741.914	0.16 - 134.94	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4P^{\circ}$	1 - 2	A, Z	523
88	10	742.062	0.16 - 134.92	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
87	10	742.062	0.16 - 134.92	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
89	10	742.280	0.23 - 134.95	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 8d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
86	5	742.471	0.16 - 134.84	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 9s$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
85	30	743.929	0.0 - 134.42	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
84	40	744.051	0.0 - 134.40	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
83	30	744.128	0.0 - 134.39	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
82	55	744.794	0.0 - 134.27	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 8s$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
84	10	744.899	0.16 - 134.40	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4S^{\circ}$	1 - 1	A, Z	523
83	10	745.011	0.16 - 134.39	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
85	10	745.159	0.23 - 134.43	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4P^{\circ}$	0 - 1	A, Z	523
84	5	745.287	0.23 - 134.40	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 7d$	$g^2P - ^4S^{\circ}$	0 - 1	A, Z	523
82	5	745.628	0.16 - 134.27	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 8s$	$g^2P - ^4D^{\circ}$	1 - 2	A, Z	523
82	5	745.945	0.23 - 134.29	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 8s$	$g^2P - ^4D^{\circ}$	0 - 1	A, Z	523
81	40	748.380	0.0 - 133.62	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 6d$	$g^2P - ^4P^{\circ}$	2 - 2	A, Z	523
80	30	748.632	0.0 - 133.58	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 6d$	$g^2P - ^4S^{\circ}$	2 - 1	A, Z	523
79	30	748.680	0.0 - 133.57	$2s^2 2p^4 - 2s^2 2p^3(^4D_{5/2}) 6d$	$g^2P - ^4D^{\circ}$	2 - 3	A, Z	523
204	1	748.93	15.87 - 149.39	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 11d$	$^4D - ^4D^{\circ}$	2 - 2	A, Z	523

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
81	40	749.253	0.16 - 133.62	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6d$	$g^2P - ^4P^o$	1-2	A, Z	523
80	10	749.517	0.16 - 133.58	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{3/2})6d$	$g^2P - ^4S^o$	1-1	A, Z	523
79	10	749.586	0.16 - 133.57	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})6d$	$g^2P - ^4D^o$	1-2	A, Z	523
81	10	749.628	0.23 - 133.63	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6d$	$g^2P - ^4P^o$	0-1	A, Z	523
78	10	749.742	0.0 - 133.38	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)7s$	$g^2P - ^4D^o$	2-2	A, Z	523
78	10	749.795	0.0 - 133.37	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)7s$	$g^2P - ^4D^o$	2-3	A, Z	523
80	5	749.894	0.23 - 133.58	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{3/2})6d$	$g^2P - ^4S^o$	0-1	A, Z	523
203	1	749.99	15.87 - 149.20	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)10d$	$^4D - ^4D^o$	2-2	A, Z	523
202	2	750.19	15.87 - 149.17	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)11s$	$^4D - ^4P^o$	2-1	A, Z	523
78	5	750.573	0.16 - 133.39	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)7s$	$g^2P - ^4D^o$	1-1	A, Z	523
78	10	750.637	0.16 - 133.38	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)7s$	$g^2P - ^4D^o$	1-2	A, Z	523
78	10	750.956	0.23 - 133.39	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)7s$	$g^2P - ^4D^o$	0-1	A, Z	523
201	2	751.47	15.87 - 148.94	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)9d$	$^4D - ^4D^o$	2-2	A, Z	523
200	1	751.75	15.87 - 148.89	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)10s$	$^4D - ^4P^o$	2-1	A, Z	523
199	2	753.52	15.87 - 148.58	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)8d$	$^4D - ^4D^o$	2-2	A, Z	523
198	1	753.94	15.87 - 148.51	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)9s$	$^4D - ^4P^o$	2-1	A, Z	523
77	40	755.790	0.0 - 132.31	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5d$	$g^2P - ^4P^o$	2-2	A, Z	523
76	40	756.243	0.0 - 132.23	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{3/2})5d$	$g^2P - ^4S^o$	2-1	A, Z	523
75	30	756.354	0.0 - 132.21	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})5d$	$g^2P - ^4D^o$	2-2	A, Z	523
75	40	756.410	0.0 - 132.20	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})5d$	$g^2P - ^4D^o$	2-3	A, Z	523
197	1	756.56	15.87 - 148.05	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)7d$	$^4D - ^4D^o$	2-2	A, Z	523
77	20	756.676	0.16 - 132.32	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5d$	$g^2P - ^4P^o$	1-1	A, Z	523
77	10	756.704	0.16 - 132.31	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5d$	$g^2P - ^4P^o$	1-0	A, Z	523
77	10	757.059	0.23 - 132.32	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5d$	$g^2P - ^4P^o$	0-1	A, Z	523
76	10	757.149	0.16 - 132.23	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})5d$	$g^2P - ^4S^o$	1-1	A, Z	523
196	2	757.15	15.87 - 147.94	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)8s$	$^4D - ^4P^o$	2-1	A, Z	523
75	20	757.254	0.16 - 132.21	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{3/2})5d$	$g^2P - ^4D^o$	1-2	A, Z	523
75	10	757.627	0.23 - 132.22	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})5d$	$g^2P - ^4D^o$	0-1	A, Z	523
74	20	758.347	0.0 - 131.87	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6s$	$g^2P - ^4D^o$	2-2	A, Z	523
74	30	758.412	0.0 - 131.85	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6s$	$g^2P - ^4D^o$	2-3	A, Z	523
74	10	759.200	0.16 - 131.88	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6s$	$g^2P - ^4D^o$	1-1	A, Z	523
74	20	759.262	0.16 - 131.87	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6s$	$g^2P - ^4D^o$	1-2	A, Z	523
74	10	759.593	0.23 - 131.88	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)6s$	$g^2P - ^4D^o$	0-1	A, Z	523
194	2	762.26	15.87 - 147.06	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)7s$	$^4D - ^4P^o$	2-1	A, Z	523
193	5	769.23	15.87 - 145.87	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)5d$	$^4D - ^4D^o$	2-2	A, Z	523
73	20	769.3528	0.0 - 129.98	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	2-1	A, Z	210
73	30	769.4083	0.0 - 129.97	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	2-2	A, Z	210
73	10	770.2600	0.16 - 129.98	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	1-0	A, Z	210
73	2	770.2907	0.16 - 129.98	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	1-1	A, Z	210
73	10	770.3464	0.16 - 129.97	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	1-2	A, Z	210
73	10	770.6986	0.23 - 129.98	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4d$	$g^2P - ^4P^o$	0-1	A, Z	210
192	70	770.70	15.87 - 145.62	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)6s$	$^4D - ^4P^o$	2-1	A, Z	523
72	55	770.793	0.0 - 129.74	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{3/2})4d$	$g^2P - ^4S^o$	2-1	A, Z	523
71	90	771.056	0.0 - 129.69	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})4d$	$g^2P - ^4D^o$	2-3	A, Z	523
72	30	771.729	0.16 - 129.74	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})4d$	$g^2P - ^4S^o$	1-1	A, Z	523
71	40	771.967	0.16 - 129.70	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})4d$	$g^2P - ^4D^o$	1-2	A, Z	523
72	5	772.147	0.23 - 129.74	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})4d$	$g^2P - ^4S^o$	0-1	A, Z	523
71	20	772.344	0.23 - 129.70	$2s^2 2p^4 - 2s^2 2p^3(^4D^o_{5/2})4d$	$g^2P - ^4D^o$	0-1	A, Z	523
70	40	775.252	0.0 - 128.99	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5s$	$g^2P - ^4D^o$	2-2	A, Z	523
70	55	775.321	0.0 - 128.98	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5s$	$g^2P - ^4D^o$	2-3	A, Z	523
70	30	776.159	0.16 - 129.00	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5s$	$g^2P - ^4D^o$	1-1	A, Z	523
70	30	776.206	0.16 - 128.99	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5s$	$g^2P - ^4D^o$	1-2	A, Z	523
70	20	776.569	0.23 - 129.00	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)5s$	$g^2P - ^4D^o$	0-1	A, Z	523
191	5	784.37	15.87 - 143.36	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)4d$	$^4D - ^4D^o$	2-2	A, Z	523
190	2	788.18	15.87 - 142.74	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)5s$	$^4D - ^4P^o$	2-1	A, Z	523
69	30	791.5136	0.0 - 126.34	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	2-1	A, Z	523
69	55	791.9732	0.0 - 126.27	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	2-2	A, Z	523
69	20	792.2330	0.16 - 126.38	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	1-0	A, Z	523
69	20	792.5063	0.16 - 126.34	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	1-1	A, Z	523
69	40	792.9381	0.23 - 126.34	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	0-1	A, Z	523
69	40	792.9671	0.16 - 126.27	$2s^2 2p^4 - 2s^2 2p^3$	$g^2P - ^4P^o$	1-2	A, Z	523
68	90	804.267	0.0 - 124.34	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4S^o$	2-1	A, Z	523
67	40	804.775	0.0 - 124.26	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4D^o$	2-2	A, Z	523
67	55	804.848	0.0 - 124.25	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4D^o$	2-3	A, Z	523
68	55	805.295	0.16 - 124.34	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4S^o$	1-1	A, Z	523
68	10	805.745	0.23 - 124.34	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4S^o$	0-1	A, Z	523
67	70	805.810	0.16 - 124.26	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4D^o$	1-2	A, Z	523
67	20	806.231	0.23 - 124.26	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4D^o$	0-1	A, Z	523
66	10	810.6650	0.0 - 123.36	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	2-1	A, Z	210
66	20	811.0512	0.0 - 123.30	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	2-2	A, Z	210
66	10	811.4968	0.16 - 123.39	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	1-0	A, Z	210
66	10	811.7064	0.16 - 123.36	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	1-1	A, Z	210
66	5	812.0936	0.16 - 123.30	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	1-2	A, Z	210
66	5	812.1594	0.23 - 123.36	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)3d$	$g^2P - ^4P^o$	0-1	A, Z	210
65	90	816.766	0.0 - 122.43	$2s^2 2p^4 - 2s^2 2p^3(^4D^o)4s$	$g^2P - ^4D^o$	2-2	A, Z	523

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
65	90	816.862	0.0 - 122.42	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)4s$	$g^o P - ^3D^o$	2-3	A, Z	523
65	55	817.777	0.16 - 122.44	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)4s$	$g^o P - ^3D^o$	1-1	A, Z	523
65	55	817.835	0.16 - 122.43	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)4s$	$g^o P - ^3D^o$	1-2	A, Z	523
65	55	818.236	0.23 - 122.44	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)4s$	$g^o P - ^3D^o$	0-1	A, Z	523
189	10	819.27	15.87 - 137.93	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3d$	$^1D - ^1D^o$	2-2	A, Z	523
188	2	829.98	15.87 - 136.35	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)4s$	$^1D - ^1P^o$	2-1	A, Z	523
187	1	831.83	15.87 - 136.09	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})14d$	$^1D - ^1P^o$	2-1	A, Z	523
186	1	832.42	15.87 - 136.00	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})13d$	$^1D - ^1P^o$	2-1	A, Z	523
185	1	832.42	15.87 - 136.00	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})14s$	$^1D - ^1D^o$	2-2	A, Z	523
184	1	833.10	15.87 - 135.90	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})12d$	$^1D - ^1D^o$	2-2	A, Z	523
183	1	833.20	15.87 - 135.89	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})12d$	$^1D - ^1P^o$	2-1	A, Z	523
182	1	834.12	15.87 - 135.76	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})11d$	$^1D - ^1D^o$	2-2	A, Z	523
181	1	834.25	15.87 - 135.74	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})11d$	$^1D - ^1P^o$	2-1	A, Z	523
180	1	834.34	15.87 - 135.72	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})12s$	$^1D - ^1D^o$	2-2	A, Z	523
179	2	835.44	15.87 - 135.57	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})10d$	$^1D - ^1D^o$	2-2	A, Z	523
178	2	835.60	15.87 - 135.54	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})10d$	$^1D - ^1P^o$	2-1	A, Z	523
177	2	837.27	15.87 - 135.30	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})9d$	$^1D - ^1D^o$	2-2	A, Z	523
176	2	837.40	15.87 - 135.29	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})9d$	$^1D - ^1P^o$	2-1	A, Z	523
175	1	837.63	15.87 - 135.25	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})10s$	$^1D - ^1D^o$	2-2	A, Z	523
174	1	837.76	15.87 - 135.23	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)10s$	$^1D - ^1D^o$	2-2	A, Z	523
173	2	839.83	15.87 - 134.94	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})8d$	$^1D - ^1D^o$	2-2	A, Z	523
172	2	839.96	15.87 - 134.92	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})8d$	$^1D - ^1P^o$	2-1	A, Z	523
171	1	840.33	15.87 - 134.87	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})9s$	$^1D - ^1D^o$	2-2	A, Z	523
170	1	840.49	15.87 - 134.84	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)9s$	$^1D - ^1D^o$	2-2	A, Z	523
169	2	843.59	15.87 - 134.41	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})7d$	$^1D - ^1D^o$	2-2	A, Z	523
168	2	843.75	15.87 - 134.39	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})7d$	$^1D - ^1P^o$	2-1	A, Z	523
167	1	844.33	15.87 - 134.31	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})8s$	$^1D - ^1D^o$	2-2	A, Z	523
166	1	844.53	15.87 - 134.27	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)8s$	$^1D - ^1D^o$	2-2	A, Z	523
165	1	849.45	15.87 - 133.59	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})6d$	$^1D - ^1P^o$	2-3	A, Z	523
164	2	849.48	15.87 - 133.59	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})6d$	$^1D - ^1D^o$	2-2	A, Z	523
163	5	849.61	15.87 - 133.57	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})6d$	$^1D - ^1P^o$	2-1	A, Z	523
162	5	850.68	15.87 - 133.42	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)7s$	$^1D - ^1D^o$	2-2	A, Z	523
161	20	859.31	15.87 - 132.24	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})5d$	$^1D - ^1F^o$	2-3	A, Z	523
160	10	859.35	15.87 - 132.24	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})5d$	$^1D - ^1D^o$	2-2	A, Z	523
159	2	859.59	15.87 - 132.20	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})5d$	$^1D - ^1P^o$	2-1	A, Z	523
158	40	861.56	15.87 - 131.94	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)6s$	$^1D - ^1D^o$	2-2	A, Z	523
64		862.678	0.0 - 115.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^1P^o$	2-1	P, Z	523
64		863.857	0.16 - 115.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^1P^o$	1-1	P, Z	523
64		864.370	0.23 - 115.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^1P^o$	0-1	P, Z	523
217	1	868.41	33.79 - 148.95	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)9d$	$^1S - ^1P^o$	0-1	A, Z	523
216	1	871.16	33.79 - 148.58	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)8d$	$^1S - ^1P^o$	0-1	A, Z	523
63	70	877.7983	0.0 - 113.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^3P^o$	2-1	Z	523
63	55	877.8787	0.0 - 113.91	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^1P^o$	2-2	Z	523
157	20	878.2007	15.87 - 129.74	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)4d$	$^1D - ^1F^o$	2-3	Z	523
156	10	878.25	15.87 - 129.73	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})4d$	$^1D - ^1D^o$	2-2	A, Z	523
155	1	878.62	15.87 - 129.68	$2s^2 2p^4 - 2s^2 2p^3(^1D^o_{3/2})4d$	$^1D - ^1P^o$	2-1	A, Z	523
63	20	878.9720	0.16 - 113.93	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^3P^o$	1-0	Z	523
63	20	879.0194	0.16 - 113.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^1P^o$	1-1	Z	523
63	20	879.1001	0.16 - 113.91	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^3P^o$	1-2	Z	523
63	30	879.5507	0.23 - 113.92	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)3s$	$g^o P - ^3P^o$	0-1	Z	523
214	1	881.47	33.79 - 147.24	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)6d$	$^1S - ^1P^o$	0-1	A, Z	523
154	40	882.8895	15.87 - 129.13	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)5s$	$^1D - ^1D^o$	2-2	Z	523
213	2	892.11	33.79 - 145.89	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)5d$	$^1S - ^1P^o$	0-1	A, Z	523
62	2	911.463	0.0 - 109.71	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)30d$	$g^o P - ^3D^o$	2-3	A	523
61	2	911.463	0.0 - 109.71	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)31s$	$g^o P - ^3S^o$	2-1	A	523
60	5	911.538	0.0 - 109.71	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)29d$	$g^o P - ^3D^o$	2-3	A	523
59	5	911.538	0.0 - 109.71	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)30s$	$g^o P - ^3S^o$	2-1	A	523
58	5	911.611	0.0 - 109.70	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)28d$	$g^o P - ^3D^o$	2-3	A	523
57	5	911.611	0.0 - 109.70	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)29s$	$g^o P - ^3S^o$	2-1	A	523
56	5	911.692	0.0 - 109.69	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)27d$	$g^o P - ^3D^o$	2-3	A	523
55	5	911.692	0.0 - 109.69	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)28s$	$g^o P - ^3S^o$	2-1	A	523
54	5	911.786	0.0 - 109.67	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)26d$	$g^o P - ^3D^o$	2-3	A	523
53	5	911.786	0.0 - 109.67	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)27s$	$g^o P - ^3S^o$	2-1	A	523
52	5	911.898	0.0 - 109.66	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)25d$	$g^o P - ^3D^o$	2-3	A	523
51	5	911.898	0.0 - 109.66	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)26s$	$g^o P - ^3S^o$	2-1	A	523
50	10	912.012	0.0 - 109.65	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)24d$	$g^o P - ^3D^o$	2-3	A	523
49	10	912.012	0.0 - 109.65	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)25s$	$g^o P - ^3S^o$	2-1	A	523
48	10	912.155	0.0 - 109.63	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)23d$	$g^o P - ^3D^o$	2-3	A	523
47	10	912.155	0.0 - 109.63	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)24s$	$g^o P - ^3S^o$	2-1	A	523
46	10	912.318	0.0 - 109.61	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)22d$	$g^o P - ^3D^o$	2-3	A	523
45	10	912.318	0.0 - 109.61	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)23s$	$g^o P - ^3S^o$	2-1	A	523
212	1	912.48	33.79 - 143.38	$2s^2 2p^4 - 2s^2 2p^3(^1P^o)4d$	$^1S - ^1P^o$	0-1	A, Z	523
44	10	912.500	0.0 - 109.59	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)21d$	$g^o P - ^3D^o$	2-3	A	523
43	10	912.500	0.0 - 109.59	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)22s$	$g^o P - ^3S^o$	2-1	A	523
42	20	912.723	0.0 - 109.56	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)21s$	$g^o P - ^3S^o$	2-1	A	523

Multiplet	Rel. Int.	λ_{vac} (Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
41	20	912.723	0.0 - 109.56	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 20d$	$g^3 P - ^3 D^o$	2 - 3	A	523
60	10	912.843	0.16 - 109.71	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 29d$	$g^3 P - ^3 D^o$	1 - 2	A	523
40	20	912.964	0.0 - 109.53	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 20s$	$g^3 P - ^3 S^o$	2 - 1	A	523
39	20	912.964	0.0 - 109.53	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 19d$	$g^3 P - ^3 D^o$	2 - 3	A	523
54	5	913.127	0.16 - 109.67	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 26d$	$g^3 P - ^3 D^o$	1 - 2	A	523
38	20	913.250	0.0 - 109.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 19s$	$g^3 P - ^3 S^o$	2 - 1	A	523
37	20	913.250	0.0 - 109.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 18d$	$g^3 P - ^3 D^o$	2 - 3	A	523
48	10	913.483	0.16 - 109.63	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 23d$	$g^3 P - ^3 D^o$	1 - 2	A	523
36	10	913.590	0.0 - 109.46	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 17d$	$g^3 P - ^3 D^o$	2 - 3	A	523
46	10	913.644	0.16 - 109.61	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 22d$	$g^3 P - ^3 D^o$	1 - 2	A	523
45		913.644	0.16 - 109.61	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 23s$	$g^3 P - ^3 S^o$	1 - 1	A	523
44	10	913.815	0.16 - 109.59	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 21d$	$g^3 P - ^3 D^o$	1 - 2	A	523
34	20	913.997	0.0 - 109.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 16d$	$g^3 P - ^3 D^o$	2 - 3	A	523
41	10	914.057	0.16 - 109.56	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 20d$	$g^3 P - ^3 D^o$	1 - 2	A	523
33	2	914.057	0.0 - 109.40	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 17s$	$g^3 P - ^3 S^o$	2 - 1	A	523
39	5	914.293	0.16 - 109.53	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 19d$	$g^3 P - ^3 D^o$	1 - 2	A	523
32	10	914.513	0.0 - 109.35	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 15d$	$g^3 P - ^3 D^o$	2 - 3	A	523
37	10	914.588	0.16 - 109.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 18d$	$g^3 P - ^3 D^o$	1 - 2	A	523
39	2	914.854	0.23 - 109.53	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 19d$	$g^3 P - ^3 D^o$	0 - 1	A	523
36	5	914.918	0.16 - 109.46	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 17d$	$g^3 P - ^3 D^o$	1 - 2	A	523
30	5	915.100	0.0 - 109.28	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 14d$	$g^3 P - ^3 D^o$	2 - 3	A	523
37	2	915.199	0.23 - 109.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 18d$	$g^3 P - ^3 D^o$	0 - 1	A	523
29	2	915.199	0.0 - 109.27	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 15s$	$g^3 P - ^3 S^o$	2 - 1	A	523
34	5	915.321	0.16 - 109.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 16d$	$g^3 P - ^3 D^o$	1 - 2	A	523
33		915.381	0.16 - 109.40	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 17s$	$g^3 P - ^3 S^o$	1 - 1	P	523
36	2	915.499	0.23 - 109.46	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 17d$	$g^3 P - ^3 D^o$	0 - 1	A	523
32	10	915.821	0.16 - 109.35	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 15d$	$g^3 P - ^3 D^o$	1 - 2	A	523
28	10	915.877	0.0 - 109.19	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 13d$	$g^3 P - ^3 D^o$	2 - 3	A	523
27	5	915.991	0.0 - 109.17	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 14s$	$g^3 P - ^3 S^o$	2 - 1	A	523
30	10	916.420	0.16 - 109.28	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 14d$	$g^3 P - ^3 D^o$	1 - 2	A	523
29		916.526	0.16 - 109.27	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 15s$	$g^3 P - ^3 S^o$	1 - 1	P	523
26	10	916.816	0.0 - 109.07	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 12d$	$g^3 P - ^3 D^o$	2 - 3	A	523
30	5	916.960	0.23 - 109.28	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 14d$	$g^3 P - ^3 D^o$	0 - 1	A	523
25	5	916.960	0.0 - 109.06	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 13s$	$g^3 P - ^3 S^o$	2 - 1	A	523
28	5	917.185	0.16 - 109.19	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 13d$	$g^3 P - ^3 D^o$	1 - 2	A	523
27	5	917.315	0.16 - 109.17	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 14s$	$g^3 P - ^3 S^o$	1 - 1	A	523
24	10	918.039	0.0 - 108.93	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 11d$	$g^3 P - ^3 D^o$	2 - 3	A	523
26	5	918.149	0.16 - 109.07	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 12d$	$g^3 P - ^3 D^o$	1 - 2	A	523
23	5	918.221	0.0 - 108.91	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 12s$	$g^3 P - ^3 S^o$	2 - 1	A	523
25		918.293	0.16 - 109.06	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 13s$	$g^3 P - ^3 S^o$	1 - 1	P	523
26	2	918.724	0.23 - 109.07	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 12d$	$g^3 P - ^3 D^o$	0 - 1	A	523
24	5	919.376	0.16 - 108.93	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 11d$	$g^3 P - ^3 D^o$	1 - 2	A	523
23	5	919.559	0.16 - 108.91	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 12s$	$g^3 P - ^3 S^o$	1 - 1	A	523
22	10	919.658	0.0 - 108.74	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 10d$	$g^3 P - ^3 D^o$	2 - 3	A	523
21	5	919.908	0.0 - 108.71	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 11s$	$g^3 P - ^3 S^o$	2 - 1	A	523
24	2	919.971	0.23 - 108.93	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 11d$	$g^3 P - ^3 D^o$	0 - 1	A	523
22	10	921.005	0.16 - 108.74	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 10d$	$g^3 P - ^3 D^o$	1 - 2	A	523
21	2	921.247	0.16 - 108.71	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 11s$	$g^3 P - ^3 S^o$	1 - 1	A	523
22	2	921.575	0.23 - 108.74	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 10d$	$g^3 P - ^3 D^o$	0 - 1	A	523
20	10	921.860	0.0 - 108.48	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9d$	$g^3 P - ^3 D^o$	2 - 3	A	523
153	70	922.0081	15.87 - 124.33	$2s^2 2p^4 - 2s^2 2p^3 (^3D) 3d$	$^1 D - ^1 F^o$	2 - 3	Z	523
152	20	922.0727	15.87 - 124.32	$2s^2 2p^4 - 2s^2 2p^3 (^3D) 3d$	$^1 D - ^1 D^o$	2 - 2	Z	523
19	5	922.200	0.0 - 108.44	$2s^2 2p^4 - 2s^2 2p^3 (^3S) 10s$	$g^3 P - ^3 S^o$	2 - 1	A	523
151	5	922.46	15.87 - 124.27	$2s^2 2p^4 - 2s^2 2p^3 (^3D) 3d$	$^1 D - ^1 P^o$	2 - 1	A, Z	523
20	10	923.200	0.16 - 108.48	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9d$	$g^3 P - ^3 D^o$	1 - 2	A	523
19		923.549	0.16 - 108.44	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 10s$	$g^3 P - ^3 S^o$	1 - 1	P	523
20		923.790	0.23 - 108.48	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9d$	$g^3 P - ^3 D^o$	0 - 1	P	523
19		924.135	0.23 - 108.44	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 10s$	$g^3 P - ^3 S^o$	0 - 1	P	523
18	5	924.952	0.0 - 108.11	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8d$	$g^3 P - ^3 D^o$	2 - 3	A	523
17	5	925.442	0.0 - 108.06	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9s$	$g^3 P - ^3 S^o$	2 - 1	A	523
18	10	926.295	0.16 - 108.11	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8d$	$g^3 P - ^3 D^o$	1 - 2	A	523
17	5	926.809	0.16 - 108.06	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9s$	$g^3 P - ^3 S^o$	1 - 1	A	523
18	5	926.903	0.23 - 108.11	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8d$	$g^3 P - ^3 D^o$	0 - 1	A	523
17		927.394	0.23 - 108.06	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 9s$	$g^3 P - ^3 S^o$	0 - 1	P	523
16	10	929.5168	0.0 - 107.58	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7d$	$g^3 P - ^3 D^o$	2 - 3		523
15	5	930.2566	0.0 - 107.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8s$	$g^3 P - ^3 S^o$	2 - 1		523
16	5	930.8862	0.16 - 107.58	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7d$	$g^3 P - ^3 D^o$	1 - 2		523
16	5	931.4820	0.23 - 107.58	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7d$	$g^3 P - ^3 D^o$	0 - 1		523
15	5	931.6282	0.16 - 107.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8s$	$g^3 P - ^3 S^o$	1 - 1		523
15		932.2249	0.23 - 107.50	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 8s$	$g^3 P - ^3 S^o$	0 - 1		523
150	90	935.1930	15.87 - 122.80	$2s^2 2p^4 - 2s^2 2p^3 (^3D) 4s$	$^1 D - ^1 D^o$	2 - 2	Z	523
14	10	936.6295	0.0 - 106.77	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6d$	$g^3 P - ^3 D^o$	2 - 3		523
13		937.8405	0.0 - 106.63	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7s$	$g^3 P - ^3 S^o$	2 - 1		523
14	5	938.0200	0.16 - 106.77	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6d$	$g^3 P - ^3 D^o$	1 - 2		523
14		938.6249	0.23 - 106.77	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6d$	$g^3 P - ^3 D^o$	0 - 1		523

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
13		939.2346	0.16 - 106.63	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7s$	$g^3 P - ^4S$	1 - 1		523
13	5	939.8412	0.23 - 106.63	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 7s$	$g^3 P - ^4S$	0 - 1		523
12	10	948.6855	0.0 - 105.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5d$	$g^3 P - ^4D$	2 - 3		523, 197
12	5	950.1121	0.16 - 105.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5d$	$g^3 P - ^4D$	1 - 2		523
12	2	950.7327	0.23 - 105.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5d$	$g^3 P - ^4D$	0 - 1		523, 197
11	10	950.8846	0.0 - 105.17	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6s$	$g^3 P - ^4S$	2 - 1		523
11	2	952.3178	0.16 - 105.17	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6s$	$g^3 P - ^4S$	1 - 1		523
11	2	952.9413	0.23 - 105.17	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 6s$	$g^3 P - ^4S$	0 - 1		523
211	1	959.80	33.79 - 137.98	$2s^2 2p^4 - 2s^2 2p^3 (^4P) 3d$	$^4S - ^4P$	0 - 1	A, Z	523
10	15	971.7381	0.0 - 102.91	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	2 - 3		523, 197
9		972.143	0.0 - 102.87	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	2 - 3	P	523
10	9	973.2342	0.16 - 102.91	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	1 - 2		523, 197
9		973.640	0.16 - 102.87	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	1 - 2	P	523
10	3	973.8852	0.23 - 102.91	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	0 - 1		523, 197
8		974.070	0.0 - 102.66	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	2 - 2	P	523
9		974.292	0.23 - 102.87	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4d$	$g^3 P - ^4D$	0 - 1	P	523
210		975.04	33.79 - 136.35	$2s^2 2p^4 - 2s^2 2p^3 (^4P) 4s$	$^4S - ^4P$	0 - 1	P, Z	523
8		975.574	0.16 - 102.66	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	1 - 2	P	523
7	10	976.4481	0.0 - 102.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5s$	$g^3 P - ^4S$	2 - 1		523, 197
7	6	977.9594	0.16 - 102.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5s$	$g^3 P - ^4S$	1 - 1		523, 197
7	2	978.6170	0.23 - 102.41	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5s$	$g^3 P - ^4S$	0 - 1		523, 197
6		979.272	0.0 - 102.12	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5s$	$g^3 P - ^4S$	2 - 2	P	523
6		980.792	0.16 - 102.12	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 5s$	$g^3 P - ^4S$	1 - 2	P	523
5		988.5778	0.0 - 101.16	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	2 - 1		523
5	4	988.6549	0.0 - 101.15	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	2 - 2		523, 197
5	20	988.7734	0.0 - 101.14	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	2 - 3		523, 197
5	4	990.1269	0.16 - 101.16	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	1 - 1		523, 197
5	10	990.2043	0.16 - 101.15	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	1 - 2		523, 197
5	5	990.8010	0.23 - 101.16	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$g^3 P - ^4D$	0 - 1		523, 197
149	40	999.4974	15.87 - 115.92	$2s^2 2p^4 - 2s^2 2p^3 (^4P) 3s$	$^4D - ^4P$	2 - 1	Z	523, 488
4	25	1025.7618	0.0 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	2 - 3		523, 197
3.01		1026.476	0.0 - 97.42	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	2 - 3	P	523
4	15	1027.4307	0.16 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	1 - 2		523, 197
3.01		1028.145	0.16 - 97.42	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	1 - 2	P	523
4	5	1028.1571	0.23 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	0 - 1		523, 197
3.01		1028.870	0.23 - 97.42	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$g^3 P - ^4D$	0 - 1	P	523
3	20	1039.2304	0.0 - 96.23	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$g^3 P - ^4S$	2 - 1		523, 197
3	12	1040.9425	0.16 - 96.23	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$g^3 P - ^4S$	1 - 1		523, 197
3	4	1041.6876	0.23 - 96.23	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$g^3 P - ^4S$	0 - 1		523, 197
209		1042.86	33.79 - 129.68	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 4d$	$^4S - ^4P$	0 - 1	P, Z	523
2.01		1047.376	0.0 - 95.48	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$g^3 P - ^4S$	2 - 2	P	523
2.01		1049.115	0.16 - 95.48	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$g^3 P - ^4S$	1 - 2	P	523
208		1105.20	33.79 - 124.27	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3d$	$^4S - ^4P$	0 - 1	P, Z	523
148	10	1152.1512	15.87 - 102.66	$2s^2 2p^4 - 2s^2 2p^3 (^4D) 3s$	$^4D - ^4D$	2 - 2		523, 197
207	40	1217.6477	33.79 - 115.92	$2s^2 2p^4 - 2s^2 2p^3 (^4P) 3s$	$^4S - ^4P$	0 - 1	Z	523
147		1225.180	15.87 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$^4D - ^4D$	2 - 3	P	523
147		1225.181	15.87 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$^4D - ^4D$	2 - 2	P	523
147		1225.182	15.87 - 97.49	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3d$	$^4D - ^4D$	2 - 1	P	523
2	1000	1302.1685	0.0 - 76.79	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$g^3 P - ^4S$	2 - 1		523, 197
2	600	1304.8576	0.16 - 76.79	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$g^3 P - ^4S$	1 - 1		523, 197
2	200	1306.0286	0.23 - 76.79	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$g^3 P - ^4S$	0 - 1		523, 197
1	100	1355.5977	0.0 - 73.77	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$g^3 P - ^4S$	2 - 2		523, 197
1	60	1358.5123	0.16 - 73.77	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$g^3 P - ^4S$	1 - 2		523, 197
206		1601.731	33.79 - 96.23	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 4s$	$^4S - ^4S$	0 - 1	P	523
146		1641.305	15.87 - 76.79	$2s^2 2p^4 - 2s^2 2p^3 (^4S) 3s$	$^4D - ^4S$	2 - 1		523

OXYGEN II (O^{++}), $Z = 8$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential $283\,240 \text{ cm}^{-1}$; 35.118 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	376.693	0.0 - 265.47	$2s^2 2p^3 - 2s^2 2p^2 (^4P) 5d$	$g^4 S^* - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
	10	376.745	0.0 - 265.43	$2s^2 2p^3 - 2s^2 2p^2 (^4P) 5d$	$g^4 S^* - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
	10	377.045	0.0 - 265.22	$2s^2 2p^3 - 2s^2 2p^2 (^4P) 5d$	$g^4 S^* - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168
	50	391.912	0.0 - 255.16	$2s^2 2p^3 - 2s^2 2p^2 (^4P) 4d$	$g^4 S^* - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
	100	391.943	0.0 - 255.14	$2s^2 2p^3 - 2s^2 2p^2 (^4P) 4d$	$g^4 S^* - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	Reference	
3	150	392.002	0.0 - 255.10	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	150	392.322	0.0 - 254.90	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	403.035	26.81 - 274.92	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	403.087	26.83 - 274.92	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	403.273	26.81 - 274.78	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	403.372	26.83 - 274.74	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	50	418.598	0.0 - 238.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	418.812	26.81 - 265.58	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	424.577	40.47 - 276.00	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	425.273	40.47 - 275.61	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	50	426.526	40.47 - 274.92	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	100	429.557	0.0 - 232.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	250	429.647	0.0 - 232.75	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	200	429.716	0.0 - 232.71	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	250	429.918	0.0 - 232.60	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	3	300	430.041	0.0 - 232.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
	3	300	430.177	0.0 - 232.46	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
	50	436.510	26.81 - 255.90	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	10	436.649	26.83 - 255.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	150	437.332	26.81 - 255.47	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	150	437.683	26.83 - 255.30	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
	150	440.552	26.81 - 253.79	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	100	440.598	26.83 - 253.79	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	200	442.001	26.81 - 253.05	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
	200	442.048	26.83 - 253.05	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
10	443.681	40.47 - 265.86	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
200	445.601	26.81 - 251.22	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168		
200	445.638	26.83 - 251.22	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168		
50	456.997	40.47 - 259.29	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 4s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
10	458.422	40.47 - 258.60	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
100	464.194	40.47 - 255.90	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
50	464.310	40.47 - 255.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
150	464.785	40.47 - 255.62	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		168		
50	465.529	40.47 - 255.28	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
100	465.760	40.47 - 255.17	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
10	467.926	26.81 - 240.52	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
100	468.766	40.47 - 253.79	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
200	470.408	40.47 - 253.05	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
10	481.587	26.81 - 234.45	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
10	481.635	26.83 - 234.45	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
10	50	481.704	26.81 - 234.40	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
10	150	481.755	26.83 - 234.40	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
9	200	483.752	26.83 - 233.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
9	250	483.976	26.81 - 233.43	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
9	100	484.025	26.83 - 233.43	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
8	300	485.086	26.81 - 232.96	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
8	10	485.465	26.81 - 232.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
8	250	485.515	26.83 - 232.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		168	
50	485.572	26.81 - 232.75	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
200	485.631	26.83 - 232.75	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168		
100	499.871	40.47 - 240.52	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
50	500.343	40.47 - 240.33	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168		
17	250	515.498	40.47 - 234.45	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
17	200	515.640	40.47 - 234.40	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
16	200	517.937	40.47 - 233.54	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
16	250	518.242	40.47 - 233.43	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
		534.59						127	
7	450	537.830	26.83 - 212.76	$2s^2 2p^3 - 2s^2 2p^3$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
7	500	538.256	26.81 - 212.59	$2s^2 2p^3 - 2s^2 2p^3$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
7	350	538.318	26.83 - 212.59	$2s^2 2p^3 - 2s^2 2p^3$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
2	400	539.086	0.0 - 185.50	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
2	400	539.547	0.0 - 185.34	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
2	350	539.853	0.0 - 185.24	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
6	250	555.056	26.81 - 206.97	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
6	250	555.121	26.83 - 206.97	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
		575.28						127	
15	300	580.400	40.47 - 212.76	$2s^2 2p^3 - 2s^2 2p^3$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
15	350	580.967	40.47 - 212.59	$2s^2 2p^3 - 2s^2 2p^3$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		158	
14	300	600.585	40.47 - 206.97	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		168	
		613.11						127	
5	350	616.291	26.81 - 189.07	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
5	200	616.363	26.83 - 189.07	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
	3	616.6						856	
5	100	617.051	26.83 - 188.89	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168	
		641.20						127	

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
13	600	644.148	40.47 - 195.71	$2s^2 2p^3 - 2s 2p^4$	$^4P^\circ - ^4S$	$\frac{3}{2} - \frac{1}{2}$		197, 168
12	400	672.948	40.47 - 189.07	$2s^2 2p^3 - 2s^2 2p^2(^4P) 3s$	$^4P^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		168
12	350	673.768	40.47 - 188.89	$2s^2 2p^3 - 2s^2 2p^2(^4P) 3s$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{1}{2}$		168
		684.84						127
4	850	718.484	26.81 - 165.99	$2s^2 2p^3 - 2s 2p^4$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		197, 168
4	800	718.562	26.83 - 165.99	$2s^2 2p^3 - 2s 2p^4$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		197, 168
	100	739.949	119.84 - 254.98	$2s 2p^4 - 2s 2p^3(^4S^\circ) 3s$	$^4P - ^4S^\circ$	$\frac{3}{2} - \frac{3}{2}$		175
	10	740.838	120.00 - 254.98	$2s 2p^4 - 2s 2p^3(^4S^\circ) 3s$	$^4P - ^4S^\circ$	$\frac{3}{2} - \frac{3}{2}$		175
	1	741.293	120.08 - 254.98	$2s 2p^4 - 2s 2p^3(^4S^\circ) 3s$	$^4P - ^4S^\circ$	$\frac{1}{2} - \frac{1}{2}$		175
11	500	796.661	40.47 - 165.99	$2s^2 2p^3 - 2s 2p^4$	$^4P^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		197, 168
1	700	832.762	0.0 - 120.08	$2s^2 2p^3 - 2s 2p^4$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		197, 168
1	750	833.332	0.0 - 120.00	$2s^2 2p^3 - 2s 2p^4$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		197, 168
1	750	834.462	0.0 - 119.84	$2s^2 2p^3 - 2s 2p^4$	$g^4S^\circ - ^4P$	$\frac{1}{2} - \frac{1}{2}$		197, 168
		859.32						127
		860.30						127
		868.21						127
		891.29						127
		971.26						127
		1009.04						127
		1010.63						127
		1078.25						127
		1079.23						127
	10	1957.49	206.88 - 257.96	$2s^2 2p^2(^4P) 3p - 2s^2 2p^2(^4P) 5s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		36
	100	1960.34	206.79 - 257.80	$2s^2 2p^2(^4P) 3p - 2s^2 2p^2(^4P) 5s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		36
	300	1962.27	207.00 - 257.96	$2s^2 2p^2(^4P) 3p - 2s^2 2p^2(^4P) 5s$	$^4D^\circ - ^4P$	$\frac{1}{2} - \frac{1}{2}$		36
	200	1963.86	206.88 - 257.80	$2s^2 2p^2(^4P) 3p - 2s^2 2p^2(^4P) 5s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		36
	10	1964.35	206.79 - 257.69	$2s^2 2p^2(^4P) 3p - 2s^2 2p^2(^4P) 5s$	$^4D^\circ - ^4P$	$\frac{1}{2} - \frac{1}{2}$		36

OXYGEN III (O^{3+}), $Z = 8$ Ground State $1s^2 2s^2 2p^3 \ ^4P_0$ (6 electrons)Ionization Potential 443 086 cm^{-1} ; 54.936 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	226.038	0.31 - 442.71	$2s^2 2p^3 - 2s 2p^4(^4P) 4p$	$g^4P - ^4D^\circ$	2 - 3		168, 771
	10	228.893	0.11 - 437.02	$2s^2 2p^3 - 2s 2p^4(^4P) 4p$	$g^4P - ^4S^\circ$	1 - 1		168
	10	228.988	0.31 - 437.02	$2s^2 2p^3 - 2s 2p^4(^4P) 4p$	$g^4P - ^4S^\circ$	2 - 1		168
	50	236.710	20.27 - 442.71	$2s^2 2p^3 - 2s 2p^4(^4P) 4p$	$^4D - ^4D^\circ$	2 - 3		168
	100	240.979	0.11 - 415.09	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 6d$	$g^4P - ^4D^\circ$	1 - 2		168
	100	241.037	0.31 - 415.18	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 6d$	$g^4P - ^4D^\circ$	2 - 3		168
	50	241.819	60.33 - 473.86	$2s 2p^4 - 2s 2p^3(^4P) 5d$	$^4S^\circ - ^4P$	2 - 2	Z	168
	50	241.875	60.33 - 473.76	$2s 2p^4 - 2s 2p^3(^4P) 5d$	$^4S^\circ - ^4P$	2 - 3	Z	168
	100	244.049	20.27 - 430.03	$2s^2 2p^3 - 2s 2p^4(^4D) 3p$	$^4D - ^4P^\circ$	2 - 1		168
	150	244.265	20.27 - 426.34	$2s^2 2p^3 - 2s 2p^4(^4D) 3p$	$^4D - ^4D^\circ$	2 - 2		168
	50	247.080	20.27 - 425.00	$2s^2 2p^3 - 2s 2p^4(^4D) 3p$	$^4D - ^4F^\circ$	2 - 3		168
	50	248.320	20.27 - 422.98	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 7d$	$^4D - ^4F^\circ$	2 - 3		168
	50	248.538	0.0 - 402.35	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$g^4P - ^4D^\circ$	0 - 1		168
	60	248.574	0.11 - 402.41	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$g^4P - ^4D^\circ$	1 - 2		168
	100	248.618	0.31 - 402.53	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$g^4P - ^4D^\circ$	2 - 3		168
	10	253.548	20.27 - 414.68	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 6d$	$^4D - ^4D^\circ$	2 - 2		168
	10	255.044	0.11 - 392.22	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5s$	$g^4P - ^4P^\circ$	1 - 2		168
	50	255.158	0.31 - 392.22	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5s$	$g^4P - ^4P^\circ$	2 - 2		168
	10	255.302	0.31 - 392.	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5s$	$g^4P - ^4P^\circ$	2 - 1		168
	100	256.425	60.33 - 450.30	$2s 2p^4 - 2s 2p^3(^4P) 4d$	$^4S^\circ - ^4P$	2 - 1	Z	168
	150	256.460	60.33 - 450.25	$2s 2p^4 - 2s 2p^3(^4P) 4d$	$^4S^\circ - ^4P$	2 - 2	Z	168
	150	256.506	60.33 - 450.18	$2s 2p^4 - 2s 2p^3(^4P) 4d$	$^4S^\circ - ^4P$	2 - 3	Z	168
	200	261.027	20.27 - 403.37	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$^4D - ^4F^\circ$	2 - 3		168
	100	262.113	20.27 - 401.79	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$^4D - ^4D^\circ$	2 - 2		168
	10	262.289	20.27 - 401.53	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 5d$	$^4D - ^4F^\circ$	2 - 2		168
	10	262.729	0.11 - 380.71	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 4d$	$g^4P - ^4P^\circ$	1 - 2		168
	50	262.882	0.31 - 380.71	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 4d$	$g^4P - ^4P^\circ$	2 - 2		168
	150	263.692	0.0 - 379.23	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 4d$	$g^4P - ^4D^\circ$	0 - 1		168
	200	263.728	0.11 - 379.29	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 4d$	$g^4P - ^4D^\circ$	1 - 2		168
	150	263.768	0.11 - 379.23	$2s^2 2p^3 - 2s^2 2p(^4P^\circ) 4d$	$g^4P - ^4D^\circ$	1 - 1		168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
12	250	263.818	0.31 - 379.36	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$g^3P - ^3D^*$	2 - 3		168
	150	263.861	0.31 - 379.29	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$g^3P - ^3D^*$	2 - 2		168
	10	263.903	0.31 - 379.23	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$g^3P - ^3D^*$	2 - 1		168
	200	264.257	0.0 - 378.42	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3P^*$	0 - 1		168
	250	264.338	0.11 - 378.41	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3P^*$	1 - 2		168
	300	264.480	0.31 - 378.41	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3P^*$	2 - 2		168
	250	266.967	0.0 - 374.58	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3D^*$	0 - 1		168
	350	266.985	0.11 - 374.66	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3D^*$	1 - 2		168
	350	267.030	0.31 - 374.80	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3D^*$	2 - 3		168
	150	267.050	0.11 - 374.58	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3D^*$	1 - 1		168
	200	267.121	0.31 - 374.66	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3D^*$	2 - 2		168
	50	268.451	20.27 - 392.78	$2s^2 2p^2 - 2s^2 2p(^3P)5s$	$^1D - ^1P^*$	2 - 1		168
	50	271.403	60.33 - 428.78	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^3S - ^3P$	2 - 3		168
	50	271.523	60.33 - 426.62	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^3S - ^3P$	2 - 2		168
	10	271.611	60.33 - 428.5	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^3S - ^3P$	2 - 1		168
	100	275.281	0.0 - 363.27	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3S^*$	0 - 1		168
	150	275.366	0.11 - 363.27	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3S^*$	1 - 1		168
	200	275.513	0.31 - 363.27	$2s^2 2p^2 - 2s^2 2p(^3P)3p$	$g^3P - ^3S^*$	2 - 1		168
	350	277.385	20.27 - 380.78	$2s^2 2p^2 - 2s^2 2p(^3P)4i$	$^1D - ^1F^*$	2 - 3		168
	50	277.514	43.18 - 403.53	$2s^2 2p^2 - 2s^2 2p(^3P)5d$	$^1S - ^1P^*$	0 - 1		168
	150	279.787	20.27 - 377.69	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1D - ^1D^*$	2 - 2		168
	100	280.030	20.27 - 377.38	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1D - ^1F^*$	2 - 2		168
	50	280.116	0.11 - 357.12	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	1 - 2		168
	50	280.234	0.0 - 356.84	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	0 - 1		168
	150	280.265	0.31 - 357.12	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	2 - 2		168
	50	280.328	0.11 - 356.84	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	1 - 1		168
	50	280.412	0.11 - 356.73	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	1 - 0		168
	50	280.483	0.31 - 356.84	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$g^3P - ^3P^*$	2 - 1		168
	10	286.038	43.18 - 392.78	$2s^2 2p^2 - 2s^2 2p(^3P)5s$	$^1S - ^1P^*$	0 - 1		168
	150	295.511	20.27 - 358.67	$2s^2 2p^2 - 2s^2 2p(^3P)4s$	$^1D - ^1P^*$	2 - 1		168
	250	295.619	60.33 - 398.60	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^3S - ^3P$	2 - 1		168
	300	295.657	60.33 - 398.56	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^3S - ^3P$	2 - 2		168
	300	295.716	60.33 - 398.49	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^3S - ^3P$	2 - 3		168
	150	295.944	43.18 - 381.09	$2s^2 2p^2 - 2s^2 2p(^3P)4d$	$^1S - ^1P^*$	0 - 1		168
	200	296.012	60.33 - 398.15	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^3S - ^3D$	2 - 3		168
	50	296.22	120.03 - 457.6	$2s^2 2p^2 - 2s^2 2p(^3D)3d$	$^1D^* - ^1P$	3 - 2	Z	168
	100	299.275	120.03 - 454.17	$2s^2 2p^2 - 2s^2 2p(^3D)3d$	$^1D^* - ^1D$	3 - 3	Z	168
	150	300.455	120.03 - 452.86	$2s^2 2p^2 - 2s^2 2p(^3D)3d$	$^1D^* - ^1F$	3 - 4	Z	168
	350	303.411	0.0 - 329.58	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	0 - 1		168
	350	303.460	0.11 - 329.64	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	1 - 0		168
	350	303.515	0.11 - 329.58	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	1 - 1		168
	350	303.621	0.11 - 329.47	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	1 - 2		168
	350	303.693	0.31 - 329.58	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	2 - 1		168
	450	303.799	0.31 - 329.47	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3P^*$	2 - 2		168
	400	305.596	0.0 - 327.23	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	0 - 1		168
	450	305.656	0.11 - 327.28	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	1 - 2		168
	400	305.703	0.11 - 327.23	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	1 - 1		168
	500	305.769	0.31 - 327.35	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	2 - 3		168
	400	305.836	0.31 - 327.28	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	2 - 2		168
	200	305.879	0.31 - 327.23	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	2 - 1		168
	50	308.051	0.11 - 324.73	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3D^*$	1 - 2		168
	100	308.306	0.31 - 324.66	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$g^3P - ^3F^*$	2 - 3		168
	150	316.967	43.18 - 358.67	$2s^2 2p^2 - 2s^2 2p(^3P)4i$	$^1S - ^1P^*$	0 - 1		168
	50	317.24	142.38 - 457.6	$2s^2 2p^2 - 2s^2 2p(^3D)3o$	$^1P^* - ^1P$	2 - 2	2	168
	150	319.996	20.27 - 332.78	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1P^*$	2 - 1		168
11	100	320.720	142.38 - 454.17	$2s^2 2p^2 - 2s^2 2p(^3D)3d$	$^1P^* - ^1D$	2 - 3	Z	168
	600	320.979	20.27 - 331.82	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1F^*$	2 - 3		197, 168, 488
	500	328.448	20.27 - 324.73	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1D^*$	2 - 2		168
	450	323.742	20.27 - 324.46	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D - ^1F^*$	2 - 2		168
	500	345.309	43.18 - 332.78	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1S - ^1P^*$	0 - 1		168
	150	349.825	120.03 - 405.88	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1D$	3 - 3		168
	100	349.918	120.05 - 405.83	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1D$	2 - 2		168
	50	349.961	120.06 - 405.81	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1D$	1 - 1		168
	300	355.137	120.03 - 401.61	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1F$	3 - 4		168
	150	355.293	120.03 - 401.48	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1F$	3 - 3		168
15	250	355.333	120.05 - 401.48	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1F$	2 - 3		168
	250	355.469	120.06 - 401.38	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1F$	1 - 2		168
	10	356.558	120.06 - 400.52	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1P$	1 - 0		168
	50	356.625	120.06 - 400.46	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1P$	1 - 1		168
	100	356.725	120.03 - 400.35	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1P$	3 - 2		168
	10	356.768	120.06 - 400.35	$2s^2 2p^2 - 2s^2 2p(^3P)3d$	$^1D^* - ^1P$	1 - 2		168
	400	359.016	60.33 - 338.86	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3S - ^3P$	2 - 3		168
	400	359.223	60.33 - 338.70	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3S - ^3P$	2 - 2		168
	350	359.384	60.33 - 338.58	$2s^2 2p^2 - 2s^2 2p(^3P)3s$	$^3S - ^3P$	2 - 1		168
	150	364.739	120.03 - 394.20	$2s^2 2p^2 - 2s^2 2p(^3D)3s$	$^1D^* - ^1D$	3 - 3		168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	100	364.867	120.05 - 394.13	$2s2p^2 - 2s2p^2(^1D)3s$	$^1D^* - ^1D$	2 - 2		168
	50	364.940	120.06 - 394.09	$2s2p^2 - 2s2p^2(^1D)3s$	$^1D^* - ^1D$	1 - 1		168
	400	373.805	0.11 - 267.63	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	1 - 2		168
	400	374.005	0.0 - 267.38	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	0 - 1		168
4	500	374.075	0.31 - 267.63	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	2 - 2		168
4	400	374.165	0.11 - 267.38	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	1 - 1		168
4	400	374.331	0.11 - 267.26	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	1 - 0		168
4	400	374.436	0.31 - 267.38	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^1P^o$	2 - 1		168
26J	379.505	142.38 - 405.88	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1D$	2 - 3			168
	150	379.575	142.38 - 405.83	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1D$	2 - 2		168
9	100	379.631	142.40 - 405.81	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1D$	0 - 1		168
	50	382.214	120.03 - 381.65	$2s2p^2 - 2s^22p^2(^1P^o)4f$	$^1D^* - D[\frac{3}{2}]$	3 - 2		168
	50	382.903	120.03 - 381.18	$2s2p^2 - 2s^22p^2(^1P^o)4f$	$^1D^* - G[\frac{3}{2}]$	3 - 3		168
	100	387.398	142.38 - 400.52	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1P$	1 - 0		168
	150	387.482	142.40 - 400.46	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1P$	0 - 1		168
	200	387.639	142.38 - 400.35	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^1P$	2 - 2		168
	600	395.558	20.27 - 273.08	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1D - ^1P^o$	2 - 1		197, 168, 488
	100	397.120	142.38 - 394.20	$2s2p^2 - 2s2p^2(^1D)3s$	$^1P^o - ^1D$	2 - 3		168
	50	397.231	142.38 - 394.13	$2s2p^2 - 2s2p^2(^1D)3s$	$^1P^o - ^1D$	1 - 2		168
	10	397.310	142.40 - 394.09	$2s2p^2 - 2s2p^2(^1D)3s$	$^1P^o - ^1D$	0 - 1		168
14	200	434.256	120.03 - 350.30	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^* - ^1P$	3 - 2		168
	150	434.646	120.05 - 350.12	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^* - ^1P$	2 - 1		168
	100	434.840	120.06 - 350.03	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^* - ^1P$	1 - 0		168
	500	434.975	43.18 - 273.08	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1S - ^1P^o$	0 - 1		168
	200	480.955	142.38 - 350.30	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	2 - 2		168
	150	481.354	142.38 - 350.12	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	2 - 1		168
	100	481.381	142.38 - 350.12	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	1 - 1		168
	200	481.587	142.38 - 350.03	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	1 - 0		168
	10	491.714	197.09 - 400.46	$2s2p^2 - 2s2p^2(^1P)3d$	$^1S^* - ^1P$	1 - 1		168
	50	491.980	197.09 - 400.35	$2s2p^2 - 2s2p^2(^1P)3d$	$^1S^* - ^1P$	1 - 2		168
3	800	507.391	0.0 - 197.09	$2s^22p^2 - 2s2p^2$	$g^3P - ^1S^*$	0 - 1		197, 168, 488
3	850	507.683	0.11 - 197.09	$2s^22p^2 - 2s2p^2$	$g^3P - ^1S^*$	1 - 1		197, 168, 488
3	900	508.182	0.31 - 197.09	$2s^22p^2 - 2s2p^2$	$g^3P - ^1S^*$	2 - 1		197, 168, 488
8	524.47							127
	900	525.795	20.27 - 210.46	$2s^22p^2 - 2s2p^2$	$^1D - ^1P^o$	2 - 1		197, 168, 488
	547.13							127
	551.23							127
	10	554.275	120.03 - 300.44	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1D^* - ^1P$	3 - 2		175
	573.24							127
	1	574.065	120.03 - 294.22	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1D^* - ^1D$	3 - 3		175
	574.82		120.03 - 294.00	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1D^* - ^1D$	3 - 2	Q	127
	585.71							127
	596.56							127
13	75J	597.818	43.18 - 210.46	$2s^22p^2 - 2s2p^2$	$^1S - ^1P^o$	0 - 1		197, 168, 488
7	900	599.598	20.27 - 187.05	$2s^22p^2 - 2s2p^2$	$^1D - ^1D^*$	2 - 2		197, 168, 488
16	300	609.705	120.06 - 284.07	$2s2p^2 - 2p^4$	$^1D^* - ^1P$	1 - 0		168
16	350	610.043	120.05 - 283.98	$2s2p^2 - 2p^4$	$^1D^* - ^1P$	2 - 1		168
16	400	610.746	120.03 - 283.76	$2s2p^2 - 2p^4$	$^1D^* - ^1P$	3 - 2		168
16	300	610.850	120.05 - 283.76	$2s2p^2 - 2p^4$	$^1D^* - ^1P$	2 - 2		168
	622.00							127
	50	658.578	142.38 - 294.22	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1P^o - ^1D$	2 - 3		175
	10	659.538	142.38 - 294.00	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1P^o - ^1D$	1 - 2		175
	685.74							127
	688.93							127
	690.13							127
	691.88							127
	694.73							127
	800	702.332	0.0 - 142.38	$2s^22p^2 - 2s2p^2$	$g^3P - ^1P^o$	0 - 1		197, 168, 488
	800	702.822	0.11 - 142.40	$2s^22p^2 - 2s2p^2$	$g^3P - ^1P^o$	1 - 0		197, 168, 488
2	850	702.899	0.11 - 142.38	$2s^22p^2 - 2s2p^2$	$g^3P - ^1P^o$	1 - 2		197, 168, 488
2	900	703.850	0.31 - 142.38	$2s^22p^2 - 2s2p^2$	$g^3P - ^1P^o$	2 - 2		197, 168, 488
	100	705.762	142.38 - 284.07	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	1 - 0		168
	150	706.224	142.38 - 283.98	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	2 - 1		168
	100	706.298	142.40 - 283.98	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	0 - 1		168
	200	707.315	142.38 - 283.76	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	2 - 2		168
	200	752.762	210.46 - 343.30	$2s2p^2 - 2p^4$	$^1P^o - ^1S$	1 - 0		168
		763.81	267.63 - 398.56	$2s^22p^2(^1P^o)3s - 2s2p^2(^1P)3d$	$^1P^o - ^1P$	2 - 2	Q	127
		767.03	327.23 - 457.6	$2s^22p^2(^1P^o)3d - 2s2p^2(^1D)3d$	$^1D^* - ^1P$	1 - 0	Q, Z	127
		775.03						127
	700	832.927	0.0 - 120.06	$2s^22p^2 - 2s2p^2$	$g^3P - ^1D^*$	0 - 1		197, 168, 488
1	800	833.742	0.11 - 120.05	$2s^22p^2 - 2s2p^2$	$g^3P - ^1D^*$	1 - 2		197, 168, 488
1	700	835.096	0.31 - 120.05	$2s^22p^2 - 2s2p^2$	$g^3P - ^1D^*$	2 - 2		197, 168, 488
1	800	835.292	0.31 - 120.03	$2s^22p^2 - 2s2p^2$	$g^3P - ^1D^*$	2 - 3		197, 168, 488
17	871.77							127
	400	898.957	187.05 - 298.29	$2s2p^2 - 2p^4$	$^1D^* - ^1D$	2 - 2		168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		928.82 962.47 967.80 970.25 1003.35 1007.90 1008.56 1042.63 1072.02 1076.60	293.87 - 401.53	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 5d$	$^3D - ^3F^o$	1 - 2	Q	127 127 127 127 127 127 127 127 127 127
		1138.545 1149.603 1150.882 1153.773 1476.89	338.86 - 438.53	$2s 2p^2(^3P) 3s - 2s 2p^2(^3P) 4p$	$^3P - ^3D^o$	3 - 4	P	127 127 127 127 127
		1584.45 1587.87 1590.01 1590.61 1591.33	267.38 - 366.59 329.47 - 428.62	$2s^2 2p(^3P^o) 3s - 2s^2 2p(^3P^o) 4p$ $2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4s$	$^3P^o - ^3D$ $^3P^o - ^3P$	1 - 2 2 - 2	Q P	127 127 127 127 127
100		1138.545	210.46 - 298.29	$2s 2p^2 - 2p^2$	$^3P^o - ^3D$	1 - 2		168
50		1149.603	197.09 - 284.07	$2s 2p^2 - 2p^2$	$^3S^o - ^3P$	1 - 0		168
100		1150.882	197.09 - 283.98	$2s 2p^2 - 2p^2$	$^3S^o - ^3P$	1 - 1		168
150		1153.773	197.09 - 283.76	$2s 2p^2 - 2p^2$	$^3S^o - ^3P$	1 - 2		168
600		1476.89	290.96 - 358.67	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	1 - 1		72
900		1584.45	294.00 - 357.12	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	2 - 2		72
400		1587.87	293.87 - 356.84	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	1 - 1		72
800		1590.01	294.22 - 357.12	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	3 - 2		72
400		1590.61	293.87 - 356.73	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	1 - 0		72
600		1591.33	294.00 - 356.84	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	2 - 1		72
20		1660.803	0.11 - 60.33	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	1 - 2		209
250		1666.153	0.31 - 60.33	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	2 - 2		209
400		1679.06	297.56 - 357.12	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3S - ^3P^o$	1 - 2		72
700		1760.12	324.66 - 381.47	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	3 - 4		72
500		1760.42	300.31 - 357.12	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	1 - 2		72
700		1763.22	324.46 - 381.18	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	2 - 3		72
700		1764.48	300.44 - 357.12	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	2 - 2		72
400		1766.34	300.23 - 356.84	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	0 - 1		72
1000		1767.78	324.84 - 381.40	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	4 - 5		72
900		1768.24	324.66 - 381.21	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	3 - 4		72
400		1769.32	324.66 - 381.18	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	3 - 3		72
900		1771.67	324.73 - 381.18	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - G[\frac{1}{2}]$	2 - 3		72
400		1772.31	300.31 - 356.73	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	1 - 0		72
500		1773.00	300.44 - 356.84	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3P - ^3P^o$	2 - 1		72
500		1773.85	324.84 - 381.21	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - G[\frac{1}{2}]$	4 - 4		72
700		1779.08	324.46 - 380.67	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - F[\frac{1}{2}]$	2 - 3		72
600		1780.95	324.46 - 380.61	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - F[\frac{1}{2}]$	2 - 3	P	72
600		1784.85	324.66 - 380.69	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3F^o - F[\frac{1}{2}]$	3 - 4		72
700		1789.61	324.73 - 380.61	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - F[\frac{1}{2}]$	2 - 3	P	72
500		1848.26	327.35 - 381.46	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - D[\frac{1}{2}]$	3 - 3		72
500		1856.62	327.35 - 381.21	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - G[\frac{1}{2}]$	3 - 4		72
800		1872.86	327.28 - 380.67	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - F[\frac{1}{2}]$	2 - 3	P	72
800		1872.87	327.23 - 380.62	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - F[\frac{1}{2}]$	1 - 2		72
800		1874.94	327.35 - 380.69	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3D^o - F[\frac{1}{2}]$	3 - 4		72
600		1920.04	306.58 - 358.67	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4s$	$^3D - ^3P^o$	2 - 1		72
500		1920.75	329.58 - 381.65	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3P^o - D[\frac{1}{2}]$	1 - 2		72
500		1921.52	329.58 - 381.62	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3P^o - D[\frac{1}{2}]$	1 - 1		72
700		1923.49	329.47 - 381.46	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3P^o - D[\frac{1}{2}]$	2 - 3		72
500		1923.82	329.64 - 381.62	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3P^o - D[\frac{1}{2}]$	0 - 1		72
500		1926.94	329.58 - 381.48	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 4f$	$^3P^o - D[\frac{1}{2}]$	1 - 2		72

OXYGEN IV (O^{3+}), $Z = 8$ Ground State $1s^2 2s^2 2p^3 P_{1/2}^o$ (5 electrons)Ionization Potential 624 383.8 cm^{-1} ; 77.414 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
5		152.266	0.0 - 656.75	$2s^2 2p - 2s 2p(^1P^o) 4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
20		152.346	0.39 - 656.79	$2s^2 2p - 2s 2p(^1P^o) 4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
1		153.086	0.0 - 653.41	$2s^2 2p - 2p^2(^1D) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Q, Z	226
20		153.151	0.39 - 653.33	$2s^2 2p - 2p^2(^1D) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
1		154.390	0.0 - 646.86	$2s^2 2p - 2p^2(^3P) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
5		154.681	0.39 - 646.86	$2s^2 2p - 2p^2(^3P) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
5		155.911	71.76 - 713.03	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	226
5		158.567	0.0 - 630.65	$2s^2 2p - 2s 2p(^3P^o) 5p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
20		158.606	0.39 - 630.88	$2s^2 2p - 2s 2p(^3P^o) 5p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	226
1		159.197	0.39 - 628.54	$2s^2 2p - 2s 2p(^3P^o) 5p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	226

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	165.741	0.39 - 600.11	$2s^2 2p - 2p^2(^1D) 3s$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
1	167.115	71.57 - 669.97	$2s 2p^2 - 2s 2p(^3P^o) 7d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
5	167.145	71.76 - 669.97	$2s 2p^2 - 2s 2p(^3P^o) 7d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
5	168.306	0.39 - 594.54	$2s^2 2p - 2p^2(^3P) 3s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$			226
1	169.474	0.0 - 590.07	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$			226
5	169.582	0.39 - 590.07	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$			226
1	170.847	71.44 - 656.59	$2s 2p^2 - 2s 2p(^3P^o) 6d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		Z	226
5	170.935	71.57 - 656.59	$2s 2p^2 - 2s 2p(^3P^o) 6d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
20	170.988	71.76 - 656.59	$2s 2p^2 - 2s 2p(^3P^o) 6d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
40	171.074	0.0 - 584.54	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$			226
70	171.123	0.39 - 584.76	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
5	171.188	0.39 - 584.54	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
5	173.799	0.0 - 575.38	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$			226
20	173.852	0.0 - 575.20	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$			226
40	173.916	0.39 - 575.38	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$			226
5	173.969	0.39 - 575.20	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$			226
20	174.105	0.0 - 574.37	$2s^2 2p - 2s^2 6d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$			226
40	174.221	0.39 - 574.37	$2s^2 2p - 2s^2 6d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
10	177.0	71.57 - 636.49	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		Q, Z	391
5	177.562	71.44 - 634.62	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		Z	226
5	177.594	71.57 - 634.65	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		Z	226
5	177.662	71.76 - 634.62	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
20	177.693	71.76 - 634.52	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
20	177.762	71.57 - 634.12	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
40	177.801	71.76 - 634.18	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		Z	226
20	180.354	0.0 - 554.46	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$			226
40	180.480	0.39 - 554.46	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$			226
110	181.150	0.0 - 552.03	$2s^2 2p - 2s^2 5d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
160	181.277	0.39 - 552.03	$2s^2 2p - 2s^2 5d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
20	181.866	0.0 - 549.86	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$			226
40	181.887	0.0 - 549.79	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$			226
70	181.994	0.39 - 549.86	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$			226
20	182.015	0.39 - 549.79	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$			226
70	182.706	0.0 - 547.33	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$			226
110	182.827	0.39 - 547.36	$2s^2 2p - 2s 2p(^1P^o) 3p$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
5	183.338	71.44 - 616.88	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{3}{2}$			226
20	183.382	71.57 - 616.88	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$			226
20	183.444	71.76 - 616.88	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$			226
5	185.402	0.0 - 539.37	$2s^2 2p - 2s^2 5s$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$			226
20	185.535	0.39 - 539.37	$2s^2 2p - 2s^2 5s$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$			226
20	186.870	71.57 - 606.69	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
40	186.935	71.76 - 606.69	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
5	186.978	71.76 - 606.58	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
40	188.151	71.76 - 603.23	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
1	188.185	71.57 - 602.96	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
1	188.210	71.76 - 603.08	$2s 2p^2 - 2p^2(^1P) 3p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
5	188.405	126.94 - 657.71	$2s 2p^2 - 2s 2p(^3P^o) 6d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		Z	226
1	188.494	126.95 - 657.47	$2s 2p^2 - 2s 2p(^3P^o) 6d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
20	191.583	71.44 - 593.41	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$			226
40	191.607	71.57 - 593.47	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$			226
20	191.631	71.57 - 593.41	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
20	191.680	71.57 - 593.27	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
40	191.699	71.76 - 593.41	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
70	191.748	71.76 - 593.27	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			226
70	192.138	71.44 - 591.90	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$			226
110	192.163	71.57 - 591.96	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
160	192.200	71.76 - 592.05	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$			226
40	192.231	71.76 - 591.96	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
285	195.863	0.0 - 510.57	$2s^2 2p - 2s^2 4d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$			226
360	196.009	0.39 - 510.57	$2s^2 2p - 2s^2 4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$			226
20	196.349	126.94 - 636.23	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		Z	226
5	196.422	126.95 - 636.06	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
70	198.031	126.94 - 631.91	$2s 2p^2 - 2p^2(^1D) 3p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
20	200.830	126.95 - 624.88	$2s 2p^2 - 2p^2(^1D) 3p$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
2	200.915	71.57 - 569.28	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			168
2	200.966	71.44 - 569.04	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$			168
5	200.995	71.76 - 569.28	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			168
1	201.022	71.57 - 569.04	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			168
2	201.073	71.57 - 568.90	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$			168
2	201.098	71.76 - 569.04	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$			168
15	202.885	0.0 - 492.89	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$			86
25	203.044	0.39 - 492.89	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$			86
1	204.708	126.94 - 615.43	$2s 2p^2 - 2p^2(^1P) 3p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			226
1	204.990	180.72 - 668.55	$2s 2p^2 - 2s 2p(^1P^o) 4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		Z	226
1	205.842	0.0 - 485.82	$2s^2 2p - 2s^2 4s$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$			168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
7	2	206.002	0.39 - 485.82	$2s^2 2p - 2s^2 4s$	$g^4 P^o - ^4S$	$\frac{3}{2} - \frac{1}{2}$		168
	40	207.183	0.0 - 482.67	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		86
	60	207.239	0.39 - 482.92	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		86
	15	207.348	0.39 - 482.67	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		86
	1	211.808	164.37 - 636.49	$2s 2p^2 - 2s 2p(^4P^o) 5d$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	168
	5	212.578						168
	10	212.974	126.94 - 596.48	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	10	213.061	126.95 - 596.30	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	15	213.975	0.0 - 467.34	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		86
	25	214.028	0.0 - 467.23	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		86
	40	214.152	0.39 - 467.34	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		86
	15	214.205	0.39 - 467.23	$2s^2 2p - 2s 2p(^4P^o) 3p$	$g^4 P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		86
	2	214.249	126.94 - 593.71	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	2	214.290	126.95 - 593.63	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	216.960	126.94 - 587.85	$2s 2p^2 - 2s^2 7f$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	221.515	180.48 - 631.91	$2s 2p^2 - 2p^2(^4D) 3p$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	226
	70	221.648	255.16 - 706.33	$2p^2 - 2p^2(^4S) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	25	222.763	126.94 - 575.85	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	15	222.777	126.95 - 575.82	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	223.728	126.94 - 573.91	$2s 2p^2 - 2s 2p(^4P^o) 4s$	$^4D - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	223.841	126.95 - 573.70	$2s 2p^2 - 2s 2p(^4P^o) 4s$	$^4D - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	25	225.299	126.94 - 570.79	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	229.896	180.48 - 615.46	$2s 2p^2 - 2p^2(^4P) 3p$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$		226
	1	230.040	180.72 - 615.43	$2s 2p^2 - 2p^2(^4P) 3p$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		226
	2	230.682	164.37 - 577.87	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	5	230.755	164.37 - 597.72	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	10	231.031	71.44 - 504.28	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		86
	60	231.070	71.44 - 504.21	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	40	231.101	71.57 - 504.28	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	15	231.140	71.57 - 504.21	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	40	231.200	71.57 - 504.10	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	40	231.239	71.76 - 504.21	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	60	231.299	71.76 - 504.10	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	60	233.457	71.44 - 499.80	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$		168, 488
	60	233.496	71.57 - 499.84	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		86
	40	233.521	71.57 - 499.80	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	90	233.561	71.76 - 499.91	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	40	233.596	71.76 - 499.84	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	10	234.988	126.94 - 552.50	$2s 2p^2 - 2s^2 5f$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	2	236.071	71.76 - 495.36	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		168
	400	238.360	0.0 - 419.53	$2s^2 2p - 2s^2 3d$	$g^4 P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		86
	500	238.571	0.39 - 419.55	$2s^2 2p - 2s^2 3d$	$g^4 P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		86
	10	239.592	164.37 - 581.74	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	1	239.935	180.48 - 597.25	$2s 2p^2 - 2p^2(^4P) 3p$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$		226
	5	240.079	180.72 - 597.25	$2s 2p^2 - 2p^2(^4P) 3p$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{5}{2}$		226
	5	242.045	180.48 - 593.63	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$		168
	10	242.140	180.72 - 593.71	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	1	242.183	180.72 - 593.63	$2s 2p^2 - 2s 2p(^4P^o) 4d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	2	245.62	180.72 - 587.85	$2s 2p^2 - 2s^2 7f$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$	P	168
	5	246.465	231.54 - 637.28	$2p^2 - 2p^2(^4P) 3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$	Z	168
	10	246.503	231.54 - 637.21	$2p^2 - 2p^2(^4P) 3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$	Z	168
	15	246.563	231.54 - 637.11	$2p^2 - 2p^2(^4P) 3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		168
	10	249.223	180.48 - 581.72	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	15	249.365	180.72 - 581.74	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	5	251.114	255.18 - 653.41	$2p^2 - 2p^2(^4D) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	5	251.148	255.16 - 653.33	$2p^2 - 2p^2(^4D) 3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	160	252.550	255.16 - 651.12	$2p^2 - 2p^2(^4D) 3d$	$^4D^o - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	160	252.581	255.18 - 651.10	$2p^2 - 2p^2(^4D) 3d$	$^4D^o - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		226
	40	252.948	180.48 - 575.82	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$		168
	60	253.082	180.72 - 575.85	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	25	255.252	126.94 - 518.71	$2s 2p^2 - 2s 2p(^4P^o) 3s$	$^4D - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	5	258.116	126.55 - 514.37	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	10	258.207	126.94 - 514.22	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168
	150	260.389	126.94 - 510.98	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		86
	9	260.555	126.95 - 510.74	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		86
9	1	265.062	255.16 - 632.43	$2p^2 - 2p^2(^4P) 3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	1	266.690	255.16 - 630.10	$2p^2 - 2p^2(^4P) 3d$	$^4D^o - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$	Z	168
	1	266.729	255.18 - 630.10	$2p^2 - 2p^2(^4P) 3d$	$^4D^o - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$	Z	168
	40	266.932	126.94 - 501.56	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	25	266.967	126.94 - 501.51	$2s 2p^2 - 2s 2p(^4P^o) 3d$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		168
	5	269.559	289.02 - 660.00	$2p^2 - 2p^2(^4D) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$	Z	226
	40	271.990	71.57 - 439.23	$2s 2p^2 - 2s 2p(^4P^o) 3s$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	40	272.076	71.44 - 438.98	$2s 2p^2 - 2s 2p(^4P^o) 3s$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		86
	60	272.127	71.76 - 439.23	$2s 2p^2 - 2s 2p(^4P^o) 3s$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		86
	25	272.174	71.57 - 438.98	$2s 2p^2 - 2s 2p(^4P^o) 3s$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{5}{2}$		168

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Term	J - J	Notes	References
4	40	272.273	71.57 - 438.85	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	Z	86
	40	272.310	71.76 - 438.98	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		86
	20	279.456	289.02 - 646.86	$2p^2 - 2p(^3P)3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	150	279.631	0.0 - 357.61	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		86
4	200	279.933	0.39 - 357.61	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		86
4	2	282.213	164.37 - 518.71	$2s2p^2 - 2s2p(^1P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		168
	40	285.710	164.37 - 514.37	$2s2p^2 - 2s2p(^3P^o)3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		86
	60	285.834	164.37 - 514.22	$2s2p^2 - 2s2p(^3P^o)3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		86
	10	289.292	231.54 - 577.21	$2p^2 - 2p(^3P)3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		168
5	289.469	231.54 - 577.00	$2p^2 - 2p(^3P)3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		168	
20	2	289.590	231.54 - 576.85	$2p^2 - 2p(^3P)3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		168
	20	289.898	255.16 - 600.11	$2p^2 - 2p(^1D)3s$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	5	289.933	255.18 - 600.09	$2p^2 - 2p(^1D)3s$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	5	291.054	289.02 - 632.60	$2p^2 - 2p(^3P)3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		226
5	291.203	289.02 - 632.43	$2p^2 - 2p(^3P)3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	226	
5	5	294.650	255.16 - 594.54	$2p^2 - 2p(^3P)3s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		226
	5	294.853	255.18 - 594.34	$2p^2 - 2p(^3P)3s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		226
	2	295.051	255.16 - 594.07	$2p^2 - 2s2p(^3P^o)4f$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		168
	2	295.140	255.18 - 594.02	$2p^2 - 2s2p(^3P^o)4f$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		168
5	295.874	180.72 - 518.71	$2s2p^2 - 2s2p(^1P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		168	
10	299.499	180.48 - 514.37	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		86	
	5	299.620	180.48 - 514.22	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$		$\frac{1}{2} - \frac{3}{2}$	168
	5	299.710	180.72 - 514.37	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$		$\frac{3}{2} - \frac{1}{2}$	168
	15	299.853	180.72 - 514.22	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P^o$		$\frac{3}{2} - \frac{3}{2}$	86
90	306.623	126.94 - 453.07	$2s2p^2 - 2s2p(^3P^o)3s$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		86	
60	306.884	126.95 - 452.81	$2s2p^2 - 2s2p(^3P^o)3s$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		86	
	25	311.499	180.48 - 501.51	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$		$\frac{1}{2} - \frac{3}{2}$	86
	40	311.682	180.72 - 501.56	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$		$\frac{3}{2} - \frac{3}{2}$	86
	10	311.726	180.72 - 501.51	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3D^o$		$\frac{3}{2} - \frac{1}{2}$	168
5	321.457	289.02 - 600.11	$2p^2 - 2p(^1D)3s$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226	
5	327.320	289.02 - 594.54	$2p^2 - 2p(^3P)3s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		226	
	1	327.519	289.02 - 594.34	$2p^2 - 2p(^3P)3s$	$^3P^o - ^3P$		$\frac{1}{2} - \frac{1}{2}$	226
	2	339.330	255.16 - 549.86	$2p^2 - 2s2p(^1P^o)3p$	$^3D^o - ^3P$		$\frac{3}{2} - \frac{3}{2}$	168
	1	339.436	255.18 - 549.79	$2p^2 - 2s2p(^1P^o)3p$	$^3D^o - ^3P$		$\frac{3}{2} - \frac{1}{2}$	168
15	346.374	164.37 - 453.07	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		86	
10	346.692	164.37 - 452.31	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		86	
	5	367.192	180.72 - 453.07	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$		$\frac{3}{2} - \frac{3}{2}$	168
	15	379.780	126.94 - 390.25	$2s2p^2 - 2s^23p$	$^3D - ^3P^o$		$\frac{3}{2} - \frac{3}{2}$	86
	10	379.923	126.95 - 390.16	$2s2p^2 - 2s^23p$	$^3D - ^3P^o$		$\frac{3}{2} - \frac{1}{2}$	86
2	442.705	164.37 - 390.25	$2s2p^2 - 2s^23p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		168	
1	442.873	164.37 - 390.16	$2s2p^2 - 2s^23p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		168	
	2	471.273	255.16 - 467.34	$2p^2 - 2s2p(^3P^o)3p$	$^3D^o - ^3P$		$\frac{3}{2} - \frac{3}{2}$	168
	1	471.603	255.18 - 467.23	$2p^2 - 2s2p(^3P^o)3p$	$^3D^o - ^3P$		$\frac{3}{2} - \frac{1}{2}$	168
	5	535.85	390.25 - 576.85	$2s^23p - 2p(^3P)3s$	$^3P^o - ^3P$		$\frac{3}{2} - \frac{1}{2}$	Q
2	542.859	390.16 - 574.37	$2s^23p - 2s^26d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		86	
5	543.03	453.07 - 637.21	$2s2p(^3P^o)3s - 2p(^3P)3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q, Z	127	
	5	543.118	390.25 - 574.37	$2s^23p - 2s^26d$	$^3P^o - ^3D$		$\frac{3}{2} - \frac{3}{2}$	86
	900	553.330	0.0 - 180.72	$2s^22p - 2s2p^2$	$g^3P^o - ^3P$		$\frac{1}{2} - \frac{3}{2}$	86
	950	554.075	0.0 - 180.48	$2s^22p - 2s2p^2$	$g^3P^o - ^3P$		$\frac{1}{2} - \frac{1}{2}$	86
3	1000	554.514	0.39 - 180.72	$2s^22p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		86
3	900	555.261	0.39 - 180.48	$2s^22p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Q, Z	86
	601.57	468.41 - 634.65	$2s2p(^3P^o)3p - 2s2p(^3P^o)5d$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	127		
	800	608.398	0.0 - 164.37	$2s^22p - 2s2p^2$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		86
	850	609.829	0.39 - 164.37	$2s^22p - 2s2p^2$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		86
350	616.952	126.94 - 289.02	$2s2p^2 - 2p^2$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		86	
150	617.005	126.95 - 289.02	$2s2p^2 - 2p^2$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		86	
	275	617.036	126.95 - 289.02	$2s2p^2 - 2p^2$	$^3D - ^3P^o$		$\frac{3}{2} - \frac{1}{2}$	86
	10	617.786	390.16 - 552.03	$2s^23p - 2s^25d$	$^3P^o - ^3D$		$\frac{1}{2} - \frac{3}{2}$	86
	15	618.107	390.25 - 552.03	$2s^23p - 2s^25d$	$^3P^o - ^3D$		$\frac{3}{2} - \frac{3}{2}$	86
620.66	438.98 - 600.11	$2s2p(^3P^o)3s - 2p(^1D)3s$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	127		
6	750	624.617	71.44 - 231.54	$2s2p^2 - 2p^2$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$		86
	800	625.130	71.57 - 231.54	$2s2p^2 - 2p^2$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		86
	850	625.852	71.76 - 231.54	$2s2p^2 - 2p^2$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{1}{2}$		86
	626.49	390.25 - 549.86	$2s^23p - 2s2p(^1P^o)3p$	$^3F^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q		127
713.61	513.20 - 653.37	$2s^24f - 2p(^1D)3d$	$^3F^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		127		
5	742.64	468.41 - 603.08	$2s2p(^3P^o)3p - 2p(^3P)3p$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	127	
	752.150	419.55 - 552.50	$2s^23d - 2s^25f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		86	
	769.78	467.34 - 597.25	$2s2p(^3P^o)3p - 2p(^3P)3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{1}{2}$		127	
	200	779.734	126.94 - 255.18	$2s2p^2 - 2p^2$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	86	
400	779.821	126.95 - 255.18	$2s2p^2 - 2p^2$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		86	
8	500	779.912	126.94 - 255.16	$2s2p^2 - 2p^2$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		86
	200	779.997	126.95 - 255.16	$2s2p^2 - 2p^2$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		86
	850	787.711	0.0 - 126.95	$2s^22p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		86
	750	790.109	0.39 - 126.95	$2s^22p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		86
900	790.199	0.39 - 126.94	$2s^22p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		86	

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		797.62						127
200	802.200		164.37 - 289.02	$2s2p^2 - 2p^3$	$^3S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		86
150	802.255		164.37 - 289.02	$2s2p^2 - 2p^3$	$^3S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		86
10	830.506		390.16 - 510.57	$2s^33p - 2s^34d$	$^3P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		86
15	831.070		390.25 - 510.57	$2s^33p - 2s^34d$	$^3P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		86
120	921.296		180.48 - 289.02	$2s2p^2 - 2p^3$	$^3P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		86
150	921.366		180.48 - 289.02	$2s2p^2 - 2p^3$	$^3P - ^1P$	$\frac{1}{2} - \frac{1}{2}$		86
200	923.367		180.72 - 289.02	$2s2p^2 - 2p^3$	$^3P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		86
120	923.433		180.72 - 289.02	$2s2p^2 - 2p^3$	$^3P - ^1P$	$\frac{3}{2} - \frac{1}{2}$		86
25	988.523		495.17 - 596.33	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{3}{2} - \frac{5}{2}$		86
40	988.571		495.25 - 596.40	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{5}{2} - \frac{7}{2}$		86
40	988.628		495.36 - 596.51	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{7}{2} - \frac{9}{2}$		86
40	988.713		495.51 - 596.66	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{9}{2} - \frac{11}{2}$		86
	1016.39							127
15	1045.384		390.16 - 485.82	$2s^33p - 2s^34s$	$^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		86
25	1046.316		390.25 - 485.82	$2s^33p - 2s^34s$	$^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		86
25	1061.780		499.77 - 593.95	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		86
25	1061.952		499.80 - 593.96	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{3}{2} - \frac{5}{2}$		86
40	1062.133		499.84 - 593.99	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{5}{2} - \frac{7}{2}$		86
40	1062.271		499.91 - 594.04	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{7}{2} - \frac{9}{2}$		86
10	1062.434		499.84 - 593.96	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{9}{2} - \frac{11}{2}$		86
10	1062.840		499.91 - 593.99	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{11}{2} - \frac{13}{2}$		86
120	1067.910		419.55 - 513.20	$2s^33d - 2s^34f$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		86
60	1080.965		501.56 - 594.07	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{3}{2} - \frac{5}{2}$		86
10	1081.645		501.56 - 594.02	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3D - ^3F$	$\frac{5}{2} - \frac{7}{2}$		86
10	1083.382		504.21 - 596.51	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3P - ^3D$	$\frac{3}{2} - \frac{5}{2}$		86
10	1083.613		504.28 - 596.57	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3P - ^3D$	$\frac{5}{2} - \frac{7}{2}$		86
40	1084.189		504.10 - 596.33	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3P - ^3D$	$\frac{7}{2} - \frac{9}{2}$		86
25	1164.320		510.74 - 596.63	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{3}{2} - \frac{5}{2}$		86
40	1164.545		510.98 - 596.85	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{5}{2} - \frac{7}{2}$		86
10	1167.532							86
2	1169.160		510.98 - 596.51	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3F - ^3G$	$\frac{7}{2} - \frac{9}{2}$		86
5	1211.043							86
60	1213.035		514.22 - 596.66	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3P - ^3D$	$\frac{3}{2} - \frac{5}{2}$		86
40	1213.196		514.37 - 596.80	$2s2p(^3P)3d - 2s2p(^3P)4f$	$^3P - ^3D$	$\frac{5}{2} - \frac{7}{2}$		86
200	1338.612		180.48 - 255.18	$2s2p^2 - 2p^3$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		86
120	1342.992		180.72 - 255.18	$2s2p^2 - 2p^3$	$^3P - ^3D$	$\frac{3}{2} - \frac{5}{2}$		86
275	1343.512		180.72 - 255.16	$2s2p^2 - 2p^3$	$^3P - ^3D$	$\frac{5}{2} - \frac{7}{2}$		86
10	1397.20		0.0 - 71.57	$2s^32p - 2s^32p^2$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		86
25	1399.774		0.0 - 71.44	$2s^32p - 2s^32p^2$	$g^3P - ^3P$	$\frac{3}{2} - \frac{5}{2}$		86
60	1401.156		0.39 - 71.76	$2s^32p - 2s^32p^2$	$g^3P - ^3P$	$\frac{5}{2} - \frac{7}{2}$		86
15	1404.812		0.39 - 71.57	$2s^32p - 2s^32p^2$	$g^3P - ^3P$	$\frac{7}{2} - \frac{9}{2}$		86
25	1407.386		0.39 - 71.44	$2s^32p - 2s^32p^2$	$g^3P - ^3P$	$\frac{9}{2} - \frac{11}{2}$		86
5	1604.620		513.19 - 575.51	$2s^34f - 2s^36g$	$^3F - ^3G$	$\frac{3}{2} - \frac{5}{2}$		86
10	1604.901		513.20 - 575.51	$2s^34f - 2s^36g$	$^3F - ^3G$	$\frac{5}{2} - \frac{7}{2}$		86
15	1639.430		485.82 - 546.82	$2s^34s - 2s^35p$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		86
10	1639.842		485.82 - 546.80	$2s^34s - 2s^35p$	$^3S - ^3P$	$\frac{3}{2} - \frac{5}{2}$		86

OXYGEN V (O^{+}), $Z = 8$ Ground State $1s^22s^2\ ^1S_0$ (4 electrons)Ionization Potential 918 657 cm^{-1} ; 113.900 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	114.225		82.38 - 957.85	$2s2p - 2p(^3P_{2/2})7p$	$^3P - ^3P$	2 - 2	Z	226
5	114.295		82.38 - 957.31	$2s2p - 2p(^3P_{2/2})7p$	$^3P - ^3D$	2 - 3	Z	226
5	114.358		0.0 - 874.45	$2s^2 - 2s8p$	$g^3S - ^3P$	0 - 1		226
20	116.161		0.0 - 860.87	$2s^2 - 2s7p$	$g^3S - ^3P$	0 - 1		226
20	117.063		82.38 - 936.62	$2s2p - 2p(^3P_{2/2})6p$	$^3P - ^3P$	2 - 2	Z	226
20	117.181		82.38 - 935.76	$2s2p - 2p(^3P_{2/2})6p$	$^3P - ^3D$	2 - 3	Z	226
40	118.000		0.0 - 847.46	$2s^2 - 2p(^3P_{2/2})4d$	$g^3S - ^3P$	0 - 1		226
70	119.102		0.0 - 839.62	$2s^2 - 2s6p$	$g^3S - ^3P$	0 - 1		226
5	122.088		82.08 - 901.16	$2s2p - 2p(^3P_{2/2})5p$	$^3P - ^3P$	1 - 2		226
40	122.133		82.38 - 901.16	$2s2p - 2p(^3P_{2/2})5p$	$^3P - ^3P$	2 - 2		226

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
70	122.383	82.38 - 899.49		2s2p - 2p($^3P_{3/2}^o$)5p	$^3P^o - ^3D$	2-3		226
160	124.618	0.0 - 802.47		2s ² - 2s5p	$g^1S - ^1P^o$	0-1		226
5	126.082	82.08 - 875.18		2s2p - 2s8d	$^3P^o - ^3D$	1-2		226
20	126.135	82.38 - 875.18		2s2p - 2s8d	$^3P^o - ^3D$	2-3		226
20	128.246	82.08 - 861.79		2s2p - 2s7d	$^3P^o - ^3D$	1-2		226
40	128.302	82.38 - 861.79		2s2p - 2s7d	$^3P^o - ^3D$	2-3		226
5	128.445	158.80 - 937.34		2s2p - 2p($^3P_{3/2}^o$)6p	$^3P^o - ^1D$	1-2	Z	226
1	128.817	158.80 - 935.09		2s2p - 2p($^3P_{3/2}^o$)6p	$^3P^o - ^1P$	1-1	Z	226
20	131.738	81.94 - 841.03		2s2p - 2s6d	$^3P^o - ^3D$	0-1		226
40	131.758	82.08 - 841.03		2s2p - 2s6d	$^3P^o - ^3D$	1-2		226
70	131.812	82.38 - 841.03		2s2p - 2s6d	$^3P^o - ^3D$	2-3		226
40	132.797	81.94 - 834.97		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3P$	0-1		226
70	132.845	82.38 - 835.14		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3P$	2-2		226
20	132.875	82.38 - 834.97		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3P$	2-1		226
5	133.316	81.94 - 832.07		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3S$	0-1		226
20	133.335	82.08 - 832.07		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3S$	1-1		226
40	133.389	82.38 - 832.07		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3S$	2-1		226
110	133.522	82.38 - 831.33		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3D$	2-3		226
5	133.549	82.08 - 830.86		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3D$	1-1		226
5	133.574	82.38 - 831.03		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3D$	2-2		226
5	134.205	213.88 - 959.01		2p ² - 2p($^3P_{3/2}^o$)7d	$^3P - ^3D^o$	2-3	Z	226
20	134.473	158.80 - 902.44		2s2p - 2p($^3P_{3/2}^o$)5p	$^3P^o - ^1D$	1-2		226
5	135.175	158.80 - 898.58		2s2p - 2p($^3P_{3/2}^o$)5p	$^3P^o - ^1P$	1-1		226
220	135.523	0.0 - 737.88		2s ² - 2s4p	$g^1S - ^1P^o$	0-1		226
70	138.025	81.94 - 806.44		2s2p - 2s5d	$^3P^o - ^3D$	0-1		226
110	138.051	82.08 - 806.45		2s2p - 2s5d	$^3P^o - ^3D$	1-2		226
160	138.110	82.38 - 806.45		2s2p - 2s5d	$^3P^o - ^3D$	2-3		226
220	139.028	0.0 - 719.27		2s ² - 2p($^3P_{3/2}^o$)3d	$g^1S - ^1P^o$	0-1		226
1	140.030	81.94 - 796.07		2s2p - 2s5s	$^3P^o - ^3S$	0-1		226
5	140.052	82.08 - 796.07		2s2p - 2s5s	$^3P^o - ^3S$	1-1		226
20	140.115	82.38 - 796.07		2s2p - 2s5s	$^3P^o - ^3S$	2-1		226
5	142.122	158.80 - 862.42		2s2p - 2s7d	$^3P^o - ^1D$	1-2		226
5	144.734	213.88 - 904.81		2p ² - 2p($^3P_{3/2}^o$)5d	$^3P - ^3P^o$	2-2		226
40	144.809	213.61 - 904.32		2p ² - 2p($^3P_{3/2}^o$)5d	$^3P - ^3D^o$	1-2		226
70	144.837	213.88 - 904.32		2p ² - 2p($^3P_{3/2}^o$)5d	$^3P - ^3D^o$	2-3		226
40	146.347	158.80 - 842.09		2s2p - 2s6d	$^3P^o - ^1D$	1-2		226
1	146.920	158.80 - 839.43		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^3S$	1-0		226
110	147.263	158.80 - 837.86		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^1D$	1-2		226
5	148.218	231.72 - 906.40		2p ² - 2p($^3P_{3/2}^o$)5d	$^1D - ^1F^o$	2-3	Q	226
5	149.038	231.72 - 902.69		2p ² - 2p($^3P_{3/2}^o$)5d	$^1D - ^1D^o$	2-2		226
70	149.076	158.80 - 829.60		2s2p - 2p($^3P_{3/2}^o$)4p	$^3P^o - ^1P$	1-1		226
160	151.4470	81.94 - 742.24		2s2p - 2s4d	$^3P^o - ^3D$	0-1	P	226
200	151.4772	82.08 - 742.24		2s2p - 2s4d	$^3P^o - ^3D$	1-2	P	226
100	151.4782	82.08 - 742.24		2s2p - 2s4d	$^3P^o - ^3D$	1-1	P	226
250	151.5465	82.38 - 742.25		2s2p - 2s4d	$^3P^o - ^3D$	2-3	P	226
100	151.5476	82.38 - 742.24		2s2p - 2s4d	$^3P^o - ^3D$	2-2		226
110	153.952	158.80 - 808.35		2s2p - 2s5d	$^3P^o - ^1D$	1-2		226
20	156.119	81.94 - 722.48		2s2p - 2s4s	$^3P^o - ^3S$	0-1		226
40	156.152	82.08 - 722.48		2s2p - 2s4s	$^3P^o - ^3S$	1-1		226
70	156.227	82.38 - 722.48		2s2p - 2s4s	$^3P^o - ^3S$	2-1		226
20	158.792	213.46 - 843.22		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3P^o$	0-1		226
40	158.818	213.61 - 843.27		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3P^o$	1-0		226
5	158.858	213.61 - 843.11		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3P^o$	1-2		226
20	158.899	213.88 - 843.22		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3P^o$	2-1		226
70	158.926	213.88 - 843.11		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3P^o$	2-2		226
70	159.327	213.46 - 841.11		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3D^o$	0-1		226
110	159.343	213.61 - 841.19		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3D^o$	1-2		226
160	159.380	213.88 - 841.32		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3D^o$	2-3		226
40	159.411	213.88 - 841.19		2p ² - 2p($^3P_{3/2}^o$)4d	$^3P - ^3D^o$	2-2		226
1	160.023	213.61 - 838.37		2p ² - 2s6p	$^3P - ^3P^o$	1-2		226
5	160.059	213.61 - 838.37		2p ² - 2s6p	$^3P - ^3P^o$	1-2		226
5	160.132	213.88 - 838.37		2p ² - 2s6p	$^3P - ^3P^o$	2-2		226
160	162.492	231.72 - 847.14		2p ² - 2p($^3P_{3/2}^o$)4d	$^1D - ^1F^o$	2-3		226
125	163.85	213.88 - 824.28		2p ² - 2p($^3P_{3/2}^o$)4s	$^3P - ^3P^o$	2-1	Q	391
70	164.174	231.72 - 840.82		2p ² - 2s6f	$^1D - ^1F^o$	2-3		226
160	164.573	82.08 - 689.71		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^1P$	1-2		226
110	164.588	81.94 - 689.51		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^1P$	0-1		226
70	164.625	82.08 - 689.51		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^1P$	1-1		226
220	164.656	82.38 - 689.71		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^1P$	2-2		226
160	164.708	82.38 - 689.51		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^1P$	2-1		226
70	164.986	231.72 - 837.83		2p ² - 2p($^3P_{3/2}^o$)4d	$^1D - ^1D^o$	2-2		226
1	165.218	231.72 - 836.98		2p ² - 2p($^3P_{3/2}^o$)4d	$^1D - ^1F^o$	2-2		226
5	165.349	213.88 - 818.67		2p ² - 2p($^3P_{3/2}^o$)4s	$^3P - ^3P^o$	2-2		226
70	166.112	81.94 - 683.94		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^3S$	0-1		226
110	166.150	82.08 - 683.94		2s2p - 2p($^3P_{3/2}^o$)3p	$^3P^o - ^3S$	1-1		226

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
6	160	166.234	82.38 - 683.94	2s2p - 2p(² P _{3/2})3p	¹ P° - ³ S	2 - 1		226
6	285	167.988	82.38 - 677.66	2s2p - 2p(² P _{3/2})3p	¹ P° - ¹ D	2 - 3		226
6	110	168.007	81.94 - 677.15	2s2p - 2p(² P _{1/2})3p	¹ P° - ¹ D	0 - 1		226
6	70	168.046	82.08 - 677.15	2s2p - 2p(² P _{1/2})3p	¹ P° - ¹ D	1 - 1		226
	70	168.076	82.38 - 677.35	2s2p - 2p(² P _{1/2})3p	¹ P° - ¹ D	2 - 2		226
	5	168.132	82.38 - 677.15	2s2p - 2p(² P _{1/2})3p	¹ P° - ¹ D	2 - 1		226
	20	168.759	231.72 - 824.28	2p ² - 2p(² P _{3/2})4s	¹ D - ¹ P°	2 - 1		226
2	220	170.218	158.80 - 746.27	2s2p - 2s4d	¹ P° - ¹ D	1 - 2		226
	750	172.169	0.0 - 580.82	2s ² - 2s3p	³ S - ¹ P°	0 - 1		226
	40	174.560	158.80 - 731.67	2s2p - 2s4s	¹ P° - ¹ S	1 - 0		226
	70	178.715	287.91 - 847.46	2p ² - 2p(² P _{3/2})4d	¹ S - ¹ P°	0 - 1		226
	10	181.26	287.91 - 839.62	2p ² - 2s6p	¹ S - ¹ P°	0 - 1	P	391
	40	182.205	158.80 - 707.64	2s2p - 2p(² P _{3/2})3p	¹ P° - ¹ S	1 - 0		226
12	450	185.745	158.80 - 697.17	2s2p - 2p(² P _{3/2})3p	¹ P° - ¹ D	1 - 2		226
	1	186.442	287.91 - 824.28	2p ² - 2p(² P _{3/2})4s	¹ S - ¹ P°	0 - 1		226
	1	191.400	213.46 - 735.92	2p ² - 2s4p	¹ P - ¹ P°	0 - 1		226
	5	191.460	213.61 - 735.92	2p ² - 2s4p	¹ P - ¹ P°	1 - 1		226
	20	191.550	213.88 - 735.95	2p ² - 2s4p	¹ P - ¹ P°	2 - 2		226
5	650	192.751	81.94 - 600.75	2s2p - 2s3d	¹ P° - ¹ D	0 - 1		226
5	750	192.799	82.08 - 600.76	2s2p - 2s3d	¹ P° - ¹ D	1 - 2		226
5	900	192.906	82.38 - 600.78	2s2p - 2s3d	¹ P° - ¹ D	2 - 3		226
	160	193.003	231.72 - 749.84	2p ² - 2s4f	¹ D - ¹ F°	2 - 3		226
11	360	194.593	158.80 - 672.69	2s2p - 2p(² P _{1/2})3p	¹ P° - ¹ P	1 - 1		226
14	300	202.161	213.46 - 708.12	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	0 - 1		83, 168
14	300	202.191	213.61 - 708.20	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	1 - 0		168
14	300	202.224	213.61 - 708.12	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	1 - 1		83, 168
14	300	202.283	213.61 - 707.98	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	1 - 2		83, 168
14	300	202.334	213.88 - 708.12	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	2 - 1		83, 168
14	380	202.393	213.88 - 707.98	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ P°	2 - 2		83, 168
13	330	203.783	213.46 - 704.18	2p ² - 2p(² P _{1/2})3d	¹ P - ¹ D°	0 - 1		168
13	380	203.821	213.61 - 704.24	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ D°	1 - 2		168
13	330	203.851	213.61 - 704.18	2p ² - 2p(² P _{1/2})3d	¹ P - ¹ D°	1 - 1		168
13	420	203.890	213.88 - 704.35	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ D°	2 - 3		168
13	330	203.935	213.88 - 704.24	2p ² - 2p(² P _{3/2})3d	¹ P - ¹ D°	2 - 2		168
	150	205.105	231.72 - 719.27	2p ² - 2p(² P _{3/2})3d	¹ D - ¹ P°	2 - 1		83
16	550	207.794	231.72 - 712.96	2p ² - 2p(² P _{3/2})3d	¹ D - ¹ F°	2 - 3		83
4	380	215.040	81.94 - 546.97	2s2p - 2s3s	¹ P° - ³ S	0 - 1		82
4	420	215.103	82.08 - 546.97	2s2p - 2s3s	¹ P° - ³ S	1 - 1		83
4	500	215.245	82.38 - 546.97	2s2p - 2s3s	¹ P° - ³ S	2 - 1		83
15	500	216.018	231.72 - 694.64	2p ² - 2p(² P _{1/2})3d	¹ D - ¹ D°	2 - 2		83
10	800	220.352	158.80 - 612.62	2s2p - 2s3d	¹ P° - ¹ D	1 - 2		83
	200	222.235	287.91 - 737.88	2p ² - 2s4p	¹ S - ¹ P°	0 - 1		83
	300	227.372	213.61 - 653.42	2p ² - 2p(² P _{3/2})3s	¹ P - ¹ P°	1 - 2		83
	300	227.469	213.46 - 653.08	2p ² - 2p(² P _{1/2})3s	¹ P - ¹ P°	0 - 1		83
	380	227.511	213.88 - 653.42	2p ² - 2p(² P _{3/2})3s	¹ P - ¹ P°	2 - 2		83
	300	227.549	213.61 - 653.08	2p ² - 2p(² P _{1/2})3s	¹ P - ¹ P°	1 - 1		83
	300	227.634	213.61 - 652.91	2p ² - 2p(² P _{1/2})3s	¹ P - ¹ P°	1 - 0		83
	300	227.689	213.88 - 653.08	2p ² - 2p(² P _{1/2})3s	¹ P - ¹ P°	2 - 1		83
	380	231.070	231.72 - 664.49	2p ² - 2p(² P _{3/2})3s	¹ D - ¹ P°	2 - 1		168
	380	231.823	287.91 - 719.27	2p ² - 2p(² P _{3/2})3d	¹ S - ¹ P°	0 - 1		83
9	330	248.459	158.80 - 561.28	2s2p - 2s3s	¹ P° - ¹ S	1 - 0		83
	250	265.550	287.91 - 664.49	2p ² - 2p(² P _{3/2})3s	¹ S - ¹ P°	0 - 1		168
	10	270.982	213.88 - 582.92	2p ² - 2s3p	¹ P - ¹ P°	2 - 2		168
	100	286.448	231.72 - 580.82	2p ² - 2s3p	¹ D - ¹ P°	2 - 1		83
	10	341.391	287.91 - 580.82	2p ² - 2s3p	¹ S - ¹ P°	0 - 1		168
	3	343.168	546.97 - 838.37	2s3s - 2s6p	³ S - ¹ P°	1 - 2		83
	1	382.757	580.82 - 842.09	2s3p - 2s6d	¹ P° - ¹ D	1 - 2		83
	15	390.755	546.97 - 802.88	2s3s - 2s5p	¹ S - ¹ P°	1 - 2		83
	25	413.296	600.78 - 842.74	2s3d - 2s6f	¹ D - ¹ F°	3 - 4		83
	3	414.612	561.28 - 802.47	2s3s - 2s5p	¹ S - ¹ P°	0 - 1		83
	1	438.197	612.62 - 840.82	2s3d - 2s6f	¹ D - ¹ F°	2 - 3		83
	15	439.517	580.82 - 808.35	2s3p - 2s5d	¹ P° - ¹ D	1 - 2		83
	15	447.226	582.84 - 806.45	2s3p - 2s5d	¹ P° - ¹ D	1 - 2		83
	25	447.356	582.92 - 806.45	2s3p - 2s5d	¹ P° - ¹ D	2 - 3		83
	3	469.150	582.92 - 796.07	2s3p - 2s5s	¹ P° - ¹ S	2 - 1		83
	60	481.136	600.78 - 808.61	2s3d - 2s5f	¹ D - ¹ F°	3 - 4		83
	15	509.415	612.62 - 808.92	2s3d - 2s5f	¹ D - ¹ F°	2 - 3		83
	30	529.167	546.97 - 735.95	2s3s - 2s4p	³ S - ¹ P°	1 - 2	P	83
	20	529.242	546.97 - 735.92	2s3s - 2s4p	¹ S - ¹ P°	1 - 1	P	83
	15	529.272	546.97 - 735.91	2s3s - 2s4p	¹ S - ¹ P°	1 - 0	P	83
	7	561.959	653.08 - 831.03	2p(² P _{1/2})3s - 2p(² P _{1/2})4p	¹ P° - ¹ D	1 - 2		83
	15	562.080	653.42 - 831.33	2p(² P _{1/2})3s - 2p(² P _{1/2})4p	¹ P° - ¹ D	2 - 3		83
	7	566.232	561.28 - 737.88	2s3s - 2s4p	¹ S - ¹ P°	0 - 1		83
	80	604.416	580.82 - 746.27	2s3p - 2s4d	¹ P° - ¹ D	1 - 2		83
	7	627.225	582.80 - 742.24	2s3p - 2s4d	¹ P° - ¹ D	0 - 1		83

Multiplet	Rel. Int.	λ_{vac} (in Å)	Lengths (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	25	627.351	582.84 - 742.24	$2s3p - 2s4d$	$3P^o - 3D$	1-2		83
	40	627.636	582.92 - 742.25	$2s3p - 2s4d$	$3P^o - 3D$	2-3		83
	100D	629.730	0.0 - 158.80	$2s^2 - 2s2p$	$3S^o - 3P^o$	0-1		83
	7	634.207	692.62 - 845.48	$2p(P_{3/2}^o)3d - 2p(P_{3/2}^o)4f$	$3F^o - 3G$	2-3		127
	15	634.712	692.81 - 845.54	$2p(P_{3/2}^o)3d - 2p(P_{3/2}^o)4f$	$3F^o - 3G$	3-4		83
	40	635.039	693.04 - 845.70	$2p(P_{3/2}^o)3d - 2p(P_{3/2}^o)4f$	$3F^o - 3G$	4-5		83
	3	662.928	580.82 - 731.67	$2s3p - 2s4s$	$3P^o - 3S$	1-0		83
	3	668.225	82.08 - 231.72	$2s2p - 2p^2$	$3P^o - 3D$	1-2		83
	40	669.628	82.38 - 231.72	$2s2p - 2p^2$	$3P^o - 3D$	2-2		83
	7	677.968	692.62 - 840.12	$2p(P_{3/2}^o)3d - 2s6g$	$3F^o - 3G$	2-3		83
	15	678.612	692.81 - 840.17	$2p(P_{3/2}^o)3d - 2s6g$	$3F^o - 3G$	3-4		83
3	25	679.136	693.04 - 840.29	$2p(P_{3/2}^o)3d - 2s6g$	$3F^o - 3G$	4-5		83
	70	681.192	600.75 - 747.55	$2s3d - 2s4f$	$3D - 3F^o$	1-2		83
	100	681.238	600.76 - 747.55	$2s3d - 2s4f$	$3D - 3F^o$	2-3		83
	150	681.332	600.78 - 747.55	$2s3d - 2s4f$	$3D - 3F^o$	3-4		83
	15	715.955	582.87 - 722.48	$2s3p - 2s4s$	$3P^o - 3S$	0-1		83
	15	716.137	582.84 - 722.48	$2s3p - 2s4s$	$3P^o - 3S$	1-1		83
	40	716.553	582.92 - 722.48	$2s3p - 2s4s$	$3P^o - 3S$	2-1		83
	100	728.733	612.62 - 749.84	$2s3d - 2s4f$	$3D - 3F^o$	2-3		83
	15	739.810	600.78 - 735.95	$2s3d - 2s4p$	$3D - 3P^o$	3-2		83
	7	739.847	600.76 - 735.92	$2s3d - 2s4p$	$3D - 3P^o$	2-1		83
	3	752.019	712.96 - 845.94	$2p(P_{3/2}^o)3d - 2p(P_{3/2}^o)4f$	$3F^o - 3G$	3-4		127
3	700	758.678	82.79 - 213.88	$2s2p - 2p^2$	$3P^o - 3P$	1-2		83
	640	759.441	81.94 - 213.61	$2s2p - 2p^2$	$3P^o - 3P$	0-1		83
	580	760.228	82.08 - 213.61	$2s2p - 2p^2$	$3P^o - 3P$	1-1		83
	775	760.445	82.38 - 213.88	$2s2p - 2p^2$	$3P^o - 3P$	2-2		83
	640	761.128	82.08 - 213.46	$2s2p - 2p^2$	$3P^o - 3P$	1-0		83
	700	762.003	82.38 - 213.61	$2s2p - 2p^2$	$3P^o - 3P$	2-1		83
	8	774.518	158.80 - 287.91	$2s2p - 2p^2$	$3P^o - 3S$	1-0		83
	520	784.795	712.96 - 840.39	$2p(P_{3/2}^o)3d - 2s6g$	$3F^o - 3G$	3-4		83
	3	788.577	580.82 - 707.64	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3S$	1-0		83
	40	1055.451	582.92 - 677.66	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3D$	2-3		83
	15	1058.149	582.84 - 677.35	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3D$	1-2		83
7	7	1058.998	582.92 - 677.35	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3D$	2-2		83
	7	1059.930	582.80 - 677.15	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3D$	0-1		83
	3	1060.380	582.84 - 677.15	$2s3p - 2p(P_{3/2}^o)3p$	$3P^o - 3D$	1-1		83
	3	1218.406	0.0 - 82.08	$2s^2 - 2s2p$	$3S^o - 3P^o$	0-1		83
	3	1243.801	722.48 - 802.88	$2s4s - 2s5p$	$3S^o - 3P^o$	1-2		83
	15	1371.26	158.80 - 231.72	$2s3p - 2p^2$	$3P^o - 3D$	1-2		856
	640	1371.292	158.80 - 231.72	$2s3p - 2p^2$	$3P^o - 3D$	1-2		83
	3	1417.740	735.91 - 806.44	$2s4p - 2s5d$	$3P^o - 3D$	0-1		83
	7	1417.908	735.92 - 806.45	$2s4p - 2s5d$	$3P^o - 3D$	1-2		83
	15	1418.393	735.95 - 806.45	$2s4p - 2s5d$	$3P^o - 3D$	2-3		83
	7	1419.009	737.88 - 808.35	$2s4p - 2s5d$	$3P^o - 3D$	1-2		83
7	60	1506.623	742.24 - 808.61	$2s4d - 2s5f$	$3D - 3F^o$	1-2		83
	80	1506.709	742.24 - 808.61	$2s4d - 2s5f$	$3D - 3F^o$	2-3		83
	100	1506.762	742.25 - 808.61	$2s4d - 2s5f$	$3D - 3F^o$	3-4		83
	80	1596.375	746.27 - 808.92	$2s4d - 2s5f$	$3D - 3F^o$	2-3		83
	250	1643.617	747.55 - 808.39	$2s4f - 2s5g$	$3F^o - 3G$	4-5		83
	200	1643.718	747.55 - 808.38	$2s4f - 2s5g$	$3F^o - 3G$	3-4		83
	160	1707.996	749.84 - 808.39	$2s4f - 2s5g$	$3F^o - 3G$	3-4		83
	7	1844.419	808.39 - 862.61	$2s5g - 2s7h$	$3G^o - 3H^o$	5-6		83
	3	1845.590	808.61 - 862.80	$2s5f - 2s7g$	$3F^o - 3G$	4-5		83
	2	1845.601	808.61 - 862.79	$2s5f - 2s7g$	$3F^o - 3G$	3-4		83
	1	1845.696	808.61 - 862.79	$2s5f - 2s7g$	$3F^o - 3G$	2-3		83

Ground State $1s^2 2s^2 \ ^3S_{1/2}$ (3 electrons)Ionization Potential 1114008 cm^{-1} ; 138.121 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	21.649	640.04 - 5259.19	$1s^2 3s - 1s2p3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	434
	4	21.676	640.04 - 5253.44	$1s^2 3s - 1s2p3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	434
	3	21.781	96.91 - 4688.07	$1s^2 2p - 1s2p^2$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Z	434
	4	21.845	0.0 - 4577.71	$1s^2 2s - 1s2p(^3P)2s$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	434
	4	22.020	0.0 - 4541.33	$1s^2 2s - 1s2p(^1P)2s$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Z	434
	3	22.044	96.91 - 4633.29	$1s^2 2p - 1s2p^2$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	434
	4	22.120	96.91 - 4617.71	$1s^2 2p - 1s2p^2$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	434
	100	93.03	0.0 - 1074.92	$1s^2 2s - 1s^2 10p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		555
	20	93.915	0.0 - 1064.79	$1s^2 2s - 1s^2 9p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	40	95.082	0.0 - 1051.72	$1s^2 2s - 1s^2 8p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	70	96.840	0.0 - 1032.63	$1s^2 2s - 1s^2 7p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	110	99.688	0.0 - 1003.13	$1s^2 2s - 1s^2 6p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	20	101.57	96.91 - 1081.45	$1s^2 2p - 1s^2 11d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		555
	40	102.37	96.91 - 1073.76	$1s^2 2p - 1s^2 10d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		897, 555
	5	103.206	96.38 - 1065.31	$1s^2 2p - 1s^2 9d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
	20	103.260	96.91 - 1065.34	$1s^2 2p - 1s^2 9d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	20	104.612	96.38 - 1052.30	$1s^2 2p - 1s^2 8d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
	40	104.669	96.91 - 1052.30	$1s^2 2p - 1s^2 8d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	220	104.813	0.0 - 954.08	$1s^2 2s - 1s^2 5p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	40	106.731	96.38 - 1033.32	$1s^2 2p - 1s^2 7d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
	70	106.789	96.91 - 1033.32	$1s^2 2p - 1s^2 7d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	5	107.081	96.91 - 1030.78	$1s^2 2p - 1s^2 7s$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		226
	40	109.27	4600.0 + K - 5515.2 + K	$1s^2 2p - 1s^2 9p$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	391
	70	110.157	96.38 - 1004.18	$1s^2 2p - 1s^2 6d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
	110	110.220	96.91 - 1004.18	$1s^2 2p - 1s^2 6d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	5	110.655	96.38 - 1000.08	$1s^2 2p - 1s^2 6s$	$^1P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		226
	20	110.721	96.91 - 1000.08	$1s^2 2p - 1s^2 6s$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		226
		111.6						897
	50	114.25	4600.0 + K - 5475.3 + K	$1s2p^2 - 1s2p4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	ZZ	391
	360	115.822	0.0 - 863.40	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
	285	115.830	0.0 - 863.33	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		226
	160	116.350	96.38 - 955.86	$1s^2 2p - 1s^2 5d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
	220	116.421	96.91 - 955.86	$1s^2 2p - 1s^2 5d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	5	116.666	96.91 - 954.08	$1s^2 2p - 1s^2 5p$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	F	226
	20	117.327	96.38 - 948.69	$1s^2 2p - 1s^2 5s$	$^1P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		226
	5	117.401	96.91 - 948.69	$1s^2 2p - 1s^2 5s$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		226
5	450	129.785	96.38 - 866.88	$1s^2 2p - 1s^2 4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
5	550	129.871	96.91 - 866.90	$1s^2 2p - 1s^2 4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
	110	132.219	96.38 - 852.70	$1s^2 2p - 1s^2 4s$	$^1P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		226
	160	132.312	96.91 - 852.70	$1s^2 2p - 1s^2 4s$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		226
	30	134.3	4670.0 + R - 5414.6 + R	$1s2s2p - 1s2s4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	391
	80	137.43	4670.0 + R - 5397.6 + R	$1s2s2p - 1s2s3d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	391
	130	145.78	4600.0 + K - 5286.0 + K	$1s2p^2 - 1s2s5p$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	391
		145.95	4577.71 - 5262.5 + K	$1s2p(^3P)2s - 1s2p3p$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q, ZZ	897
2	750	150.089	0.0 - 666.27	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		226
2	650	150.124	0.0 - 666.11	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		226
4	750	172.935	96.38 - 674.63	$1s^2 2p - 1s^2 3d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		226
4	900	173.082	96.91 - 674.68	$1s^2 2p - 1s^2 3d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		226
3	360	183.937	96.38 - 640.04	$1s^2 2p - 1s^2 3s$	$^1P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		226
3	450	184.117	96.91 - 640.04	$1s^2 2p - 1s^2 3s$	$^1P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		226
	405		4948.7 + R - 5195.6 + R	$1s2s3s - 1s2s4p$	$^1S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	725
	440		5187.3 + R - 5414.6 + R	$1s2p3s - 1s2s4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
	443		5260.0 + L - 5485.7 + L	$1s2p3p - 1s2p4d$	$^1D - ^3P$	$\frac{1}{2} - \frac{3}{2}$	ZZ	725
	10	447.712	640.04 - 863.40	$1s^2 3s - 1s^2 4p$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		168
	10	447.840	640.04 - 863.33	$1s^2 3s - 1s^2 4p$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		168
	449		5191.9 + R - 5414.6 + R	$1s2s3p - 1s2s4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
	470		5262.5 + K - 5475.3 + K	$1s2p3p - 1s2p4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
	472		5260.0 + L - 5471.9 + L	$1s2p3p - 1s2p4d$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	ZZ	725
	474		5397.6 + R - 5608.6 + R	$1s2s3d - 1s2s4f$	$^1D - ^3F$	$\frac{1}{2} - \frac{3}{2}$	ZZ	725
	475		5191.9 + R - 5402.4 + R	$1s2s3p - 1s2s4s$	$^1P - ^3S$	$\frac{3}{2} - \frac{3}{2}$	ZZ	725
	495		5195.6 + R - 5397.6 + R	$1s2s4p - 1s2s3d$	$^1P - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
10	498.090		666.11 - 866.88	$1s^2 3p - 1s^2 4d$	$^1P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		168
100	498.431		666.27 - 866.90	$1s^2 3p - 1s^2 4d$	$^1P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		168
	501		5264.0 + K - 5463.6 + K	$1s2p3p - 1s2p4s$	$^1S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	725
	505		5067.0 + L - 5265.0 + L	$1s2p3d - 1s2p4p$	$^1F - ^3D$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
200	519.610		674.63 - 867.08	$1s^2 3d - 1s^2 4f$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		168
200	519.723		674.68 - 867.09	$1s^2 3d - 1s^2 4f$	$^1D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		168
	525		5079.5 + L - 5270.0 + L	$1s2p3d - 1s2p4p$	$^1D - ^3P$	$\frac{1}{2} - \frac{3}{2}$	ZZ	725
	539		5079.5 + L - 5265.0 + L	$1s2p3d - 1s2p4p$	$^1D - ^3D$	$\frac{1}{2} - \frac{1}{2}$	ZZ	725
	551		5088.5 + L - 5270.0 + L	$1s2p3d - 1s2p4p$	$^1P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	ZZ	725

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	850	562.	5088.5 + L - 5265.0 + L	1s2p3d - 1s2p4p	$^1P^o - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
		981.	5265.0 + L - 5366.9 + L	1s2p4p - 1s2p5d	$^1D^o - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	ZZ	725
		1031.924	0.0 - 96.91	1s ² 2s - 1s ² 2p	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		617, 168
		1037.614	0.0 - 96.38	1s ² 2s - 1s ² 2p	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		617, 168
		1289.9	955.85 - 1033.38	1s ² 5d - 1s ² 7f	$^1D^o - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$	P	117

OXYGEN VII (O^{6+}), $Z = 8$ Ground State 1s² 1S_0 (2 electrons)Ionization Potential 5 963 114 cm^{-1} ; 739.338 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
41		15.439	5355.67 - 11832.77	1s3p - 3p4s	$^1P^o - ^1P$	2 - 2	Z	628
18		15.750	4524.64 - 10873.85	1s2s - 2s4p	$^2S - ^1P^o$	1 - 2	Z	628
40		16.186	5355.67 - 11533.85	1s3p - 3p ²	$^1P^o - ^1P$	2 - 2	Z	628
17		16.478	4524.64 - 10593.34	1s2s - 2s3p	$^2S - ^1P^o$	1 - 2	Z	628
30		16.581	4586.23 - 10616.51	1s2p - 2p3p	$^1P^o - ^1P$	2 - 2	Z	628
31		16.650	4588.38 - 10594.38	1s2s - 2s3p	$^1S - ^1P^o$	0 - 1	Z	628
39		16.770	4629.20 - 10586.67	1s2p - 2p3p	$^1P^o - ^1P$	1 - 1	Z	628
7	1	17.086	0.0 - 5852.74	1s ² - 1s7p	$g^1S - ^1P^o$	0 - 1		138
6	50	17.200	0.0 - 5813.95	1s ² - 1s6p	$g^1S - ^1P^o$	0 - 1		764
		17.207	0.0 - 5811.73	1s ² - 1s6p	$g^1S - ^1P^o$	0 - 1	P	375
5	100	17.396	0.0 - 5748.45	1s ² - 1s5p	$g^1S - ^1P^o$	0 - 1		764
		17.405	0.0 - 5745.44	1s ² - 1s5p	$g^1S - ^1P^o$	0 - 1	P	375
4	200	17.768	0.0 - 5628.10	1s ² - 1s4p	$g^1S - ^1P^o$	0 - 1		197, 764
		17.785	0.0 - 5622.60	1s ² - 1s4p	$g^1S - ^1P^o$	0 - 1	P	375
3	500	18.627	0.0 - 5368.55	1s ² - 1s3p	$g^1S - ^1P^o$	0 - 1		197, 764
		18.672	0.0 - 5355.67	1s ² - 1s3p	$g^1S - ^1P^o$	0 - 1	P	375
	0	18.993	5364.44 - 10629.54	1s3d - 2p3d	$^1D^o - ^1D^o$	3 - 3	Z	434
	0	18.993	5616.34 - 10881.44	1s4s - 2p4s	$^2S - ^1P^o$	1 - 2	Z	434
	2	19.012	5355.67 - 10616.51	1s3p - 2p3p	$^1P^o - ^1P$	2 - 2	Z	434
	2	19.012	5623.10 - 10882.94	1s4s - 2p4s	$^1S - ^1P^o$	0 - 1	Z	434
	4	19.045	5338.82 - 10589.54	1s3s - 2p3s	$^2S - ^1P^o$	1 - 2	Z	434
	4	19.045	5365.47 - 10616.19	1s3d - 2p3d	$^1D^o - ^1D^o$	2 - 2	Z	434
	1	19.096	5356.42 - 10593.12	1s3s - 2p3s	$^1S - ^1P^o$	0 - 1	Z	434
	2	19.164	5368.55 - 10586.67	1s3p - 2p3p	$^1P^o - ^1P$	1 - 1	Z	434
	2	19.207	4629.20 - 9836.18	1s2p - 2p ²	$^1P^o - ^1S$	1 - 0	Z	434
	2	19.207	4588.38 - 9794.82	1s2s - 2s2p	$^1S - ^1P^o$	0 - 1	Z	434
	4	19.301	4524.64 - 9705.72	1s2s - 2s2p	$^2S - ^1P^o$	1 - 2	Z	434
	4	19.330	4586.23 - 9759.77	1s2p - 2p ²	$^1P^o - ^1P$	2 - 2	Z	434
37	5	19.385	4629.20 - 9788.36	1s2p - 2p ²	$^1P^o - ^1D$	1 - 2	Z	434
2	1000	21.6020	0.0 - 4629.20	1s ² - 1s2p	$g^1S - ^1P^o$	0 - 1		715, 764
1	300	21.804	0.0 - 4585.68	1s ² - 1s2p	$g^1S - ^1P^o$	0 - 1		764
	500	22.10	0.0 - 4524.64	1s ² - 1s2s	$g^1S - ^1S$	0 - 1	F, P	375, 276
16		72.3	4524.64 - 5907.80	1s2s - 1s10p	$^2S - ^1P^o$	1 - 2	P	262
15		73.0	4524.64 - 5894.50	1s2s - 1s9p	$^2S - ^1P^o$	1 - 2	P	262
14		73.9	4524.64 - 5877.80	1s2s - 1s8p	$^2S - ^1P^o$	1 - 2	P	262
13	2	75.344	4524.64 - 5851.89	1s2s - 1s7p	$^2S - ^1P^o$	1 - 2		138
28		75.5	4586.23 - 5910.50	1s2p - 1s10d	$^1P^o - ^1D$	2 - 3	P	262
27	1	76.513	4586.23 - 5892.95	1s2p - 1s9d	$^1P^o - ^1D$	2 - 3		138
26	1	77.374	4586.23 - 5878.40	1s2p - 1s8d	$^1P^o - ^1D$	2 - 3		138
12	3	77.695	4524.64 - 5811.73	1s2s - 1s6p	$^2S - ^1P^o$	1 - 2		138
25	4	78.884	4586.23 - 5853.66	1s2p - 1s7d	$^1P^o - ^1D$	2 - 3		138
24	10	81.494	4586.23 - 5813.07	1s2p - 1s6d	$^1P^o - ^1D$	2 - 3		138
11	10	81.914	4524.64 - 5745.44	1s2s - 1s5p	$^2S - ^1P^o$	1 - 2		138
36	1	84.425	4629.20 - 5813.68	1s2p - 1s6d	$^1P^o - ^1D$	1 - 2		138
23	29	86.100	4586.23 - 5747.62	1s2p - 1s5d	$^1P^o - ^1D$	2 - 3		138
35	10	89.363	4629.20 - 5748.23	1s2p - 1s5d	$^1P^o - ^1D$	1 - 2		138
10	30	91.078	4524.64 - 5622.60	1s2s - 1s4p	$^2S - ^1P^o$	1 - 2		138
22	68	96.126	4586.23 - 5626.50	1s2p - 1s4d	$^1P^o - ^1D$	2 - 3		138
21	1	97.076	4586.23 - 5616.34	1s2p - 1s4s	$^1P^o - ^1S$	2 - 1		138
34		100.254	4629.20 - 5626.67	1s2p - 1s4d	$^1P^o - ^1D$	1 - 2		628
9	220	120.331	4524.64 - 5355.67	1s2s - 1s3p	$^2S - ^1P^o$	1 - 2		164, 555
		128.18	4588.38 - 5368.55	1s2s - 1s3p	$^1S - ^1P^o$	0 - 1	P	375
20	150	128.412	4585.68 - 5364.43	1s2p - 1s3d	$^1P^o - ^1D$	1 - 2		164, 555
20	200	128.500	4586.23 - 5364.44	1s2p - 1s3d	$^1P^o - ^1D$	2 - 3		164, 555
19	5	132.777	4585.68 - 5338.82	1s2p - 1s3s	$^1P^o - ^1S$	1 - 1	P	138

O VII

O VIII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
19	8	132.874	4586.23 - 5338.82	1s2p - 1s3s	$^3P^o - ^3S$	2 - 1	P	138
	110	133.31						555
33	48	135.820	4629.20 - 5365.47	1s2p - 1s3d	$^1P^o - ^1D$	1 - 2		138
32	80	137.51	4629.20 - 5356.42	1s2p - 1s3s	$^1P^o - ^1S$	1 - 0		897, 391
		222.98	5364.44 - 5812.91	1s3d - 1s6f	$^3D - ^3F^o$	3 - 4	P	87
		223.18	5365.47 - 5813.54	1s3d - 1s6f	$^1D - ^1F^o$	2 - 3	P	87
		261.26	5364.44 - 5747.20	1s3d - 1s5f	$^3D - ^3F^o$	3 - 4	P	87
		261.54	5365.47 - 5747.82	1s3d - 1s5f	$^1D - ^1F^o$	2 - 3	P	87
		352.39	5338.82 - 5622.60	1s3s - 1s4p	$^3S - ^3P^o$	1 - 2	P	375
		368.08	5356.42 - 5628.10	1s3s - 1s4p	$^1S - ^1P^o$	0 - 1	P	375
		382.02	5364.44 - 5626.21	1s3d - 1s4f	$^3D - ^3F^o$	3 - 4	P	87
		382.60	5365.47 - 5626.84	1s3d - 1s4f	$^1D - ^1F^o$	2 - 3		87
8	100	1623.63	4524.64 - 4586.23	1s2s - 1s2p	$^3S - ^3P^o$	1 - 2		735
8	60	1638.30	4524.64 - 4585.68	1s2s - 1s2p	$^3S - ^3P^o$	1 - 1		735
8	20	1639.87	4524.64 - 4585.62	1s2s - 1s2p	$^3S - ^3P^o$	1 - 0		735

OXYGEN VIII (O^{7+}), $Z = 8$ Ground State 1s $^2S_{1/2}$ (1 electron)Ionization Potential 7 028 393.6 cm^{-1} ; 871.417 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
		14.372	0.0 - 6958.15	1s - 10p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		14.406	0.0 - 6941.68	1s - 9p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		14.454	0.0 - 6918.64	1s - 8p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		14.524	0.0 - 6885.04	1s - 7p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		14.634	0.0 - 6833.27	1s - 6p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	10	14.821	0.0 - 6747.41	1s - 5p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	20	15.176	0.0 - 6589.34	1s - 4p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
	10	16.006	0.0 - 6247.84	1s - 3p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
	70	16.007	0.0 - 6247.40	1s - 3p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
	30	18.967	0.0 - 5272.28	1s - 2p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
		18.972	0.0 - 5270.78	1s - 2p	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
		59.266	5270.86 - 6958.15	2s - 10p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.316	5272.28 - 6958.16	2p - 10d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		59.851	5270.86 - 6941.68	2s - 9p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.902	5272.28 - 6941.68	2p - 9d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		60.688	5270.86 - 6918.64	2s - 8p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		60.740	5272.28 - 6918.65	2p - 8d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		61.951	5270.86 - 6885.04	2s - 7p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		62.005	5272.28 - 6885.05	2p - 7d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		64.004	5270.86 - 6833.27	2s - 6p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		64.061	5272.28 - 6833.29	2p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		67.725	5270.86 - 6747.41	2s - 5p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		67.789	5272.28 - 6747.44	2p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		75.844	5270.86 - 6589.34	2s - 4p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		75.923	5272.28 - 6589.40	2p - 4d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		102.355	5270.86 - 6247.84	2s - 3p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		102.490	5272.28 - 6247.99	2p - 3d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		144.039	6247.42 - 6941.68	3s - 9p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		144.126	6247.84 - 6941.68	3p - 9d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		144.156	6247.99 - 6941.69	3d - 9f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309
		148.982	6247.42 - 6918.64	3s - 8p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		149.075	6247.84 - 6918.65	3p - 8d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		149.107	6247.99 - 6918.65	3d - 8f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309
		156.834	6247.42 - 6885.04	3s - 7p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		156.935	6247.84 - 6885.05	3p - 7d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		156.970	6247.99 - 6885.06	3d - 7f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309
		170.692	6247.42 - 6833.27	3s - 6p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		170.810	6247.84 - 6833.29	3p - 6d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		170.851	6247.99 - 6833.30	3d - 6f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309
		200.005	6247.42 - 6747.41	3s - 5p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		200.162	6247.84 - 6747.44	3p - 5d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		200.215	6247.99 - 6747.46	3d - 5f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309
		271.011	6589.16 - 6958.15	4s - 10p	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		271.139	6589.34 - 6958.16	4p - 10d	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		271.183	6589.40 - 6958.16	4d - 10f	$^1D - ^1F^o$	$\frac{5}{2} - \frac{7}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		283.678	6589.16 - 6941.68	4s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		283.817	6589.34 - 6941.68	4p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		283.864	6589.40 - 6941.69	4d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		292.465	6247.42 - 6589.34	3s - 4p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		292.774	6247.84 - 6589.46	3p - 4d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		292.874	6247.99 - 6589.44	3d - 4f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		303.511	6589.16 - 6918.64	4s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		303.669	6589.34 - 6918.65	4p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		303.722	6589.40 - 6918.65	4d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		337.979	6589.16 - 6885.04	4s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		338.169	6589.34 - 6885.05	4p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		338.233	6589.40 - 6885.06	4d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		409.658	6589.15 - 6833.27	4s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		409.927	6589.34 - 6833.29	4p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		410.016	6589.40 - 6833.30	4d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		474.302	6747.32 - 6958.15	5s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		474.498	6747.41 - 6958.16	5p - 10d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		474.566	6747.44 - 6958.16	5d - 10f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		514.512	6747.32 - 6941.68	5s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		514.737	6747.41 - 6941.68	5p - 9d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		514.814	6747.44 - 6941.69	5d - 9f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		583.689	6747.32 - 6918.64	5s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		583.976	6747.41 - 6918.65	5p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		584.071	6747.44 - 6918.65	5d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		631.936	6589.16 - 6747.41	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		632.519	6589.34 - 6747.44	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		632.703	6589.40 - 6747.46	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		726.095	6747.32 - 6885.04	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		726.512	6747.41 - 6885.05	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		6.649	6747.44 - 6885.06	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		116.426	6747.32 - 6833.27	5s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		1164.416	6747.41 - 6833.29	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		1164.727	6747.44 - 6833.30	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

FLUORINE, Z = 9

F 1

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	83.3						155
	45	87.85						155
	100	89.4						155
	65	119.2						155

FLUORINE I (F^{0+}), Z = 9

Ground State $1s^2 2s^2 2p^5 \ ^2P_{3/2}$ (9 electrons)

Ionization Potential $140\,524.5 \text{ cm}^{-1}$; 17.423 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		588.84	0.0 - 169.82	$2s^2 2p^4 - 2s 2p^4$	$g^3P^o - ^2S$	$\frac{3}{2} - \frac{1}{2}$	Z	375
		590.25	0.40 - 169.82	$2s^2 2p^4 - 2s 2p^4$	$g^3P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$	Z	375
2		680.698	0.0 - 146.91	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3P^o - ^2S$	$\frac{3}{2} - \frac{1}{2}$	Z	539, 420
2		682.577	0.40 - 146.91	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$	Z	539, 420
1		732.960	0.0 - 136.43	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
1		734.642	0.0 - 136.12	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		420
1		734.795	0.0 - 136.09	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
1		735.154	0.40 - 136.43	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		420
1		735.469	0.0 - 135.57	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 6s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		420
2		736.987	0.0 - 135.69	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 6s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
2		745.767	0.0 - 134.09	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		420
1		746.400	0.0 - 133.97	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		420
3		746.627	0.0 - 133.93	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		420
2		747.999	0.40 - 134.09	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		420
1		748.134	0.0 - 133.66	$2s^2 2p^4 - 2s^2 2p^4 (^1P) 4d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		420
2		748.338	0.0 - 133.62	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
4		748.580	0.0 - 133.58	$2s^2 2p^4 - 2s^2 2p^4 (^1P) 4d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
2		748.709	0.40 - 133.97	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$		420
3		748.946	0.40 - 133.92	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		420
1		750.418	0.40 - 133.66	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		420
3		750.610	0.0 - 133.22	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		420
1		750.885	0.40 - 133.58	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3P^o - ^2D$	$\frac{1}{2} - \frac{3}{2}$		420
4		751.861	0.0 - 133.00	$2s^2 2p^4 - 2s^2 2p^4 (^1P) 5s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		420
4		752.884	0.40 - 133.22	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		420
4		753.303	0.0 - 132.74	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
2		754.148	0.0 - 132.60	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
2		755.603	0.40 - 132.74	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		420
4		776.926	0.0 - 128.71	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		420
5		777.010	0.0 - 128.70	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		420
4		777.531	0.0 - 128.61	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		420
6		778.059	0.0 - 128.52	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
2		779.192	0.0 - 128.34	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		420
5		779.365	0.40 - 128.71	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{1}{2} - \frac{3}{2}$		420
5		779.910	0.0 - 128.22	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
2		779.972	0.40 - 128.61	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$		420
1		780.134	0.0 - 128.18	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{1}{2}$		420
15		780.390	0.0 - 128.14	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
10		780.519	0.40 - 128.52	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		420
5		780.713	0.0 - 128.09	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$		420
3		781.654	0.40 - 128.34	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		420
10		782.378	0.40 - 128.22	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{1}{2} - \frac{3}{2}$		420
2		782.575	0.40 - 128.18	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{1}{2} - \frac{1}{2}$		420
5		782.976	0.40 - 128.12	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^2D$	$\frac{1}{2} - \frac{3}{2}$		420
7		790.006	0.0 - 126.58	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		420
12		791.875	0.0 - 126.28	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		420
10		792.536	0.40 - 126.58	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		420
1		793.237	0.0 - 126.07	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		420
10		794.417	0.0 - 125.88	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
2		795.774	0.40 - 126.07	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		420
3		796.982	0.40 - 125.88	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		420

F I

F II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	150	806.970	0.0 - 123.92	$2s^2 2p^4 - 2s^2 2p^4(^1D) 3s$	$g^4 P^{\circ} - ^4D$	$\frac{3}{2} - \frac{3}{2}$		539, 420
2	125	809.607	0.40 - 123.92	$2s^2 2p^4 - 2s^2 2p^4(^1D) 3s$	$g^4 P^{\circ} - ^4D$	$\frac{3}{2} - \frac{3}{2}$		539, 420
1	500	951.871	0.0 - 105.06	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
1	1000	954.825	0.0 - 104.73	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
1	750	955.545	0.40 - 105.06	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
1	500	958.524	0.40 - 104.73	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
	20	972.401	0.0 - 102.84	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
	350	973.895	0.0 - 102.68	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
	100	976.217	0.40 - 102.84	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
	40	976.505	0.0 - 102.41	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
	100	977.745	0.40 - 102.68	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4 P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		420
		1096.8	169.82 - 261. + X	$2s^2 2p^4 - 2s^2 2p^4 3s$	$^4S - ^4P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	ZZ	375

FLUORINE II (F^{+}), $Z = 9$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 282 058.6 cm^{-1} ; 34.971 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	348.795	0.0 - 286.70	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 4s$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 2	Z	538
	2	353.423	0.0 - 282.95	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 2	Z	538
	10	375.237	0.0 - 266.50	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 1		538
	100	375.303	0.0 - 266.45	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 2		538
	10	375.432	0.0 - 266.36	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3S^{\circ}$	2 - 1		538
	40	375.702	0.34 - 266.52	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	1 - 0		538
	10	375.784	0.34 - 266.45	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	1 - 2		538
	40	375.927	0.49 - 266.50	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3P^{\circ}$	0 - 1		538
	10	376.684	0.0 - 265.47	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 3		538
	1	377.133	0.34 - 265.50	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$g^2 P^{\circ} - ^3D^{\circ}$	1 - 2		538
	1	379.719	20.87 - 284.23	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3d$	$^1D - ^1P^{\circ}$	2 - 1	Z	538
	100	380.896	20.87 - 283.41	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3d$	$^1D - ^1F^{\circ}$	2 - 3	Z	538
	1	381.824	20.87 - 282.77	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3d$	$^1D - ^1D^{\circ}$	2 - 2	Z	538
	40	393.680	0.0 - 254.02	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4d$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 3		538
	10	394.207	0.34 - 254.02	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4d$	$g^2 P^{\circ} - ^3D^{\circ}$	1 - 2		538
	1	394.438	0.49 - 254.01	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4d$	$g^2 P^{\circ} - ^3D^{\circ}$	0 - 1		538
	10	400.582	20.87 - 270.51	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 4s$	$^1D - ^1D^{\circ}$	2 - 2		538
	100	405.638	20.87 - 267.40	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$^1D - ^1P^{\circ}$	2 - 1		538
	200	407.041	20.87 - 266.55	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$^1D - ^1F^{\circ}$	2 - 3		538
	100	407.503	20.87 - 266.27	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3d$	$^1D - ^1D^{\circ}$	2 - 2		538
	10	417.872	44.92 - 284.23	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3d$	$^1S - ^1P^{\circ}$	0 - 1	Z	538
	40	422.013	0.0 - 236.96	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4s$	$g^2 P^{\circ} - ^3S^{\circ}$	2 - 1		538
	10	422.623	0.34 - 236.96	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4s$	$g^2 P^{\circ} - ^3S^{\circ}$	1 - 1		538
	1	422.884	0.49 - 236.96	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 4s$	$g^2 P^{\circ} - ^3S^{\circ}$	0 - 1		538
	300	430.914	0.0 - 232.07	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3d$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 3		538
	200	431.552	0.34 - 232.06	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3d$	$g^2 P^{\circ} - ^3D^{\circ}$	1 - 2		538
	100	431.832	0.49 - 232.06	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3d$	$g^2 P^{\circ} - ^3D^{\circ}$	0 - 1		538
	200	435.636	0.0 - 229.55	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3s$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 2		538
	100	436.281	0.34 - 229.55	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3s$	$g^2 P^{\circ} - ^3P^{\circ}$	1 - 2		538
	40	436.565	0.49 - 229.55	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3s$	$g^2 P^{\circ} - ^3P^{\circ}$	0 - 1		538
	600	457.179	20.87 - 239.61	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P^{\circ}$	2 - 1		538
3	10	471.921	0.0 - 211.90	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 1		538
3	200	471.952	0.0 - 211.89	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 2		538
3	450	471.999	0.0 - 211.87	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	2 - 3		538
	100	472.681	0.34 - 211.90	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	1 - 1		538
	300	472.711	0.34 - 211.89	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	1 - 2		538
	200	473.015	0.49 - 211.90	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$g^2 P^{\circ} - ^3D^{\circ}$	0 - 1		538
	850	484.601	20.87 - 227.23	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3s$	$^1D - ^1P^{\circ}$	2 - 1		538
	300	513.644	44.92 - 239.61	$2s^2 2p^4 - 2s^2 2p^4$	$^1S - ^1P^{\circ}$	0 - 1		538
	600	514.944	20.87 - 215.07	$2s^2 2p^4 - 2s^2 2p^4(^3D^{\circ}) 3s$	$^1D - ^1D^{\circ}$	2 - 2		538
	600	546.852	0.0 - 182.86	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3s$	$g^2 P^{\circ} - ^3S^{\circ}$	2 - 1		538
2	450	547.874	0.34 - 182.86	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3s$	$g^2 P^{\circ} - ^3S^{\circ}$	1 - 1		538
2	300	548.322	0.49 - 182.86	$2s^2 2p^4 - 2s^2 2p^4(^3S^{\circ}) 3s$	$g^2 P^{\circ} - ^3S^{\circ}$	0 - 1		538
	200	548.516	44.92 - 227.23	$2s^2 2p^4 - 2s^2 2p^4(^3P^{\circ}) 3s$	$^1S - ^1P^{\circ}$	0 - 1		538
1	850	605.670	0.0 - 165.11	$2s^2 2p^4 - 2s^2 2p^4$	$g^2 P^{\circ} - ^3P^{\circ}$	2 - 1		538

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	700	606.286	0.34 - 165.28	$2s^2 2p^4 - 2s 2p^5$	$g^3 P - ^3 P^o$	1 - 0		538
1	1000	606.804	0.0 - 164.80	$2s^2 2p^4 - 2s 2p^5$	$g^3 P - ^3 P^o$	2 - 2		538
1	600	606.922	0.34 - 165.11	$2s^2 2p^4 - 2s 2p^5$	$g^3 P - ^3 P^o$	1 - 1		538
1	700	607.472	0.49 - 165.11	$2s^2 2p^4 - 2s 2p^5$	$g^3 P - ^3 P^o$	0 - 1		538
1	850	608.063	0.34 - 164.80	$2s^2 2p^4 - 2s 2p^5$	$g^3 P - ^3 P^o$	1 - 2		538
	10	694.801	20.87 - 164.80	$2s^2 2p^4 - 2s 2p^5$	$^1 D - ^3 P^o$	2 - 2		538
	10	832.035	44.92 - 165.11	$2s^2 2p^4 - 2s 2p^5$	$^1 S - ^3 P^o$	0 - 1		538
	10	1112.110	164.80 - 254.72	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 D$	2 - 2		538
	100	1112.302	164.80 - 254.70	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 D$	2 - 3		538
	40	1115.946	165.11 - 254.72	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 D$	1 - 2		538
	10	1118.017	165.28 - 254.72	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 D$	0 - 1		538
	200	1129.758	164.80 - 253.31	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 S$	2 - 1		538
	100	1133.714	165.11 - 253.31	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 S$	1 - 1		538
	10	1135.938	165.28 - 253.31	$2s 2p^5 - 2s^2 2p^3 (^3 P^o) 3p$	$^3 P^o - ^1 S$	0 - 1		538
	40	1209.345	176.49 - 259.18	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 5p$	$^3 S - ^3 P$	2 - 3		538
	100	1221.235	164.80 - 246.68	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	2 - 2		538
	40	1221.536	164.80 - 246.66	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	2 - 1		538
	40	1225.854	165.11 - 246.68	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	1 - 2		538
	10	1226.161	165.11 - 246.66	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	1 - 1		538
	40	1226.267	165.11 - 246.65	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	1 - 0		538
	40	1228.763	165.28 - 246.66	$2s 2p^5 - 2s^2 2p^3 (^3 S) 4p$	$^3 P^o - ^3 P$	0 - 1		538
	10	1321.515	207.70 - 283.37	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 P^o) 3d$	$^3 P - ^1 D^o$	2 - 3	Z	538
	200	1327.658	164.80 - 240.15	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 P$	2 - 1		538
	300	1328.108	164.80 - 240.09	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 P$	2 - 2		538
	100	1332.042	165.11 - 240.18	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 P$	1 - 0		538
	100	1332.512	165.11 - 240.15	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 P$	1 - 1		538
	200	1333.588	165.11 - 240.09	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 P$	1 - 2		538
	300	1343.603	182.86 - 257.29	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 P^o) 3p$	$^3 S - ^3 P$	1 - 2		538
	200	1344.037	182.86 - 257.27	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 P^o) 3p$	$^3 S - ^3 P$	1 - 1		538
	100	1344.295	182.86 - 257.25	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 P^o) 3p$	$^3 S - ^3 P$	1 - 0		538
	100	1375.319	164.80 - 237.51	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 F$	2 - 3		538
	300	1400.611	164.80 - 236.20	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 D$	2 - 3		538
	200	1407.135	165.11 - 236.17	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 D$	1 - 2		538
	100	1410.618	165.28 - 236.17	$2s 2p^5 - 2s^2 2p^3 (^1 D^o) 3p$	$^3 P^o - ^3 D$	0 - 1		538
	10	1419.485	182.86 - 253.31	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 P^o) 3p$	$^3 S - ^3 S$	1 - 1		538
	1	1424.737	176.49 - 246.68	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	2 - 2		538
	1	1462.842	227.23 - 295.59	$2s^2 2p^3 (^3 P^o) 3s - 2s^2 2p^3 (^3 P^o) 4p$	$^3 P^o - ^3 P$	1 - 1	Z	538
	450	1493.091	176.49 - 243.47	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	2 - 3		538
	300	1493.235	176.49 - 243.46	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	2 - 2		538
	200	1493.311	176.49 - 243.46	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	2 - 1		538
	100	1514.789	211.87 - 277.88	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 F$	3 - 4		538
	40	1515.034	211.89 - 277.89	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 F$	2 - 3		538
	10	1521.590	225.55 - 295.27	$2s^2 2p^3 (^3 P^o) 3s - 2s^2 2p^3 (^3 P^o) 4p$	$^3 P^o - ^3 D$	2 - 3	Z	538
	100	1523.197	211.87 - 277.52	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 D$	3 - 3		538
	40	1523.583	211.89 - 277.52	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 D$	2 - 2		538
	10	1523.925	211.90 - 277.52	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 D$	1 - 1		538
	100	1566.961	182.86 - 246.68	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	1 - 2		538
	40	1567.435	182.86 - 246.66	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	1 - 1		538
	40	1585.056	215.07 - 278.16	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 F$	2 - 3		538
	10	1609.798	215.07 - 277.19	$2s^2 2p^3 (^1 D^o) 3s - 2s^2 2p^3 (^1 D^o) 4p$	$^1 D^o - ^3 P$	2 - 1		538
	1	1650.200	182.86 - 243.46	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^3 S) 4p$	$^3 S - ^3 P$	1 - 2		538
	10	1700.185	207.70 - 266.52	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	1 - 0		538
	10	1700.691	207.70 - 266.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	1 - 1		538
	10	1700.767	207.70 - 266.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	0 - 1		538
	40	1700.831	207.70 - 266.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	2 - 1		538
	40	1701.993	207.70 - 266.45	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	1 - 2		538
	200	1702.130	207.70 - 266.45	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 P^o$	2 - 2		538
	10	1704.696	207.70 - 266.36	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 S^o$	1 - 1		538
	40	1704.834	207.70 - 266.36	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^3 S^o$	2 - 1		538
	1	1729.669	207.70 - 265.52	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^1 D^o$	0 - 1		538
	10	1730.119	207.70 - 265.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^1 D^o$	1 - 2		538
	40	1731.047	207.70 - 265.47	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^1 D^o) 3d$	$^3 P - ^1 D^o$	2 - 3		538
	10	1734.494	207.70 - 265.36	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 6s$	$^3 P - ^3 S^o$	2 - 1		538
	200	1744.745	182.86 - 240.18	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^1 D^o) 3p$	$^3 S - ^3 P$	1 - 0		538
	300	1745.550	182.86 - 240.15	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^1 D^o) 3p$	$^3 S - ^3 P$	1 - 1		538
	450	1747.389	182.86 - 240.09	$2s^2 2p^3 (^3 S) 3s - 2s^2 2p^3 (^1 D^o) 3p$	$^3 S - ^3 P$	1 - 2		538
	10	1885.047	202.45 - 255.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 5s$	$^3 P - ^3 S^o$	1 - 2		538
	40	1885.442	202.46 - 255.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 5s$	$^3 P - ^3 S^o$	2 - 2		538
	100	1886.147	202.48 - 255.50	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 5s$	$^3 P - ^3 S^o$	3 - 2		538
	10	1929.791	238.32 - 290.14	$2s^2 2p^3 (^1 D^o) 3p - 2s^2 2p^3 (^1 D^o) 5s$	$^1 F - ^1 D^o$	3 - 2	Z	538
	1	1959.758	202.45 - 253.48	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 4d$	$^3 P - ^1 D^o$	1 - 2		538
	10	1960.255	202.46 - 253.48	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 4d$	$^3 P - ^1 D^o$	2 - 3		538
	40	1960.984	202.48 - 253.47	$2s^2 2p^3 (^3 S) 3p - 2s^2 2p^3 (^3 S) 4d$	$^3 P - ^1 D^o$	3 - 4		538

Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 505 777 cm^{-1} ; 62.709 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	3	214.804	0.0 - 465.54	$2s^2 2p^3 - 2s^2 2p^2(^4P)5d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	3	214.862	0.0 - 465.41	$2s^2 2p^3 - 2s^2 2p^2(^4P)5d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	219.277	34.09 - 490.14	$2s^2 2p^3 - 2s^2 2p^2(^1D)5d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	0	219.588	34.09 - 489.49	$2s^2 2p^3 - 2s^2 2p^2(^1D)5d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	6	226.055	0.0 - 442.37	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	10	226.094	0.0 - 442.29	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	20	226.169	0.0 - 442.15	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	35	230.117	0.0 - 434.55	$2s^2 2p^3 - 2s^2 2p^2(^4S^o)3p$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	230.553	34.09 - 467.83	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	230.6	34.12 - 467.77	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	6	231.011	34.09 - 466.98	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	1	231.381	34.09 - 466.28	$2s^2 2p^3 - 2s^2 2p^2(^4P)5d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	240.231	51.56 - 467.83	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	240.264	51.56 - 467.77	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	3	240.546	0.0 - 415.72	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	6	240.720	51.56 - 466.98	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	1	240.735	0.0 - 415.39	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	240.857	0.0 - 415.18	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	241.135	51.56 - 466.28	$2s^2 2p^3 - 2s^2 2p^2(^4P)5d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	243.357	34.09 - 445.01	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	1	243.407	34.12 - 444.96	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	6	244.701	34.09 - 442.75	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	20	244.769	34.09 - 442.64	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	10	245.005	34.12 - 442.28	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	3	245.866	34.09 - 440.83	$2s^2 2p^3 - 2s^2 2p^2(^1D)4s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	20	254.165	51.56 - 445.01	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	10	254.197	51.56 - 444.96	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	255.632	51.56 - 442.75	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	1	255.667	51.56 - 442.69	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	35	255.723	0.0 - 391.05	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	60	255.770	0.0 - 390.98	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	100	255.863	0.0 - 390.83	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	35	256.358	0.0 - 390.08	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	256.526	51.56 - 441.39	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	256.675	51.56 - 441.16	$2s^2 2p^3 - 2s^2 2p^2(^4P)4d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	256.723	0.0 - 389.53	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	6	256.894	51.56 - 440.83	$2s^2 2p^3 - 2s^2 2p^2(^1D)4s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	20	260.307	34.09 - 418.25	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	10	260.372	34.12 - 418.19	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	10	260.496	34.09 - 417.97	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	3	260.782	34.12 - 417.59	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	100	261.713	34.09 - 416.19	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	60	261.749	34.12 - 416.17	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	150	263.808	34.09 - 413.14	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	20	270.677	51.56 - 421.01	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		537
	20	272.712	51.56 - 418.25	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	10	272.756	51.56 - 418.19	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	10	272.919	51.56 - 417.97	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	6	273.206	51.56 - 417.59	$2s^2 2p^3 - 2s^2 2p^2(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	60	274.260	51.56 - 416.19	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	35	276.780	34.09 - 395.39	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	20	276.897	34.12 - 395.27	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	100	279.689	34.09 - 391.63	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	60	280.007	34.12 - 391.26	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
	1	280.802	34.09 - 390.21	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	280.905	34.09 - 390.08	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	10	281.204	34.12 - 389.74	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	20	281.343	34.09 - 389.53	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	60	290.846	51.56 - 395.39	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	35	290.945	51.56 - 395.27	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	6	295.369	51.56 - 390.12	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	295.404	51.56 - 390.08	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
	35	295.703	51.56 - 389.74	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	60	295.889	51.56 - 389.53	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	20	311.413	51.56 - 372.68	$2s^2 2p^3 - 2s^2 2p^2(^1S)3s$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		537
	150	315.219	0.0 - 317.24	$2s^2 2p^3 - 2s^2 2p^2(^4P)3s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	100	315.536	0.0 - 316.92	$2s^2 2p^3 - 2s^2 2p^2(^4P)3s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	60	315.747	0.0 - 316.71	$2s^2 2p^3 - 2s^2 2p^2(^4P)3s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
	20	316.484	151.90 - 467.87	$2s^2 2p^3 - 2s^2 2p^2(^4S^o)3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		537
	10	316.822	152.24 - 467.87	$2s^2 2p^3 - 2s^2 2p^2(^4S^o)3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		537

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	6	316.995	152.41 - 467.87	$2s2p^4 - 2s2p^3(^4S)3d$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	317.791	151.90 - 466.57	$2s2p^4 - 2s2p^3(^4D^*)3s$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	1	318.126	152.24 - 466.58	$2s2p^4 - 2s2p^3(^4D^*)3s$	$^4P - ^4D^*$	$\frac{3}{2} - \frac{5}{2}$		537
	20	322.647	34.09 - 344.02	$2s^22p^3 - 2s^22p^2(^4D)3s$	$^4D^* - ^4D$	$\frac{1}{2} - \frac{3}{2}$		537
	10	322.675	34.12 - 344.03	$2s^22p^3 - 2s^22p^2(^4D)3s$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		537
	10	341.921	51.56 - 344.02	$2s^22p^3 - 2s^22p^2(^4D)3s$	$^4P^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		537
	35	343.893	34.09 - 324.88	$2s^22p^3 - 2s^22p^2(^4P)3s$	$^4D^* - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
	3	343.934	34.12 - 324.88	$2s^22p^3 - 2s^22p^2(^4P)3s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	20	344.385	34.12 - 324.49	$2s^22p^3 - 2s^22p^2(^4P)3s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	60	365.876	51.56 - 324.88	$2s^22p^3 - 2s^22p^2(^4P)3s$	$^4P^* - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
	35	366.391	51.56 - 324.49	$2s^22p^3 - 2s^22p^2(^4P)3s$	$^4P^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	10	378.580	210.24 - 474.37	$2s2p^4 - 2s2p^3(^4D^*)3s$	$^4D - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	395.443	151.90 - 404.78	$2s2p^4 - 2s2p^3(^4S^*)3s$	$^4P - ^4S^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	395.972	152.24 - 404.78	$2s2p^4 - 2s2p^3(^4S^*)3s$	$^4P - ^4S^*$	$\frac{3}{2} - \frac{5}{2}$		537
	1	396.244	152.41 - 404.78	$2s2p^4 - 2s2p^3(^4S^*)3s$	$^4P - ^4S^*$	$\frac{1}{2} - \frac{3}{2}$		537
	250	429.512	34.12 - 266.94	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	300	430.152	34.09 - 266.56	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
	150	430.222	34.12 - 266.56	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	200	464.288	51.56 - 266.94	$2s^22p^3 - 2s2p^4$	$^4P^* - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
	250	465.113	51.56 - 266.56	$2s^22p^3 - 2s2p^4$	$^4P^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	10	486.430	151.90 - 357.48	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4S^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	487.223	152.24 - 357.48	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4S^*$	$\frac{3}{2} - \frac{5}{2}$		537
	3	487.643	152.41 - 357.48	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4S^*$	$\frac{1}{2} - \frac{3}{2}$		537
	10	500.953	151.90 - 351.52	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	501.425	151.90 - 351.33	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	6	501.804	152.24 - 351.52	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	502.280	152.24 - 351.33	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	6	502.511	152.24 - 351.24	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	502.713	152.41 - 351.33	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	506.674	151.90 - 349.27	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	400	508.386	51.56 - 248.26	$2s^22p^3 - 2s2p^4$	$^4P^* - ^4S$	$\frac{3}{2} - \frac{5}{2}$		537
	6	508.506	210.24 - 406.91	$2s2p^4 - 2s^22p^3(^4S)3p$	$^4D - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	10	522.285	210.26 - 401.72	$2s2p^4 - 2p^4$	$^4D - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	60	523.662	210.24 - 401.21	$2s2p^4 - 2p^4$	$^4D - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	150	567.636	34.09 - 210.26	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4D$	$\frac{1}{2} - \frac{3}{2}$		537
	400	567.686	34.09 - 210.24	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		537
	300	567.752	34.12 - 210.26	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4D$	$\frac{1}{2} - \frac{3}{2}$		537
	150	567.801	34.12 - 210.24	$2s^22p^3 - 2s2p^4$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		537
	20	573.886	210.24 - 384.49	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	1	573.935	210.26 - 384.49	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	10	574.384	210.26 - 384.36	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	588.060	210.26 - 380.31	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	588.208	210.24 - 380.25	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4D^*$	$\frac{3}{2} - \frac{5}{2}$		537
	10	600.104	210.24 - 376.88	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4F^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	600.390	210.26 - 376.81	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4D - ^4F^*$	$\frac{3}{2} - \frac{5}{2}$		537
	150	630.137	51.56 - 210.26	$2s^22p^3 - 2s2p^4$	$^4P^* - ^4D$	$\frac{1}{2} - \frac{3}{2}$		537
	200	630.198	51.56 - 210.24	$2s^22p^3 - 2s2p^4$	$^4P^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		537
	2	630.327	248.26 - 406.91	$2s2p^4 - 2s^22p^3(^4S)3p$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	1	630.346	248.26 - 406.90	$2s2p^4 - 2s^22p^3(^4S)3p$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	651.622	248.26 - 401.72	$2s2p^4 - 2p^4$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	653.833	248.26 - 401.21	$2s2p^4 - 2p^4$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	400	656.121	0.0 - 152.41	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	500	656.869	0.0 - 152.24	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
	600	658.329	0.0 - 151.90	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		537
	10	665.809	210.24 - 360.44	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4D - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	666.258	210.26 - 360.35	$2s2p^4 - 2s^22p^3(^4P)3p$	$^4D - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	6	668.195	316.92 - 466.58	$2s^22p^3(^4P)3s - 2s2p^3(^4D^*)3s$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	10	669.648	317.24 - 466.57	$2s^22p^3(^4P)3s - 2s2p^3(^4D^*)3s$	$^4P - ^4D^*$	$\frac{3}{2} - \frac{5}{2}$		537
	1	712.524	266.56 - 406.91	$2s2p^4 - 2s^22p^3(^4S)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	734.047	248.26 - 384.49	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	734.767	248.26 - 384.36	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4S - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	20	739.851	266.56 - 401.72	$2s2p^4 - 2p^4$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	35	741.955	266.94 - 401.72	$2s2p^4 - 2p^4$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	60	742.699	266.56 - 401.21	$2s2p^4 - 2p^4$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	20	744.818	266.94 - 401.21	$2s2p^4 - 2p^4$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	10	847.962	266.56 - 384.49	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4P^*$	$\frac{3}{2} - \frac{5}{2}$		537
	3	848.915	266.56 - 384.36	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	850.707	266.94 - 384.49	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	851.700	266.94 - 384.36	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	879.59	266.56 - 380.25	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	882.136	266.94 - 380.31	$2s2p^4 - 2s^22p^3(^4D)3p$	$^4P - ^4D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	902.239	316.71 - 427.55	$2s^22p^3(^4P)3s - 2s^22p^3(^4P)4p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	902.425	316.92 - 427.73	$2s^22p^3(^4P)3s - 2s^22p^3(^4P)4p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	903.96	316.92 - 427.55	$2s^22p^3(^4P)3s - 2s^22p^3(^4P)4p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	904.657	316.92 - 427.46	$2s^22p^3(^4P)3s - 2s^22p^3(^4P)4p$	$^4P - ^4P^*$	$\frac{1}{2} - \frac{3}{2}$		537

Multiplet	Rel. Int.	λ_{vac} (Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	6	905.048	317.24 - 427.73	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	906.577	317.24 - 427.55	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	910.334	316.71 - 426.56	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	6	910.645	316.92 - 426.73	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	20	911.164	317.24 - 426.99	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	912.090	316.92 - 426.56	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	913.303	317.24 - 426.73	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	914.836	357.48 - 466.79	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5g$	$^3S^* - ^3[2]$	$\frac{1}{2} - \frac{1}{2}$		537
	6	924.716	344.44 - 452.58	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	1	938.538	360.44 - 466.98	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	962.580	349.27 - 453.15	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	963.322	349.01 - 452.82	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	1	983.927	351.52 - 453.15	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	991.102	324.49 - 425.39	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3S^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	993.281	51.56 - 152.24	$2s^2 2p^2 - 2s 2p^2$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	6	994.899	324.88 - 425.39	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 4p$	$^3P - ^3S^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	996.616	51.56 - 151.90	$2s^2 2p^2 - 2s 2p^2$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1023.270	356.37 - 454.10	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	1	1033.898	344.44 - 441.16	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1045.236	357.48 - 453.15	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1048.898	357.48 - 452.82	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 5s$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	60	1065.268	266.56 - 360.44	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1066.251	266.56 - 360.35	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1069.636	266.94 - 360.44	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1070.623	266.94 - 360.35	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1085.297	349.27 - 441.41	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1094.277	348.82 - 440.20	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3F$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1094.660	349.01 - 440.36	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3F$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1095.095	349.27 - 440.58	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3F$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1109.262	351.24 - 441.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1111.782	351.33 - 441.28	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1112.507	351.52 - 441.41	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1113.244	351.33 - 441.16	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1113.463	266.56 - 356.37	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1118.320	266.56 - 355.98	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1118.854	376.81 - 466.19	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3F^* - ^3G$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1119.673	376.88 - 466.19	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3F^* - ^3G$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1123.126	266.94 - 355.98	$2s 2p^2 - 2s^2 2p^2 (^3P) 3p$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1138.182	316.92 - 404.78	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3S^*) 3s$	$^3P - ^3S^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1141.957	380.25 - 467.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1142.332	317.24 - 404.78	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3S^*) 3s$	$^3P - ^3S^*$	$\frac{1}{2} - \frac{1}{2}$		537
	1	1143.354	380.31 - 467.77	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1158.073	344.02 - 430.37	$2s^2 2p^2 (^1D) 3s - 2s^2 2p^2 (^3P) 4p$	$^3D^* - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1158.781	355.98 - 442.28	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3F$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1159.227	356.37 - 442.64	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3D^* - ^3F$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1165.961	348.82 - 434.58	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^*) 3p$	$^3D^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1177.988	357.48 - 442.37	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1173.642	389.53 - 474.37	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3D^*) 3s$	$^3P - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1179.035	357.48 - 442.29	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1181.061	357.48 - 442.15	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3S^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1181.909	360.35 - 444.96	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1182.427	360.44 - 445.01	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1184.039	356.37 - 440.83	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 4s$	$^3D^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1201.358	351.33 - 434.57	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^*) 3p$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1204.380	351.52 - 434.55	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^*) 3p$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1210.349	384.36 - 466.98	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1211.585	344.02 - 426.56	$2s^2 2p^2 (^1D) 3s - 2s^2 2p^2 (^3P) 4p$	$^3D^* - ^3D^*$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1212.255	384.49 - 466.98	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3D^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	1	1212.321	384.49 - 466.98	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1213.353	324.49 - 406.91	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3S^*) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1214.368	360.35 - 442.69	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^*) 3d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	0	1214.864	360.44 - 442.75	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S^*) 3d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	150	1219.032	324.88 - 406.91	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3S^*) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1235.316	360.44 - 441.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1237.308	360.35 - 441.17	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4d$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1242.585	360.35 - 440.83	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 4s$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1243.888	360.44 - 440.83	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 4s$	$^3P^* - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1261.859	387.52 - 466.77	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[3]$	$\frac{1}{2} - \frac{1}{2}$		537
	6	1263.987	387.52 - 466.64	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[5]$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1264.870	387.73 - 466.79	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[4]$	$\frac{1}{2} - \frac{1}{2}$		537
	150	1266.867	387.37 - 466.30	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[4]$	$\frac{1}{2} - \frac{1}{2}$		537
	200	1267.711	387.73 - 466.61	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[5]$	$\frac{1}{2} - \frac{1}{2}$		537
	3	1268.27	387.73 - 466.57	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3D^*)$	$^3F - ^3D$	$\frac{1}{2} - \frac{1}{2}$		537
	35	1268.573	387.37 - 466.20	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[3]$	$\frac{1}{2} - \frac{1}{2}$		537
	20	1269.368	387.52 - 466.30	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^3F - ^3[4]$	$\frac{1}{2} - \frac{1}{2}$		537

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
60	1269.559	387.52 - 466.29		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 1[4]$	$\frac{1}{2} - \frac{3}{2}$		537
10	1271.075	387.37 - 466.04		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 0[3]$	$\frac{3}{2} - \frac{5}{2}$		537
3	1272.463	355.98 - 434.57		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
6	1272.795	355.98 - 434.55		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
3	1276.352	389.53 - 467.87		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3S) 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
60	1278.810	356.37 - 434.57		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
10	1282.240	413.14 - 491.13		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{5}{2}$		537
6	1283.098	413.20 - 491.13		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5f$	$^4F - 2[4]$	$\frac{3}{2} - \frac{5}{2}$		537
3	1284.105	266.56 - 344.44		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 3p$	$^4P - ^4S$	$\frac{3}{2} - \frac{1}{2}$		537
1	1291.565	391.26 - 458.68		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^1D) 4f$	$^4F - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1294.279	389.53 - 466.79		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1294.83	324.49 - 401.72		$2s^2 2p^2 (^3P) 3s - 2p^2$	$^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		537
20	1296.940	357.48 - 434.58		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
60	1297.188	357.48 - 434.57		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
100	1297.537	357.48 - 434.55		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3S) 3p$	$^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
1	1297.757	391.63 - 468.68		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^1D) 4f$	$^4F - 2[3]$	$\frac{1}{2} - \frac{3}{2}$		537
6	1298.072	390.83 - 467.87		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3S) 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
3	1299.055	391.63 - 468.61		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^1D) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		537
3	1300.466	390.98 - 467.87		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3S) 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
6	1302.599	389.53 - 466.30		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1303.624	390.08 - 466.79		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
35	1303.871	390.08 - 466.77		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
20	1304.368	389.53 - 466.19		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1304.705	390.08 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
0	1305.008	390.08 - 466.71		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
3	1305.697	390.12 - 466.71		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{1}{2} - \frac{3}{2}$		537
35	1305.870	390.21 - 466.79		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		537
60	1306.04	414.89 - 491.46		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5f$	$^4G - 2[5]$	$\frac{3}{2} - \frac{11}{2}$		537
20	1306.122	414.90 - 491.46		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5f$	$^4G - 2[5]$	$\frac{1}{2} - \frac{3}{2}$		537
6	1306.991	390.21 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{1}{2} - \frac{3}{2}$		537
3	1310.117	324.88 - 401.21		$2s^2 2p^2 (^3P) 3s - 2p^2$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
1	1311.963	390.08 - 466.30		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1312.763	390.12 - 466.30		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 1[2]$	$\frac{1}{2} - \frac{3}{2}$		537
35	1316.401	390.08 - 466.04		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 0[3]$	$\frac{3}{2} - \frac{3}{2}$		537
35	1316.531	390.08 - 466.04		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 0[3]$	$\frac{3}{2} - \frac{3}{2}$		537
3	1317.744	390.83 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1317.975	390.83 - 466.71		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
3	1320.203	390.98 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1320.451	390.98 - 466.71		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
3	1323.311	390.98 - 466.54		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1325.214	390.83 - 466.30		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		537
20	1326.926	390.83 - 466.20		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1329.704	390.83 - 466.04		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4P - 0[3]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1329.892	391.63 - 466.82		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		537
6	1330.490	391.63 - 466.79		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		537
60	1333.139	391.63 - 466.64		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 2[5]$	$\frac{1}{2} - \frac{3}{2}$		537
3	1334.292	416.19 - 491.13		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5f$	$^4D - 2[4]$	$\frac{3}{2} - \frac{3}{2}$		537
5	1337.196	391.26 - 466.04		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 0[3]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1339.337	391.63 - 466.29		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4F - 1[4]$	$\frac{1}{2} - \frac{3}{2}$		537
100	1359.921	344.44 - 417.97		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
10	1364.251	395.39 - 468.68		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^1D) 4f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
60	1367.083	344.44 - 417.59		$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^4S - ^4P$	$\frac{1}{2} - \frac{1}{2}$		537
10	1398.190	395.27 - 466.79		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		537
6	1399.491	395.27 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
60	1399.839	395.39 - 466.82		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[4]$	$\frac{3}{2} - \frac{3}{2}$		537
3	1401.794	395.39 - 466.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1403.153	395.27 - 466.54		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		537
10	1409.982	395.27 - 466.19		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		537
15	1410.096	395.39 - 466.30		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5f$	$^4D - 1[4]$	$\frac{3}{2} - \frac{3}{2}$		537
1	1419.740	387.52 - 457.96		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4F - ^4D$	$\frac{1}{2} - \frac{1}{2}$	P	537
10	1423.831	387.73 - 457.96		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4F - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
3	1424.64	387.52 - 457.72		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4F - ^4D$	$\frac{1}{2} - \frac{3}{2}$		537
1	1424.74	387.37 - 457.56		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4F - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
1	1436.687	384.49 - 454.10		$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^3P) 5s$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
3	1442.192	384.36 - 453.70		$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^3P) 5s$	$^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		537
3	1457.145	414.89 - 483.52		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5p$	$^4G - ^4F$	$\frac{3}{2} - \frac{3}{2}$		537
1	1457.441	414.90 - 483.51		$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D) 5p$	$^4G - ^4F$	$\frac{1}{2} - \frac{3}{2}$		537
6	1458.802	391.26 - 459.80		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4F - ^4D$	$\frac{3}{2} - \frac{3}{2}$		537
10	1459.503	390.08 - 458.59		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
1	1460.750	384.36 - 452.82		$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^3P) 5s$	$^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
6	1462.313	390.21 - 458.59		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4D - ^4P$	$\frac{1}{2} - \frac{3}{2}$		537
3	1463.808	390.08 - 458.39		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
3	1473.820	389.53 - 457.38		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4P - ^4S$	$\frac{3}{2} - \frac{1}{2}$		537
3	1475.787	390.83 - 458.59		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		537
1	1476.043	390.21 - 457.96		$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^4D - ^4D$	$\frac{1}{2} - \frac{1}{2}$		537

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	3	1478.224	316.71 - 384.36	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^3P - ^3P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	1	1478.879	390.98 - 458.59	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^3P - ^3P^*$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1486.913	317.24 - 384.49	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^3P - ^3P^*$	$\frac{3}{2} - \frac{3}{2}$		537
	100	1494.680	348.82 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	300	1498.933	349.01 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	150	1499.425	348.70 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	400	1502.014	348.82 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	300	1504.177	348.70 - 415.18	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	600	1504.785	349.27 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	500	1506.300	349.01 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	300	1506.767	348.82 - 415.18	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{1}{2}$		537
	3	1518.137	376.88 - 442.75	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1S) 3d$	$^3F^* - ^1D$	$\frac{7}{2} - \frac{3}{2}$		537
	3	1520.716	376.88 - 442.64	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^3P) 4d$	$^3F^* - ^3F$	$\frac{7}{2} - \frac{7}{2}$		537
	1	1527.524	376.81 - 442.28	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^3P) 4d$	$^3F^* - ^3F$	$\frac{5}{2} - \frac{5}{2}$		537
	60	1534.754	425.26 - 490.42	$2s^2 2p^2 (^3S^*) 3p - 2s^2 2p^2 (^3S^*) 4s$	$^3P - ^3S^*$	$\frac{3}{2} - \frac{3}{2}$		537
	100	1535.269	425.28 - 490.42	$2s^2 2p^2 (^3S^*) 3p - 2s^2 2p^2 (^3S^*) 4s$	$^3P - ^3S^*$	$\frac{3}{2} - \frac{3}{2}$		537
	150	1536.113	425.32 - 490.42	$2s^2 2p^2 (^3S^*) 3p - 2s^2 2p^2 (^3S^*) 4s$	$^3P - ^3S^*$	$\frac{1}{2} - \frac{3}{2}$		537
	3	1544.276	395.39 - 460.14	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1549.492	395.27 - 459.80	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 5p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		537
	250	1553.023	351.33 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	300	1557.592	351.52 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	200	1558.641	351.24 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	60	1560.939	351.33 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	100	1562.234	376.81 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^3F^* - ^1D$	$\frac{5}{2} - \frac{3}{2}$		537
	250	1563.726	376.88 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^3F^* - ^1D$	$\frac{7}{2} - \frac{3}{2}$		537
	250	1565.539	351.52 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	200	1566.070	351.33 - 415.18	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{1}{2}$		537
	1	1577.652	316.92 - 380.31	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^3P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1585.593	317.24 - 380.31	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^3P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		537
	10	1590.180	344.02 - 406.91	$2s^2 2p^2 (^1D) 3s - 2s^2 2p^2 (^1S) 3p$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	10	1599.926	406.90 - 469.41	$2s^2 2p^2 (^1S) 3p - 2s^2 2p^2 (^1S) 4s$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		537
	25	1600.041	406.91 - 469.41	$2s^2 2p^2 (^1S) 3p - 2s^2 2p^2 (^1S) 4s$	$^1P^* - ^1S$	$\frac{3}{2} - \frac{3}{2}$		537
	60	1613.186	355.98 - 417.97	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	150	1623.294	355.98 - 417.59	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{1}{2}$		537
	250	1623.402	356.37 - 417.97	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^1D^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	6	1648.608	360.35 - 421.01	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		537
	250	1650.764	380.25 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	20	1650.974	360.44 - 421.01	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1P^* - ^1S$	$\frac{3}{2} - \frac{1}{2}$		537
	3	1652.288	380.31 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	60	1652.416	380.31 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	1	1661.025	355.98 - 416.19	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
		1661.505	355.98 - 416.17	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	150	1666.652	324.49 - 394.49	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	500	1670.388	324.49 - 384.36	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		537
	35	1671.870	356.37 - 416.19	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1672.341	356.37 - 416.17	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		537
	600	1677.397	324.88 - 384.49	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		537
	150	1681.182	324.88 - 384.36	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^1D) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{1}{2}$		537
	10	1681.478	414.90 - 474.37	$2s^2 2p^2 (^1D) 3d - 2s^2 2p^2 (^1D^*) 3s$	$^3G - ^1D^*$	$\frac{7}{2} - \frac{3}{2}$		537
	6	1683.991	372.68 - 432.06	$2s^2 2p^2 (^1S) 3s - 2s^2 2p^2 (^3P) 4p$	$^1S - ^3P^*$	$\frac{1}{2} - \frac{3}{2}$		537
	250	1716.990	357.48 - 415.72	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3S^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	200	1726.665	357.48 - 415.39	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3S^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	100	1732.345	357.48 - 415.18	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3S^* - ^3P$	$\frac{3}{2} - \frac{1}{2}$		537
	6	1733.200	344.03 - 401.72	$2s^2 2p^2 (^1D) 3s - 2p^4$	$^1D - ^1P^*$	$\frac{3}{2} - \frac{1}{2}$		537
	35	1735.417	360.35 - 417.97	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
	200	1738.041	360.44 - 417.97	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{3}{2}$		537
	1	1746.545	387.37 - 444.62	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[4]^*$	$\frac{3}{2} - \frac{1}{2}$		537
	150	1747.114	360.35 - 417.59	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{1}{2} - \frac{1}{2}$		537
	10	1747.881	355.98 - 413.20	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^3F$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1748.023	387.37 - 444.58	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[3]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1748.806	344.02 - 401.21	$2s^2 2p^2 (^1D) 3s - 2p^4$	$^1D - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		537
	35	1749.766	360.44 - 417.59	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^3P) 4s$	$^3P^* - ^3P$	$\frac{3}{2} - \frac{1}{2}$		537
	10	1750.640	387.37 - 444.49	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[2]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	6	1751.276	387.37 - 444.47	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[2]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	1	1752.694	387.52 - 444.58	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[4]^*$	$\frac{1}{2} - \frac{3}{2}$		537
	60	1753.518	387.52 - 444.55	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[3]^*$	$\frac{7}{2} - \frac{7}{2}$		537
	150	1758.956	387.73 - 444.58	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[4]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	3	1759.792	387.73 - 444.55	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[3]^*$	$\frac{3}{2} - \frac{1}{2}$		537
	6	1761.444	356.37 - 413.14	$2s^2 2p^2 (^3P) 3p - 2s^2 2p^2 (^1D) 3d$	$^1D^* - ^3F$	$\frac{3}{2} - \frac{1}{2}$		537
	150	1763.206	387.52 - 444.24	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[5]^*$	$\frac{7}{2} - \frac{3}{2}$		537
	200	1768.038	387.37 - 443.93	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 1[4]^*$	$\frac{3}{2} - \frac{1}{2}$		537
	6	1769.529	387.73 - 444.24	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[5]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	400	1770.092	387.26 - 443.75	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 1[3]^*$	$\frac{3}{2} - \frac{3}{2}$		537
	700	1770.668	387.73 - 444.20	$2s^2 2p^2 (^3P) 3d - 2s^2 2p^2 (^3P) 4f$	$^3F - 2[5]^*$	$\frac{3}{2} - \frac{1}{2}$		537
	10	1770.963	384.36 - 440.83	$2s^2 2p^2 (^1D) 3p - 2s^2 2p^2 (^1D) 4s$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{3}{2}$		537

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
300	1772.925		387.52 - 443.93	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
600	1773.363		387.52 - 443.91	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1773.496		387.37 - 443.75	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
150	1774.104		387.26 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1775.079		384.49 - 440.83	$2s^2 2p^2(^1D) 3p - 2s^2 2p^2(^1D) 4s$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		537
60	1777.358		387.37 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1777.846		387.52 - 443.77	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1779.778		387.73 - 443.91	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^4F - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1786.436		413.14 - 469.12	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1788.110		413.20 - 469.12	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1791.445		360.35 - 416.17	$2s^2 2p^2(^3P) 3p - 2s^2 2p^2(^1D) 3d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		537
800	1791.648		324.49 - 380.31	$2s^2 2p^2(^3P) 3s - 2s^2 2p^2(^1D) 3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		537
100	1800.505		413.14 - 468.68	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1802.181		413.20 - 468.68	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
300	1803.027		413.14 - 468.61	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
200	1804.073		324.88 - 380.31	$2s^2 2p^2(^3P) 3s - 2s^2 2p^2(^1D) 3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		537
250	1804.698		413.20 - 468.61	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3F - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
900	1805.896		324.88 - 380.25	$2s^2 2p^2(^3P) 3s - 2s^2 2p^2(^1D) 3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		537
3	1830.567		442.69 - 497.32	$2s^2 2p^2(^1S) 3d - 2s^2 2p^2(^1S) 4f$	$^3D - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1832.361		442.75 - 497.32	$2s^2 2p^2(^1S) 3d - 2s^2 2p^2(^1S) 4f$	$^3D - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1833.322		390.08 - 444.62	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1833.791		389.53 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
100	1834.997		390.08 - 444.58	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
200	1835.712		390.08 - 444.55	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1837.815		390.21 - 444.62	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		53.
100	1837.880		390.08 - 444.49	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
20	1838.568		390.08 - 444.47	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
300	1839.301		390.21 - 444.58	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
400	1839.968		414.89 - 469.24	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3G - 2(5)^+$	$\frac{1}{2} - \frac{1}{2}$		537
300	1840.140		414.90 - 469.24	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3G - 2(5)^+$	$\frac{1}{2} - \frac{1}{2}$		537
10	1840.930		389.74 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1842.326		390.21 - 444.49	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
100	1844.077		389.53 - 443.75	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
150	1847.462		389.74 - 443.87	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
200	1848.431		389.53 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1850.889		390.21 - 444.24	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(5)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1852.539		390.08 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1852.683		390.08 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1854.028		390.12 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1857.034		390.08 - 443.93	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1859.143		390.08 - 443.87	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 1(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1861.584		390.83 - 444.55	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1861.814		414.89 - 468.61	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3G - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1861.912		414.90 - 468.61	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3G - 2(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1862.094		390.21 - 443.91	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1863.758		390.83 - 444.49	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1865.701		390.98 - 444.58	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1867.050		390.21 - 443.77	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
100	1867.310		390.08 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1867.598		390.08 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
10	1868.690		390.98 - 444.49	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1869.380		390.98 - 444.47	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
10	1871.923		390.21 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3D - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1876.348		391.26 - 444.55	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1878.580		391.26 - 444.49	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1878.910		390.83 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1883.925		390.98 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1885.587		390.83 - 443.87	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
6	1886.464		391.05 - 444.06	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 2(1)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1886.950		413.20 - 466.19	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 5f$	$^3F - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
10	1888.530		416.17 - 469.12	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3D - 2(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
20	1889.076		390.83 - 443.77	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1889.711		390.83 - 443.75	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
3	1893.273		391.05 - 443.87	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1894.082		390.83 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1894.779		390.98 - 443.75	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
100	1898.631		391.26 - 443.93	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1899.373		390.98 - 443.63	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3P - 0(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
150	1900.760		391.26 - 443.87	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 1(2)^+$	$\frac{1}{2} - \frac{3}{2}$		537
60	1904.247		416.17 - 468.68	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3D - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
35	1904.834		416.19 - 468.68	$2s^2 2p^2(^1D) 3d - 2s^2 2p^2(^1D) 4f$	$^3D - 2(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1909.375		401.72 - 454.10	$2p^3 - 2s^2 2p^2(^3P) 5s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		537
10	1912.543		391.63 - 443.91	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 1(4)^+$	$\frac{1}{2} - \frac{3}{2}$		537
1	1917.766		391.63 - 443.77	$2s^2 2p^2(^3P) 3d - 2s^2 2p^2(^3P) 4f$	$^3F - 1(3)^+$	$\frac{1}{2} - \frac{3}{2}$		537
	1939.44		0.0 - 51.56	$2s^2 2p^3 - 2s^2 2p^2$	$g^4S^o - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	F, P	375

F III

F IV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		1939.47	0.0 - 51.56	$2s^2 2p^3 - 2s^2 2p^3$	$g^4 S^{\circ} - ^4 P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
10	1948.731	418.25 - 469.56	$2s^2 2p^3 (^1D) 3d - 2s^2 2p^3 (^1D) 4f$	$^4 P^{\circ} - 2[1]^{\circ}$	$\frac{3}{2} - \frac{3}{2}$			537
20	1963.439	418.19 - 469.12	$2s^2 2p^3 (^1D) 3d - 2s^2 2p^3 (^1D) 4f$	$^4 P^{\circ} - 2[2]^{\circ}$	$\frac{1}{2} - \frac{3}{2}$			537
35	1965.726	418.19 - 469.12	$2s^2 2p^3 (^1D) 3d - 2s^2 2p^3 (^1D) 4f$	$^4 P^{\circ} - 2[2]^{\circ}$	$\frac{3}{2} - \frac{3}{2}$			537

FLUORINE IV (F^{3+}), $Z = 9$ Ground State $1s^2 2s^2 2p^3 \ ^3P_0$ (6 electrons)Ionization Potential $702\,830 \text{ cm}^{-1}$; 87.141 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	140.781	0.23 - 710.55	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5p$	$g^4 P^{\circ} - ^4 D^{\circ}$	1 - 2	Z	173
	1	140.816	0.61 - 710.76	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5p$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3	Z	173
	10	150.335	0.23 - 665.41	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4p$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 2		173
	10	150.422	0.61 - 665.41	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4p$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		173
	100	150.977	0.0 - 662.35	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4p$	$g^4 P^{\circ} - ^4 D^{\circ}$	0 - 1		173
	100	151.005	0.61 - 662.84	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4p$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3		173
	1	151.079	0.61 - 662.52	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4p$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 2		173
	1	152.997	0.23 - 653.77	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 6d$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 2		173
	10	153.102	0.61 - 653.77	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 6d$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		173
	10	153.141	0.61 - 653.61	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 6d$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3		173
	10	155.624	74.19 - 716.77	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 2	Z	173
	10	155.673	74.19 - 716.57	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 5d$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 3	Z	173
	10	158.398	0.23 - 631.55	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 0		173
	400	158.537	0.61 - 631.43	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		176, 173
	100	158.601	0.61 - 631.13	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3		173
	100	158.925	25.24 - 654.47	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 6d$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 3		173
	200	164.612	25.24 - 632.73	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 3		173
	10	165.350	25.24 - 630.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$^4 D^{\circ} - ^4 D^{\circ}$	2 - 2		173
	1	165.479	25.24 - 629.55	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 2		173
	200	166.444	74.19 - 675.00	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 2		173
	200	166.499	74.19 - 674.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 3		173
	200	168.450	25.24 - 618.89	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3p$	$^4 D^{\circ} - ^4 P^{\circ}$	2 - 1		173
	200	169.166	147.84 - 739.00	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 4d$	$^4 D^{\circ} - ^4 F^{\circ}$	3 - 4	Z	173
	100	169.481	0.23 - 590.26	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 0		173
	100	169.502	0.23 - 590.20	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 1		173
	100	169.610	0.61 - 590.20	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 1		173
	200	169.661	0.61 - 590.02	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		173
	200	169.748	0.0 - 589.11	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 D^{\circ}$	0 - 1		173
	300	169.790	0.23 - 589.19	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 D^{\circ}$	1 - 2		173
	300	169.839	0.61 - 589.41	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3		173
	200	170.187	25.24 - 612.83	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3p$	$^4 D^{\circ} - ^4 D^{\circ}$	2 - 2		173
	300	171.066	25.24 - 609.81	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3p$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 3		173
	10	172.653	53.54 - 632.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 5d$	$^4 S^{\circ} - ^4 P^{\circ}$	0 - 1		173
	10	175.033	74.19 - 645.52	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 3		173
	1	175.132	74.19 - 645.19	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4s$	$^4 S^{\circ} - ^4 P^{\circ}$	2 - 2		173
	400	176.367	25.24 - 592.24	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 3		173
	200	177.971	25.24 - 587.13	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$^4 D^{\circ} - ^4 D^{\circ}$	2 - 2		173
	100	178.126	25.24 - 586.64	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$^4 D^{\circ} - ^4 F^{\circ}$	2 - 2		173
	100	178.540	0.23 - 560.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4s$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 2		173
	300	178.670	0.61 - 560.29	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4s$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		173
	100	178.724	0.23 - 559.75	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4s$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 0		173
	100	178.805	0.61 - 559.88	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4s$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 1		173
	100	179.827	0.23 - 556.32	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 2		173
	1	179.907	0.23 - 556.05	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 P^{\circ}$	1 - 1		173
	200	179.943	0.61 - 556.32	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 2		173
	10	180.029	0.61 - 556.05	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 P^{\circ}$	2 - 1		173
	400	181.521	0.23 - 551.10	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 D^{\circ}$	1 - 2		173
	400	181.571	0.61 - 551.37	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 3		173
	200	181.655	0.61 - 551.10	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 D^{\circ}$	2 - 2		173
	300	185.484	53.54 - 592.67	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4d$	$^4 S^{\circ} - ^4 P^{\circ}$	0 - 1		173
	100	186.558	25.24 - 561.27	$2s^2 2p^3 - 2s^2 2p^3 (^4P^{\circ}) 4s$	$^4 D^{\circ} - ^4 P^{\circ}$	2 - 1		173
	200	187.105	0.23 - 534.69	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 S^{\circ}$	1 - 1		173
	300	187.240	0.61 - 534.69	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3p$	$g^4 P^{\circ} - ^4 S^{\circ}$	2 - 1		173
	100	187.916	147.84 - 679.99	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4 D^{\circ} - ^4 D^{\circ}$	3 - 3		173
	10	188.004	147.89 - 679.80	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 4d$	$^4 D^{\circ} - ^4 D^{\circ}$	2 - 2		173

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
200	188.656		147.84 - 677.91	2s2p ² - 2s2p ² (⁴ P)4d	³ D° - ³ F	3 - 4		173
100	188.758		147.89 - 677.67	2s2p ² - 2s2p ² (⁴ P)4d	³ D° - ³ F	2 - 3		173
10	188.834		147.90 - 677.47	2s2p ² - 2s2p ² (⁴ P)4d	³ D° - ³ F	1 - 2		173
400	196.351		74.19 - 583.49	2s2p ² - 2s2p ² (⁴ P)3d	³ S° - ³ P	2 - 1		173
500	196.390		74.19 - 583.39	2s2p ² - 2s2p ² (⁴ P)3d	³ S° - ³ P	2 - 2		173
600	196.448		74.19 - 583.24	2s2p ² - 2s2p ² (⁴ P)3d	³ S° - ³ P	2 - 3		173
100	196.968		53.54 - 561.27	2s ² 2p ² - 2s ² 2p ² (⁴ P°)4s	¹ S° - ¹ P°	0 - 1		173
200	197.108		74.19 - 581.56	2s2p ² - 2s2p ² (⁴ P)3d	³ S° - ³ D	2 - 3		173
100	197.298		147.89 - 654.74	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ S	2 - 1	Q	176, 375
300	199.004		147.84 - 650.34	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ D	3 - 3		173
300	199.086		147.89 - 650.20	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ D	2 - 2		173
100	199.607		147.84 - 648.83	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ P	3 - 2		173
500	199.761		0.0 - 500.60	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	0 - 1		173
500	199.804		0.23 - 500.72	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	1 - 0		173
500	199.849		0.23 - 500.60	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	1 - 1		173
500	199.934		0.23 - 500.39	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	1 - 2		173
500	200.001		0.61 - 500.60	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	2 - 1		173
700	200.089		0.61 - 500.39	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ P°	2 - 2		173
600	201.011		0.0 - 497.48	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	0 - 1		173
700	201.063		0.23 - 497.58	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	1 - 2		173
600	201.101		0.23 - 497.48	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	1 - 1		173
800	201.160		0.61 - 497.73	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	2 - 3		173
600	201.222		0.61 - 497.58	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	2 - 2		173
400	201.465		147.84 - 644.22	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ F	3 - 4		173
10	202.989		0.23 - 492.86	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ D°	1 - 2		173
100	203.152		0.61 - 492.86	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	³ P° - ³ F°	2 - 3		173
900	208.254		25.24 - 505.42	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	¹ D° - ¹ F°	2 - 3		173
200	208.549		175.24 - 654.74	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ S	2 - 1		173
100	210.480		175.24 - 650.34	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ D	2 - 3		173
100	210.545		175.24 - 650.20	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ D	1 - 2		173
10	211.152		175.24 - 648.83	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ P	2 - 2		173
700	213.848		25.24 - 492.86	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	¹ D° - ¹ D°	2 - 2		173
700	214.062		25.24 - 492.40	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	¹ D° - ¹ F°	2 - 2		173
700	220.765		53.54 - 506.51	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3d	¹ S° - ¹ P°	0 - 1		173
300	223.394		147.84 - 595.48	2s2p ² - 2s2p ² (⁴ P)4d	³ D° - ³ D	3 - 3		173
200	223.456		147.89 - 595.40	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ D	2 - 2		173
100	223.497		147.90 - 595.33	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ D	1 - 1		173
600	226.944		147.84 - 588.48	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ F	3 - 4		173
300	227.079		147.84 - 588.22	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ F	3 - 3		173
500	227.101		147.89 - 588.22	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ F	2 - 3		173
400	227.211		147.90 - 588.02	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ F	1 - 2		173
1	228.496		147.90 - 585.53	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ P	1 - 0		173
10	228.552		147.89 - 585.43	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ P	2 - 1		173
100	228.645		147.84 - 585.20	2s2p ² - 2s2p ² (⁴ P)3d	³ D° - ³ P	3 - 2		173
200	233.159		228.90 - 657.8	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ D	2 - 2		173
600	233.222		74.19 - 502.97	2s2p ² - 2s2p ² (⁴ P)3s	³ S° - ³ P	2 - 3		173
200	233.297		228.90 - 657.55	2s2p ² - 2s2p ² (⁴ D)3d	³ D° - ³ F	2 - 3		173
500	233.393		74.19 - 502.65	2s2p ² - 2s2p ² (⁴ P)3s	³ S° - ³ P	2 - 2		173
400	233.526		74.19 - 502.41	2s2p ² - 2s2p ² (⁴ P)3s	³ S° - ³ P	2 - 1		173
300	237.913		147.84 - 568.18	2s2p ² - 2s2p ² (⁴ D)3s	³ D° - ³ D	3 - 3		173
400	237.955		175.24 - 595.48	2s2p ² - 2s2p ² (⁴ P)3d	³ P° - ³ D	2 - 3		173
300	238.012		147.89 - 568.02	2s2p ² - 2s2p ² (⁴ D)3s	³ D° - ³ D	2 - 2		173
200	238.042		175.26 - 595.33	2s2p ² - 2s2p ² (⁴ P)3d	³ P° - ³ D	0 - 1		173
100	238.099		147.90 - 567.9	2s2p ² - 2s2p ² (⁴ D)3s	³ D° - ³ D	1 - 1		173
700	239.856		0.23 - 417.14	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	1 - 2		173
700	240.017		0.0 - 416.64	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	0 - 1		173
900	240.079		0.61 - 417.14	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	2 - 2		173
700	240.146		0.23 - 416.64	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	1 - 1		173
700	240.275		0.23 - 416.42	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	1 - 0		173
700	240.371		0.61 - 416.64	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	³ P° - ³ P°	2 - 1		173
200	243.736		175.24 - 585.53	2s2p ² - 2s2p ² (⁴ P)3d	³ P° - ³ P	1 - 0		173
300	243.796		175.24 - 585.43	2s2p ² - 2s2p ² (⁴ P)3d	³ P° - ³ P	2 - 1		173
400	243.922		175.24 - 585.20	2s2p ² - 2s2p ² (⁴ P)3d	³ P° - ³ P	2 - 2		173
100	249.228		257.39 - 658.63	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ P	1 - 1		173
10	249.744		257.39 - 657.8	2s2p ² - 2s2p ² (⁴ D)3d	³ P° - ³ D	1 - 2		173
1000	251.026		25.24 - 423.61	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	¹ D° - ¹ P°	2 - 1		173
200	254.491		175.24 - 568.18	2s2p ² - 2s2p ² (⁴ D)3s	³ P° - ³ D	2 - 3		173
100	254.595		175.24 - 568.02	2s2p ² - 2s2p ² (⁴ D)3s	³ P° - ³ D	1 - 2		173
10	254.681		175.26 - 567.9	2s2p ² - 2s2p ² (⁴ D)3s	³ P° - ³ D	0 - 1		173
400	268.785		147.84 - 519.89	2s2p ² - 2s2p ² (⁴ P)3s	³ D° - ³ P	3 - 2		173
100	268.817		147.89 - 519.89	2s2p ² - 2s2p ² (⁴ P)3s	³ D° - ³ P	2 - 2		173
300	269.076		147.89 - 519.54	2s2p ² - 2s2p ² (⁴ P)3s	³ D° - ³ P	2 - 1		173
200	269.225		147.90 - 519.34	2s2p ² - 2s2p ² (⁴ P)3s	³ D° - ³ P	1 - 0		173
600	270.225		53.54 - 423.61	2s ² 2p ² - 2s ² 2p ² (⁴ P°)3s	¹ S° - ¹ P°	0 - 1		173
300	279.834		228.90 - 586.26	2s2p ² - 2s2p ² (⁴ D)3s	³ D° - ³ D	2 - 2		173

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	287.994	238.30 - 585.53	$2s2p^2 - 2s2p^2(^1P)3d$	$^1S^o - ^1P$	1 - 0		173
	10	288.078	238.30 - 585.43	$2s2p^2 - 2s2p^2(^1P)3d$	$^1S^o - ^1P$	1 - 1		173
	100	288.267	238.30 - 585.20	$2s2p^2 - 2s2p^2(^1P)3d$	$^1S^o - ^1P$	1 - 2		173
	400	290.147	175.24 - 519.89	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	2 - 2		173
	300	290.440	175.24 - 519.54	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	2 - 1		173
	200	290.461	175.26 - 519.54	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	0 - 1		173
	200	290.608	175.24 - 519.34	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^1P$	1 - 0		173
	300	319.695	147.84 - 460.64	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1D^o - ^1P$	3 - 2		173
	10	319.740	147.89 - 460.64	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1D^o - ^1P$	2 - 2		173
	200	320.004	147.89 - 460.39	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1D^o - ^1P$	2 - 1		173
	100	320.192	147.90 - 460.22	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1D^o - ^1P$	1 - 0		173
	10	328.213	147.84 - 452.52	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1D^o - ^1D$	3 - 3		173
	200	355.045	175.24 - 456.88	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1P^o - ^1S$	2 - 1		173
	100	360.635	175.24 - 452.52	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1P^o - ^1D$	2 - 3		173
	10	361.208	175.24 - 452.08	$2s2p^2 - 2s^22p(^1P^o)3p$	$^1P^o - ^1D$	1 - 2		173
	800	419.645	0.0 - 238.30	$2s^22p^2 - 2s2p^2$	$g^1P - ^1S^o$	0 - 1		562
	900	420.045	0.23 - 238.30	$2s^22p^2 - 2s2p^2$	$g^1P - ^1S^o$	1 - 1		562
	1000	420.729	0.61 - 238.30	$2s^22p^2 - 2s2p^2$	$g^1P - ^1S^o$	2 - 1		562
	900	430.759	25.24 - 257.39	$2s^22p^2 - 2s2p^2$	$^1D - ^1P^o$	2 - 1		562
	700	490.568	53.54 - 257.39	$2s^22p^2 - 2s2p^2$	$^1S - ^1P^o$	0 - 1		562
	1000	491.001	25.24 - 228.90	$2s^22p^2 - 2s2p^2$	$^1D - ^1D^o$	2 - 2		562
	60	497.375	147.90 - 348.96	$2s2p^2 - 2p^4$	$^1D^o - ^1P$	1 - 0		562
	100	497.830	147.89 - 348.77	$2s2p^2 - 2p^4$	$^1D^o - ^1P$	2 - 1		562
	150	498.796	147.84 - 348.33	$2s2p^2 - 2p^4$	$^1D^o - ^1P$	3 - 2		562
	35	498.907	147.89 - 348.33	$2s2p^2 - 2p^4$	$^1D^o - ^1P$	2 - 2		562
	800	570.640	0.0 - 175.24	$2s^22p^2 - 2s2p^2$	$g^1P - ^1P^o$	0 - 1		562
	800	571.304	0.23 - 175.26	$2s^22p^2 - 2s2p^2$	$g^1P - ^1P^o$	1 - 0		562
	900	571.391	0.23 - 175.24	$2s^22p^2 - 2s2p^2$	$g^1P - ^1P^o$	1 - 2		562
	1000	572.663	0.61 - 175.24	$2s^22p^2 - 2s2p^2$	$g^1P - ^1P^o$	2 - 2		562
	10	575.643	175.24 - 348.96	$2s2p^2 - 2p^4$	$^1P^o - ^1P^o$	1 - 0		562
	15	576.265	175.24 - 348.77	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	2 - 1		562
	10	576.359	175.26 - 348.77	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	0 - 1		562
	35	577.734	175.24 - 348.33	$2s2p^2 - 2p^4$	$^1P^o - ^1P$	2 - 2		562
		607.37	257.39 - 422.03	$2s2p^2 - 2p^4$	$^1P^o - ^1S$	1 - 0		244
		639.13	560.30 - 716.77	$2s^22p(^1P^o)4s - 2s2p^2(^1P)5d$	$^1P^o - ^1P$	2 - 2	Q, Z	244, 375
	1	666.662	25.24 - 175.24	$2s^22p^2 - 2s2p^2$	$^1D - ^1P^o$	2 - 2		562
	800	676.119	0.0 - 147.90	$2s^22p^2 - 2s2p^2$	$g^1P - ^1D^o$	0 - 1		562
	700	677.149	0.23 - 147.90	$2s^22p^2 - 2s2p^2$	$g^1P - ^1D^o$	1 - 1		562
	900	677.219	0.23 - 147.89	$2s^22p^2 - 2s2p^2$	$g^1P - ^1D^o$	1 - 2		562
	700	678.991	0.61 - 147.89	$2s^22p^2 - 2s2p^2$	$g^1P - ^1D^o$	2 - 2		562
	1000	679.214	0.61 - 147.84	$2s^22p^2 - 2s2p^2$	$g^1P - ^1D^o$	2 - 3		562
	500	722.028	228.90 - 367.40	$2s2p^2 - 2p^4$	$^1D^o - ^1D$	2 - 2		562
	10	815.629	25.24 - 147.84	$2s^22p^2 - 2s2p^2$	$^1D - ^1D^o$	2 - 3		562
	1	821.694	53.54 - 175.24	$2s^22p^2 - 2s2p^2$	$^1S - ^1P^o$	0 - 1		562
	35	903.64	238.30 - 348.96	$2s2p^2 - 2p^4$	$^1S^o - ^1P$	1 - 0		562
		905.14	519.54 - 630.02	$2s2p^2(^1P)3s - 2s^22p(^1P^o)5d$	$^1P - ^1D^o$	1 - 2	Q	244, 375
	60	905.224	238.30 - 348.77	$2s2p^2 - 2p^4$	$^1S^o - ^1P$	1 - 1		562
	100	908.837	238.30 - 348.33	$2s2p^2 - 2p^4$	$^1S^o - ^1P$	1 - 2		562
	150	908.958	257.39 - 367.40	$2s2p^2 - 2p^4$	$^1P^o - ^1D$	1 - 2		562
	10	927.837	452.52 - 560.29	$2s^22p(^1P^o)3p - 2s^22p(^1P^o)4s$	$^1D - ^1P^o$	3 - 2		562
	10	993.19	492.86 - 593.54	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	3 - 4	P	562
	1	995.12	492.40 - 592.88	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
		996.62	493.21 - 593.54	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	4 - 4		562
	15	998.86	492.86 - 592.97	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	3 - 4		562
	60	999.14	493.21 - 593.29	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	4 - 5		562
	15	999.79	492.86 - 592.88	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	1	1000.89	460.39 - 560.29	$2s^22p(^1P^o)3p - 2s^22p(^1P^o)4s$	$^1P - ^1P^o$	1 - 2		562
	5	1002.33	493.21 - 592.97	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	4 - 4		562
	10	1003.45	460.64 - 560.29	$2s^22p(^1P^o)3p - 2s^22p(^1P^o)4s$	$^1P - ^1P^o$	2 - 2		562
	5	1004.59	492.40 - 591.94	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	10	1007.64	492.86 - 592.10	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	3 - 4		562
	5	1007.74						562
	5	1007.88	492.86 - 592.09	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	10	1009.34	492.86 - 591.94	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	5	1012.90	493.21 - 591.93	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1F^o - \frac{3}{2}[\frac{7}{2}]$	4 - 3		562
	5	1045.24	460.64 - 556.32	$2s^22p(^1P^o)3p - 2s^22p(^1P)3p$	$^1P - ^1P^o$	2 - 2		562
	1	1049.96	497.73 - 592.97	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	3 - 4		562
	10	1058.10	497.58 - 592.09	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	10	1058.50	497.48 - 591.95	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	1 - 2		562
	35	1059.63	497.73 - 592.10	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	3 - 4		562
	1	1059.73	497.58 - 591.94	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1D^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	5	1073.22	500.60 - 593.78	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1P^o - \frac{3}{2}[\frac{7}{2}]$	1 - 2		562
	1	1074.10	500.60 - 593.70	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1P^o - \frac{3}{2}[\frac{7}{2}]$	1 - 1		562
	5	1075.05	500.39 - 593.41	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1P^o - \frac{3}{2}[\frac{7}{2}]$	2 - 3		562
	5	1076.86	500.60 - 593.47	$2s^22p(^1P^o)3d - 2s^22p(^1P^o)4f$	$^1P^o - \frac{3}{2}[\frac{7}{2}]$	1 - 2		562

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	1091.35	469.64 - 561.27	469.64 - 561.27	$2s^2 2p(^4P) 3p - 2s^2 2p(^4P) 4s$	$^1D - ^1P$	2 - 1		562
5	1092.45	500.39 - 591.93	500.39 - 591.93	$2s^2 2p(^4P) 3d - 2s^2 2p(^4P) 4f$	$^1P - \frac{1}{2}[\frac{3}{2}]$	2 - 3		562
35	1134.78	505.42 - 593.54	505.42 - 593.54	$2s^2 2p(^4P) 3d - 2s^2 2p(^4P) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 4		562
5	1142.07	561.27 - 648.83	561.27 - 648.83	$2s^2 2p(^4P) 4s - 2s^2 2p(^4D) 3d$	$^1P - ^3P$	1 - 2		562
5	1143.35	505.42 - 592.88	505.42 - 592.88	$2s^2 2p(^4P) 3d - 2s^2 2p(^4P) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 3		562
10	1145.89	506.51 - 593.78	506.51 - 593.78	$2s^2 2p(^4P) 3d - 2s^2 2p(^4P) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2		562
10	1150.07	506.51 - 593.47	506.51 - 593.47	$2s^2 2p(^4P) 3d - 2s^2 2p(^4P) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2		562
10	1351.924	0.23 - 74.19	0.23 - 74.19	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^4S$	1 - 2		562
15	1359.053	0.61 - 74.19	0.61 - 74.19	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^4S$	2 - 2		562
1	1453.14	348.33 - 417.14	348.33 - 417.14	$2p^2 - 2s^2 2p(^4P) 3s$	$^1P - ^3P$	2 - 2		562
	1875.64	0.23 - 53.54	0.23 - 53.54	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^4S$	1 - 0	F, P	375
	1889.39	0.61 - 53.54	0.61 - 53.54	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^4S$	2 - 0	F, P	375

FLUORINE V (F^{++}), $Z = 9$ Ground State $1s^2 2s^2 2p^3 P_{1/2}$ (5 electrons)Ionization Potential 921 430 cm^{-1} ; 114.24 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
25	110.95	0.74 - 902.01	0.74 - 902.01	$2s^2 2p - 2s^2 2p(^4P) 5p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	155
140	117.1	86.41 - 940.68	86.41 - 940.68	$2s^2 2p^2 - 2s^2 2p(^4P) 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q, Z	155
25	118.6	0.0 - 843.50	0.0 - 843.50	$2s^2 2p - 2s^2 6d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Q, Z	155
10	119.986	0.0 - 833.50	0.0 - 833.50	$2s^2 2p - 2s^2 2p(^4P) 4p$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
15	120.032	0.74 - 833.92	0.74 - 833.92	$2s^2 2p - 2s^2 2p(^4P) 4p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
10	122.042	86.41 - 905.00	86.41 - 905.00	$2s^2 2p^2 - 2s^2 2p(^4P) 5d$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
10	123.665	0.0 - 808.66	0.0 - 808.66	$2s^2 2p - 2s^2 5d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
100	123.774	0.74 - 808.68	0.74 - 808.68	$2s^2 2p - 2s^2 5d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
70	125.4	0.0 - 797.52	0.0 - 797.52	$2s^2 2p^2 - 2p^2(^4P) 3s$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Q	155
10	131.516	0.0 - 760.34	0.0 - 760.34	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$		172
10	131.638	0.74 - 760.34	0.74 - 760.34	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		172
10	132.207	86.04 - 842.21	86.04 - 842.21	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		172
100	132.310	86.41 - 842.21	86.41 - 842.21	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		172
10	132.389	86.41 - 841.88	86.41 - 841.88	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	176, 375
200	132.453	85.79 - 840.79	85.79 - 840.79	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		172
300	132.484	86.04 - 840.85	86.04 - 840.85	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		172
300	132.511	86.41 - 841.06	86.41 - 841.06	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		172
100	132.699	0.0 - 753.53	0.0 - 753.53	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
200	132.819	0.74 - 753.66	0.74 - 753.66	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
10	133.082	0.0 - 751.41	0.0 - 751.41	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
100	133.208	0.74 - 751.45	0.74 - 751.45	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
110	133.599	86.04 - 834.56	86.04 - 834.56	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{3}{2}$		172
100	133.662	86.41 - 834.56	86.41 - 834.56	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{3}{2}$		172
400	134.407	0.0 - 744.01	0.0 - 744.01	$2s^2 2p - 2s^2 4d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
500	134.539	0.74 - 744.04	0.74 - 744.04	$2s^2 2p - 2s^2 4d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
1	135.621	85.79 - 823.13	85.79 - 823.13	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		172
10	135.692	86.41 - 823.38	86.41 - 823.38	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		172
300	136.902	86.41 - 816.86	86.41 - 816.86	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		172
10	136.955	86.41 - 816.57	86.41 - 816.57	$2s^2 2p^2 - 2p^2(^4P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		172
100	138.181	86.41 - 810.10	86.41 - 810.10	$2s^2 2p^2 - 2s^2 2p(^4P) 4s$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
10	138.256	86.41 - 809.70	86.41 - 809.70	$2s^2 2p^2 - 2s^2 2p(^4P) 4s$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
10	140.266	0.0 - 712.94	0.0 - 712.94	$2s^2 2p - 2s^2 4s$	$g^3F - ^3S$	$\frac{1}{2} - \frac{1}{2}$		172
100	140.414	0.74 - 712.94	0.74 - 712.94	$2s^2 2p - 2s^2 4s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		172
100	142.422	152.87 - 854.97	152.87 - 854.97	$2s^2 2p^2 - 2p^2(^4D) 3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	176, 375
100	143.897	152.87 - 847.82	152.87 - 847.82	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		172
15	143.965	152.90 - 847.51	152.90 - 847.51	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		172
100	144.637	152.87 - 844.27	152.87 - 844.27	$2s^2 2p^2 - 2p^2(^4D) 3p$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		176, 375
90	144.673	152.90 - 844.11	152.90 - 844.11	$2s^2 2p^2 - 2p^2(^4D) 3p$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		176, 375
100	145.177	152.87 - 841.70	152.87 - 841.70	$2s^2 2p^2 - 2s^2 2p(^4P) 4d$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		172
200	145.392	0.0 - 687.81	0.0 - 687.81	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		172
300	145.547	0.74 - 687.81	0.74 - 687.81	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		172
400	147.946	0.0 - 675.93	0.0 - 675.93	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
500	148.002	0.74 - 676.42	0.74 - 676.42	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
100	148.108	0.74 - 675.93	0.74 - 675.93	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
50	152.035	0.0 - 657.74	0.0 - 657.74	$2s^2 2p - 2s^2 2p(^4P) 3p$	$g^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		211

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	152.174		0.74 - 657.89	$2s^2 2p - 2s 2p(^3P) 3p$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		211
200	152.339		0.0 - 656.44	$2s^2 2p - 2s 2p(^3P) 3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
300	152.391		0.0 - 656.21	$2s^2 2p - 2s 2p(^3P) 3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		172
400	152.511		0.74 - 656.44	$2s^2 2p - 2s 2p(^3P) 3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
200	152.563		0.74 - 656.21	$2s^2 2p - 2s 2p(^3P) 3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172
100	157.515		152.87 - 787.76	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
400	158.537		152.87 - 783.55	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		172
1	159.558		214.88 - 841.60	$2s 2p^2 - 2s 2p(^3P) 4d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
10	159.658		215.35 - 841.70	$2s 2p^2 - 2s 2p(^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
200	162.013		85.79 - 703.02	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		172
300	162.053		85.79 - 702.87	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
300	162.082		86.04 - 703.02	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172
200	162.121		86.04 - 702.87	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	162.172		86.04 - 702.66	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	162.215		86.41 - 702.87	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
400	162.270		86.41 - 702.66	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	163.456		85.79 - 697.58	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
400	163.501		86.04 - 697.68	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
500	163.558		86.41 - 697.81	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
200	163.596		86.41 - 697.68	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
900	165.983		0.0 - 602.48	$2s^2 2p - 2s^2 3d$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
1000	166.177		0.74 - 602.52	$2s^2 2p - 2s^2 3d$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
100	167.858		197.57 - 793.31	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
10	171.214		276.41 - 860.48	$2p^2 - 2p^2(^3P) 3d$	$^3S - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172
100	171.241		276.41 - 860.39	$2p^2 - 2p^2(^3P) 3d$	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
200	171.302		276.41 - 860.18	$2p^2 - 2p^2(^3P) 3d$	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
100	173.020		215.35 - 793.31	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
10	173.656		307.23 - 883.08	$2p^2 - 2p^2(^3D) 3d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
10	173.714		307.28 - 882.93	$2p^2 - 2p^2(^3D) 3d$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		176, 375
300	174.490		307.23 - 880.31	$2p^2 - 2p^2(^3D) 3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		172
300	174.513		307.28 - 880.31	$2p^2 - 2p^2(^3D) 3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		172
400	174.568		214.88 - 787.73	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
300	174.698		215.35 - 787.76	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
10	176.472		307.23 - 873.90	$2p^2 - 2p^2(^3D) 3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
	176.82		0.0 - 565.54	$2s^2 2p - 2s^2 3p$	$g^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$	F, P	375
	177.05		0.74 - 565.54	$2s^2 2p - 2s^2 3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	177.11		0.74 - 565.57	$2s^2 2p - 2s^2 3p$	$g^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
500	178.434		152.87 - 713.31	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		172
400	178.590		152.90 - 712.84	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		172
300	178.612		152.87 - 712.76	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
400	182.979		152.87 - 699.39	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
300	183.016		152.90 - 699.29	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
10	183.208		307.23 - 853.04	$2p^2 - 2p^2(^3P) 3d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
400	186.715		86.04 - 621.62	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
400	186.788		85.79 - 621.15	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
500	186.842		86.41 - 621.62	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	187.672		86.04 - 621.15	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
400	186.968		86.04 - 620.89	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172
400	187.008		85.41 - 621.15	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
200	189.943		347.44 - 873.90	$2p^2 - 2p^2(^3D) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
600	190.571		0.0 - 524.75	$2s^2 2p - 2s^2 3s$	$g^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		172
700	190.839		0.74 - 524.75	$2s^2 2p - 2s^2 3s$	$g^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		172
300	191.892		197.57 - 718.69	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		172
400	191.973		197.57 - 718.47	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
300	194.108		197.57 - 712.76	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
200	196.713		276.41 - 784.77	$2p^2 - 2p^2(^3P) 3s$	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
100	196.870		276.41 - 784.36	$2p^2 - 2p^2(^3P) 3s$	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$		176, 375
1	197.615		347.42 - 853.44	$2p^2 - 2p^2(^3P) 3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		172
10	197.780		347.44 - 853.04	$2p^2 - 2p^2(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
100	198.476		307.23 - 811.08	$2p^2 - 2p^2(^3D) 3s$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
1	198.765		215.35 - 718.47	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
100	200.861		214.88 - 712.76	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
400	205.552		152.87 - 639.37	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	205.778		152.90 - 638.86	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172
200	206.430		214.88 - 699.29	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		172
300	206.594		215.35 - 629.39	$2s 2p^2 - 2s 2p(^3P) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
10	213.684		152.90 - 626.89	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$	Q	176, 375
10	215.674		347.44 - 811.69	$2p^2 - 2p^2(^3D) 3s$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		172
1	223.999		307.23 - 753.66	$2p^2 - 2s 2p(^3P) 3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
10	225.114		307.23 - 751.45	$2p^2 - 2s 2p(^3P) 3p$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	176, 375
200	226.341		197.57 - 639.37	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		172
90	226.608		197.57 - 638.86	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		172
100	235.840		215.35 - 639.37	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
300	242.324		152.87 - 565.54	$2s 2p^2 - 2s^2 3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		172
200	242.439		152.90 - 565.37	$2s 2p^2 - 2s^2 3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		172

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	400	464.367	0.0 - 215.35	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		562
	500	465.374	0.0 - 214.88	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 P$	$\frac{1}{2} - \frac{1}{2}$		562
	600	465.976	0.74 - 215.35	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{3}{2}$		562
	400	466.994	0.74 - 214.88	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{1}{2}$		562
	300	506.159	0.0 - 197.57	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		562
	400	508.075	0.74 - 197.57	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 S$	$\frac{3}{2} - \frac{1}{2}$		562
	150	513.969	152.87 - 347.44	$2s 2p^3 - 2p^3$	$^4 D - ^4 P^o$	$\frac{3}{2} - \frac{3}{2}$		562
	100	514.082	152.90 - 347.42	$2s 2p^3 - 2p^3$	$^4 D - ^4 P^o$	$\frac{3}{2} - \frac{1}{2}$		562
	200	524.594	85.79 - 276.41	$2s 2p^3 - 2p^3$	$^4 P - ^4 S$	$\frac{1}{2} - \frac{3}{2}$		562
	300	525.292	86.04 - 276.41	$2s 2p^3 - 2p^3$	$^4 P - ^4 S$	$\frac{3}{2} - \frac{3}{2}$		562
	400	526.297	86.41 - 276.41	$2s 2p^3 - 2p^3$	$^4 P - ^4 S$	$\frac{3}{2} - \frac{3}{2}$		562
		539.91	602.52 - 787.73	$2s^2 3d - 2s 2p(^4 P^o) 3d$	$^4 D - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	244
		552.06	602.52 - 783.65	$2s^2 3d - 2s 2p(^4 P^o) 3d$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{1}{2}$	Q	244
		560.24	565.54 - 744.04	$2s^2 3p - 2s^2 4d$	$^4 F^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$	Q	244
		643.14	746.53 - 902.01	$2s^2 4f - 2s 2p(^4 P^o) 5p$	$^4 F^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$	P	244
	150	647.666	152.87 - 307.28	$2s 2p^3 - 2p^3$	$^4 D - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	400	647.768	152.90 - 307.28	$2s 2p^3 - 2p^3$	$^4 D - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	500	647.868	152.87 - 307.23	$2s 2p^3 - 2p^3$	$^4 D - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	150	647.967	152.90 - 307.23	$2s 2p^3 - 2p^3$	$^4 D - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	700	654.029	0.0 - 152.90	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		562
	500	657.227	0.74 - 152.90	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		562
	800	657.333	0.74 - 152.87	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		562
	35	667.218	197.57 - 347.44	$2s 2p^3 - 2p^3$	$^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		562
	15	667.315	197.57 - 347.42	$2s 2p^3 - 2p^3$	$^4 S - ^4 P^o$	$\frac{1}{2} - \frac{1}{2}$		562
		694.40	602.52 - 746.53	$2s^2 3d - 2s^2 4f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{1}{2}$		244
		706.43	699.39 - 840.95	$2s 2p(^4 P^o) 3d - 2s 2p(^4 P^o) 4f$	$^4 D^o - ^4 F$	$\frac{3}{2} - \frac{1}{2}$		244
		712.64	702.66 - 842.99	$2s 2p(^4 P^o) 3d - 2s 2p(^4 P^o) 4f$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		244
		744.95	713.31 - 847.54	$2s 2p(^4 P^o) 3d - 2s 2p(^4 P^o) 4f$	$^4 F^o - ^4 G$	$\frac{3}{2} - \frac{3}{2}$		244
	35	754.359	214.88 - 347.44	$2s 2p^3 - 2p^3$	$^4 P - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		562
	60	754.490	214.88 - 347.42	$2s 2p^3 - 2p^3$	$^4 P - ^4 P^o$	$\frac{1}{2} - \frac{1}{2}$		562
	100	757.037	215.35 - 347.44	$2s 2p^3 - 2p^3$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{3}{2}$		562
	35	757.158	215.35 - 347.42	$2s 2p^3 - 2p^3$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{1}{2}$		562
	100	1082.313	214.88 - 307.28	$2s 2p^3 - 2p^3$	$^4 P - ^4 D^o$	$\frac{1}{2} - \frac{3}{2}$		562
	35	1087.820	215.35 - 307.28	$2s 2p^3 - 2p^3$	$^4 P - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	150	1088.387	215.35 - 307.23	$2s 2p^3 - 2p^3$	$^4 P - ^4 D^o$	$\frac{3}{2} - \frac{3}{2}$		562
	1	1167.372	0.74 - 86.41	$2s^2 2p - 2s 2p^2$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{3}{2}$		562

FLUORINE VI (F^{++}), $Z = 9$ Ground State $1s^2 2s^2 \ ^1S_0$ (4 electrons)Ionization Potential 1 267 622 cm^{-1} ; 157.166 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
60	91.0	0.0 - 1099.41	$2s^3 - 2s 5p$	$g^3 S - ^3 P^o$	0 - 1		Q	155
45	91.9	97.44 - 1185.88	$2s 2p - 2s 7d$	$^3 P^o - ^3 D$	2 - 3		Q	155
120	94.45	97.44 - 1156.10	$2s 2p - 2s 6d$	$^3 P^o - ^3 D$	2 - 3		Q	155
80	97.95	96.87 - 1117.74	$2s 2p - 2p 4p$	$^3 P^o - ^3 D$	1 - 2		Q	155
10	99.044	96.87 - 1106.31	$2s 2p - 2s 5d$	$^3 P^o - ^3 D$	1 - 2			171
15	99.105	97.44 - 1106.42	$2s 2p - 2s 5d$	$^3 P^o - ^3 D$	2 - 3			171
10	99.203	0.0 - 1007.85	$2s^3 - 2s 4p$	$g^3 S - ^3 P^o$	0 - 1			171
180	103.2	252.15 - 1220.94	$2p^3 - 2p 5d$	$^3 P - ^3 D^o$	2 - 3		Q	155
90	105.4	274.60 - 1223.60	$2p^3 - 2p 5d$	$^3 D - ^3 F^o$	2 - 3		Q	155
120	106.55	0.0 - 938.81	$2s^3 - 2p 3d$	$g^3 S - ^3 P^o$	0 - 1		Q	155
45	107.65	186.84 - 1115.97	$2s 2p - 2p 4p$	$^3 P^o - ^3 P$	1 - 1		Q	155
100	108.5	186.84 - 1108.71	$2s 2p - 2s 5d$	$^3 P^o - ^3 D$	1 - 2		Q	155
100	108.975	96.61 - 1014.24	$2s 2p - 2s 4d$	$^3 P^o - ^3 D$	0 - 1			171
150	109.040	97.44 - 1014.44	$2s 2p - 2s 4d$	$^3 P^o - ^3 D$	2 - 3			171
90	112.0	97.44 - 989.93	$2s 2p - 2s 4s$	$^3 P^o - ^3 S$	2 - 1		Q	155
10	113.840	252.15 - 1130.34	$2p^3 - 2p 4d$	$^3 P - ^3 D^o$	2 - 3			171
10	116.094	274.60 - 1135.95	$2p^3 - 2p 4d$	$^3 D - ^3 F^o$	2 - 3			171
115	117.4	274.60 - 1126.17	$2p^3 - 2p 4d$	$^3 D - ^3 D^o$	2 - 2		Q	155
100	120.116	186.84 - 1019.36	$2s 2p - 2s 4d$	$^3 P^o - ^3 D$	1 - 2			171
100	122.122	96.87 - 915.77	$2s 2p - 2p(^3 P^o) 3p$	$^3 P^o - ^3 P$	1 - 2			171

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	122.169	96.87 - 915.42	2s2p - 2p(³ P)3p	³ P° - ³ P	1-1		171
	200	122.200	97.44 - 915.77	2s2p - 2p(³ P)3p	³ P° - ³ P	2-2		171
	15	122.251	97.44 - 915.42	2s2p - 2p(³ P)3p	³ P° - ³ P	2-1		171
	10	123.051	96.61 - 909.28	2s2p - 2p(³ P)3p	³ P° - ³ S	0-1		171
	10	123.090	96.87 - 909.28	2s2p - 2p(³ P)3p	³ P° - ³ S	1-1		171
	100	123.175	97.44 - 909.28	2s2p - 2p(³ P)3p	³ P° - ³ S	2-1		171
	300	124.387	97.44 - 901.40	2s2p - 2p(³ P)3p	³ P° - ³ D	2-3		171
	10	124.440	96.87 - 900.44	2s2p - 2p(³ P)3p	³ P° - ³ D	1-1		171
	10	124.474	97.44 - 900.79	2s2p - 2p(³ P)3p	³ P° - ³ D	2-2		171
	500	126.923	0.0 - 787.83	2s² - 2s3p	³ S° - ¹ P°	0-1		171
	150	129.5	340.42 - 1112.33	2p² - 2p4s	¹ S° - ¹ P°	0-1	Q	155
	300	135.397	186.84 - 925.39	2s2p - 2p(³ P)3p	¹ P° - ¹ D	1-2		171
	500	139.758	96.61 - 812.17	2s2p - 2s3d	³ P° - ³ D	0-1		171
	600	139.800	96.87 - 812.17	2s2p - 2s3d	³ P° - ³ D	1-2		171
	700	139.900	97.44 - 812.21	2s2p - 2s3d	³ P° - ³ D	2-3		171
	200	141.154	186.84 - 895.29	2s2p - 2p(³ P)3p	¹ P° - ¹ J	1-1		171
	100	145.462	251.35 - 938.81	2p² - 2p3d	³ P - ³ P°	0-1		171
	100	145.489	251.64 - 938.96	2p² - 2p3d	³ P - ³ P°	1-0		171
	100	145.585	251.64 - 938.52	2p² - 2p3d	³ P - ³ P°	1-2		171
	100	145.630	252.15 - 938.81	2p² - 2p3d	³ P - ³ P°	2-1		171
	300	145.691	252.15 - 938.52	2p² - 2p3d	³ P - ³ P°	2-2		171
	200	146.576	251.35 - 933.59	2p² - 2p3d	³ P - ³ D°	0-1		171
	300	146.613	251.64 - 933.72	2p² - 2p3d	³ P - ³ D°	1-2		171
	400	146.676	252.15 - 933.92	2p² - 2p3d	³ P - ³ D°	2-3		171
	200	146.718	252.15 - 933.72	2p² - 2p3d	³ P - ³ D°	2-2		171
	400	148.653	274.60 - 947.31	2p² - 2p3d	¹ D - ¹ F°	2-3		171
	200	153.678	96.61 - 747.30	2s2p - 2s3s	³ P° - ³ S	0-1		171
	300	153.741	96.87 - 747.30	2s2p - 2s3s	³ P° - ³ S	1-1		171
	400	153.880	97.44 - 747.30	2s2p - 2s3s	³ P° - ³ S	2-1		171
	300	154.506	274.60 - 921.82	2p² - 2p3d	¹ D - ¹ D°	2-2		171
	600	156.247	186.84 - 826.85	2s2p - 2s3d	¹ P° - ¹ D	1-2		171
	120	161.174	251.64 - 872.08	2p² - 2p(³ P)3s	³ P - ³ P°	1-2		171
	100	161.257	251.35 - 871.44	2p² - 2p(³ P)3s	³ P - ³ P°	0-1		171
	300	161.308	252.15 - 872.08	2p² - 2p(³ P)3s	³ P - ³ P°	2-2		171
	90	161.341	251.64 - 871.44	2p² - 2p(³ P)3s	³ P - ³ P°	1-1		171
	100	161.414	251.64 - 871.16	2p² - 2p(³ P)3s	³ P - ³ P°	1-0		171
	120	161.477	252.15 - 871.44	2p² - 2p(³ P)3s	³ P - ³ P°	2-1		171
	200	163.138	340.42 - 953.40	2p² - 2p3d	¹ S - ¹ P°	0-1		171
	100	164.015	274.60 - 884.29	2p² - 2p(³ P)3s	¹ D - ¹ P°	2-1		171
	100	173.145	186.84 - 764.39	2s2p - 2s3s	¹ P° - ¹ S	1-0		171
	100	194.840	274.60 - 787.83	2p² - 2s3p	¹ D - ¹ P°	2-1		171
		351.0	933.72 - 1218.59	2p3d - 2p5p	¹ D° - ¹ D	2-2	Q	533
		406.12						244
		444.47	787.83 - 1012.82	2s3p - 2s4d	¹ P° - ¹ D	1-2	Q	244
		446.49	790.47 - 1014.44	2s3p - 2s4d	¹ P° - ¹ D	2-3	P	244
		469.48						244
		477.55	787.83 - 997.24	2s3p - 2s4s	¹ P° - ¹ S	1-0		244
		479.85	812.21 - 1020.61	2s3d - 2s4f	¹ D - ¹ F°	3-4		244
		506.26	790.47 - 986.84	2s3p - 2s4s	¹ P° - ¹ S	2-1		244
		511.33	826.85 - 1022.42	2s3d - 2s4f	¹ D - ¹ F°	2-3		244
	60	535.207	0.0 - 186.84	2s² - 2s2p	³ S° - ¹ P°	0-1		562
	10	643.960	96.87 - 252.15	2s2p - 2p²	³ P° - ³ P	1-2		562
	10	644.999	96.61 - 251.64	2s2p - 2p²	³ P° - ³ P	0-1		562
	5	646.092	96.87 - 251.64	2s2p - 2p²	³ P° - ³ P	1-1		562
	35	646.360	97.44 - 252.15	2s2p - 2p²	³ P° - ³ P	2-2		562
	10	647.307	96.87 - 251.35	2s2p - 2p²	³ P° - ³ P	1-0		562
	10	648.496	97.44 - 251.64	2s2p - 2p²	³ P° - ³ P	2-1		562
	5	651.082	186.84 - 340.42	2s2p - 2p²	¹ P° - ¹ S	1-0		562
		1032.34	0.0 - 96.87	2s² - 2s2p	³ S° - ¹ P°	0-1		211
	100	1139.496	186.84 - 274.60	2s2p - 2p²	¹ P° - ¹ D	1-2		562

Ground State $1s^2 2s^2 {}^2S_{1/2}$ (3 electrons)Ionization Potential 1 493 629 cm^{-1} ; 185.188 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	16.831		1140.42 - 7081.8	$1s^2 4s - 1s 2p({}^1P^{\circ}) 4s$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	875
50	16.857		854.63 - 6786.9	$1s^2 3s - 1s 2p({}^1P^{\circ}) 3s$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	875
0	16.935		0.0 - 5894.1	$1s^2 2s - 1s(2s 2p({}^1P^{\circ}))$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Q, Z	875
20	16.966		0.0 - 5894.1	$1s^2 2s - 1s(2s 2p({}^1P^{\circ}))$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	875
0	17.047		113.24 - 5979.3	$1s^2 2p - 1s 2p^2$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$	Z	875
40	17.092		0.0 - 5850.7	$1s^2 2s - 1s(2s 2p({}^1P^{\circ}))$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	875
40	17.116		113.24 - 5955.7	$1s^2 2p - 1s 2p^2$	${}^2P^{\circ} - {}^2P$	$\frac{1}{2} - \frac{3}{2}$	Z	875
50	17.167		113.24 - 5938.3	$1s^2 2p - 1s 2p^2$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	Z	875
1	69.448		0.0 - 1439.93	$1s^2 2s - 1s^2 10p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
1	70.120		0.0 - 1426.13	$1s^2 2s - 1s^2 9p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
10	70.979		0.0 - 1408.87	$1s^2 2s - 1s^2 8p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
16	72.300		0.0 - 1382.86	$1s^2 2s - 1s^2 7p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
38	74.481		0.0 - 1342.69	$1s^2 2s - 1s^2 6p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
2	75.332		113.24 - 1440.76	$1s^2 2p - 1s^2 10d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
6	76.108		113.24 - 1427.22	$1s^2 2p - 1s^2 9d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
12	77.115		113.24 - 1410.06	$1s^2 2p - 1s^2 8d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
70	78.370		0.0 - 1276.14	$1s^2 2s - 1s^2 5p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
29	78.699		113.24 - 1383.64	$1s^2 2p - 1s^2 7d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
55	81.222		113.24 - 1344.14	$1s^2 2p - 1s^2 6d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
1	81.581		113.24 - 1339.22	$1s^2 2p - 1s^2 6s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		138
89	85.808		113.24 - 1278.40	$1s^2 2p - 1s^2 5d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		138
17	86.442		113.24 - 1269.83	$1s^2 2p - 1s^2 5s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		138
97	86.746		0.0 - 1152.79	$1s^2 2s - 1s^2 4p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		138
10	95.697		112.26 - 1157.22	$1s^2 2p - 1s^2 4d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		171
100	95.775		113.24 - 1157.26	$1s^2 2p - 1s^2 4d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		171
17	97.261		112.26 - 1140.42	$1s^2 2p - 1s^2 4s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		138
28	57.360		113.24 - 1140.42	$1s^2 2p - 1s^2 4s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		138
	106.7							897
	110.5							897
100	111.6							155
400	112.535		0.0 - 885.42	$1s^2 2s - 1s^2 3p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		171
300	112.976		0.0 - 885.14	$1s^2 2s - 1s^2 3p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		171
	114.2							897
400	127.653		112.76 - 895.63	$1s^2 2p - 1s^2 3d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		171
500	127.796		113.24 - 895.72	$1s^2 2p - 1s^2 3d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		171
100	134.703		112.26 - 854.63	$1s^2 2p - 1s^2 3s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		171
200	134.882		113.24 - 854.63	$1s^2 2p - 1s^2 3s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$		171
	335.38		854.63 - 1152.79	$1s^2 3s - 1s^2 4p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	P	244
	367.53		885.14 - 1157.22	$1s^2 3p - 1s^2 4d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	P	244
	367.87		885.42 - 1157.26	$1s^2 3p - 1s^2 4d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$		244
	377.0							533
	381.80		895.72 - 1157.64	$1s^2 3d - 1s^2 4f$	${}^2D - {}^2F^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	P	244
	385.6							533
	389.00		895.72 - 1152.79	$1s^2 3d - 1s^2 4p$	${}^2D - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	P	244
	392.16		885.42 - 1140.42	$1s^2 3p - 1s^2 4s$	${}^2P^{\circ} - {}^2S$	$\frac{1}{2} - \frac{3}{2}$	P	244
	395.0							533
	396.7		1157.64 - 1409.7	$1s^2 4f - 1s^2 8g$	${}^2F^{\circ} - {}^2G$	$\frac{1}{2} - \frac{3}{2}$		533
	432.81		1152.79 - 1383.84	$1s^2 4g - 1s^2 7d$	${}^2F^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	P	533
	441.0		1157.26 - 1384.0	$1s^2 4d - 1s^2 7f$	${}^2D - {}^2F^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		533
	444.0		1157.64 - 1382.87	$1s^2 4f - 1s^2 7g$	${}^2F^{\circ} - {}^2G$	$\frac{1}{2} - \frac{3}{2}$		533
	494.4		1140.42 - 1342.69	$1s^2 4s - 1s^2 6p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		533
	522.6		1152.79 - 1344.14	$1s^2 4p - 1s^2 6d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	P	533
	534.4		1157.26 - 1344.38	$1s^2 4d - 1s^2 6f$	${}^2D - {}^2F^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		533
	535.7		1157.64 - 1344.21	$1s^2 4f - 1s^2 6g$	${}^2F^{\circ} - {}^2G$	$\frac{1}{2} - \frac{3}{2}$		533
	736.8		1140.42 - 1276.14	$1s^2 4s - 1s^2 5p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		533
	754.2							533
	772.7							533
	796.1		1152.79 - 1278.40	$1s^2 4p - 1s^2 5d$	${}^2P^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	P	533
	824.5		1157.26 - 1278.54	$1s^2 4d - 1s^2 5f$	${}^2D - {}^2F^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		533
	825.8		1157.64 - 1278.73	$1s^2 4f - 1s^2 5g$	${}^2F^{\circ} - {}^2G$	$\frac{1}{2} - \frac{3}{2}$		533
	826.54							244
	828.1		1157.64 - 1278.40	$1s^2 4f - 1s^2 5d$	${}^2F^{\circ} - {}^2D$	$\frac{1}{2} - \frac{3}{2}$	P	533
10	883.110		0.0 - 113.24	$1s^2 2s - 1s^2 2p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		562
5	890.786		0.0 - 112.26	$1s^2 2s - 1s^2 2p$	${}^2S - {}^2P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		562

FLUORINE VIII (F^{7+}), $Z = 9$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 7 693 778 cm^{-1} ; 953.915 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	13.143		0.0 - 7608.6	$1s^2 - 1s9p$	$g^1S - ^1P^o$	0-1		875
20	13.185		0.0 - 7584.40	$1s^2 - 1s8p$	$g^1S - ^1P^o$	0-1		875
40	13.244		0.0 - 7550.6	$1s^2 - 1s7p$	$g^1S - ^1P^o$	0-1		875
50	13.334		0.0 - 7499.63	$1s^2 - 1s6p$	$g^1S - ^1P^o$	0-1		875
60	13.488		0.0 - 7414.00	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0-1		875
	13.495		0.0 - 7410.27	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0-1	P	728
80	13.781		0.0 - 7256.37	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0-1		875
	13.792		0.0 - 7250.39	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0-1	P	728
100	14.4.4		0.0 - 6916.59	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0-1		875
	14.487		0.0 - 6902.56	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0-1	P	728
30	15.008		7244.27 + R - 13907.38 + R	$1s4s - 2p^3s$	$^3S - ^3P^o$	1-2	A, Z	875
30	15.008		7250.39 - 13913.38	$1s4p - 2p4p$	$^3P^o - ^3D$	2-3	A, Z	875
30	15.046		6902.56 - 13548.84	$1s3p - 2p3p$	$^3P^o - ^3D$	2-3	A, Z	875
30	15.046		6885.09 + R - 13530.42 + R	$1s3s - 2p3s$	$^3S - ^3P^o$	1-2	A, Z	875
0	15.076		6916.59 - 13548.84	$1s3p - 2p3p$	$^3P^o - ^3D$	1-2	Q, Z	875
20	15.155		5949.90 - 12548.38	$1s2p - 2p^3$	$^1P^o - ^1S$	1-0	A, Z	875
30	15.224		5830.04 - 12398.50	$1s2s - 2s3p$	$^3S - ^3P^o$	1-2	A, Z	875
30	15.246		5901.70 + R - 12459.85 + R	$1s2p - 2p^3$	$^3P^o - ^3P$	2-2	A, Z	875
40	15.285		5949.90 - 12491.83	$1s2p - 2p^3$	$^3P^o - ^3D$	1-2	A, Z	875
200	16.807		0.0 - 5949.90	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0-1		875
60	16.947		0.0 - 5900.75	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0-1		875
	17.15		0.0 - 5830.04	$1s^2 - 1s2s$	$g^1S - ^1S$	0-1	F, P	375
	25.74		5903.10 - 9788.84 + L	$1s2s - 2s2p$	$^3S - ^3P^o$	0-1	P, Z	375
	25.79		5830.04 - 9707.49 + L	$1s2s - 2s2p$	$^3S - ^3P^o$	1-2	P, Z	375
13	58.573		5901.70 + R - 7608.97 + R	$1s2p - 1s9d$	$^3P^o - ^3D$	2-3		138
3	59.401		5901.70 + R - 7585.17 + R	$1s2p - 1s8d$	$^3P^o - ^3D$	2-3		138
5	60.609		5901.70 + R - 7551.62 + R	$1s2p - 1s7d$	$^3P^o - ^3D$	2-3		138
1	61.175		5949.90 - 7584.65	$1s2p - 1s8d$	$^3P^o - ^3D$	1-2		138
12	62.491		5949.90 - 7550.13	$1s2p - 1s7d$	$^3P^o - ^3D$	1-2		138
12	62.569		5901.70 + R - 7499.94 + R	$1s2p - 1s6d$	$^3P^o - ^3D$	2-3		138
14	63.282		5830.04 - 7410.27	$1s2s - 1s5p$	$^3S - ^3P^o$	1-2		138
8	64.581		5949.90 - 7498.34	$1s2p - 1s6d$	$^3P^o - ^3D$	1-2		138
28	66.127		5901.70 + R - 7413.94 + R	$1s2p - 1s5d$	$^3P^o - ^3D$	2-3		138
11	68.381		5949.90 - 7412.29	$1s2p - 1s5d$	$^3P^o - ^3D$	1-2		138
29	70.405		5830.04 - 7250.39	$1s2s - 1s4p$	$^3S - ^3P^o$	1-2		138
58	73.841		5901.70 + R - 7255.96 + R	$1s2p - 1s4d$	$^3P^o - ^3D$	2-3		138
	73.895		5903.10 - 7256.37	$1s2s - 1s4p$	$^3S - ^3P^o$	0-1	P	138
	74.484		5901.70 + R - 7244.27 + R	$1s2p - 1s4s$	$^3P^o - ^3S$	2-1		138
25	76.667		5949.90 - 7254.24	$1s2p - 1s4d$	$^3P^o - ^3D$	1-2		138
49	93.238		5830.04 - 6902.56	$1s2s - 1s3p$	$^3S - ^3P^o$	1-2		138
	98.669		5903.10 - 6916.59	$1s2s - 1s3p$	$^3S - ^3P^o$	0-1	P	138
74	98.698		5901.70 + R - 6914.89 + R	$1s2p - 1s3d$	$^3P^o - ^3D$	2-3		138
62	98.797		5900.75 - 6912.93	$1s2p - 1s3d$	$^3P^o - ^3D$	1-2		138
4	101.689		5901.70 + R - 6885.09 + R	$1s2p - 1s3s$	$^3P^o - ^3S$	2-1		138
28	103.810		5949.90 - 6912.93	$1s2p - 1s3d$	$^3P^o - ^3D$	1-2	Q	138
6	104.891		5949.90 - 6903.27	$1s2p - 1s3s$	$^3P^o - ^3S$	1-0		138
	170.76		6914.89 + R - 7500.52 + R	$1s3d - 1s6f$	$^3D - ^3F^o$	3-4	P	375
	170.84		6915.90 + K - 7501.23 + K	$1s3d - 1s6f$	$^3D - ^3F^o$	2-3	P	375
	200.05		6914.89 + R - 7414.76 + R	$1s3d - 1s5f$	$^3D - ^3F^o$	3-4	P	87
	200.24		6915.90 + K - 7415.30 + K	$1s3d - 1s5f$	$^3D - ^3F^o$	2-3	P	87
	273.75		6885.09 + R - 7250.39	$1s3s - 1s4p$	$^3S - ^3P^o$	1-2	P	375
	283.21		6903.27 - 7256.37	$1s3s - 1s4p$	$^3S - ^3P^o$	0-1	P	375
	292.52		6914.89 + R - 7256.75 + R	$1s3d - 1s4f$	$^3D - ^3F^o$	3-4	P	87
	292.95		6915.90 + K - 7257.2. + K	$1s3d - 1s4f$	$^3D - ^3F^o$	2-3	P	87
	340.0		7256.75 + R - 7550.87 + R	$1s4f - 1s7g$	$^3F^o - ^3G$	4-5		533
	408.9		7255.96 + R - 7500.52 + R	$1s4d - 1s6f$	$^3D - ^3F^o$	3-4		533
	409.7		7256.75 + R - 7500.83 + R	$1s4f - 1s6g$	$^3F^o - ^3G$	4-5		533
	584.0		7414.78 + R - 7586.01 + R	$1s5g - 1s8h$	$^3G - ^3H^o$	5-6		533
	632.0							533
	632.8		7256.75 + R - 7414.78 + R	$1s4f - 1s5g$	$^3F^o - ^3G$	4-5		533
	727.0		7414.78 + R - 755.33 + R	$1s5g - 1s7h$	$^3G - ^3H^o$	5-6		533
	1395.48		5830.04 - 5901.70 + R	$1s2s - 1s2p$	$^3S - ^3P^o$	1-2	P	375

F IX

FLUORINE IX (F^{8+}), $Z = 9$

F IX

Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential ? 897 240.3 cm^{-1} ; 1103.126 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	0	11.353	0.0 - 8808.34	$1s - 10p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		875
	10	11.380	0.0 - 8787.48	$1s - 9p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		875
	20	11.418	0.0 - 8758.33	$1s - 8p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		875
	30	11.473	0.0 - 8715.80	$1s - 7p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		875
	40	11.560	0.0 - 8650.27	$1s - 6p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
	60	11.707	0.0 - 8541.59	$1s - 5p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
	55	11.988	0.0 - 8341.52	$1s - 4p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
	25	11.989	0.0 - 8341.22	$1s - 4p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
	70	12.643	0.0 - 7909.28	$1s - 3p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
	30	12.644	0.0 - 7908.57	$1s - 3p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
130		14.982	0.0 - 6674.53	$1s - 2p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
70		14.988	0.0 - 6672.12	$1s - 2p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309, 875
		46.814	6672.23 - 8808.34	$2s - 10p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		46.864	6674.53 - 8808.35	$2p - 10d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		47.276	6672.23 - 8787.48	$2s - 9p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		47.327	6674.53 - 8787.49	$2p - 9d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		47.936	6672.23 - 8758.33	$2s - 8p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		47.989	6674.53 - 8758.34	$2p - 8d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		48.934	6672.23 - 8715.80	$2s - 7p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		48.989	6674.53 - 8715.82	$2p - 7d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		50.555	6672.23 - 8650.27	$2s - 6p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		50.613	6674.53 - 8650.30	$2p - 6d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		53.494	6672.23 - 8541.59	$2s - 5p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		53.558	6674.53 - 8541.65	$2p - 5d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.906	6672.23 - 8341.52	$2s - 4p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.984	6674.53 - 8341.62	$2p - 4d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		80.838	6672.23 - 7909.28	$2s - 3p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		80.972	6674.53 - 7909.51	$2p - 3d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		111.143	7908.60 - 8808.34	$3s - 10p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		111.226	7909.28 - 8808.35	$3p - 10d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		111.255	7909.51 - 8808.35	$3d - 10f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		113.780	7908.60 - 8787.48	$3s - 9p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		113.867	7909.28 - 8787.49	$3p - 9d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		113.898	7909.51 - 8787.50	$3d - 9f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		117.685	7908.60 - 8758.33	$3s - 8p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		117.777	7909.28 - 8758.34	$3p - 8d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		117.809	7909.51 - 8758.35	$3d - 8f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		123.885	7908.60 - 8715.80	$3s - 7p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		123.987	7909.28 - 8715.82	$3p - 7d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		124.021	7909.51 - 8715.83	$3d - 7f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		134.830	7908.60 - 8650.27	$3s - 6p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		134.949	7909.28 - 8650.30	$3p - 6d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		134.989	7909.51 - 8650.32	$3d - 6f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		157.979	7908.60 - 8541.59	$3s - 5p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		158.136	7909.28 - 8541.65	$3p - 5d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		158.189	7909.51 - 8541.67	$3d - 5f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		214.086	8341.24 - 8808.34	$4s - 10p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		214.215	8341.52 - 8808.35	$4p - 10d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		214.259	8341.62 - 8808.35	$4d - 10f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		224.091	8341.24 - 8787.48	$4s - 9p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		224.231	8341.52 - 8787.49	$4p - 9d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		224.279	8341.62 - 8787.50	$4d - 9f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		230.987	7908.60 - 8341.52	$3s - 4p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		231.297	7909.28 - 8341.62	$3p - 4d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		231.396	7909.51 - 8341.67	$3d - 4f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		239.156	8341.24 - 8758.33	$4s - 8p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		239.914	8341.52 - 8758.34	$4p - 8d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		239.968	8341.62 - 8758.35	$4d - 8f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		266.979	8341.24 - 8715.80	$4s - 7p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		267.170	8341.52 - 8715.82	$4p - 7d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		267.234	8341.62 - 8715.83	$4d - 7f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		323.588	8341.24 - 8650.27	$4s - 6p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		323.858	8341.52 - 8650.30	$4p - 6d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		323.947	8341.62 - 8650.32	$4d - 6f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		374.684	8541.45 - 8808.34	$5s - 10p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		374.841	8541.59 - 8808.35	$5p - 10d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		374.948	8541.65 - 8808.35	$5d - 10f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		406.443	8541.45 - 8787.48	$5s - 9p$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		406.672	8541.59 - 8787.49	$5p - 9d$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309
		406.749	8541.65 - 8787.50	$5d - 9f$	$s^2 S - ^4P$	$\frac{1}{2} - \frac{3}{2}$	P	309

F IX

F IX

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		461.084	8541.45 - 8758.33	5s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		461.370	8541.59 - 8758.34	5p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		461.466	8541.65 - 8758.35	5d - 8f	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		499.109	8341.24 - 8541.59	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		499.697	8341.52 - 8541.65	4p - 5d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		499.882	8341.62 - 8541.67	4d - 5f	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		573.554	8541.45 - 8715.80	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		573.976	8541.59 - 8715.82	5p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		574.114	8541.65 - 8715.83	5d - 7f	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		918.912	8541.45 - 8650.27	5s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		919.904	8541.59 - 8650.30	5p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		920.210	8541.65 - 8650.32	5d - 6f	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	309

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	35	100.94						846
	35	126.91						846
	30	134.31						846
	27	162.52						846

NEON I (Ne^{+}), $Z = 10$ Ground State $1s^2 2s^2 2p^6 \text{ } ^1S_0$ (10 electrons)Ionization Potential $173\,929.70 \text{ cm}^{-1}$; 21.565 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		257.19	0.0 - 388.82	$2s^2 2p^6 - 2s 2p^6 8p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		257.68	0.0 - 388.08	$2s^2 2p^6 - 2s 2p^6 7p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		258.48	0.0 - 386.88	$2s^2 2p^6 - 2s 2p^6 6p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		259.96	0.0 - 384.68	$2s^2 2p^6 - 2s 2p^6 5p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		263.11	0.0 - 380.07	$2s^2 2p^6 - 2s 2p^6 4p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		272.21	0.0 - 367.36	$2s^2 2p^6 - 2s 2p^6 3p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		576.0052 st	0.0 - 173.61	$2p^6 - 2p^6 ({}^1P_{1/2}) 10s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		576.8650 st	0.0 - 173.35	$2p^6 - 2p^6 ({}^1P_{1/2}) 9s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		577.1090 st	0.0 - 173.28	$2p^6 - 2p^6 ({}^1P_{1/2}) 13d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		577.1692 st	0.0 - 173.26	$2p^6 - 2p^6 ({}^1P_{1/2}) 10s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		577.4886 st	0.0 - 173.16	$2p^6 - 2p^6 ({}^1P_{1/2}) 12d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		577.6047 st	0.0 - 173.13	$2p^6 - 2p^6 ({}^1P_{1/2}) 13s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		577.9749 st	0.0 - 173.02	$2p^6 - 2p^6 ({}^1P_{1/2}) 11d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		578.0715 st	0.0 - 172.99	$2p^6 - 2p^6 ({}^1P_{1/2}) 8s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		578.1270 st	0.0 - 172.97	$2p^6 - 2p^6 ({}^1P_{1/2}) 12s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		578.5129 st	0.0 - 172.86	$2p^6 - 2p^6 ({}^1P_{1/2}) 9s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		578.6056 st	0.0 - 172.83	$2p^6 - 2p^6 ({}^1P_{1/2}) 10d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		578.6185 st	0.0 - 172.83	$2p^6 - 2p^6 ({}^1P_{1/2}) 10d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		578.8224 st	0.0 - 172.76	$2p^6 - 2p^6 ({}^1P_{1/2}) 11s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		579.4722 st	0.0 - 172.57	$2p^6 - 2p^6 ({}^1P_{1/2}) 9d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		579.4888 st	0.0 - 172.57	$2p^6 - 2p^6 ({}^1P_{1/2}) 9d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		579.7711 st	0.0 - 172.48	$2p^6 - 2p^6 ({}^1P_{1/2}) 10s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		579.8411 st	0.0 - 172.46	$2p^6 - 2p^6 ({}^1P_{1/2}) 7s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		580.5119 st	0.0 - 172.26	$2p^6 - 2p^6 ({}^1P_{1/2}) 8s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		580.6893 st	0.0 - 172.21	$2p^6 - 2p^6 ({}^1P_{1/2}) 8d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		580.7137 st	0.0 - 172.20	$2p^6 - 2p^6 ({}^1P_{1/2}) 8d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		581.1219 st	0.0 - 172.08	$2p^6 - 2p^6 ({}^1P_{1/2}) 9s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		582.4691 st	0.0 - 171.68	$2p^6 - 2p^6 ({}^1P_{1/2}) 7d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		582.5064 st	0.0 - 171.67	$2p^6 - 2p^6 ({}^1P_{1/2}) 7d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		582.5982 st	0.0 - 171.64	$2p^6 - 2p^6 ({}^1P_{1/2}) 6s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		583.1261 st	0.0 - 171.49	$2p^6 - 2p^6 ({}^1P_{1/2}) 8s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		583.6893 st	0.0 - 171.32	$2p^6 - 2p^6 ({}^1P_{1/2}) 7s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382
		585.2472 st	0.0 - 170.87	$2p^6 - 2p^6 ({}^1P_{1/2}) 6d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
		585.3042 st	0.0 - 170.85	$2p^6 - 2p^6 ({}^1P_{1/2}) 6d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
		586.3140 st	0.0 - 170.56	$2p^6 - 2p^6 ({}^1P_{1/2}) 7s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382
	35	587.2128 st	0.0 - 170.30	$2p^6 - 2p^6 ({}^1P_{1/2}) 5s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	35	589.1792 st	0.0 - 169.73	$2p^6 - 2p^6 ({}^1P_{1/2}) 6s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	35	589.9113 st	0.0 - 169.52	$2p^6 - 2p^6 ({}^1P_{1/2}) 5d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	70	590.0108 st	0.0 - 169.49	$2p^6 - 2p^6 ({}^1P_{1/2}) 5d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382
	70	591.8303 st	0.0 - 168.97	$2p^6 - 2p^6 ({}^1P_{1/2}) 6s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	100	595.9200 st	0.0 - 167.81	$2p^6 - 2p^6 ({}^1P_{1/2}) 4s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	75	598.7056 st	0.0 - 167.03	$2p^6 - 2p^6 ({}^1P_{1/2}) 4d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	35	598.8908 st	0.0 - 166.98	$2p^6 - 2p^6 ({}^1P_{1/2}) 4d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382, 57
	70	600.0365 st	0.0 - 166.66	$2p^6 - 2p^6 ({}^1P_{1/2}) 5s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
	170	602.7263 st	0.0 - 165.91	$2p^6 - 2p^6 ({}^1P_{1/2}) 5s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57
7	170	615.6283 st	0.0 - 162.44	$2p^6 - 2p^6 ({}^1P_{1/2}) 3s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
6	170	618.6716 st	0.0 - 161.64	$2p^6 - 2p^6 ({}^1P_{1/2}) 3d$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57
5	120	619.1023 st	0.0 - 161.52	$2p^6 - 2p^6 ({}^1P_{1/2}) 3d$	$g^1 S - \frac{3}{2}(\frac{1}{2})^o$	0 - 1		382, 57
4	200	626.8232 st	0.0 - 159.53	$2p^6 - 2p^6 ({}^1P_{1/2}) 4s$	$g^1 S - \frac{1}{2}(\frac{3}{2})^o$	0 - 1		382, 57
3	200	629.7388 st	0.0 - 158.80	$2p^6 - 2p^6 ({}^1P_{1/2}) 4s$	$g^1 S - \frac{3}{2}(\frac{3}{2})^o$	0 - 1		382, 57

Ne I

Ne II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	1000	735.8962 st	0.0 - 135.89	$2p^6 - 2p^5(^1P_{1/2})3s$	$g^1S - \frac{1}{2}[\frac{1}{2}]$	0 - 1		382, 57
1	400	743.7195 st	0.0 - 134.46	$2p^6 - 2p^5(^3P_{2/2})3s$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		382, 57

NEON II (Ne^{+}), $Z = 10$ Ground State $1s^2 2s^2 2p^5 \ ^3P_{2/2}$ (9 electrons)Ionization Potential $330\,391.0 \text{ cm}^{-1}$; 40.964 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	324.570	0.0 - $30^{\circ}.10$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4s$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
	10	325.393	0.78 - 308.10	$2s^2 2p^5 - 2s^2 2p^4(^1D)4s$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		563
	40	326.542	0.0 - 306.24	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
	50	326.787	0.0 - 306.01	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		563
	30	327.262	0.0 - 305.57	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
	20	327.355	0.78 - 306.26	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		563
	20	327.626	0.78 - 306.01	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$		563
	20	328.090	0.78 - 305.58	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
	5	330.146	0.0 - 302.89	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		563
	5	330.205	0.0 - 302.84	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		563
	5	330.626	0.78 - 303.24	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
	20	330.790	0.0 - 302.31	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
	1	331.069	0.78 - 302.83	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563, 57
	2	331.515	0.78 - 302.43	$2s^2 2p^5 - 2s^2 2p^4(^1P)4d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		563, 57
	30	352.2466 st	0.0 - 283.89	$2s^2 2p^5 - 2s^2 2p^4(^1P)4s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
	90	352.9561 st	0.0 - 283.32	$2s^2 2p^5 - 2s^2 2p^4(^1P)4s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
	50	353.2149 st	0.78 - 283.89	$2s^2 2p^5 - 2s^2 2p^4(^1P)4s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
	30	353.9349 st	0.78 - 283.32	$2s^2 2p^5 - 2s^2 2p^4(^1P)4s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
	60	354.9622 st	0.0 - 281.72	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
	20	355.4541 st	0.0 - 281.33	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
	40	355.6559 st	0.0 - 281.17	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
	1	355.839	0.0 - 281.03	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		563, 57
	40	355.9476 st	0.78 - 281.72	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
	40	356.1290 st	0.0 - 280.80	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		563
	30	356.4410 st	0.78 - 281.33	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
6	30	356.5405 st	0.0 - 280.47	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
6	50	356.7995 st	0.0 - 280.27	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
	20	356.8769 st	0.78 - 280.99	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
6	40	357.5355 st	0.78 - 280.47	$2s^2 2p^5 - 2s^2 2p^4(^1P)3d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		563
5	90	361.4326 st	0.0 - 276.68	$2s^2 2p^5 - 2s^2 2p^4(^1S)3s$	$g^3P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		563
5	60	362.4554 st	0.78 - 276.68	$2s^2 2p^5 - 2s^2 2p^4(^1S)3s$	$g^3P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$		563
4	150	405.8538 st	0.0 - 246.39	$2s^2 2p^5 - 2s^2 2p^4(^1D)3s$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		563
4	120	407.1376 st	0.78 - 246.40	$2s^2 2p^5 - 2s^2 2p^4(^1D)3s$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		563
3	200	445.0377 st	0.0 - 224.70	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
3	300	446.2556 st	0.0 - 224.09	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
3	250	446.5901 st	0.78 - 224.70	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
3	180	447.8150 st	0.78 - 224.09	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
2	150	454.6535 st	0.0 - 219.95	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
2	200	455.2738 st	0.0 - 219.65	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
2	10	456.2749 st	0.78 - 219.95	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
2	120	456.3483 st	0.0 - 219.13	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
2	90	456.8962 st	0.78 - 219.65	$2s^2 2p^5 - 2s^2 2p^4(^1P)3s$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
1	1000	460.7284 st	0.0 - 217.05	$2s^2 2p^5 - 2s^2 2p^4$	$g^3P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		563
1	500	462.3908 st	0.78 - 217.05	$2s^2 2p^5 - 2s^2 2p^4$	$g^3P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$		563
		485.3	$217.05 - 423.1 + X$	$2s^2 2p^5 - 2s^2 2p^4$	$g^3P^{\circ} - ^1S$	$\frac{1}{2} - \frac{3}{2}$	P, Z	375
	30	992.253	$217.05 - 317.83$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		563
	60	993.884	$217.05 - 317.66$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		563
	30	1066.764	$224.09 - 317.83$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3P - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		563
	70	1068.649	$224.09 - 317.66$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		563
	50	1073.781	$224.70 - 317.83$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		563
	10	1074.313	$224.70 - 317.78$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		563
	20	1075.688	$224.70 - 317.66$	$2s^2 2p^5 - 2s^2 2p^4(^1D)4p$	$g^3P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		563
	40	1087.789	$217.05 - 308.98$	$2s^2 2p^5 - 2s^2 2p^4(^1P)5p$	$g^3S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		563
	50	1090.628	$217.05 - 308.74$	$2s^2 2p^5 - 2s^2 2p^4(^1P)5p$	$g^3S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		563
	90	1131.724	$217.05 - 305.41$	$2s^2 2p^5 - 2s^2 2p^4(^1S)3p$	$g^3S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		563

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	1131.848	217.05 - 305.40		$2s2p^4 - 2s^2 2p^4(^1S)3p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
70	1229.688	224.09 - 305.41		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1S)3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
90	1229.832	224.09 - 305.40		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1S)3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1239.018	224.70 - 305.41		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1S)3p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		563
60	1239.167	224.70 - 305.40		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1S)3p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
70	1293.902	217.05 - 294.33		$2s2p^4 - 2s^2 2p^4(^1P)4p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		563
80	1298.046	217.05 - 294.09		$2s2p^4 - 2s^2 2p^4(^1P)4p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
40	1381.509	219.65 - 292.03		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
10	1381.894	219.13 - 291.50		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		563
30	1385.937	219.65 - 291.80		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1387.515	219.13 - 291.20		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		563
20	1387.665	246.19 - 318.26		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)7s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
50	1388.491	219.95 - 291.97		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		563
60	1391.704	219.95 - 291.80		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		563
70	1391.854	219.65 - 291.50		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1399.532	219.13 - 290.58		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
20	1399.956	246.40 - 317.83		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
40	1400.809	246.39 - 317.78		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
20	1400.868	246.40 - 317.78		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		563
50	1403.135	246.39 - 317.66		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
20	1403.202	246.40 - 317.66		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1403.679	219.13 - 290.37		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1405.373	219.65 - 290.80		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
60	1409.747	219.65 - 290.58		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
10	1411.306	219.95 - 290.80		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		563
70	1413.956	219.65 - 290.37		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
70	1415.716	219.95 - 290.58		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
90	1418.375	246.39 - 316.90		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		563
20	1418.687	246.39 - 316.88		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1418.745	246.40 - 316.88		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)4p$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		563
80	1423.564	224.09 - 294.33		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
90	1428.579	224.09 - 294.09		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
90	1436.086	224.70 - 294.33		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		563
40	1441.188	224.70 - 294.09		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
20	1446.183	249.11 - 318.26		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)7s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
40	1449.132	249.45 - 318.45		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)7s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
5	1454.390	249.70 - 318.45		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)7s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
30	1460.716	224.09 - 292.55		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{1}{2}$		563
40	1462.744	224.09 - 292.45		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
20	1472.121	251.01 - 318.94		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)7s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
10	1473.894	224.70 - 292.55		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		563
80	1475.959	224.70 - 292.45		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		563
60	1483.502	224.09 - 291.50		$2s^2 2p^4(^1P)3s - 2s^2 2p^4(^1P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		563
40	1499.006	246.19 - 312.90		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
30	1557.487	249.45 - 313.65		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
70	1567.526	249.11 - 312.90		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
40	1569.015	249.45 - 313.18		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
30	1596.397	251.01 - 313.65		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1597.971	246.40 - 308.98		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1P)5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
40	1600.080	251.52 - 314.02		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
80	1604.004	246.39 - 308.74		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1P)5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
70	1604.091	246.40 - 308.74		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1P)5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
30	1608.512	251.01 - 313.18		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
40	1668.057	252.95 - 312.90		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
20	1670.737	254.17 - 314.02		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
60	1674.290	254.29 - 314.02		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
50	1681.035	254.17 - 313.65		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
120	1681.683	217.05 - 276.51		$2s2p^4 - 2s^2 2p^4(^1D)3p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		563
180	1688.356	217.05 - 276.28		$2s2p^4 - 2s^2 2p^4(^1D)3p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		563
40	1694.481	254.17 - 313.18		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)6s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1694.600	246.40 - 305.41		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1S)3p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		563
90	1694.786	246.39 - 305.40		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1S)3p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
60	1694.878	246.40 - 305.40		$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1S)3p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		563
20	1723.389	246.42 - 304.44		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
80	1730.645	246.19 - 303.97		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
50	1737.341	246.42 - 303.97		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1738.736	246.42 - 303.93		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		563
70	1742.869	246.60 - 303.97		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		563
50	1744.277	246.60 - 303.93		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
80	1744.416	246.19 - 303.57		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
60	1751.216	246.42 - 303.52		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1751.658	246.19 - 303.28		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1756.835	246.60 - 303.52		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		563
70	1758.105	246.19 - 303.07		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)4d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563
80	1758.555	246.42 - 303.28		$2s^2 2p^4(^1P)3p - 2s^2 2p^4(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		563

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	1758.590	219.65 - 276.51	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		563
	20	1763.727	246.19 - 302.89	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	30	1765.015	246.42 - 303.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1765.898	219.65 - 276.28	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	10	1767.900	219.95 - 276.51	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	10	1768.085	246.19 - 302.75	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	30	1778.282	246.60 - 302.83	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	30	1778.747	246.60 - 302.82	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	30	1783.783	246.42 - 302.48	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	20	1789.613	246.60 - 302.48	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	70	1796.516	246.19 - 301.86	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	30	1797.198	246.42 - 302.06	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		563
	80	1798.281	246.19 - 301.80	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1800.733	246.42 - 301.95	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	30	1803.114	246.60 - 302.06	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		563
	70	1803.732	246.42 - 301.86	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1806.671	246.60 - 301.95	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	80	1825.343	274.36 - 329.15	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 5s$	$^3F - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1826.667	249.70 - 304.44	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		563
	90	1826.829	274.41 - 329.15	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 5s$	$^3F - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	10	1831.481	249.84 - 304.44	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	80	1833.910	249.45 - 303.97	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1842.341	249.70 - 303.97	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	80	1843.908	249.70 - 303.93	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		563
	80	1845.996	249.11 - 303.28	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		563
	5	1847.249	249.84 - 303.97	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		563
	70	1848.823	249.84 - 303.93	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{1}{2} - \frac{1}{2}$		563
	90	1849.381	249.45 - 303.52	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	90	1853.115	249.11 - 303.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		563
	20	1853.453	274.36 - 328.32	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4d$	$^3F - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	90	1854.035	254.17 - 308.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 4s$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	20	1854.976	274.41 - 328.32	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4d$	$^3F - ^3F$	$\frac{1}{2} - \frac{3}{2}$		563
	30	1857.565	249.45 - 303.28	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1857.952	249.70 - 303.52	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	80	1858.408	254.29 - 308.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 4s$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	20	1859.017	249.45 - 303.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	80	1859.361	249.11 - 302.89	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		563
	50	1861.137	249.11 - 302.84	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		563
	70	1871.097	249.45 - 302.89	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	50	1872.291	274.36 - 327.78	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4d$	$^3F - ^3G$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1872.721	249.84 - 303.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		563
	20	1873.492	249.70 - 303.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1873.677	249.45 - 302.82	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	60	1873.873	274.41 - 327.77	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4d$	$^3F - ^3G$	$\frac{1}{2} - \frac{3}{2}$		563
	70	1876.003	249.45 - 302.75	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		563
	30	1877.387	249.70 - 302.96	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	40	1877.679	224.09 - 277.34	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	50	1879.884	249.70 - 302.89	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	50	1880.210						558
	70	1881.690	249.70 - 302.84	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	60	1882.478	249.84 - 302.96	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		563
	80	1883.796	249.11 - 302.19	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		563
	100	1888.107	251.01 - 303.97	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	100	1889.710	251.52 - 304.44	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		563
	60	1891.366	276.28 - 329.15	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 5s$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1891.730	249.45 - 302.31	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1893.876	249.45 - 302.25	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		563
	10	1895.072	252.80 - 305.57	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		563
	5	1895.840	249.11 - 301.86	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	40	1897.810	249.11 - 301.80	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3D$	$\frac{1}{2} - \frac{1}{2}$		563
	40	1899.802	276.51 - 329.15	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 5s$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	40	1900.189	224.70 - 277.33	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	5	1900.695	249.70 - 302.31	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1904.510	251.01 - 303.52	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1904.691	249.45 - 301.95	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	60	1906.502	251.52 - 303.97	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
9	200	1907.493	224.09 - 276.51	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		563
	30	1914.729	251.01 - 303.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
9	500	1916.083	224.09 - 276.28	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	80	1920.181	254.17 - 306.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563
	5	1923.226	251.52 - 303.52	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 5s$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		563
	70	1924.166	254.29 - 306.26	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		563
	5	1927.549	251.01 - 302.89	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		563
	60	1928.786	254.17 - 306.01	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 3d$	$^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		563
	60	1929.643	277.33 - 329.15	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 5s$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		563

Ne II

Ne III

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
9	300	1930.028	224.70 - 276.51	$2s^2 2p^4 (^4P) 3s$ - $2s^2 2p^4 (^1D) 3p$	4P - 4P	$\frac{1}{2}$ - $\frac{1}{2}$		563
	60	1930.335	277.34 - 329.15	$2s^2 2p^4 (^1D) 3p$ - $2s^2 2p^4 (^1D) 5s$	1D - 1D	$\frac{3}{2}$ - $\frac{3}{2}$		563
	70	1932.754	251.01 - 302.75	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4D - 4F	$\frac{1}{2}$ - $\frac{1}{2}$		563
	90	1933.529	254.29 - 306.01	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^1D) 3d$	4P - 4S	$\frac{1}{2}$ - $\frac{1}{2}$		563
	10	1933.642	251.52 - 303.24	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4D - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
9	30	1936.417	252.80 - 304.44	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{1}{2}$ - $\frac{1}{2}$		563
	200	1938.826	224.70 - 276.28	$2s^2 2p^4 (^4P) 3s$ - $2s^2 2p^4 (^1D) 3p$	4P - 4P	$\frac{1}{2}$ - $\frac{3}{2}$		563
	70	1939.75	251.52 - 303.07	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4D - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
	60	1944.883	254.17 - 305.58	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^1D) 3d$	4P - 4P	$\frac{3}{2}$ - $\frac{1}{2}$		563
	100	1945.458	254.17 - 305.57	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^1D) 3d$	4P - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
	5	1949.450	251.01 - 302.31	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4D - 4D	$\frac{3}{2}$ - $\frac{3}{2}$		563
	70	1949.696	254.29 - 305.58	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^1D) 3d$	4P - 4P	$\frac{1}{2}$ - $\frac{1}{2}$		563
	40	1950.276	254.29 - 305.57	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^1D) 3d$	4P - 4P	$\frac{1}{2}$ - $\frac{3}{2}$		563
	80	1951.727	251.01 - 302.25	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4D - 4F	$\frac{3}{2}$ - $\frac{1}{2}$		563
	70	1954.048	252.80 - 303.97	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{1}{2}$ - $\frac{3}{2}$		563
	60	1959.994	252.95 - 303.97	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
	20	1961.772	252.95 - 303.93	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{3}{2}$ - $\frac{1}{2}$		563
	60	1971.621	252.80 - 303.52	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{1}{2}$ - $\frac{3}{2}$		563
	70	1977.657	252.95 - 303.52	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4S - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
	40	1982.576	252.80 - 303.24	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4S - 4P	$\frac{1}{2}$ - $\frac{3}{2}$		563
	80	1989.036	254.17 - 304.44	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4P - 4P	$\frac{3}{2}$ - $\frac{1}{2}$		563
	90	1994.095	254.29 - 304.44	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 5s$	4P - 4P	$\frac{1}{2}$ - $\frac{1}{2}$		563
	50	1995.280	252.95 - 303.07	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4S - 4P	$\frac{3}{2}$ - $\frac{3}{2}$		563
	20	1998.667	252.80 - 302.83	$2s^2 2p^4 (^4P) 3p$ - $2s^2 2p^4 (^4P) 4d$	4S - 4P	$\frac{1}{2}$ - $\frac{1}{2}$		563

NEON III (Ne^{2+}), $Z = 10$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential $511\,800 \text{ cm}^{-1}$; 63.46 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	200	251.12	0.0 - 398.21	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3d$	g^4P - 4D	2 - 3		338, 488
5	200	251.54	0.64 - 398.19	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3d$	g^4P - 4D	1 - 2		338, 488
5	200	251.72	0.92 - 398.19	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3d$	g^4P - 4D	0 - 1		338, 488
4	300	267.07	0.0 - 374.43	$2s^2 2p^4$ - $2s^2 2p^4 (^4P) 3s$	g^4P - 4P	2 - 2		338, 488
4	300	267.53	0.64 - 374.43	$2s^2 2p^4$ - $2s^2 2p^4 (^4P) 3s$	g^4P - 4P	1 - 2		338, 488
4	200	267.71	0.92 - 374.46	$2s^2 2p^4$ - $2s^2 2p^4 (^4P) 3s$	g^4P - 4P	0 - 1		338, 488
8	10	282.49	25.84 - 379.83	$2s^2 2p^4$ - $2s^2 2p^4 (^4P) 3s$	1D - 4P	2 - 1		57, 488
3	300	283.15	0.0 - 353.17	$2s^2 2p^4$ - $2s^2 2p^4 (^1D) 3s$	g^4P - 4D	2 - 2		338, 488
3	600	283.17	0.0 - 353.15	$2s^2 2p^4$ - $2s^2 2p^4 (^1D) 3s$	g^4P - 4D	2 - 3		338, 488
3	500	283.66	0.64 - 353.17	$2s^2 2p^4$ - $2s^2 2p^4 (^1D) 3s$	g^4P - 4D	1 - 2		338, 488
3	300	283.87	0.92 - 353.19	$2s^2 2p^4$ - $2s^2 2p^4 (^1D) 3s$	g^4P - 4D	0 - 1		338, 488
7	400	301.12	0.0 - 332.12	$2s^2 2p^4$ - $2s^2 2p^4 (^1D) 3s$	g^4P - 4D	2 - 2		57, 488
10	100	308.56	55.75 - 379.83	$2s^2 2p^4$ - $2s^2 2p^4 (^4P) 3s$	1S - 4P	0 - 1		57, 488
2	400	313.05	0.0 - 319.44	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3s$	g^4P - 4S	2 - 1		57, 488
2	300	313.68	0.64 - 319.44	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3s$	g^4P - 4S	1 - 1		57, 488
2	100	313.92	0.92 - 319.44	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3s$	g^4P - 4S	0 - 1		57, 488
		322.66	0.0 - 309.92	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3s$	g^4P - 4S	2 - 2	P	680
		323.33	0.64 - 309.92	$2s^2 2p^4$ - $2s^2 2p^4 (^4S) 3s$	g^4P - 4S	1 - 2	P	680
6	700	379.31	25.84 - 289.48	$2s^2 2p^4$ - $2s 2p^4$	1D - 4P	2 - 1		57, 488
9	300	427.84	55.75 - 289.48	$2s^2 2p^4$ - $2s 2p^4$	1S - 4P	0 - 1		57, 488
1	800	488.10	0.0 - 204.88	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	2 - 1		57, 488
1	700	488.87	0.64 - 205.20	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	1 - 0		57, 488
1	1000	489.50	0.0 - 204.29	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	2 - 2		57, 488
1	400	489.64	0.64 - 204.88	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	1 - 1		57, 488
1	700	490.31	0.92 - 204.88	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	0 - 1		57, 488
1	900	491.05	0.64 - 204.29	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4P	1 - 2		57, 488
13	200	1255.03	319.44 - 399.12	$2s^2 2p^4 (^4S) 3s$ - $2s^2 2p^4 (^1D) 3p$	4S - 4P	1 - 0		57, 488
13	500	1255.68	319.44 - 399.08	$2s^2 2p^4 (^4S) 3s$ - $2s^2 2p^4 (^1D) 3p$	4S - 4P	1 - 1		57, 488
13	600	1257.19	319.44 - 398.98	$2s^2 2p^4 (^4S) 3s$ - $2s^2 2p^4 (^1D) 3p$	4S - 4P	1 - 2		57, 488
		1793.70	0.0 - 55.75	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4S	2 - 0	F, P	375
		1814.63	0.64 - 55.75	$2s^2 2p^4$ - $2s 2p^4$	g^4P - 4S	1 - 0	F, P	375

NEON IV (Ne⁴⁺), Z = 10Ground State 1s²2s²2p² ⁴S_{3/2} (7 electrons)Ionization Potential 783 300 cm⁻¹; 97.08 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
	15	140.13	41.23 + E - 754.87 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)6s	¹ D' - ¹ D	½ - ½		544
	15	142.93	41.23 + E - 740.88 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)5d	¹ D' - ¹ F	½ - ½		544
	10	144.02	0.0 - 694.35	2s ² 2p ² - 2s ² 2p ² (³ P)5s	g ⁴ S' - ³ P	½ - ½		544
	10	144.15	0.0 - 693.72	2s ² 2p ² - 2s ² 2p ² (³ P)5s	g ⁴ S' - ³ P	½ - ½		544
	5	144.28	0.0 - 693.11	2s ² 2p ² - 2s ² 2p ² (³ P)5s	g ⁴ S' - ³ P	½ - ½		544
	10	146.26	41.23 + E - 724.97 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)5s	¹ D' - ¹ D	½ - ½		544
	5	148.66	0.0 - 672.68	2s ² 2p ² - 2s ² 2p ² (³ P)4d	g ⁴ S' - ³ P	½ - ½		544
	15	148.79	0.0 - 672.10	2s ² 2p ² - 2s ² 2p ² (³ P)4d	g ⁴ S' - ³ F	½ - ½		544
	20	148.94	0.0 - 671.40	2s ² 2p ² - 2s ² 2p ² (³ P)4d	g ⁴ S' - ³ P	½ - ½		544
	10	149.59	41.23 + E - 709.74 + E	2s ² 2p ² - 2s ² 2p ² (¹ S)4d	¹ D' - ¹ D	½ - ½		544
	5	150.93	62.44 + E - 724.97 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)5s	¹ P' - ¹ D	½ - ½		544
		151.46	41.23 + E - 701.49 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4d	¹ D' - ¹ P	½ - ½		544
	75	151.82	41.23 + E - 699.90 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4d	¹ D' - ¹ D	½ - ½		544
	75	152.23	41.23 + E - 698.13 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4d	¹ D' - ¹ F	½ - ½		544
	25	154.49	62.44 + E - 709.74 + E	2s ² 2p ² - 2s ² 2p ² (¹ S)4d	¹ P' - ¹ D	½ - ½		544
	25	156.48	62.44 + E - 701.49 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4d	¹ P' - ¹ P	½ - ½		544
	15	156.87	62.44 + E - 699.90 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4d	¹ P' - ¹ D	½ - ½		544
	25	157.63	0.0 - 634.41	2s ² 2p ² - 2s ² 2p ² (³ P)4s	g ⁴ S' - ³ P	½ - ½		544
	15	157.78	0.0 - 633.79	2s ² 2p ² - 2s ² 2p ² (³ P)4s	g ⁴ S' - ³ P	½ - ½		544
	10	157.86	0.0 - 633.47	2s ² 2p ² - 2s ² 2p ² (³ P)4s	g ⁴ S' - ³ P	½ - ½		544
	25	158.06	41.23 + E - 673.89 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ D' - ¹ D	½ - ½		544
	10	158.11	41.28 + E - 673.77 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ D' - ¹ D	½ - ½		544
	75	158.65	41.23 + E - 671.54 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ D' - ¹ F	½ - ½		544
	75	158.82	41.28 + E - 570.92 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ D' - ¹ F	½ - ½		544
	50	160.47	41.23 + E - 664.40 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)4s	¹ D' - ¹ D	½ - ½		544
	60	163.56	62.44 + E - 673.89 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ P' - ¹ D	½ - ½		544
	10	163.60	62.43 + E - 673.77 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4d	¹ P' - ¹ D	½ - ½		544
	25	167.92	41.23 + E - 636.75 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4s	¹ D' - ¹ P	½ - ½		544
	10	168.10	41.28 + E - 636.15 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4s	¹ D' - ¹ P	½ - ½		544
3	200	172.49	0.0 - 579.74	2s ² 2p ² - 2s ² 2p ² (³ P)3d	g ⁴ S' - ³ P	½ - ½		544
3	250	172.53	0.0 - 579.63	2s ² 2p ² - 2s ² 2p ² (³ P)3d	g ⁴ S' - ³ P	½ - ½		544
3	400	172.62	0.0 - 579.31	2s ² 2p ² - 2s ² 2p ² (³ P)3d	g ⁴ S' - ³ P	½ - ½		544
		174.12	62.44 + E - 636.75 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4s	¹ P' - ¹ P	½ - ½		544
	15	174.30	62.43 + E - 636.15 + E	2s ² 2p ² - 2s ² 2p ² (³ P)4s	¹ P' - ¹ P	½ - ½		544
	50	174.88	41.23 + E - 613.06 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ D' - ¹ P	½ - ½		544
	40	174.92	41.28 + E - 612.96 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ D' - ¹ P	½ - ½		544
	250	176.01	41.23 + E - 609.39 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ D' - ¹ D	½ - ½		544
	400	177.16	41.23 + E - 605.69 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ D' - ¹ F	½ - ½		544
	75	180.40	62.44 + E - 616.76 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ P' - ¹ S	½ - ½		544
	100	181.61	62.44 + E - 613.06 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ P' - ¹ P	½ - ½		544
	100	181.65	62.43 + E - 612.96 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ P' - ¹ P	½ - ½		544
		182.83	62.44 + E - 609.39 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3d	¹ P' - ¹ D	½ - ½		544
	75	183.17	41.23 + E - 587.19 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ D' - ¹ D	½ - ½		544
	60	183.25	41.28 + E - 586.99 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ D' - ¹ D	½ - ½		544
	100	185.48	41.23 + E - 580.38 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ D' - ¹ F	½ - ½		544
7	750	186.58	41.23 + E - 577.21 + E	2s ² 2p ² - 2s ² 2p ² (¹ S)3d	¹ D' - ¹ D	½ - ½		544
	25	186.79	41.28 + E - 576.64 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ D' - ¹ P	½ - ½		544
	75	186.92	41.23 + E - 576.25 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ D' - ¹ P	½ - ½		544
	125	190.57	62.44 + E - 587.19 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ P' - ¹ D	½ - ½		544
	75	190.65	62.43 + E - 586.99 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ P' - ¹ D	½ - ½		544
11	500	194.28	62.44 + E - 577.21 + E	2s ² 2p ² - 2s ² 2p ² (¹ S)3d	¹ P' - ¹ D	½ - ½		544
	200	194.48	62.43 + E - 576.64 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ P' - ¹ P	½ - ½		544
	250	194.62	62.44 + E - 576.25 + E	2s ² 2p ² - 2s ² 2p ² (³ P)3d	¹ P' - ¹ P	½ - ½		544
		197.6						110
	75	204.27	62.44 + E - 551.99 + E	2s ² 2p ² - 2s ² 2p ² (¹ S)3s	¹ P' - ¹ J	½ - ½		544
	125	204.53	183.86 - 672.80	2s2p ⁴ - 2s2p ⁴ (¹ S')3d	¹ P - ¹ D'	½ - ½		544
	75	204.79	184.48 - 672.80	2s2p ⁴ - 2s2p ⁴ (¹ S')3d	¹ P - ¹ D'	½ - ½		544
	25	204.91	184.80 - 672.80	2s2p ⁴ - 2s2p ⁴ (¹ S')3d	¹ P - ¹ D'	½ - ½		544
		206.7						110
2	500	208.49	0.0 - 479.66	2s ² 2p ² - 2s ² 2p ² (³ P)3s	g ⁴ S' - ³ P	½ - ½		544
2	500	208.72	0.0 - 479.08	2s ² 2p ² - 2s ² 2p ² (³ P)3s	g ⁴ S' - ³ P	½ - ½		544
2	400	208.90	0.0 - 478.70	2s ² 2p ² - 2s ² 2p ² (³ P)3s	g ⁴ S' - ³ P	½ - ½		544
6	750	212.56	41.23 + E - 511.69 + E	2s ² 2p ² - 2s ² 2p ² (¹ D)3s	¹ D' - ¹ D	½ - ½		544
	25	215.40	183.86 - 648.06	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ S'	½ - ½		544
	15	215.71	184.48 - 648.06	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ S'	½ - ½		544
	75	215.84	184.80 - 648.06	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ S'	½ - ½		544
	75	217.34	183.86 - 643.98	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ P'	½ - ½		544
	75	217.64	184.48 - 643.98	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ P'	½ - ½		544
	75	217.78	184.48 - 643.67	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ P'	½ - ½		544
	125	217.83	183.86 - 642.93	2s2p ⁴ - 2s2p ⁴ (³ P)4p	¹ P - ¹ D'	½ - ½		544

Ne IV

Ne V

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	218.13	184.80 - 643.24	$2s2p^4 - 2s^22p^3(^3P)4r$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	50	218.18	183.86 - 642.18	$2s2p^4 - 2s^22p^3(^3P)4o$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		544
	75	218.34	184.48 - 642.47	$2s2p^4 - 2s^22p^3(^3P)4i$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		544
	100	218.48	184.48 - 642.18	$2s2p^4 - 2s^22p^3(^3P)4p$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		544
	125	218.64	184.80 - 642.18	$2s2p^4 - 2s^22p^3(^3P)4p$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		544
	250	218.77	184.80 - 641.91	$2s2p^4 - 2s^22p^3(^3P)4p$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		544
	200	222.60	62.44 + E - 511.69 + E	$2s^22p^3 - 2s^22p^3(^1D)3s$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		544
	125	223.235	41.23 + E - 489.20 + E	$2s^22p^3 - 2s^22p^3(^3P)3s$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		773, 544
	125	223.601	41.28 + E - 488.50 + E	$2s^22p^3 - 2s^22p^3(^3P)3s$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		773, 544
	125	234.319	62.44 + E - 489.20 + E	$2s^22p^3 - 2s^22p^3(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		773, 544
	125	234.704	62.43 + E - 488.50 + E	$2s^22p^3 - 2s^22p^3(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		773, 544
		241.9						110
	50	247.42	183.86 - 588.02	$2s2p^4 - 2s2p^3(^3S^*)3s$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	40	247.81	184.48 - 588.02	$2s2p^4 - 2s2p^3(^3S^*)3s$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	40	248.00	184.80 - 588.02	$2s2p^4 - 2s2p^3(^3S^*)3s$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	75	246.45	183.86 - 532.98	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	75	286.93	184.48 - 532.98	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	50	287.21	184.80 - 532.98	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		544
	75	293.12	183.86 - 525.02	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	50	293.43	183.86 - 524.68	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	25	293.65	184.48 - 525.02	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	5	293.95	184.48 - 524.68	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	15	294.10	184.48 - 524.49	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	15	294.39	184.80 - 524.49	$2s2p^4 - 2s^22p^3(^3P)3p$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
5	250	357.831	41.28 + E - 320.74 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
5	1000	358.721	41.23 + E - 320.03 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
10	700	387.141	62.43 + E - 320.74 + E	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
10	500	388.218	62.44 + E - 320.03 + E	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
9	750	421.609	62.44 + E - 299.63 + E	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		197, 544
125	431.47	254.10 + E - 485.87 + E	$2s2p^4 - 2p^4$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$			544
	250	433.24	254.08 + E - 484.90 + E	$2s2p^4 - 2p^4$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
4	706	469.773	41.23 + E - 254.10 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773
4	1000	469.820	41.23 + E - 254.08 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773
4	900	469.866	41.28 + E - 254.10 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773
4	700	469.921	41.28 + E - 254.08 + E	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773
8	125	521.741	62.43 + E - 254.10 + E	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773, 544
8	125	521.820	62.44 + E - 254.08 + E	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		773, 544
	5	536.97	299.63 + E - 485.87 + E	$2s2p^4 - 2p^4$	$^1S - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	15	539.73	299.63 + E - 484.90 + E	$2s2p^4 - 2p^4$	$^1S - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
1	400	541.127	0.0 - 184.80	$2s^22p^3 - 2s2p^4$	$g^1S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
1	500	542.073	0.0 - 184.48	$2s^22p^3 - 2s2p^4$	$g^1S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
1	750	543.891	0.0 - 183.86	$2s^22p^3 - 2s2p^4$	$g^1S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		197, 544
	10	603.00	320.03 + E - 485.87 + E	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	10	605.60	320.74 + E - 485.87 + E	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	25	606.53	320.03 + E - 484.90 + E	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	5	609.17	320.74 + E - 484.90 + E	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		544
	15	758.32	484.90 + E - 616.76 + E	$2p^4 - 2s^22p^3(^1D)3d$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Q	544
	15	780.25	484.90 + E - 613.06 + E	$2p^4 - 2s^22p^3(^1D)3d$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		544
	5	786.14	485.87 + E - 613.06 + E	$2p^4 - 2s^22p^3(^1D)3d$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		544
		1601.50	0.0 - 62.44 + E	$2s^22p^3 - 2s^22p^3$	$g^1S^* - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375
		1601.68	0.0 - 62.43 + E	$2s^22p^3 - 2s^22p^3$	$g^1S^* - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375

NEON V (Ne^{4+}), $Z = 10$ Ground State $1s^22s^22p^3\ ^3P_0$ (6 electrons)Ionization Potential $1018\ 000\ \text{cm}^{-1}$; 126.22 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	18	100.2						110
	18	107.96	0.41 - 926.27	$2s^22p^3 - 2s2p^3(^3P)4p$	$g^1P - ^1D^*$	1 - 2		846
	13	108.89	88.36 - 1006.72	$2s2p^3 - 2s2p^3(^3P)5d$	$^1S^* - ^1P$	2 - 3		846
	18	109.57	30.29 - 942.95	$2s^22p^3 - 2s^22p^3(^3P)6d$	$^1D - ^1P^*$	2 - 3		846
	23	110.36	1.11 - 907.24	$2s^22p^3 - 2s^22p^3(^3P)5d$	$g^1P - ^1P^*$	2 - 2		846

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	23	110.42	1.11 - 906.74	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$g^3P - ^3D^o$	2 - 3		846
	30	113.86	30.29 - 908.57	$2s^2 2p^2 - 2s^2 2p(^3P^o) 5d$	$^1D - ^1F^o$	2 - 3		846
	27	117.23	88.36 - 941.39	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^3S^o - ^3P$	2 - 2		846
	27	117.27	83.36 - 941.10	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^3S^o - ^3P$	2 - 3		846
	12	118.74	0.0 - 842.02	$2s^2 2p^2 - 2s^2 2p 4d$	$g^3P - ^3D^o$	0 - 1		846
	50	118.8	1.11 - 842.91	$2s^2 2p^2 - 2s^2 2p 4d$	$g^3P - ^3P^o$	2 - 2		544
	37	118.89	1.11 - 842.02	$2s^2 2p^2 - 2s^2 2p 4d$	$g^3P - ^3D^o$	2 - 2		846
	66	119.01	1.11 - 841.38	$2s^2 2p^2 - 2s^2 2p 4d$	$g^3P - ^3D^o$	2 - 3		846
	200	122.52	30.29 - 846.49	$2s^2 2p^2 - 2s^2 2p 4d$	$^1D - ^1F^o$	2 - 3		544
	30	123.71	30.29 - 838.62	$2s^2 2p^2 - 2s^2 2p 4d$	$^1D - ^1D^o$	2 - 2		544
	23	124.33	1.11 - 805.28	$2s^2 2p^2 - 2s^2 2p 4s$	$g^3P - ^1P^o$	2 - 1		846
	37	125.82	30.29 - 825.08	$2s^2 2p^2 - 2s^2 2p(^3D) 3p$	$^1D - ^1F^o$	2 - 3		846
	20	125.9	1.11 - 795.28	$2s^2 2p^2 - 2s^2 2p 4s$	$g^3P - ^3P^o$	2 - 2		544
	10	128.79	88.36 - 864.75 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4d$	$^3S^o - ^3P$	2 - 3		544
	50	129.03	30.29 - 805.28	$2s^2 2p^2 - 2s^2 2p 4s$	$^1D - ^1P^o$	2 - 1		544
	18	130.61	0.41 - 766.00	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3P^o$	1 - 2		846
	16	130.68	0.41 - 765.64	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3P^o$	1 - 1		846
	30	130.74	1.11 - 766.00	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3P^o$	2 - 2		846
	16	130.77	1.11 - 765.64	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3P^o$	2 - 1		846
	45	131.99	0.41 - 758.05	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3D^o$	1 - 2		846
	50	132.04	1.11 - 758.46	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3D^o$	2 - 3		846
	18	132.11	1.11 - 758.05	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3D^o$	2 - 2		846
	27	134.48	0.0 - 743.5	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$g^3P - ^1P^o$	0 - 1	Q	846
	27	134.84	63.9 - 805.28	$2s^2 2p^2 - 2s^2 2p 4s$	$^3S^o - ^1P^o$	0 - 1		846
	14	135.66	0.0 - 737.16	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3S^o$	0 - 1		846
	22	135.73	0.41 - 737.16	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3S^o$	1 - 1		846
	24	135.86	1.11 - 737.16	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3p$	$g^3P - ^3S^o$	2 - 1		846
	20	136.21	88.36 - 822.45 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 4s$	$^3S^o - ^3P$	2 - 3		544
	50	140.72	88.36 - 798.96 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3P$	2 - 1		544
	150	140.76	88.36 - 798.76 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3P$	2 - 2		544
	150	140.79	88.36 - 798.59 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3P$	2 - 3		544
	27	141.45	88.36 - 795.33	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3D$	2 - 3		846
	37	142.44	0.41 - 702.46	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 0		846
	27	142.48	0.41 - 702.07	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 1		846
	18	142.58	0.41 - 701.77	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 2		846
	10	142.66	1.11 - 702.07	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	2 - 1		544
	50	142.72	1.11 - 701.77	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3P^o$	2 - 2		846, 544
	50	143.22	0.0 - 698.23	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3D^o$	0 - 1		544
	100	143.27	0.41 - 698.38	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3D^o$	1 - 2		544
	150	143.34	1.11 - 698.74	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3D^o$	2 - 3		544
	36	143.41	1.11 - 698.38	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$g^3P - ^3D^o$	2 - 2		846
	45	144.01	175.83 - 870.23	$2s^2 2p^2 - 2s^2 2p(^3D) 3d$	$^3D^o - ^3F$	3 - 4		846
	18	146.86	30.29 - 711.18	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1P^o$	2 - 1		846
	150	147.13	30.29 - 709.96	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1F^o$	2 - 3		544
	13	148.15	208.16 - 883.15	$2s^2 2p^2 - 2s^2 2p(^3D) 3d$	$^3P^o - ^3S$	2 - 1		846
	15	148.78	30.29 - 702.41	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1P^o$	2 - 1		544
	18	149.60	208.16 - 876.61	$2s^2 2p^2 - 2s^2 2p(^3D) 3d$	$^3P^o - ^3D$	2 - 3		846
	66	151.23	30.29 - 691.54	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1D^o$	2 - 2		846
	120	151.42	30.29 - 690.69	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D - ^1D^o$	2 - 2		544
	45	154.50	63.9 - 711.18	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3P^o$	0 - 1		846
	18	156.14	175.83 - 816.28	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3D^o - ^3D$	3 - 3		846
	18	156.20	175.91 - 816.13	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3D^o - ^3D$	2 - 2		846
	20	156.61	63.9 - 702.41	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3S^o - ^3P^o$	0 - 1		544
	30	158.59	175.83 - 806.39	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3D^o - ^3F$	3 - 4		846
	25	158.72	175.91 - 805.94	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3D^o - ^3F$	2 - 3		846
	23	158.82	175.93 - 805.57	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3D^o - ^3F$	1 - 2		846
	15	162.15	270.56 - 887.28	$2s^2 2p^2 - 2s^2 2p(^3D) 3d$	$^3D^o - ^3F$	2 - 3		846
	100	164.02	88.36 - 698.04	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^3S^o - ^3P$	2 - 3		544
	100	164.15	88.36 - 697.56	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^3S^o - ^3P$	2 - 2		544
	80	164.29	88.36 - 697.04	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^3S^o - ^3P$	2 - 1		544
	18	164.43	208.16 - 816.32	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3P^o - ^3D$	2 - 3		846
	18	164.48	208.16 - 816.13	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3P^o - ^3D$	1 - 2		846
	30	166.05	175.83 - 778.04	$2s^2 2p^2 - 2s^2 2p(^3D) 3s$	$^3D^o - ^3D$	3 - 3		846
	150	167.47	0.41 - 597.52	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 2		544
	30	167.61	0.0 - 596.63	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	0 - 1		514
	250	167.67	1.11 - 597.52	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 2		544
	23	167.72	0.41 - 596.63	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 1		846
	25	167.83	0.41 - 596.25	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 0		544
	25	167.92	1.11 - 596.63	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 1		544
	14	168.60	208.19 - 801.31	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3P^o - ^3P$	0 - 1		846
	40	168.73	208.16 - 800.82	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^3P^o - ^3P$	2 - 2		846
6	500	173.93	30.29 - 605.23	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1D - ^1P^o$	2 - 1		544
	18	175.48	208.16 - 778.04	$2s^2 2p^2 - 2s^2 2p(^3D) 3s$	$^3P^o - ^3D$	2 - 3		846
		180.0						110
	18	183.72	175.83 - 720.14	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^3D^o - ^3P$	3 - 2		846

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	184.73	63.9 - 605.23	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1S - ^1P^o$	0 - 1	Q	534
	30	188.42	270.56 - 801.31	$2s 2p^2 - 2s 2p^2(^3P) 3d$	$^1D^o - ^3P$	2 - 1		544
		192.0						110
	50	195.37	208.16 - 720.01	$2s 2p^2 - 2s 2p(^3P^o) 3s$	$^3P^o - ^3P$	2 - 2	P	544
	30	195.55	208.16 - 719.53	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P^o - ^3P$	2 - 1		544
	20	195.62	208.16 - 719.35	$2s 2p^2 - 2s 2p(^3P) 3s$	$^3P^o - ^3P$	1 - 0		544
		210.23	175.93 - 651.6 + Z	$2s 2p^2 - 2s^2 2p(^3P^o) 3p$	$^3D^o - ^3P$	1 - 2		110
		214.71	175.83 - 641.65	$2s 2p^2 - 2s^2 2p(^3P^o) 3p$	$^3D^o - ^3D$	3 - 3		110
		225.5	208.16 - 651.6 + Z	$2s 2p^2 - 2s^2 2p(^3P^o) 3p$	$^3P^o - ^3P$	2 - 2		110
		228.2	208.16 - 646.37	$2s 2p^2 - 2s^2 2p(^3P^o) 3p$	$^3P^o - ^3S$	2 - 1		110
		230.69	208.16 - 641.65	$2s 2p^2 - 2s^2 2p(^3P^o) 3p$	$^3P^o - ^3D$	2 - 3	P	110
	400	357.95	0.0 - 279.37	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	0 - 1		544
	500	358.48	0.41 - 279.37	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	1 - 1		544
	500	359.39	1.11 - 279.37	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	2 - 1	P	544
	5	1000	30.29 - 303.81	$2s^2 2p^2 - 2s 2p^2$	$^1D - ^1P^o$	2 - 1		544
	4	800	416.20	$2s^2 2p^2 - 2s 2p^2$	$^1D - ^1D^o$	2 - 2		544
		250	416.82	$2s^2 2p^2 - 2s 2p^2$	$^1S - ^1P^o$	0 - 1	P	544
		100	420.39	$2s 2p^2 - 2p^4$	$^3D^o - ^3P$	1 - 0		544
		150	420.94	$2s 2p^2 - 2p^4$	$^3D^o - ^3P$	2 - 1		544
		150	422.21	$2s 2p^2 - 2p^4$	$^3D^o - ^3P$	3 - 2	P	544
		50	422.34	$2s 2p^2 - 2p^4$	$^3D^o - ^3P$	2 - 2		544
	250	480.41	0.0 - 208.16	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3P^o$	0 - 1	P	544
	150	481.28	0.41 - 208.19	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3P^o$	1 - 0		544
	250	481.36	0.41 - 208.16	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3P^o$	1 - 2		544
	500	482.99	1.11 - 208.16	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3P^o$	2 - 2	P	544
	30	487.07	208.16 - 413.47	$2s 2p^2 - 2p^4$	$^3P^o - ^3P$	2 - 1		544
		488.94	208.16 - 412.68	$2s 2p^2 - 2p^4$	$^3P^o - ^3P$	2 - 2		544
			0.0 - 175.93	$s^2 2p^2 - 2s 2p^2$	$g^3P - ^3D^o$	0 - 1	P	544
		250	569.76	$s^2 2p^2 - 2s 2p^2$	$g^3P - ^3D^o$	1 - 1		544
		500	569.83	$s^2 2p^2 - 2s 2p^2$	$g^3P - ^3D^o$	1 - 2		544
	250	572.11	1.11 - 175.91	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3D^o$	2 - 2	P	544
	800	572.34	1.11 - 175.83	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3D^o$	2 - 3		544
		1137.0	0.41 - 88.36	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	1 - 2	P	211
		1146.1	1.11 - 88.36	$2s^2 2p^2 - 2s 2p^2$	$g^3P - ^3S^o$	2 - 2		211
		1574.77	0.41 - 63.91	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^1S$	1 - 0		375
		1592.27	1.11 - 63.91	$2s^2 2p^2 - 2s^2 2p^2$	$g^3P - ^1S$	2 - 0	F, P	375

NEON VI (Ne⁵⁺), Z = 10Ground State $1s^2 2s^2 2p^2 \ ^3P^o_{1/2}$ (5 electrons)Ionization Potential 1273 800 cm^{-1} ; 157.93 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	86.09	0.0 - 1161.58	$2s^2 2p - 2s^2 6d$	$g^2P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		846
	13	86.19	1.31 - 1161.58	$2s^2 2p - 2s^2 6d$	$g^2P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		846
	22	89.06	101.35 - 1224.18	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^1P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		846
	22	89.10	1.31 - 1123.64	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^2P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		846
	18	89.95	0.0 - 1111.73	$2s^2 2p - 2s^2 5d$	$g^2P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		846
	24	90.06	1.31 - 1111.73	$2s^2 2p - 2s^2 5d$	$g^2P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		846
	13	95.37	178.99 - 1227.49	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{5}{2}$		846
	12	95.44	179.02 - 1226.82	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{5}{2}$		846
	20	96.89	100.70 - 1132.6	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^3P^o$	$\frac{3}{2} - \frac{5}{2}$		846
	27	96.97	101.35 - 1132.6	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^1P - ^3P^o$	$\frac{3}{2} - \frac{5}{2}$		846
	23	97.05	100.26 - 1130.65	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		846
	25	97.09	100.70 - 1130.9	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{5}{2}$		846
	25	97.11	101.35 - 1131.1	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{5}{2}$		846
		98.13	0.0 - 1019.05	$2s^2 2p - 2s^2 4d$	$g^2P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		846
		98.26	1.31 - 1019.05	$2s^2 2p - 2s^2 4d$	$g^2P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		846
	25	101.22	0.0 - 987.95	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		846
	45	101.34	1.31 - 987.95	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		846
	27	101.42	0.0 - 986.00	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^2P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		846
	50	101.54	1.31 - 986.14	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^2P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		846
	13	101.75	100.26 - 1083.04	$2s 2p^2 - 2p^2(^3P) 3p$	$^1P - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$		846

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	18	101.80	100.70 - 1083.04	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4S$	$\frac{3}{2} - \frac{3}{2}$		846
	23	101.87	101.35 - 1083.04	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4S$	$\frac{3}{2} - \frac{3}{2}$		846
	27	102.59	245.29 - 1224.18	$2s2p^2 - 2s2p(^1P^o)3d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$	Q	846
	30	103.58	100.70 - 1066.14	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	50	103.65	101.35 - 1066.14	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	23	103.71	101.35 - 1065.57	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	66	104.09	101.35 - 1062.05	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		846
	45	104.17	178.99 - 1138.96	$2s2p^2 - 2s2p(^3P^o)4d$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		846
	37	104.26	179.02 - 1138.16	$2s2p^2 - 2s2p(^3P^o)4d$	$^4D - ^4F$	$\frac{3}{2} - \frac{3}{2}$		846
	23	104.93	178.99 - 1132.01	$2s2p^2 - 2s2p(^3P^o)4d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	37	107.60	178.99 - 1108.36	$2s2p^2 - 2p^2(^1D)3p$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	20	109.03	178.99 - 1096.17	$2s2p^2 - 2p^2(^1D)3p$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		846
	20	109.07	179.02 - 1095.83	$2s2p^2 - 2p^2(^1D)3p$	$^4D - ^4F$	$\frac{3}{2} - \frac{3}{2}$		846
	30	109.51	0.0 - 914.56	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		846
	66	109.46	1.31 - 914.86	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		846
	20	110.49	1.31 - 906.37	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$	P	544
	200	111.10	0.0 - 900.10	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		846
	500	111.16	1.31 - 900.90	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		546
	45	111.26	1.31 - 900.10	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	10	113.95	1.31 - 878.85	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	544
	60	114.07	0.0 - 876.66	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		846
	100	114.13	0.0 - 876.19	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		846
	200	114.24	1.31 - 876.66	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	45	114.30	1.31 - 875.19	$2s^22p - 2s2p(^3P^o)3p$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		846
	100	116.58						846
	27	117.48	178.99 - 1030.23	$2s2p^2 - 2s2p(^1P^o)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	100	119.92	249.29 - 1083.04	$2s2p^2 - 2p^2(^3P)3p$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$	Q	846
	80	121.05	100.26 - 926.37	$2s2p^2 - 2s2p(^3P^o)3d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		846
	100	121.10	100.70 - 926.47	$2s2p^2 - 2s2p(^3P^o)3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	100	121.15	101.35 - 926.77	$2s2p^2 - 2s2p(^3P^o)3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		846
		121.19	101.35 - 926.47	$2s2p^2 - 2s2p(^3P^o)3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	40	121.65						846
	200	122.49	0.0 - 816.41	$2s^22p - 2s^23d$	$g^3P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		544
	100	122.69	1.31 - 816.41	$2s^22p - 2s^23d$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		544
	23	124.77	230.85 - 1032.33	$2s2p^2 - 2s2p(^1P^o)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		846
	66	125.12	230.85 - 1030.11	$2s2p^2 - 2s2p(^1P^o)3d$	$^3S - ^4D$	$\frac{1}{2} - \frac{3}{2}$		846
	80	126.53	321.58 - 1111.73	$2p^2 - 2s^25d$	$^3S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	Q	846
	35	126.73	230.85 - 1020.4	$2s2p^2 - 2s^24p$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Q	846
	50	127.84	250.11 - 1032.33	$2s2p^2 - 2s2p(^1P^o)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		846
	45	128.07	249.29 - 1030.11	$2s2p^2 - 2s2p(^1P^o)3d$	$^3P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		846
		128.18	359.46 - 1139.61	$2p^2 - 2p^2(^1D)3d$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		846
	50	129.36	178.99 - 952.20	$2s2p^2 - 2s2p(^3P^o)3d$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$	Q	846
		129.61	0.0 - 771.56	$2s^22p - 2s^23p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$	F, P	375
		129.83	1.31 - 771.56	$2s^22p - 2s^23p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
		129.88	1.31 - 771.23	$2s^24p - 2s^23p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
	110	130.26	178.99 - 946.7	$2s2p^2 - 2s2p(^3P^o)3d$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		846
	100	130.40	179.02 - 945.9	$2s2p^2 - 2s2p(^3P^o)3d$	$^4D - ^4F$	$\frac{3}{2} - \frac{3}{2}$		846
	54	131.36	178.99 - 940.26	$2s2p^2 - 2s2p(^1P^o)3s$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	55	133.51	178.99 - 928.02	$2s2p^2 - 2s2p(^3P^o)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	40	136.09	321.58 - 1056.23	$2p^2 - 2p^2(^1D)3s$	$^3S - ^4D$	$\frac{3}{2} - \frac{3}{2}$	Q	544
	150	136.21	100.70 - 834.81	$2s2p^2 - 2s2p(^3P^o)3s$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	110	136.28	100.26 - 834.05	$2s2p^2 - 2s2p(^3P^o)3s$	$^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		846
	350	136.34	101.35 - 834.81	$2s2p^2 - 2s2p(^3P^o)3s$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	150	136.45	100.70 - 833.57	$2s2p^2 - 2s2p(^3P^o)3s$	$^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		846
	150	136.48	101.35 - 834.05	$2s2p^2 - 2s2p(^3P^o)3s$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	30	138.39	0.0 - 722.61	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		544
	27	138.55	230.85 - 952.61	$2s2p^2 - 2s2p(^3P^o)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		846
	30	138.63	1.31 - 722.61	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		846, 544
	27	139.31	406.06 - 1123.64	$2p^2 - 2s2p(^3P^o)4p$	$^3P - ^4D$	$\frac{3}{2} - \frac{3}{2}$	Q	846
	50	140.96	230.85 - 940.26	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		846
		142.44	250.11 - 952.20	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		846
		142.52	321.58 - 1023.23	$2p^2 - 2p^2(^3P)3s$	$^3S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	30	143.52	359.46 - 1056.23	$2p^2 - 2p^2(^1D)3s$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	27	144.71	249.29 - 940.26	$2s2p^2 - 2s2p(^1P^o)3s$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		846
	45	144.88	250.11 - 940.26	$2s2p^2 - 2s2p(^1P^o)3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		846
	18	147.33	249.29 - 928.02	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		846
	27	147.47	250.11 - 928.22	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		846
	80	147.58	178.99 - 856.56	$2s2p^2 - 2s2p(^3P^o)3s$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	50	147.78	179.02 - 855.74	$2s2p^2 - 2s2p(^3P^o)3s$	$^4D - ^4P$	$\frac{3}{2} - \frac{1}{2}$		846
	30	159.82	230.85 - 856.56	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		846
	18	160.03	230.85 - 855.74	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		846
	18	164.93	250.11 - 856.56	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		846
	40	168.73	178.99 - 771.66	$2s2p^2 - 2s^23p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		846
	27	168.85	179.02 - 771.26	$2s2p^2 - 2s^23p$	$^4D - ^4P$	$\frac{3}{2} - \frac{1}{2}$		846
	50	171.12	249.29 - 833.57	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^4P$	$\frac{1}{2} - \frac{1}{2}$	Q	544

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
20	171.25		250.11 - 834.05	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	544
20	191.59		249.29 - 771.26	$2s2p^2 - 2s^2 3p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	375, 544
20	191.77		250.11 - 771.66	$2s2p^2 - 2s^2 3p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	375, 544
50	395.82		0.0 - 250.11	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		544
150	401.14		0.0 - 249.29	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		544
250	401.93		1.31 - 250.11	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		544
100	403.26		1.31 - 249.29	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		544
	429.95		906.37 - 1138.96	$2s2p(^3P^o)3p - 2s2p(^3P^o)4d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	544
400	433.176		0.0 - 230.85	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{3}{2}$		71
400	435.649		1.31 - 230.85	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{3}{2}$		71
100	440.404		178.99 - 406.06	$2s2p^2 - 2p^3$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		71
10	440.60		179.02 - 405.98	$2s2p^2 - 2p^3$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		71
200	451.843		100.26 - 321.58	$2s2p^2 - 2p^3$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		71
300	452.745		100.70 - 321.58	$2s2p^2 - 2p^3$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		71
300	454.072		101.35 - 321.58	$2s2p^2 - 2p^3$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		71
	554.2		179.02 - 359.46	$2s2p^2 - 2p^3$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		383
50	558.59		0.0 - 179.02	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		544
10	562.71		1.31 - 179.02	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		544
150	562.80		1.31 - 178.99	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		544
	914.5		250.11 - 359.46	$2s2p^2 - 2p^3$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		383
	993.0		0.0 - 100.70	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		211
	997.4		0.0 - 100.26	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		211
	999.6		1.31 - 101.35	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		211
	1006.1		1.31 - 100.70	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		211
	1010.6		1.31 - 100.26	$2s^2 2p - 2s2p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		2.1

NEON VII (Ne⁶⁺). Z = 10Ground State $1s^2 2s^2 \ ^1S_0$ (4 electrons)Ionization Potential 1 671 792 cm^{-1} ; 207.28 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	65.85		0.0 - 1518.6	$2s^2 - 2s6p$	$g^1S - ^1P^o$	0 - 1		777
50	67.80		112.70 + X - 1587.13 + X	$2s2p - 2s8d$	$^3P^o - ^3D$	2 - 3		777
160	68.28		112.70 + X - 1576.76 + X	$2s2p - 2p5p$	$^3P^o - ^3D$	2 - 3		777
100	68.92		112.70 + X - 1563.70 + X	$2s2p - 2s7d$	$^3P^o - ^3D$	2 - 3		777
300	70.990		111.71 - 1520.36 + X	$2s2p - 2s6d$	$^3P^o - ^3D$	1 - 2		777
300	71.038		112.70 + X - 1520.40 + X	$2s2p - 2s6d$	$^3P^o - ^3D$	2 - 3		777
80	74.23		214.95 - 1562.12	$2s2p - 2s7d$	$^3P^o - ^3D$	1 - 2		777
	74.40		112.70 + X - 1456.8 + X	$2s2p - 2s5d$	$^3P^o - ^3D$	2 - 3		777
380	74.962		112.70 + X - 1446.71 + X	$2s2p - 2p4p$	$^3P^o - ^3D$	2 - 3		777
130	75.49		111.71 - 1436.36 + X	$2s2p - 2s5s$	$^3P^o - ^3S$	1 - 1		777
120	75.55		112.70 + X - 1436.36 + X	$2s2p - 2s5s$	$^3P^o - ^3S$	2 - 1		777
500	75.765		0.0 - 1319.87	$2s^2 - 2s4p$	$g^1S - ^1P^o$	0 - 1		777
140	76.515		214.95 - 1521.88	$2s2p - 2s6d$	$^3P^o - ^3D$	1 - 2		777
220	77.25		289.84 + X - 1584.38 + X	$2p^2 - 2p5d$	$^3P - ^3D^o$	1 - 2		777
220	77.30		290.72 + X - 1584.38 + X	$2p^2 - 2p5d$	$^3P - ^3D^o$	2 - 3		777
520	80.533		214.95 - 1456.68	$2s2p - 2s5d$	$^3P^o - ^3D$	1 - 2		777
110	81.37		214.95 - 1443.9	$2s2p - 2p4p$	$^3P^o - ^3P$	1 - 1		777
13	82.01		0.0 - 1219.39	$2s^2 - 2p3d$	$g^1S - ^1P^o$	0 - 1	P	846
14	82.16		111.26 + X - 1328.30 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	0 - 1		846
500	82.198		111.71 - 1328.30 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	1 - 2		777
700	82.268		112.70 + X - 1328.30 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	2 - 3		777
200	84.212		111.71 - 1299.10 + X	$2s2p - 2s4s$	$^3P^o - ^3S$	1 - 1		777
200	84.292		112.70 + X - 1299.10 + X	$2s2p - 2s4s$	$^3P^o - ^3S$	2 - 1		777
150	85.19		289.33 + X - 1462.92 + X	$2p^2 - 2p4d$	$^3P - ^3P^o$	0 - 1		777
190	85.29		290.72 + X - 1462.92 + X	$2p^2 - 2p4d$	$^3P - ^3P^o$	2 - 2		777
20	85.31		289.33 + X - 1461.02 + X	$2p^2 - 2p4d$	$^3P - ^3D^o$	0 - 1		846
20	85.41		289.84 + X - 1460.64 + X	$2p^2 - 2p4d$	$^3P - ^3D^o$	1 - 2		846
27	85.45		290.72 + X - 1460.64 + X	$2p^2 - 2p4d$	$^3P - ^3D^o$	2 - 2		846
	86.34		319.72 + V - 1475.21 + V	$2p^2 - 2p4d$	$^3D - ^3P^o$	2 - 1	P	777
190	86.818		319.72 + V - 1471.55 + V	$2p^2 - 2p4d$	$^3D - ^3F^o$	2 - 3		777
130	89.02		319.72 + V - 1443.06 + V	$2p^2 - 2p4s$	$^3D - ^3P^o$	2 - 1		777
500	89.368		214.95 - 1333.92	$2s2p - 2s4d$	$^3P^o - ^3D$	1 - 2		777
260	91.564		214.95 - 1307.08	$2s2p - 2s4s$	$^3P^o - ^3S$	1 - 0		777
90	92.850		398.20 + V - 1475.21 + V	$2p^2 - 2p4d$	$^3S - ^3P^o$	0 - 1		777
400	94.29		111.71 - 1172.47 + X	$2s2p - 2p3p$	$^3P^o - ^3P$	1 - 2		777

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	500	94.36	112.70 + X - 1172.47 + X	2s2p - 2p3p	$^1P^o - ^1P$	2 - 2		777
	400	94.40	112.70 + X - 1172.14 + X	2s2p - 2p3p	$^1P^o - ^1P$	2 - 1		777
	300	94.890	111.71 - 1165.50 + X	2s2p - 2p3p	$^1P^o - ^1S$	1 - 1		777
	300	94.986	112.70 + X - 1165.50 + X	2s2p - 2p3p	$^1P^o - ^1S$	2 - 1		777
	700	95.75	112.70 + X - 1157.08 + X	2s2p - 2p3p	$^1P^o - ^1D$	2 - 3		777
	250	95.84	111.71 - 1155.4 + X	2s2p - 2p3p	$^1P^o - ^1D$	1 - 2		777
	27	95.91	112.70 + X - 1155.4 + X	2s2p - 2p3p	$^1P^o - ^1D$	2 - 2		846
	36	95.95	111.71 - 1154.35 + X	2s2p - 2p3p	$^1P^o - ^1D$	1 - 1		846
	730	97.502	0.0 - 1025.69	2s ² - 2s3p	$g^1S - ^1P^o$	0 - 1		777
		103.09	214.95 - 1184.98 + V	2s2p - 2p3p	$^1P^o - ^1D$	1 - 2		777
	300	106.040	111.26 + X - 1054.29 + X	2s2p - 2s3d	$^1P^o - ^1D$	0 - 1		777
	800	106.086	111.71 - 1054.34 + X	2s2p - 2s3d	$^1P^o - ^1D$	1 - 2		777
	800	106.192	112.70 + X - 1054.41 + X	2s2p - 2s3d	$^1P^o - ^1D$	2 - 3		777
	200	107.099	214.95 - 1148.67 + V	2s2p - 2p3p	$^1P^o - ^1P$	1 - 1		777
		109.75	289.33 + X - 1200.46 + X	2p ² - 2p3d	$^1P - ^1P^o$	0 - 1		846
	33	109.78	289.84 + X - 1200.75 + X	2p ² - 2p3d	$^1P - ^1P^o$	1 - 0		846
	33	109.81	289.84 + X - 1200.46 + X	2p ² - 2p3d	$^1P - ^1P^o$	1 - 1		846
	27	109.87	289.84 + X - 1200. + X	2p ² - 2p3d	$^1P - ^1P^o$	1 - 2		846
	27	109.93	290.72 + X - 1200.46 + X	2p ² - 2p3d	$^1P - ^1P^o$	2 - 1		846
	250	109.98	290.72 + X - 1200. + X	2p ² - 2p3d	$^1P - ^1P^o$	2 - 2		846
	200	110.53	289.33 + X - 1194.06 + X	2p ² - 2p3d	$^1P - ^1D^o$	0 - 1		846
	350	110.56	289.84 + X - 1194.31 + X	2p ² - 2p3d	$^1P - ^1D^o$	1 - 2		846
	1000	110.62	290.72 + X - 1194.61 + X	2p ² - 2p3d	$^1P - ^1D^o$	2 - 3		846
	27	110.67	290.72 + X - 1194.31 + X	2p ² - 2p3d	$^1P - ^1D^o$	2 - 2		846
	220	111.152	319.72 + V - 1219.39 + V	2p ² - 2p3d	$^1D - ^1P^o$	2 - 1		777
	430	111.807	319.72 + V - 1214.12 + V	2p ² - 2p3d	$^1D - ^1F^o$	2 - 3		777
	600	115.331	111.26 + X - 978.32 + X	2s2p - 2s3s	$^1P^o - ^1S$	0 - 1		777
	600	115.392	111.71 - 978.32 + X	2s2p - 2s3s	$^1P^o - ^1S$	1 - 1		777
	700	115.522	112.70 + X - 978.32 + X	2s2p - 2s3s	$^1P^o - ^1S$	2 - 1		777
	330	115.955	319.72 + V - 1182.12 + V	2p ² - 2p3d	$^1D - ^1D^o$	2 - 2		777
	66	116.27						846
	770	116.693	214.95 - 1071.9	2s2p - 2s3d	$^1P^o - ^1D$	1 - 2		777
	500	120.192	289.84 + X - 1121.78 + X	2p ² - 2p3s	$^1P - ^1P^o$	1 - 2		777
	44	120.274	289.33 + X - 1120.77 + X	2p ² - 2p3s	$^1P - ^1P^o$	0 - 1	P	846
	700	120.337	290.72 + X - 1121.78 + X	2p ² - 2p3s	$^1P - ^1P^o$	2 - 2		777
	44	120.348	289.84 + X - 1120.77 + X	2p ² - 2p3s	$^1P - ^1P^o$	1 - 1	P	846
	44	120.419	289.84 + X - 1120.27 + X	2p ² - 2p3s	$^1P - ^1P^o$	1 - 0	P	846
	500	120.487	290.72 + X - 1120.77 + X	2p ² - 2p3s	$^1P - ^1P^o$	2 - 1		777
	260	121.774	398.20 + V - 1219.39 + V	2p ² - 2p3d	$^1S - ^1P^o$	0 - 1		777
	710	127.663	214.95 - 998.25	2s2p - 2s3s	$^1P^o - ^1S$	1 - 0		777
	150	133.64	398.20 + V - 1146.48 + V	2p ² - 2p3s	$^1S - ^1P^o$	0 - 1		777
	44	134.12						846
	30	141.29						846
		234.6						109
		246.1	1054.34 + X - 1460.64 + X	2s3d - 2p4d	$^1D - ^1D^o$	2 - 2	Q	109
		250.2	1071.9 - 1471.55 + V	2s3d - 2p4d	$^1D - ^1F^o$	2 - 3	Q	109
		258.0						109
		286.5						109
	700	465.221	0.0 - 214.95	2s ² - 2s2p	$g^1S - ^1P^o$	0 - 1		197, 71
	400	558.61	111.71 - 290.72 + X	2s2p - 2p ²	$^1P^o - ^1P$	1 - 2		197, 71
	300	559.947	111.26 + X - 289.84 + X	2s2p - 2p ²	$^1P^o - ^1P$	0 - 1		197, 71
	200	561.378	111.71 - 289.84 + X	2s2p - 2p ²	$^1P^o - ^1P$	1 - 1		197, 71
	400	561.728	112.70 + X - 290.72 + X	2s2p - 2p ²	$^1P^o - ^1P$	2 - 2		197, 71
	200	562.992	111.71 - 289.33 + X	2s2p - 2p ²	$^1P^o - ^1P$	1 - 0		197, 71
	200	564.529	112.70 + X - 289.84 + X	2s2p - 2p ²	$^1P^o - ^1P$	2 - 1		197, 71
		895.18	0.0 - 111.71	2s ² - 2s2p	$g^1S - ^1P^o$	0 - 1		211
	600	1981.974	978.32 + X - 1028.78 + X	2s3s - 2s3p	$^1S - ^1P^o$	1 - 2		71
	300	1992.060	978.32 + X - 1028.52 + X	2s3s - 2s3p	$^1S - ^1P^o$	1 - 1		71
	100	1997.345	978.32 + X - 1028.39 + X	2s3s - 2s3p	$^1S - ^1P^o$	1 - 0		71

Ground State 1s²2s ²S_{1/2} (3 electrons)Ionization Potential 1 928 462 cm⁻¹; 239.10 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁴ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
40	11.905		0.0 - 8399.8	1s ² 2s - 1s2s3p	g ² S - ¹ P°	½ - ¾	Z	559
70	13.654		0.0 - 7323.9	1s ² 2s - 1s2s2p	g ² S - ¹ P°	½ - ¾	Z	559
70	13.710		129.80 - 7423.7	1s ² 2p - 1s2p ²	¹ P° - ¹ D	¾ - ¾	Z	559
20	53.81		0.0 - 1858.4	1s ² 2s - 1s ² 10p	g ² S - ¹ P°	½ - ¾		777
70	54.31		0.0 - 1841.3	1s ² 2s - 1s ² 9p	g ² S - ¹ P°	½ - ¾		777
130	55.01		0.0 - 1817.85	1s ² 2s - 1s ² 8p	g ² S - ¹ P°	½ - ¾		777
320	56.043		0.0 - 1784.34	1s ² 2s - 1s ² 7p	g ² S - ¹ P°	½ - ¾		777
470	57.747		0.0 - 1731.69	1s ² 2s - 1s ² 6p	g ² S - ¹ P°	½ - ¾		777
180	58.407		129.80 - 1841.92	1s ² 2p - 1s ² 9d	¹ P° - ¹ D	¾ - ¾		777
290	59.19		129.80 - 1819.30	1s ² 2p - 1s ² 8d	¹ P° - ¹ D	¾ - ¾		777
300	60.351		128.15 - 1795.10	1s ² 2p - 1s ² 7d	¹ P° - ¹ D	¾ - ¾		777
400	60.413		129.80 - 1785.10	1s ² 2p - 1s ² 7d	¹ P° - ¹ D	¾ - ¾		777
10	60.29		129.80 - 1783.00	1s ² 2p - 1s ² 7s	¹ P° - ¹ S	¾ - ¾		777
630	60.796		0.0 - 1644.85	1s ² 2s - 1s ² 5p	g ² S - ¹ P°	½ - ¾		777
350	62.297		128.15 - 1733.37	1s ² 2p - 1s ² 6d	¹ P° - ¹ D	¾ - ¾		777
500	62.361		129.80 - 1733.37	1s ² 2p - 1s ² 6d	¹ P° - ¹ D	¾ - ¾		777
150	62.58		129.80 - 1727.80	1s ² 2p - 1s ² 6s	¹ P° - ¹ S	¾ - ¾		777
600	65.822		128.15 - 1647.38	1s ² 2p - 1s ² 5d	¹ P° - ¹ D	¾ - ¾		777
700	65.855		129.80 - 1647.38	1s ² 2p - 1s ² 5d	¹ P° - ¹ D	¾ - ¾		777
300	66.259		128.15 - 1637.41	1s ² 2p - 1s ² 5s	¹ P° - ¹ S	¾ - ¾		777
350	66.330		129.80 - 1637.41	1s ² 2p - 1s ² 5s	¹ P° - ¹ S	¾ - ¾		777
770	67.382		0.0 - 1484.08	1s ² 2s - 1s ² 4p	g ² S - ¹ P°	½ - ¾		777
700	73.470		128.15 - 1489.15	1s ² 2p - 1s ² 4d	¹ P° - ¹ D	¾ - ¾		777
750	73.563		129.80 - 1489.18	1s ² 2p - 1s ² 4d	¹ P° - ¹ D	¾ - ¾		777
650	74.541		128.15 - 1469.64	1s ² 2p - 1s ² 4s	¹ P° - ¹ S	¾ - ¾		777
650	74.637		129.80 - 1469.64	1s ² 2p - 1s ² 4s	¹ P° - ¹ S	¾ - ¾		777
850	88.092		0.0 - 1135.34	1s ² 2s - 1s ² 3p	g ² S - ¹ P°	½ - ¾		777
300	85.13		0.0 - 1134.86	1s ² 2s - 1s ² 3p	g ² S - ¹ P°	½ - ¾	P	777, 846
850	98.115		128.15 - 1147.36	1s ² 2p - 1s ² 3d	¹ P° - ¹ D	¾ - ¾		777
870	98.260		129.80 - 1147.51	1s ² 2p - 1s ² 3d	¹ P° - ¹ D	¾ - ¾		777
790	102.911		128.15 - 1099.87	1s ² 2p - 1s ² 3s	¹ P° - ¹ S	¾ - ¾		777
830	103.085		129.80 - 1099.87	1s ² 2p - 1s ² 3s	¹ P° - ¹ S	¾ - ¾		777
	183.5		1099.87 - 1644.85	1s ² 2s - 1s ² 5p	¹ S - ¹ P°	½ - ¾		109
	195.3		1135.34 - 1647.38	1s ² 3p - 1s ² 5d	¹ P° - ¹ D	¾ - ¾		109
	198.98		1134.86 - 1637.41	1s ² 3p - 1s ² 5s	¹ P° - ¹ S	¾ - ¾		847
	199.17		1135.34 - 1637.41	1s ² 3p - 1s ² 5s	¹ P° - ¹ S	¾ - ¾		847
	199.97		1147.36 - 1647.44	1s ² 3d - 1s ² 5f	¹ D - ¹ F°	¾ - ¾		847
	200.03		1147.51 - 1647.44	1s ² 3d - 1s ² 5f	¹ D - ¹ F°	¾ - ¾		847
	201.0		1147.36 - 1644.85	1s ² 3d - 1s ² 5p	¹ D - ¹ P°	¾ - ¾		109
	247.3							109
	260.34		1099.87 - 1483.98	1s ² 3s - 1s ² 4p	¹ S - ¹ P°	½ - ¾		847
	266.7							109
	270.8		1489.15 - 1858.4	1s ² 4d - 1s ² 10p	¹ D - ¹ P°	¾ - ¾	Q	109
	272.2							109
	277.1							109
	282.27		1134.86 - 1489.15	1s ² 3p - 1s ² 4d	¹ P° - ¹ D	¾ - ¾		847
	282.61		1135.34 - 1489.18	1s ² 3p - 1s ² 4d	¹ P° - ¹ D	¾ - ¾		847
	292.38		1147.36 - 1489.43	1s ² 3d - 1s ² 4f	¹ D - ¹ F°	¾ - ¾		847
	292.47		1147.51 - 1489.38	1s ² 3d - 1s ² 4f	¹ D - ¹ F°	¾ - ¾		847
	297.12		1147.51 - 1484.08	1s ² 3d - 1s ² 4p	¹ D - ¹ P°	¾ - ¾	P	109
	298.70		1134.86 - 1469.64	1s ² 3p - 1s ² 4s	¹ P° - ¹ S	¾ - ¾		847
	299.13		1135.34 - 1469.64	1s ² 3p - 1s ² 4s	¹ P° - ¹ S	¾ - ¾		847
1000	770.409		0.0 - 129.80	1s ² 2s - 1s ² 2p	g ² S - ¹ P°	½ - ¾		197, 71
500	780.324		0.0 - 128.15	1s ² 2s - 1s ² 2p	g ² S - ¹ P°	½ - ¾		197, 71

Ne IX

Ne X

NEON IX (Ne^{8+}), $Z = 10$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential $9\,644\,957\text{ cm}^{-1}$; 1195.83 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
50		10.513	0.0 - 9512.	$1s^2 - 1s8p$	$g^1S - ^1P^o$	0 - 1		559
70		10.565	0.0 - 3465.2	$1s^2 - 1s7p$	$g^1S - ^1P^o$	0 - 1		559
120		10.646	0.0 - 9396.2	$1s^2 - 1s6p$	$g^1S - ^1P^o$	0 - 1		559
230		10.765	0.0 - 9290.00	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0 - 1		559
350		11.001	0.0 - 9090.63	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1		559
		11.008	0.0 - 9090.63	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1	P	728
570		11.544	0.0 - 8660.53	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1		559
		11.568	0.0 - 6444.50	$1s^2 - 1s3p$	$g^1S - ^3P^o$	0 - 1	P	728
		12.172	7436.56 - 15652.18	$1s2p - 2p^2$	$^1P^o - ^1S$	1 - 0	P, Z	626
		12.260	7382.68 - 15539.3	$1s2s - 2s2p$	$^1S - ^1P^o$	0 - 1	P, Z	626
50		12.303	7299.94 - 15428.0	$1s2s - 2s2p$	$^3S - ^3P^o$	1 - 2	A, Z	559
		12.309	7299.94 - 15421.1	$1s2s - 2s2p$	$^3S - ^3P^o$	1 - 1	P, Z	626
		12.324	7380.05 - 15494.3	$1s2p - 2p^2$	$^3P^o - ^3P$	2 - 2	P, Z	626
50		12.355	7436.56 - 15530.5	$1s2p - 2p^2$	$^1P^o - ^1D$	1 - 2	A, Z	559
1000		13.447	0.0 - 7436.56	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1		559
150		13.553	0.0 - 7378.50	$1s^2 - 1s2p$	$g^1S - ^3P^o$	0 - 1	P	559
500		13.70	0.0 - 7299.94	$1s^2 - 1s2s$	$g^1S - ^1S$	0 - 1	F, P	375, 276
		46.3	7299.94 - 9460.	$1s2s - 1s7p$	$^3S - ^3P^o$	1 - 2		262
		47.7	7299.94 - 9395.0	$1s2s - 1s6p$	$^3S - ^3P^o$	1 - 2		262
		48.0	7380.05 - 9463.	$1s2p - 1s7d$	$^3P^o - ^3D$	2 - 3		262
		49.5	7380.05 - 9400.	$1s2p - 1s6d$	$^3P^o - ^3D$	2 - 3		262
		50.3	7299.94 - 9286.76	$1s2s - 1s5p$	$^3S - ^3P^o$	1 - 2		262
		52.4	7382.68 - 9290.00	$1s2s - 1s5p$	$^1S - ^1P^o$	0 - 1		262
		56.04	7299.94 - 9084.23	$1s2s - 1s4p$	$^3S - ^3P^o$	1 - 2	P	375
100		58.468	7380.05 - 9090.39	$1s2p - 1s4d$	$^3P^o - ^3D$	2 - 3		559
		74.35	7299.94 - 8644.96	$1s2s - 1s3p$	$^3S - ^3P^o$	1 - 2	P	375
		78.26	7382.68 - 8660.53	$1s2s - 1s3p$	$^1S - ^1P^o$	0 - 1	P	375
100		78.300	7380.05 - 8657.19	$1s2p - 1s3d$	$^3P^o - ^3D$	2 - 3		559
		134.91	8657.19 - 9398.4	$1s3d - 1s6f$	$^3D - ^3F$	3 - 4	P	87
		135.02	8662.4 + K - 9403. + K	$1s3d - 1s6f$	$^1D - ^1F$	2 - 3	P	87
		158.07	8657.19 - 9289.8	$1s3d - 1s5f$	$^3D - ^3F$	3 - 4	P	87
		158.22	8662.4 + K - 9294.4 + K	$1s3d - 1s5f$	$^1D - ^1F$	2 - 3	P	87
		216.81	8623.00 - 9084.23	$1s3s - 1s4p$	$^3S - ^3P^o$	1 - 2	P	375
		224.34	8644.88 - 9090.63	$1s3s - 1s4p$	$^1S - ^1P^o$	0 - 1	P	375, 109
		231.16	8657.19 - 9089.8	$1s3d - 1s4f$	$^3D - ^3F$	3 - 4	P	87
		231.47	8662.4 + K - 9094.4 + K	$1s3d - 1s4f$	$^1D - ^1F$	2 - 3	P	87
		267.9						109
		276.2						109
		283.6						109
		288.8						109
		1248.28	7299.94 - 7380.05	$1s2s - 1s2p$	$^3S - ^3P^o$	1 - 2	P	375
		1855.98	7382.68 - 7436.56	$1s2s - 1s2p$	$^1S - ^1P^o$	0 - 1	P	375

NEON X (Ne^{7+}), $Z = 10$ Ground State $1s \ ^2S_{1/2}$ (1 electron)Ionization Potential $10\,986\,873\text{ cm}^{-1}$; 1362.21 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		9.194	0.0 - 10877.11	$1s - 10p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		9.215	0.0 - 10851.37	$1s - 9p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		9.246	0.0 - 10815.37	$1s - 8p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		9.291	0.0 - 10762.86	$1s - 7p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		9.342	0.0 - 10681.95	$1s - 6p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		9.481	0.0 - 10547.77	$1s - 5p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
10		9.708	0.0 - 10300.75	$1s - 4p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
20		10.238	0.0 - 9767.06	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
10		10.240	0.0 - 9765.97	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
65		12.132	0.0 - 8242.61	$1s - 2p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
35	12.138		0.0 - 8238.93	1s - 2p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
	37.907		8239.10 - 10877.11	2s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	37.958		8242.61 - 10877.12	2p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	38.281		8239.10 - 10851.37	2s - 9p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	38.332		8242.61 - 10851.38	2p - 9d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	38.816		8239.10 - 10815.37	2s - 8p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	38.868		8242.61 - 10815.39	2p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	39.623		8239.10 - 10762.86	2s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	39.678		8242.61 - 10762.89	2p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	40.936		8239.10 - 10681.95	2s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	40.994		8242.61 - 10682.00	2p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	43.315		8239.10 - 10547.77	2s - 5p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	43.379		8242.61 - 10547.85	2p - 5d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	48.565		8239.10 - 10300.75	2s - 4p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	48.584		8242.61 - 10300.90	2p - 4d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	65.446		8239.10 - 9767.06	2s - 3p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	65.582		8242.61 - 9767.42	2p - 3d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	90.002		9766.02 - 10877.11	3s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	90.085		9767.06 - 10877.12	3p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	90.114		9767.42 - 10877.13	3d - 10f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	92.137		9766.02 - 10851.37	3s - 9p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	92.224		9767.06 - 10851.38	3p - 9d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	92.254		9767.42 - 10851.39	3d - 9f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	95.298		9766.02 - 10815.37	3s - 8p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	95.390		9767.06 - 10815.39	3p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	95.422		9767.42 - 10815.40	3d - 8f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	100.318		9766.02 - 10762.86	3s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	100.419		9767.06 - 10762.89	3p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	100.454		9767.42 - 10762.90	3d - 7f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	109.178		9766.02 - 10681.95	3s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	109.297		9767.06 - 10682.00	3p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	109.338		9767.42 - 10682.02	3d - 6f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	127.918		9766.02 - 10547.77	3s - 5p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	128.076		9767.06 - 10547.85	3p - 5d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	128.129		9767.42 - 10547.89	3d - 5f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	173.369		10300.31 - 10877.11	4s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	173.498		10300.75 - 10877.12	4p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	173.542		10300.90 - 10877.13	4d - 10f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	181.470		10300.31 - 10851.37	4s - 9p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	181.610		10300.75 - 10851.38	4p - 9d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	181.658		10300.90 - 10851.39	4d - 9f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	187.012		9766.02 - 10300.75	3s - 4p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	187.323		9767.06 - 10300.90	3p - 4d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	187.423		9767.42 - 10300.98	3d - 4f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	194.153		10300.31 - 10815.37	4s - 8p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	194.312		10300.75 - 10815.39	4p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	194.365		10300.90 - 10815.40	4d - 8f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	216.194		10300.31 - 10762.86	4s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	216.386		10300.75 - 10762.89	4p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	216.450		10300.90 - 10762.90	4d - 7f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	262.024		10300.31 - 10681.95	4s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	262.294		10300.75 - 10682.00	4p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	262.384		10300.90 - 10682.02	4d - 6f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	303.429		10547.55 - 10877.11	5s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	303.627		10547.77 - 10877.12	5p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	303.694		10547.85 - 10877.13	5d - 10f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	329.145		10547.55 - 10851.37	5s - 9p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	329.374		10547.77 - 10851.38	5p - 9d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	329.451		10547.85 - 10851.39	5d - 9f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	373.387		10547.55 - 10815.37	5s - 8p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	373.673		10547.77 - 10815.39	5p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	373.769		10547.85 - 10815.40	5d - 8f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	404.102		10300.31 - 10547.77	4s - 5p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	404.692		10300.75 - 10547.85	4p - 5d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	404.877		10300.90 - 10547.89	4d - 5f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	464.445		10547.55 - 10762.86	5s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	464.869		10547.77 - 10762.89	5p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	465.006		10547.85 - 10762.90	5d - 7f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309
	744.013		10547.55 - 10681.95	5s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	745.008		10547.77 - 10682.00	5p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	745.314		10547.85 - 10682.02	5d - 6f	$^1D - ^1F$	$\frac{5}{2} - \frac{5}{2}$	P	309

Na

SODIUM, Z = 11

Na

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	T_{eff}	$J - J$	Notes	References
	10	70.320						692
	10	73.128						692
	10	78.023						692
	200	87.524						692
	10	93.070						692
	10	95.796						692
	100	96.018						692
	10	96.572						692
	10	104.314						692
	10	104.440						692
	200	106.345						692
	10	110.474						692
	100	110.577						692
	10	112.526						692
	10	112.641						692
	100	113.061						692
	100	120.220						692
	100	120.298						692
	10	120.430						692
	10	122.330						692
	100	127.953						692
	300	128.112						692
	200	138.628						692
	10	217.385						693
	7	365.584						752
	45	376.921						752
	12	383.399						752
	7	389.362						752
	2	394.904						752
	10	425.245						693
	2	479.385						752
	100	515.952						693
	5	516.715						752
	10	534.714						752
	30	544.509						752
	5	573.639						752
	7	617.415						752
	10	619.876						752
	5	623.704						752
	5	638.832						752
	7	642.524						752
	30	644.400						752
	5	659.378						752
	7	681.896						752
	20	689.605						752
	12	691.799						752
	7	706.677						752
	7	719.891						752
	50	745.157						752
	60	757.331						752
	45	757.892						752
	60	759.225						752
	20	765.788						752
	20	766.429						752
	20	776.668						752
	40	778.413						752
	12	780.422						752
	12	781.171						752
	20	781.752						752
	30	782.900						752
	40	785.088						752
	30	786.009						752
	35	786.477						752
	25	788.369						752
	20	789.177						752
	70	790.546						752
	20	796.301						752
	15	798.013						752
	20	802.197						752
	15	809.413						752

Na

Na

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	815.631						752
	20	830.105						752
	30	831.528						752
	12	844.341						752
	30	868.728						752
	12	871.473						752
	25	893.899						752
	20	895.054						752
	20	899.342						752
	30	900.904						752
	25	902.763						752
	25	911.067						752
	20	911.815						752
	20	915.217						752
	25	922.829						752
	20	948.887						752
	25	952.570						752
	20	954.299						752
	20	956.676						752
	20	958.020						752
	30	958.450						752
	20	960.686						752
	25	966.112						752
	30	969.865						752
	50	978.207						752
	45	990.613						752
	40	993.054						752
	30	1006.185						752
	30	1009.428						752
	45	1034.162						752
	35	1059.066						752
	35	1067.165						752
	40	1068.016						752
	45	1080.885						752
	30	1081.079						752
	35	1081.836						752
	20	1083.594						752
	40	1085.003						752
	20	1087.238						752
	15	1087.701						752
	25	1087.895						752
	50	1088.699						752
	25	1093.447						752
	50	1125.502						752
	160	1133.390						752
	60	1137.020						752
	60	1143.185						752
	60	1146.157						752
	60	1147.967						752
	40	1157.291						752
	60	1165.548						752
	35	1170.046						752
	50	1172.698						752
	40	1172.969						752
	160	1176.794						752
	60	1177.238						752
	60	1177.426						752
	130	1178.256						752
	60	1178.777						752
	60	1179.212						752
	40	1179.623						752
	60	1180.153						752
	70	1183.109						752
	30	1183.498						752
	70	1184.421						752
	25	1198.237						752
	40	1198.767						752
	35	1199.941						752
	30	1200.079						752
	30	1213.998						752
	45	1217.472						752
	15	1242.048						752
	20	1242.650						752
	30	1243.427						752
	20	1244.5						752

Na

Na

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	30	1254.813						752
	25	1255.354						752
	12	1264.891						752
	25	1268.947						752
	15	1282.348						752
	30	1285.384						752
	15	1294.696						752
	30	1295.164						752
	60	1299.895						752
	45	1310.078						752
	12	1316.530						752
	30	1329.354						752
	25	1336.112						752
	35	1340.689						752
	35	1347.210						752
	15	1349.602						752
	25	1349.876						752
	15	1361.217						752
	15	1373.451						752
	12	1380.623						752
	12	1381.633						752
	10	1385.296						752
	12	1385.465						752
	10	1386.076						752
	15	1392.072						752
	10	1395.193						752
	15	1406.850						752
	25	1407.308						752
	10	1415.762						752
	25	1420.909						752
	7	1428.889						752
	7	1430.166						752
	10	1435.054						752
	15	1454.976						752
	15	1459.748						752
	10	1460.775						752
	7	1472.642						752
	12	1473.826						752
	12	1474.687						752
	15	1475.411						752
	15	1475.530						752
	10	1476.301						752
	10	1476.673						752
	20	1485.443						752
	25	1486.300						752
	50	1489.261						752
	20	1492.371						752
	20	1494.943						752
	25	1500.006						752
	35	1501.427						752
	30	1502.661						752
	35	1503.469						752
	35	1507.869						752
	30	1508.981						752
	35	1510.518						752
	40	1511.040						752
	50	1513.487						752
	35	1513.953						752
		1514.21						752
	30	1514.241						752
	30	1514.632						752
	25	1516.219						752
	30	1517.604						752
	30	1518.042						752
	25	1518.664						752
	40	1519.005						752
	30	1523.388						752
	15	1526.021						752
	20	1526.900						752
	20	1528.532						752
	15	1529.208						752
	20	1531.497						752
	10	1533.176						752
	7	1540.688						752
	12	1543.665						752

Na

Na I

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	15	1550.095						752
	7	1557.557						752
	12	1565.838						752
	12	1566.262						752
	7	1571.205						752
	10	1575.039						752
	15	1579.180						752
	12	1579.408						752
	20	1579.993						752
	30	1587.087						752
	5	1587.807						752
	2	1594.752						752
	25	1604.888						752
	45	1607.514						752
	10	1617.896						752
	1	1630.579						752
	15	1634.057						752
	20	1635.194						752
	10	1635.948						752
	10	1637.293						752
	12	1639.0						752
	12	1646.018						752
	5	1651.601						752
	20	1669.817						752
	25	1699.314						752
	30	1769.878						752
	12	1773.550						752
	30	1804.623						752
	20	1806.704						752
	20	1862.832						752
	25	1863.090						752
	20	1865.433						752
	25	1880.040						752
	35	1881.090						752
	35	1946.206						752
	7	1948.531						752
	25	1968.279						752

SODIUM I (Na^+), $Z = 11$ Ground State $1s^2 2s^2 2p^6 3s \ ^2S_{1/2}$ (11 electrons)Ionization Potential 41 449.44 eV ; 5.139 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		298.33	0.0 - 335.20	$2p^6 3s - 2p^6 (^2P_{1/2}) 3p 5p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		298.83	0.0 - 334.64	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p 6p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		300.90	0.0 - 332.34	$2p^6 3s - 2p^6 (^2P_{1/2}) 3p 5p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		301.67	0.0 - 331.48	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p 7p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		302.97	0.0 - 330.06	$2p^6 3s - 2p^6 (^2P_{1/2}) 3p 4p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		304.89	0.0 - 327.99	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p 4p$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		319.71	0.0 - 312.79	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p^2$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		320.32	0.0 - 312.19	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p^2$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		321.57	0.0 - 310.98	$2p^6 3s - 2p^6 (^2P_{3/2}) 3p^2$	$g^4 S - ^4 S^o$	$1/2 - 3/2$	A, Z	135
		323.25	0.0 - 309.36	$2p^6 3s - 2p^6 3s (^1P^o) 12d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		323.40	0.0 - 309.21	$2p^6 3s - 2p^6 3s (^1P^o) 11d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		323.59	0.0 - 309.03	$2p^6 3s - 2p^6 3s (^1P^o) 10d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	6	323.88	0.0 - 308.76	$2p^6 3s - 2p^6 3s (^1P^o) 9d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	10	324.28	0.0 - 308.38	$2p^6 3s - 2p^6 3s (^1P^o) 8d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	14	324.51	0.0 - 308.16	$2p^6 3s - 2p^6 3s (^1P^o) 9s$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	135
		324.90	0.0 - 307.79	$2p^6 3s - 2p^6 3s (^1P^o) 7d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	11	325.19	0.0 - 307.51	$2p^6 3s - 2p^6 3s (^1P^o) 8s$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	25	325.86	0.0 - 306.88	$2p^6 3s - 2p^6 3s (^1P^o) 6d$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
	17	326.32	0.0 - 306.45	$2p^6 3s - 2p^6 3s (^1P^o) 7s$	$g^4 S - ^4 P^o$	$1/2 - 3/2$	A, Z	513
		327.14	0.0 - 305.68	$2p^6 3s - 2p^6 3s (^1P^o) 9s$	$g^4 S - ^4 P^o$	$1/2 - 1/2$	A, Z	135

Na I

Na II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		327.46	0.0 - 305.38	$2p^4 3s - 2p^4 3s(^1P^o) 5d$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		327.68	0.0 - 305.17	$2p^4 3s - 2p^4 3s(^3P^o_1) 9s$	$g^4S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		327.97	0.0 - 304.91	$2p^4 3s - 2p^4 3s(^1P^o) 6s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
		328.14	0.0 - 304.75	$2p^4 3s - 2p^4 3s(^1P^o) 6s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		328.40	0.0 - 304.50	$2p^4 3s - 2p^4 3s(^3P^o_1) 8s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
		328.89	0.0 - 304.05	$2p^4 3s - 2p^4 3s(^3P^o_1) 7s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
		329.28	0.0 - 303.70	$2p^4 3s - 2p^4 3s(^3P^o_1) 8s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		329.58	0.0 - 303.42	$2p^4 3s - 2p^4 3s(^3P^o_1) 7s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		329.74	0.0 - 303.27	$2p^4 3s - 2p^4 3s(^3P^o_1) 7s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		330.21	0.0 - 302.84	$2p^4 3s - 2p^4 3s(^3P^o_1) 5d$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		330.56	0.0 - 302.43	$2p^4 3s - 2p^4 3s(^1P^o) 4d$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		330.95	0.0 - 302.16	$2p^4 3s - 2p^4 3s(^3P^o_1) 6s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		331.16	0.0 - 301.97	$2p^4 3s - 2p^4 3s(^3P^o_1) 6s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
		332.45	0.0 - 300.79	$2p^4 3s - 2p^4 3s(^3P^o_1) 6s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		332.67	0.0 - 300.60	$2p^4 3s - 2p^4 3s(^1P^o) 5s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
		333.07	0.0 - 300.24	$2p^4 3s - 2p^4 3s(^1P^o) 5s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
	16	335.73	0.0 - 297.86	$2p^4 3s - 2p^4 3s(^3P^o_1) 5s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	513
	32	335.96	0.0 - 297.65	$2p^4 3s - 2p^4 3s(^3P^o_1) 5s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	513
		338.38	0.0 - 295.53	$2p^4 3s - 2p^4 3s(^1P^o) 3d$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
		338.62	0.0 - 295.32	$2p^4 3s - 2p^4 3s(^1P^o) 3d$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
	20	342.35	0.0 - 292.10	$2p^4 3s - 2p^4 3s(^1P^o) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	513
	18	343.16	0.0 - 291.41	$2p^4 3s - 2p^4 3s(^1P^o) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	513
	29	343.88	0.0 - 290.80	$2p^4 3s - 2p^4 3s(^3P^o_1) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	513
		344.27	39.57 - 330.06	$2p^4 3s - 2p^4 3s(^3P^o_{1/2}) 3p 4p$	$^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	135
	55	344.56	0.0 - 290.22	$2p^4 3s - 2p^4 3s(^3P^o_1) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	513
		346.42	0.0 - 288.67	$2p^4 3s - 2p^4 3s(^3P^o_1) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	135
	26	346.68	0.0 - 288.45	$2p^4 3s - 2p^4 3s(^3P^o_1) 4s$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	513
	80	400.80	0.0 - 249.50	$2p^4 3s - 2p^4 3s^2$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	513
	100	402.97	0.0 - 248.16	$2p^4 3s - 2p^4 3s^2$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	513

SODIUM II (Na^{+}), $Z = 11$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential 381 395 cm^{-1} ; 47.287 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		156.88	0.0 - 637.43	$2s^2 2p^6 - 2s^2 2p^6(^1S) 8p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		157.55	0.0 - 634.72	$2s^2 2p^6 - 2s^2 2p^6(^1S) 7p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		158.67	0.0 - 630.24	$2s^2 2p^6 - 2s^2 2p^6(^1S) 6p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		160.66	0.0 - 622.43	$2s^2 2p^6 - 2s^2 2p^6(^1S) 5p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		164.92	0.0 - 606.36	$2s^2 2p^6 - 2s^2 2p^6(^1S) 4p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		177.24	0.0 - 564.21	$2s^2 2p^6 - 2s^2 2p^6(^1S) 3p$	$g^1S - ^1P^o$	0 - 1	A, Z	679
		263.06	0.0 - 330.14	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 13d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		263.39	0.0 - 379.66	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 12d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		263.81	0.0 - 379.06	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 11d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		264.34	0.0 - 378.30	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 10d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		264.76	0.0 - 377.70	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 11d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		265.08	0.0 - 377.24	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 9d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		265.30	0.0 - 376.93	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 10d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		266.06	0.0 - 375.86	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 8d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		267.06	0.0 - 374.45	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 8d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		267.61	0.0 - 373.68	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 7d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1	A	679
		268.88	0.0 - 371.91	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 7d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1	A	679
	10	269.993	0.0 - 370.38	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 7s$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		152
	7	270.947	0.0 - 369.07	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 7s$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	5	271.373	0.0 - 368.49	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 6d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	12	273.940	0.0 - 365.04	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 6s$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		152
	12	274.023	0.0 - 364.93	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 5d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		152
	20	274.931	0.0 - 363.73	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 6s$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	20	275.003	0.0 - 363.63	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 5d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	5	275.218	0.0 - 363.35	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 5d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	25	281.691	0.0 - 355.00	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 5s$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		152
	25	281.788	0.0 - 354.88	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{1/2}) 4d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		152
	35	282.709	0.0 - 353.72	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 5s$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	35	282.803	0.0 - 353.60	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152
	15	283.258	0.0 - 353.03	$2s^2 2p^6 - 2s^2 2p^6(^3P^o_{3/2}) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		152

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	160	300.153	0.0 - 333.16	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{1/2}) 3d$	$g^1 S - \frac{1}{2} \frac{3}{2}$	0 - 1		152
	160	300.202	0.0 - 333.11	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{1/2}) 4s$	$g^1 S - \frac{1}{2} \frac{1}{2}$	0 - 1		152
	90	301.318	0.0 - 331.87	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{3/2}) 4s$	$g^1 S - \frac{3}{2} \frac{3}{2}$	0 - 1		152
3	100	301.436	0.0 - 331.75	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{3/2}) 3d$	$g^1 S - \frac{3}{2} \frac{3}{2}$	0 - 1		152
	60	302.446	0.0 - 330.64	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{3/2}) 3d$	$g^1 S - \frac{3}{2} \frac{1}{2}$	0 - 1		152
2	300	372.075	0.0 - 268.76	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{1/2}) 3s$	$g^1 S - \frac{1}{2} \frac{1}{2}$	0 - 1		752
	40	375.340	363.82 - 630.24	$2s^2 2p^4 (^4P_{3/2}) 5f - 2s^2 2p^4 (^1P) 6p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1	Q, Z	752
	45	375.730	340.24 - 606.36	$2s^2 2p^4 (^4P_{3/2}) 4p - 2s^2 2p^4 (^1P) 4p$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1	Q, Z	752
1	350	376.379	0.0 - 265.69	$2s^2 2p^4 - 2s^2 2p^4 (^4P_{3/2}) 3s$	$g^1 S - \frac{3}{2} \frac{3}{2}$	0 - 1		75?
	80	1235.40						758
	30	1276.597	264.92 - 343.26	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 2		152
	15	1281.308	264.92 - 342.97	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1		152
	12	1285.117	264.92 - 342.74	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 1		152
	25	1285.686	265.69 - 343.47	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 0		152
	60	1289.213	265.69 - 343.26	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	1 - 2		152
	60	1293.974	265.69 - 342.97	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	12	1297.856	265.69 - 342.74	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	1 - 1		152
	15	1298.142	264.92 - 341.96	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	2 - 2		152
	30	1299.018	264.92 - 341.91	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	2 - 1		152
	15	1301.782	293.22 - 370.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	1 - 1	Q	152
	15	1303.957	266.28 - 342.97	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	0 - 1		152
	15	1304.546	265.69 - 342.34	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	1 - 0		152
	20	1306.618	264.92 - 341.46	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	2 - 2		152
	10	1307.936	266.28 - 342.74	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	0 - 1		152
	10	1311.158	265.69 - 341.96	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	1 - 2		152
	30	1312.026	265.69 - 341.91	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	1 - 1		152
	20	1312.587	264.92 - 341.11	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	2 - 3		152
	30	1319.815	265.69 - 341.46	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	1 - 2		752
	12	1322.295	266.28 - 341.91	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	0 - 1		152
	50	1327.742	264.92 - 340.24	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	2 - 1		152
	12	1328.497	293.22 - 368.49	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6d$	$\frac{3}{2} \frac{1}{2} - \frac{3}{2} \frac{1}{2}$	1 - 1		152
	35	1338.575	268.76 - 343.47	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 0		152
	35	1341.369	265.69 - 340.24	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	1 - 1		152
	20	1342.401	268.76 - 343.26	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	1 - 2		152
	45	1347.543	268.76 - 342.97	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	12	1351.799	268.76 - 342.74	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{1/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	1 - 1		152
	35	1352.118	266.28 - 340.24	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{1}{2}$	0 - 1		152
	20	1359.055	268.76 - 342.34	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	1 - 0		152
	15	1366.242	268.76 - 341.96	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	1 - 2		152
	90	1374.698	297.64 - 370.38	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1		152
	15	1375.618	268.76 - 341.46	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	1 - 2		152
	30	1381.236	297.64 - 370.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 1		152
	10	1384.794	298.17 - 370.38	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	10	1392.316	293.22 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6s$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	15	1392.940	293.22 - 365.01	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6s$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 0		152
	12	1398.143	293.22 - 364.74	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 5d$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	1 - 2		152
	30	1399.070	268.76 - 340.24	$2s^2 2p^4 (^4P_{1/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 4p$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{1}{2}$	1 - 1		152
	12	1399.860	297.64 - 369.07	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	2 - 1		152
	90	1404.675	299.19 - 370.38	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1	Q	152
	12	1410.374	298.17 - 369.07	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	1 - 1		152
	7	1411.536	299.19 - 370.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 1		152
	20	1418.579	299.89 - 370.38	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{1}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	15	1419.311	300.10 - 370.56	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6g$	$\frac{1}{2} \frac{3}{2} - \frac{1}{2} \frac{7}{2}$	2 - 3	Q	752
	12	1420.216	293.22 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	1 - 1		152
	7	1421.889	298.17 - 368.49	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6d$	$\frac{3}{2} \frac{1}{2} - \frac{3}{2} \frac{1}{2}$	1 - 1		152
	12	1422.996	300.10 - 370.38	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{1}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1		152
	7	1425.499	299.89 - 370.04	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{1}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	1 - 1		152
	7	1426.048						152
	10	1429.963	300.10 - 370.04	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{1}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 1		152
	7	1431.015	299.19 - 369.07	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 7s$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{3}{2}$	2 - 1		152
	15	1431.219	300.51 - 370.38	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 7s$	$\frac{1}{2} \frac{1}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1		152
	10	1435.776	300.39 - 370.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6d$	$\frac{3}{2} \frac{1}{2} - \frac{1}{2} \frac{3}{2}$	0 - 1		152
	30	1442.907	299.19 - 368.49	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6d$	$\frac{3}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	2 - 1		152
	12	1455.969	300.39 - 369.07	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 7s$	$\frac{3}{2} \frac{1}{2} - \frac{3}{2} \frac{3}{2}$	0 - 1		152
	10	1462.160	300.10 - 368.49	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6d$	$\frac{1}{2} \frac{3}{2} - \frac{3}{2} \frac{1}{2}$	2 - 1		152
	10	1470.916	300.51 - 368.49	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6d$	$\frac{1}{2} \frac{1}{2} - \frac{3}{2} \frac{1}{2}$	1 - 1	Q	152
	15	1481.578	297.25 - 364.74	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 5d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	3 - 2		152
	15	1483.507	297.64 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	2 - 1		152
	15	1484.677						152
	25	1485.987	297.64 - 364.93	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 5d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	2 - 1		152
	20	1494.729						152
	45	1495.212	298.17 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 1	Q	152
	40	1496.011	298.17 - 365.01	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 6s$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{1}{2}$	1 - 0		152
	45	1497.731	298.17 - 364.93	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 5d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	1 - 1	Q	152
	25	1501.995	298.17 - 364.74	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 5d$	$\frac{3}{2} \frac{3}{2} - \frac{1}{2} \frac{3}{2}$	1 - 2		152

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
80	1506.407		297.25 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 1	F	152
60	1506.914		297.25 - 363.61	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 2		152
35	1510.701		297.25 - 363.44	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 2		152
70	1513.102		297.64 - 363.73	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1	Q	152
30	1515.229		297.64 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1		152
30	1515.709		297.64 - 363.61	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
35	1518.505		299.19 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1		152
60	1519.629		297.64 - 363.44	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
30	1525.311		298.17 - 363.73	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1		152
15	1527.555							152
20	1527.985		298.17 - 363.61	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		152
50	1528.742							152
50	1530.307							152
10	1534.163		298.17 - 363.35	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 1		152
25	1534.538		298.17 - 363.33	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 0		152
12	1534.737		299.89 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 1		152
12	1539.895		300.10 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 1		152
12	1546.722							152
15	1547.066		300.10 - 364.74	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 2		152
20	1549.352		300.39 - 364.93	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	0 - 1		152
20	1549.507		300.51 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 1		152
20	1550.348		300.51 - 365.01	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 0		152
20	1551.793		299.19 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1		152
20	1551.934							152
20	1552.203		300.51 - 364.93	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 1		152
15	1556.370		299.19 - 363.44	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
12	1556.753		300.51 - 364.74	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 2		152
7	1558.678		299.19 - 363.35	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	2 - 1		152
10	1568.673		299.89 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1	Q	152
20	1569.264		299.89 - 363.61	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		152
10	1573.430		299.89 - 363.44	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		152
12	1574.110		300.10 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1		152
7	1574.664		300.10 - 363.61	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
15	1575.749		299.89 - 363.35	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 1		152
12	1576.118		299.89 - 363.33	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 0		152
12	1578.807		300.39 - 363.73	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	0 - 1		152
25	1581.108							152
20	1581.835		300.51 - 363.73	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1		152
20	1584.173		300.51 - 363.63	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1		152
7	1588.983		300.51 - 363.44	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		152
15	1591.321		300.51 - 363.35	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 1		152
7	1591.712		300.51 - 363.33	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 0		152
12	1621.940		293.22 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 1	Q	152
12	1622.347		293.22 - 354.86	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 0		152
20	1626.372		293.22 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 2		152
20	1652.921		293.22 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1		152
60	1657.918		293.22 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		752
35	1668.569		293.22 - 353.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 2		152
35	1671.886		293.22 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 1		152
15	1673.649		293.22 - 352.97	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{1}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	1 - 0		152
15	1743.309		297.64 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 1		152
0	1746.996		297.64 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 1		152
12	1752.185		297.64 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 2		152
10	1756.817							152
30	1759.572		298.17 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 1		152
7	1763.325		298.17 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 1		152
30	1763.841		298.17 - 354.86	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	1 - 0		152
7	1768.603		298.17 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	1 - 2		152
90	1776.571		297.25 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 2		152
40	1778.243		297.25 - 353.48	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 3		152
0	1778.905		297.25 - 353.46	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	3 - 2		152
0	1779.906		308.86 - 365.04	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 6s$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	0 - 1		152
60	1783.043		297.64 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 1		152
15	1783.475		308.86 - 364.93	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5d$	$\frac{1}{2} [\frac{1}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	0 - 1		152
12	1785.989		297.25 - 353.24	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	3 - 3		152
80	1787.189		297.25 - 353.20	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	3 - 4		152
45	1788.846		297.64 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
2	1790.562		297.64 - 353.48	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 3		152
35	1791.224		297.64 - 353.46	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	2 - 2		152
30	1791.862		299.19 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{1}{2}]^*$	2 - 1		152
1	1795.772		299.19 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 1		152
80	1798.410		297.64 - 353.24	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{1}{2}]^*$	2 - 3		152
25	1800.048		298.17 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2} [\frac{3}{2}] - \frac{3}{2} [\frac{3}{2}]^*$	1 - 1		152
45	1801.256		299.19 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2} [\frac{3}{2}] - \frac{1}{2} [\frac{3}{2}]^*$	2 - 2		

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	12	1805.998	298.17 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2	Q	152
	10	1806.061	299.19 - 354.56	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 3		152
	90	1807.092	299.19 - 354.53	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 2		152
	60	1808.375	298.17 - 353.46	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2		152
	25	1814.474	299.89 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 1		152
	5	1818.473	299.89 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 1		152
	7	1818.628	298.17 - 353.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2		152
	20	1819.024	299.89 - 354.86	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 0		152
	50	1821.695	300.10 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 1		152
	5	1822.568	298.17 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 1		152
	0	1824.098	299.89 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 2		152
	7	1825.730	300.10 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 1		152
	20	1830.124	299.89 - 354.53	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 2		152
	12	1831.172	300.39 - 355.00	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	0 - 1		152
	1	1831.402	300.10 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 2		152
	45	1833.873	299.19 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 1		152
	80	1835.217	300.39 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	0 - 1		152
	2	1836.367	300.10 - 354.56	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 3		152
	15	1837.522	300.10 - 354.53	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	2 - 2		152
	45	1837.890	299.19 - 353.60	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 1		152
	20	1839.270	300.51 - 354.88	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 1		152
	25	1839.835	300.51 - 354.86	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 0		152
	20	1840.032	299.19 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 2		152
	60	1841.822	299.19 - 353.48	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 3		152
	70	1845.016	300.51 - 354.71	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 2		152
	45	1850.150	299.19 - 353.24	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 3		752
	70	1851.194	300.51 - 354.53	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 2		152
	80	1853.166	299.19 - 353.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 2		152
	25	1857.265	299.19 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 1		152
	40	1857.576	299.89 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 1		152
	15	1863.898	299.89 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2		152
	35	1865.139	300.10 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 1		152
	45	1866.452	299.89 - 353.46	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{1}{2}[\frac{3}{2}]$	1 - 2		152
	40	1871.517	300.10 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 2		152
	45	1873.369	300.10 - 353.48	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 3		152
	15	1874.098	300.10 - 353.46	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 2		152
	60	1875.075	300.39 - 353.72	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	0 - 1		152
	20	1877.365	299.89 - 353.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2		152
	30	1879.240	300.39 - 353.60	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	0 - 1		152
	160	1881.912	300.10 - 353.24	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 3		752
	20	1883.460	300.51 - 353.60	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 1		152
	20	1883.804	299.89 - 352.97	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 0		152
	50	1885.091	300.10 - 353.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 2		152
	45	1885.742	300.51 - 353.54	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 5s$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 2		152
	30	1889.317	300.10 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	2 - 1		152
	30	1899.523	300.39 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{3}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	0 - 1		152
	15	1903.831	300.51 - 353.03	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 1		152
	15	1906.112	300.51 - 352.97	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 4d$	$\frac{1}{2}[\frac{3}{2}] - \frac{3}{2}[\frac{3}{2}]$	1 - 0		152

SODIUM III (Na^{2+}), $Z = 11$ Ground State $1s^2 2s^2 2p^4 \ ^4P_{3/2}$ (9 electrons)Ionization Potential $577\,650 \text{ cm}^{-1}$; 71.620 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	30	181.023	0.0 - 552.42	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5s$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	30	181.476	1.37 - 552.42	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5s$	$g^4P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	10	182.511	0.0 - 547.91	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 4s$	$g^4P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		427
	10	183.515	0.0 - 544.91	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		427
	30	183.556	0.0 - 544.79	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	40	183.571	0.0 - 544.75	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	30	183.729	0.0 - 544.28	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		427
	40	183.747	0.0 - 544.23	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		427
	50	183.946	0.0 - 543.64	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		427
	40	184.018	1.37 - 544.79	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^4P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	40	184.193	1.37 - 544.28	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	40	184.206	1.37 - 544.23	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	40	184.409	1.37 - 543.64	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		427
	30	188.858	0.0 - 529.50	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	40	188.873	0.0 - 529.46	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	50	189.348	1.37 - 529.50	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	50	191.000	0.0 - 523.56	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	40	191.307	0.0 - 522.72	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	30	191.511	1.37 - 523.56	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	20	191.808	1.37 - 522.72	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	50	193.804	0.0 - 515.98	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	50	194.037	0.0 - 515.37	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	40	194.121	0.0 - 515.14	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	50	194.168	0.0 - 515.02	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	50	194.292	0.0 - 514.69	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	40	194.322	1.37 - 515.98	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	50	194.461	0.0 - 514.24	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	20	194.530	0.0 - 514.06	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	50	194.550	0.0 - 514.01	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	50	194.639	1.37 - 515.14	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	60	194.684	1.37 - 515.02	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	50	194.979	1.37 - 514.24	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3F$	$\frac{1}{2} - \frac{3}{2}$		427
	30	195.044	1.37 - 514.06	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	60	195.532	0.0 - 511.43	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4s$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	50	196.054	1.37 - 511.43	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4s$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	20	201.845	0.0 - 495.43	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	60	202.149	0.0 - 494.69	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	60	202.186	0.0 - 494.60	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	80	202.494	0.0 - 493.85	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		427
	50	202.709	1.37 - 494.69	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	70	202.721	0.0 - 493.29	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	80	202.764	0.0 - 493.19	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	80	203.055	1.37 - 493.85	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		427
	80	203.284	1.37 - 493.29	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	80	203.326	1.37 - 493.19	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	60	206.871	0.0 - 483.39	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	100	207.297	0.0 - 482.40	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	60	207.460	1.37 - 483.39	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	5	207.746	0.0 - 481.36	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	70	207.885	1.37 - 482.40	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	50	207.996	0.0 - 480.78	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	5	208.338	1.37 - 481.36	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	5	208.343	0.0 - 479.98	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	20	208.591	1.37 - 480.78	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	70	214.233	0.0 - 466.79	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	80	214.588	0.0 - 466.01	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	60	214.860	1.37 - 466.79	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	80	214.874	0.0 - 465.40	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	80	215.047	0.0 - 465.02	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	80	215.082	0.0 - 464.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	30	215.218	1.37 - 466.01	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	150	215.228	0.0 - 464.63	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	20	215.324	0.0 - 464.41	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	100	215.340	0.0 - 464.39	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	80	215.481	0.0 - 464.08	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	70	215.659	0.0 - 463.69	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		427
	70	215.683	1.37 - 465.02	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	120	215.860	1.37 - 464.63	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	10	215.964	1.37 - 464.41	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	120	216.118	1.37 - 464.08	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{1}{2} - \frac{3}{2}$		427
	5	217.043	0.0 - 460.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		427
	30	217.114	0.0 - 460.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	20	217.198	0.0 - 460.41	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	20	217.686	1.37 - 460.75	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		427
	5	217.757	1.37 - 460.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	150	229.869	0.0 - 435.03	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3 P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		427
	120	230.593	1.37 - 435.03	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		427
	500	250.516	0.0 - 399.17	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3s$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		427
	300	251.372	1.37 - 399.18	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3s$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		427
	250	266.896	0.0 - 374.68	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	700	267.645	0.0 - 373.63	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427
	500	267.874	1.37 - 374.68	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		427
	500	268.626	1.37 - 373.63	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		427
	200	272.076	0.0 - 367.55	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		427
	200	272.449	0.0 - 367.04	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		427

Multiplet	Rel. Int.	λ_{vac} (in Å)	ν levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
30	273.089		1.37 - 367.55	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		427
20	275.103		0.0 - 366.15	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		427
30	273.467		1.37 - 367.04	$2s^2 2p^4 - 2s^2 2p^4(^3P) 3s$	$g^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		427
	284.94		264.46 - 615.4 + X	$2s^2 2p^4 - 2s^2 2p^4 3s$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	375
1000	378.136		0.0 - 264.46	$2s^2 2p^4 - 2s^2 2p^4$	$g^4P^o - ^4S$	$\frac{3}{2} - \frac{1}{2}$		427
700	380.100		1.37 - 264.46	$2s^2 2p^4 - 2s^2 2p^4$	$g^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$		427
100	1100.49							758
10	1122.30							758
40	1153.04							758
160	1180.40							758
100	1221.12							758
80	1223.44							758
80	1224.73							758
40	1265.66							758
150	1325.70		418.42 - 493.85	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^1D) 3d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{1}{2}$		516
350	1336.76		406.55 - 481.36	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		516
350	1337.358		418.42 - 493.19	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^1D) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
100	1337.995		418.56 - 493.29	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^1D) 3d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
400	1340.674		406.19 - 480.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
450	1342.390		406.87 - 481.36	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
500	1342.729		373.63 - 448.11	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^1D) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{1}{2}$		516
650	1352.9		373.63 - 447.55	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^1D) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{1}{2}$		516
550	1355.281		406.19 - 479.98	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
600	1361.896		374.68 - 448.11	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^1D) 3p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		516
550	1372.340		374.68 - 447.55	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^1D) 3p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		516
450	1418.559		440.94 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4F^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		516
500	1420.885		441.06 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4F^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		516
10	1427.27							758
240	1436.21							758
350	1440.775		411.95 - 481.36	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		516
500	1444.194		411.54 - 480.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
350	1445.731		412.19 - 481.36	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
100	1447.85		478.84 - 547.91	$2s^2 2p^4(^1S) 3p - 2s^2 2p^4(^1S) 4s$	$^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$		516
150	1448.73		478.88 - 547.91	$2s^2 2p^4(^1S) 3p - 2s^2 2p^4(^1S) 4s$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		516
600	1449.311		410.98 - 479.98	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
400	1452.911		445.87 - 514.7	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^3P) 4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		516
100	1457.939		412.19 - 480.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		516
350	1461.153		411.54 - 479.98	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
450	1465.926		415.17 - 483.39	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		516
550	1468.00		414.28 - 482.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
250	1481.438		415.17 - 482.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
250	1523.548		445.80 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		516
350	1525.301		445.87 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		516
300	1526.883		416.91 - 482.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4S^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		516
20	1529.67							758
350	1539.145		418.42 - 483.39	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		516
20	1541.19							758
450	1542.46		418.56 - 483.39	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
160	1548.68							758
550	1562.870		418.47 - 482.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
150	1563.61		417.40 - 481.36	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		516
500	1565.294		447.55 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		516
450	1577.90		417.40 - 480.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
400	1579.117		448.11 - 511.43	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 4s$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		516
500	1598.177		417.40 - 479.98	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 4s$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
100	1602.91							758
80	1610.97							758
160	1613.77							758
240	1624.07							758
80	1633.64							758
20	1650.91							758
40	1658.71							758
60	1669.52							758
20	1678.74							758
550	1688.942		406.19 - 465.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		516
20	1691.70							758
500	1699.293		406.55 - 465.40	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		516
400	1701.970		406.19 - 464.95	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
500	1711.124		406.19 - 464.63	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
450	1712.482		406.55 - 464.95	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
10	1718.48							758
10	1719.60		406.87 - 465.02	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$	Q	758
550	1728.273		406.55 - 464.41	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		516
50	1728.923		406.55 - 464.39	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		516
0	1730.71		406.19 - 463.97	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		516

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
500	1731.113		406.87 - 464.63	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		516
400	1737.711		406.87 - 464.41	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4P$	$\frac{1}{2} - \frac{1}{2}$		516
20	1741.33							758
10	1746.39							758
20	1752.06							758
60	1752.65		406.19 - 463.25	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4F$	$\frac{1}{2} - \frac{1}{2}$	Q	758
10	1754.97							758
200	1755.475		460.41 - 517.37	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_0) 4f$	$^4D - [03]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1761.018		460.59 - 517.38	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_0) 4f$	$^4D - [03]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1761.428		460.26 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
10	1762.13							758
160	1766.700		460.26 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
10	1767.21							758
40	1771.35		460.41 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
10	1775.32							758
140	1778.402		460.59 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [12]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
240	1782.92							758
180	1783.460		460.75 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [12]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1801.267		460.26 - 515.77	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
20	1805.02		460.59 - 515.99	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [21]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
140	1805.764		460.26 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [23]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
140	1806.229		460.41 - 515.77	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
140	1806.684		460.26 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [24]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
300	1807.070		460.26 - 515.60	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [24]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
40	1810.071		460.75 - 515.99	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [21]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
200	1810.767		460.41 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [23]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
220	1811.671		460.41 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [24]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
160	1812.555		460.59 - 515.76	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1814.35							758
200	1816.812		460.59 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [23]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
160	1817.617		460.75 - 515.76	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4D - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
10	1824.52							758
200	1825.44							758
140	1832.39		492.31 - 546.89	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4G - [24]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
500	1835.223		440.94 - 495.43	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D) 3d$	$^4F^\circ - ^4F$	$\frac{1}{2} - \frac{1}{2}$		516
400	1838.122		406.19 - 460.59	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
500	1838.944		441.06 - 495.44	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D) 3d$	$^4F^\circ - ^4F$	$\frac{1}{2} - \frac{1}{2}$		516
40	1843.43							758
550	1844.362		406.19 - 460.41	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
450	1845.149		406.55 - 460.75	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
240	1847.527		492.31 - 546.44	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4G - [25]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
200	1847.589		492.32 - 546.44	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4G - [25]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
750	1849.564		406.19 - 460.26	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
400	1850.24							758
600	1850.379		406.55 - 460.59	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
500	1855.92		406.87 - 460.75	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
500	1856.71		406.55 - 460.41	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
10	1859.20		463.25 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$	Q	758
10	1859.61							758
50	1860.61		440.94 - 494.69	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D) 3d$	$^4F^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
500	1861.211		406.87 - 460.55	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4P^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
120	1862.40							758
160	1865.177		463.25 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
50	1867.517		441.06 - 494.60	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D) 3d$	$^4F^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
20	1869.43							758
20	1872.45		463.97 - 517.38	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_0) 4f$	$^4F - [03]^\circ$	$\frac{1}{2} - \frac{1}{2}$	Q	758
10	1874.22							758
180	1874.85		463.69 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$	P	525
200	1875.522		493.19 - 546.51	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4P - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
160	1876.155		464.08 - 517.38	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_0) 4f$	$^4F - [03]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
80	1879.16		493.29 - 546.51	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4P - [22]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
200	1880.663		463.69 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1884.69		463.97 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
400	1886.96		493.19 - 546.19	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4P - [21]^\circ$	$\frac{1}{2} - \frac{1}{2}$		516
80	1887.32		464.39 - 517.37	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_0) 4f$	$^4D - [03]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
200	1887.39		462.89 - 515.87	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4F - [25]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
400	1887.472		462.89 - 515.87	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4F - [25]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
160	1888.375		464.08 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
60	1890.59		465.97 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
300	1890.754		463.97 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [14]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
50	1892.01		411.54 - 464.39	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P) 3d$	$^4D^\circ - ^4D$	$\frac{1}{2} - \frac{1}{2}$		516
80	1892.05		463.97 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [12]^\circ$	$\frac{1}{2} - \frac{1}{2}$	P	525
120	1895.864		464.08 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4F - [12]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
140	1897.350		462.89 - 515.60	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_2) 4f$	$^4F - [24]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525
180	1899.718		464.39 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_1) 4f$	$^4D - [13]^\circ$	$\frac{1}{2} - \frac{1}{2}$		525

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
300	1900.164	463.25 - 515.87	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[5]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1905.674	464.39 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 1[4]$	$\frac{1}{2} - \frac{1}{2}$			525
400	1907.01	411.95 - 464.39	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4D$	$\frac{1}{2} - \frac{1}{2}$			516
450	1907.12	411.54 - 463.97	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
200	1907.18	464.39 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 1[2]$	$\frac{1}{2} - \frac{1}{2}$		P	525
60	1908.15	464.41 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525
160	1909.806	463.25 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
120	1910.660	493.85 - 546.19	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4S - 2[1]$	$\frac{1}{2} - \frac{1}{2}$			525
450	1913.190	410.98 - 463.25	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
0	1914.91	412.19 - 464.41	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4P$	$\frac{1}{2} - \frac{1}{2}$			516
160	1915.436	494.60 - 546.81	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4D - 2[3]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1916.000	464.63 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525
450	1917.344	411.54 - 463.69	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
500	1918.452	411.95 - 464.08	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
240	1918.46	494.69 - 546.81	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4D - 2[3]$	$\frac{1}{2} - \frac{1}{2}$		P	525
80	1919.93	464.95 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[3]$	$\frac{1}{2} - \frac{1}{2}$			525
120	1920.12							758
60	1922.58	465.02 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 1[3]$	$\frac{1}{2} - \frac{1}{2}$			525
220	1923.963	465.40 - 517.37	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 0[3]$	$\frac{1}{2} - \frac{1}{2}$			525
160	1925.189	463.69 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[3]$	$\frac{1}{2} - \frac{1}{2}$			525
400	1926.21	463.69 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$		P	525
700	1926.259	410.98 - 462.89	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
100	1926.711	463.97 - 515.87	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[5]$	$\frac{1}{2} - \frac{1}{2}$			525
550	1927.237	412.19 - 464.08	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
60	1927.59	464.95 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1929.624	494.69 - 546.51	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4D - 2[2]$	$\frac{1}{2} - \frac{1}{2}$			525
120	1930.293	465.02 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525
600	1932.737	411.95 - 463.69	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
650	1933.885	411.54 - 463.25	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
60	1934.335	464.08 - 515.77	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[2]$	$\frac{1}{2} - \frac{1}{2}$			525
10	1935.54	463.97 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[3]$	$\frac{1}{2} - \frac{1}{2}$		Q	758
120	1936.815	465.40 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 1[3]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1937.03	463.97 - 515.60	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
80	1938.41	464.41 - 516.00	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[1]$	$\frac{1}{2} - \frac{1}{2}$			525
120	1938.637	464.41 - 515.99	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[1]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1939.559	464.08 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[3]$	$\frac{1}{2} - \frac{1}{2}$			525
10	1941.61							758
10	1941.77							758
120	1942.19							758
80	1943.047	465.40 - 516.86	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 1[4]$	$\frac{1}{2} - \frac{1}{2}$			525
180	1943.347	495.43 - 546.89	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
200	1943.516	495.44 - 546.89	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
60	1944.99							758
600	1946.426	440.94 - 492.32	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D_3) 3d$	$^4F' - ^4G$	$\frac{1}{2} - \frac{1}{2}$			516
300	1946.48	495.44 - 546.81	$2s^2 2p^4 (^4D) 3d - 2s^2 2p^4 (^4D_3) 4f$	$^4F - 2[3]$	$\frac{1}{2} - \frac{1}{2}$		P	525
10	1946.82							758
20	1947.324	464.41 - 515.76	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[2]$	$\frac{1}{2} - \frac{1}{2}$			525
600	1950.906	441.06 - 492.31	$2s^2 2p^4 (^4D) 3p - 2s^2 2p^4 (^4D_3) 3d$	$^4F' - ^4G$	$\frac{1}{2} - \frac{1}{2}$			516
700	1951.237	366.15 - 417.40	$2s^2 2p^4 (^4P) 3s - 2s^2 2p^4 (^4P_3) 3p$	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$			516
160	1955.326	464.63 - 515.77	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[2]$	$\frac{1}{2} - \frac{1}{2}$			525
300	1956.314	414.28 - 465.40	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
240	1960.64	464.63 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[3]$	$\frac{1}{2} - \frac{1}{2}$		P	525
80	1968.23	466.01 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525
40	1970.221	465.02 - 515.77	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 2[2]$	$\frac{1}{2} - \frac{1}{2}$			525
50	1970.986	414.28 - 465.02	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4D$	$\frac{1}{2} - \frac{1}{2}$			516
140	1972.780	464.95 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[3]$	$\frac{1}{2} - \frac{1}{2}$			525
10	1973.86	464.95 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
400	1974.150	478.84 - 529.50	$2s^2 2p^4 (^4S) 3p - 2s^2 2p^4 (^4S) 3d$	$^4P' - ^4D$	$\frac{1}{2} - \frac{1}{2}$			516
10	1975.43							758
60	1975.617	465.02 - 515.64	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4D - 2[3]$	$\frac{1}{2} - \frac{1}{2}$			525
160	1976.700	466.79 - 517.38	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 0[3]$	$\frac{1}{2} - \frac{1}{2}$			525
500	1977.161	478.88 - 529.46	$2s^2 2p^4 (^4S) 3p - 2s^2 2p^4 (^4S) 3d$	$^4P' - ^4D$	$\frac{1}{2} - \frac{1}{2}$			516
10	1980.95							758
650	1985.567	367.04 - 417.40	$2s^2 2p^4 (^4P) 3s - 2s^2 2p^4 (^4P_3) 3p$	$^4P - ^4S'$	$\frac{1}{2} - \frac{1}{2}$			516
160	1990.240	466.79 - 517.03	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[3]$	$\frac{1}{2} - \frac{1}{2}$			525
400	1990.989	415.17 - 465.40	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4F$	$\frac{1}{2} - \frac{1}{2}$			516
100	1991.633	465.40 - 515.61	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{1}{2}$			525
500	1995.675	414.28 - 464.39	$2s^2 2p^4 (^4P) 3p - 2s^2 2p^4 (^4P_3) 3d$	$^4D' - ^4D$	$\frac{1}{2} - \frac{1}{2}$			516
100	1998.584	466.79 - 516.82	$2s^2 2p^4 (^4P) 3d - 2s^2 2p^4 (^4P_3) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{1}{2}$			525

SODIUM IV (Na^{3+}), $Z = 11$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 797 800 cm^{-1} ; 98.92 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	129.464		0.0 - 772.42	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 5d$	$g^3P - ^3D^{\circ}$	2 - 3		693
10	132.211		0.0 - 756.37	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	2 - 3		692, 693
10	132.465		1.58 - 756.37	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	0 - 1		692, 693
10	132.740		0.0 - 753.35	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 5s$	$g^3P - ^3D^{\circ}$	2 - 3		692, 693
40	136.4295		0.0 - 732.98	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3S^{\circ}$	2 - 1		459
70	136.5513		0.0 - 732.33	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3P^{\circ}$	2 - 2		459
40	136.6359		1.11 - 732.98	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3S^{\circ}$	1 - 1		459
40	136.7540		1.11 - 732.35	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3P^{\circ}$	1 - 1		459
70	136.8547		0.0 - 730.70	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	2 - 3		459
70	137.0573		1.11 - 730.73	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	1 - 2		459
40	137.1421		1.58 - 730.74	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	0 - 1		459
110	137.7117		30.84 - 757.00	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4d$	$^1D - ^1F^{\circ}$	2 - 3		459
110	137.9415		30.84 - 755.79	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4d$	$^1D - ^1D^{\circ}$	2 - 2		459
200	139.867		1.58 - 716.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$g^3P - ^1P^{\circ}$	0 - 1		691, 693
70	139.9613		0.0 - 714.48	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$g^3P - ^3P^{\circ}$	2 - 2		459
40	140.1811		1.11 - 714.47	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$g^3P - ^3P^{\circ}$	1 - 0		459
5	140.274		1.58 - 714.47	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$g^3P - ^3P^{\circ}$	0 - 1		459
110	142.2315		30.84 - 733.92	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$^1D - ^1F^{\circ}$	2 - 3		459
160	142.3593		30.84 - 733.29	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$^1D - ^1D^{\circ}$	2 - 2		459
110	142.6851		30.84 - 731.68	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4d$	$^1D - ^1P^{\circ}$	2 - 1		459
70	144.9794		0.0 - 689.75	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4s$	$g^3P - ^3D^{\circ}$	2 - 3		459
5	145.2046		1.11 - 689.79	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4s$	$g^3P - ^3D^{\circ}$	1 - 2		459
5	145.300		1.58 - 689.81	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4s$	$g^3P - ^3D^{\circ}$	0 - 1		459
40	145.8426		30.84 - 716.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$^1D - ^1P^{\circ}$	2 - 1		459
285	146.0644		0.0 - 684.63	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	2 - 3		459
220	146.3015		1.11 - 684.63	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	1 - 2		459
160	146.3991		1.58 - 684.64	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4d$	$g^3P - ^3D^{\circ}$	0 - 1		459
360	150.2981		0.0 - 665.34	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 3		459
5	150.459		0.0 - 664.64	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 2		459
220	150.5427		1.11 - 665.37	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	1 - 2		459
220	150.642		1.58 - 665.40	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	0 - 1		459
285	150.6867		0.0 - 663.62	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	2 - 2		459
110	150.7097		1.11 - 664.64	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	1 - 2		459
110	150.9424		1.11 - 663.62	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 2		459
160	150.9667		1.11 - 663.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 1		459
160	151.0503		1.11 - 663.14	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 0		459
220	151.2994		30.84 - 691.78	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 4s$	$^1D - ^1D^{\circ}$	2 - 2		459
40	153.8432		66.50 - 716.51	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 4s$	$^1S - ^1P^{\circ}$	0 - 1		459
220	155.0826		0.0 - 644.82	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4s$	$g^3P - ^3S^{\circ}$	2 - 1		459
220	155.2398		0.0 - 644.17	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3S^{\circ}$	2 - 1		459
110	155.3486		1.11 - 644.82	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4s$	$g^3P - ^3S^{\circ}$	1 - 1		459
5	155.368		0.0 - 643.63	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 2		459
220	155.4477		0.0 - 643.31	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	2 - 1		459
40	155.4600		1.58 - 644.82	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 4s$	$g^3P - ^3S^{\circ}$	0 - 1		459
285	155.5104		0.0 - 643.05	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	2 - 2		459
160	155.6197		1.58 - 644.17	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3S^{\circ}$	0 - 1		459
160	155.6872		1.11 - 643.42	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 0		459
110	155.7129		1.11 - 643.31	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 1		459
220	155.7762		1.11 - 643.05	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	1 - 2		459
110	155.8276		1.58 - 643.31	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3P^{\circ}$	0 - 1		459
160	156.5084		0.0 - 638.94	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 2		459
285	156.5374		0.0 - 638.83	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 3		459
110	156.7635		1.11 - 639.01	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	1 - 1		459
160	156.7798		1.11 - 638.94	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	1 - 2		459
220	156.8800		1.58 - 639.01	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	0 - 1		459
285	157.0841		30.84 - 667.44	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^1D - ^1F^{\circ}$	2 - 3		459
110	157.5948		30.84 - 665.37	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^1D - ^1D^{\circ}$	2 - 2		459
285	157.7792		30.84 - 664.64	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^1D - ^1D^{\circ}$	2 - 2		459
650	162.4479		30.84 - 646.42	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1D - ^1F^{\circ}$	2 - 3		459
450	163.1895		30.84 - 643.63	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1D - ^1D^{\circ}$	2 - 2		459
5	163.274		30.84 - 643.31	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1D - ^1P^{\circ}$	2 - 1		459
5	163.343		30.84 - 643.05	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1D - ^1P^{\circ}$	2 - 2		459
360	163.8396		30.84 - 641.19	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1D - ^1P^{\circ}$	2 - 1		459
360	164.8412		66.50 - 673.14	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^1S - ^1P^{\circ}$	0 - 1		459
750	168.093		0.0 - 594.90	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	2 - 2		459
650	168.4110		1.11 - 594.89	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	1 - 1		459
450	168.5456		1.58 - 594.89	$2s^2 2p^4 - 2s^2 2p^3(^3S^{\circ}) 3d$	$g^3P - ^3D^{\circ}$	0 - 1		459
160	174.0047		66.50 - 641.19	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ}) 3d$	$^1S - ^1P^{\circ}$	0 - 1		459
160	175.4964		243.68 - 813.49	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^3P^{\circ} - ^3D^{\circ}$	2 - 3	Z	459
40	175.7965		244.69 - 813.53	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ}) 3d$	$^3P^{\circ} - ^3D^{\circ}$	1 - 2	Z	459

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm $^{-1}$)	Configurations	Terms	J - J	Notes	References
5	175.930		245.24 - 813.65	2s2p 4 - 2s2p 4 (4P)3d	4P - 4D	0 - 1	Z	459
285	181.7565		0.0 - 550.19	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	g^4P - 4P	2 - 2		459
160	181.7640		0.0 - 550.16	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	g^4P - 4P	2 - 1		459
160	182.1230		1.11 - 550.19	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	g^4P - 4P	1 - 2		459
220	182.1322		1.11 - 550.16	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	g^4P - 4P	1 - 0		459
160	182.2885		1.58 - 550.16	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	g^4P - 4P	0 - 1		459
5	188.178		0.0 - 531.41	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	2 - 2		459
285	190.1300		30.84 - 556.80	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	4D - 4P	2 - 1		459
20	190.423		0.0 - 525.14	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	2 - 1		459
360	190.4337		0.0 - 525.12	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	2 - 2		459
450	190.4453		0.0 - 525.09	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	2 - 3		459
360	190.8273		1.11 - 525.14	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	1 - 1		459
360	190.8359		1.11 - 525.12	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	1 - 2		459
285	190.9992		1.58 - 525.14	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	g^4P - 4D	0 - 1		459
5	192.551		30.84 - 550.19	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	4D - 4P	2 - 2		459
450	199.7722		30.84 - 531.41	2s 2 2p 4 - 2s 2 2p 4 (4D)3s	4D - 4D	2 - 2		459
285	203.9577		66.50 - 556.80	2s 2 2p 4 - 2s 2 2p 4 (4P)3s	4S - 4P	0 - 1		459
450	205.4869		0.0 - 486.65	2s 2 2p 4 - 2s 2 2p 4 (4S)3s	g^4P - 4S	2 - 1		459
360	205.9546		1.11 - 486.65	2s 2 2p 4 - 2s 2 2p 4 (4S)3s	g^4P - 4S	1 - 1		459
285	206.1533		1.58 - 486.65	2s 2 2p 4 - 2s 2 2p 4 (4S)3s	g^4P - 4S	0 - 1		459
450	319.6436		30.84 - 343.69	2s 2 2p 4 - 2s2p 5	4D - 4P	2 - 1		459
450	360.760		66.50 - 343.69	2s 2 2p 4 - 2s2p 5	4S - 4P	0 - 1		459
650	408.6836		0.0 - 244.69	2s 2 2p 4 - 2s2p 5	g^4P - 4P	2 - 1		459
450	409.6142		1.11 - 245.24	2s 2 2p 4 - 2s2p 5	g^4P - 4P	1 - 0		459
1000	410.3715		0.0 - 243.68	2s 2 2p 4 - 2s2p 5	g^4P - 4P	2 - 2		459
285	410.5411		1.11 - 244.69	2s 2 2p 4 - 2s2p 5	g^4P - 4P	1 - 1		459
450	411.3343		1.58 - 244.69	2s 2 2p 4 - 2s2p 5	g^4P - 4P	0 - 1		459
750	412.2418		1.11 - 243.68	2s 2 2p 4 - 2s2p 5	g^4P - 4P	1 - 2		459
10	775.065		684.63 - 813.65	2s 2 2p 4 (4S)4d - 2s2p 4 (4P)3d	4D - 4D	2 - 1	Q, Z	284, 375
20	1256.68		733.92 - 813.49	2s 2 2p 4 (4D)4d - 2s2p 4 (4P)3d	4F - 4D	3 - 3	Q, Z	758
220	1456.943		577.78 - 646.42	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4F	3 - 3		459
360	1502.85							459
1503.8			0.0 - 66.50	2s 2 2p 4 - 2s 2 2p 4	g^4P - 4S	2 - 0	F, P	375
285	1508.754		572.55 - 638.83	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4D - 4D	3 - 3		459
1529.3			1.11 - 66.50	2s 2 2p 4 - 2s 2 2p 4	g^4P - 4S	1 - 0	F, P	375
650	1534.475		531.41 - 596.58	2s 2 2p 4 (4D)3s - 2s 2 2p 4 (4D)3p	4D - 4D	2 - 2		459
1542.46			600.57 - 665.40	2s 2 2p 4 (4P)3p - 2s 2 2p 4 (4P)3d	4D - 4D	1 - 1		459
360	1580.233		572.39 - 635.66	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4D - 4F	2 - 3		459
450	1580.500		572.55 - 635.82	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4D - 4F	3 - 4		459
70	1582.121		524.85 + X - 588.06 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	1 - 0		459
550	1582.182		524.85 + X - 588.06 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	1 - 1		459
450	1582.326		524.85 + X - 588.05 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	1 - 2		459
285	1582.613		572.38 - 635.57	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4D - 4F	1 - 2		459
110	1583.84		524.92 + X - 588.06 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	2 - 1	P	459
550	1583.977		524.92 + X - 588.05 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	2 - 2		459
650	1584.141		524.92 + X - 588.04 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	2 - 3		459
40	1586.78		525.03 + X - 588.05 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	3 - 2	P	459
650	1586.990		525.03 + X - 588.04 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	3 - 3		459
450	1587.048		525.03 + X - 588.04 + X	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	3 - 4		459
40	1588.87		575.89 - 638.83	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4D	4 - 3		459
40	1596.304		600.57 - 663.21	2s 2 2p 4 (4P)3p - 2s 2 2p 4 (4P)3d	4D - 4F	1 - 2		459
160	1596.367		600.53 - 663.18	2s 2 2p 4 (4P)3p - 2s 2 2p 4 (4P)3d	4D - 4F	2 - 3		459
360	1596.401		600.51 - 663.15	2s 2 2p 4 (4P)3p - 2s 2 2p 4 (4P)3d	4D - 4F	3 - 4		459
450	1613.948		575.77 - 637.73	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4G	2 - 3		459
550	1615.922		575.82 - 637.71	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4G	3 - 4		459
650	1618.570		575.89 - 637.67	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4G	4 - 5		459
550	1655.468		577.78 - 638.19	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4G	3 - 4		459
285	1668.588		575.89 - 635.82	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4F	4 - 4		459
1670.79								459
110	1672.330		575.77 - 635.57	2s 2 2p 4 (4D)3p - 2s 2 2p 4 (4D)3d	4F - 4F	2 - 2		459
1000	1701.97		536.18 - 594.93	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	2 - 3		459
450	1702.409		536.16 - 594.90	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	1 - 2		459
160	1702.735		536.16 - 594.89	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	1 - 1		459
220	1702.995		536.18 - 594.90	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	2 - 2		459
360	1703.53		536.18 - 594.89	2s 2 2p 4 (4S)3p - 2s 2 2p 4 (4S)3d	4P - 4D	0 - 1		459
285	1791.629		555.80 - 612.61	2s 2 2p 4 (4P)3s - 2s 2 2p 4 (4P)3p	4P - 4D	1 - 2		459
110	1824.113		612.62 - 667.44	2s 2 2p 4 (4P)3p - 2s 2 2p 4 (4P)3d	4D - 4F	2 - 3		459
650	1960.760		474.03 + X - 525.03 + X	2s 2 2p 4 (4S)3s - 2s 2 2p 4 (4S)3p	4S - 4P	2 - 3		459
550	1965.078		474.03 + X - 524.92 + X	2s 2 2p 4 (4S)3s - 2s 2 2p 4 (4S)3p	4S - 4P	2 - 2		459
450	1967.601		474.03 + X - 524.85 + X	2s 2 2p 4 (4S)3s - 2s 2 2p 4 (4S)3p	4S - 4P	2 - 1		459
360	1968.441		525.09 - 575.89	2s 2 2p 4 (4D)3s - 2s 2 2p 4 (4D)3p	4D - 4F	3 - 4		459
70	1970.986		525.09 - 575.82	2s 2 2p 4 (4D)3s - 2s 2 2p 4 (4D)3p	4D - 4F	3 - 3		459
360	1972.233		525.12 - 575.82	2s 2 2p 4 (4D)3s - 2s 2 2p 4 (4D				

Na IV

Na V

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	70	1985.03	550.16 - 600.53	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 3p$	$^3P^\circ - ^3D$	1 - 2		459
	220	1987.140	550.19 - 600.51	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 3p$	$^3P^\circ - ^3D$	2 - 3		459
	70	1996.584	556.80 - 606.83	$2s^2 2p^2 (^3P) 3s - 2s^2 2p^2 (^3P) 3p$	$^3P^\circ - ^1P$	1 - 1		459

SODIUM V (Na^{++}), $Z = 11$ Ground State $1s^2 2s^2 2p^2 \ ^3S_{1/2}$ (7 electrons)Ionization Potential 1116 200 cm^{-1} ; 138.39 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	100.88	48.34 + Y - 1039.61 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 5d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	100.945	48.34 + Y - 1038.98 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 5d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	10	103.482	73.26 + Y - 1039.61 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 5d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	100	106.278	0.0 - 940.93	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	100	106.302	0.0 - 940.72	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	100	106.399	0.0 - 939.86	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$g^3S^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	100	106.490	0.0 - 939.06	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$g^3S^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	200	107.934	48.34 + Y - 974.82 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 4d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	200	108.017	48.34 + Y - 974.12 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 4d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	200	110.817	48.36 + Y - 950.75 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3p$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	200	110.878	48.34 + Y - 950.23 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3p$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	10	110.921	73.26 + Y - 974.82 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 4d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	100	111.512	48.34 + Y - 945.10 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	111.552	48.36 + Y - 944.79 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	111.879	48.34 + Y - 942.16 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	300	112.009	48.36 + Y - 941.15 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	10	112.077	0.0 - 892.24	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	10	112.186	48.36 + Y - 939.86	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	112.347	48.34 + Y - 938.44 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1D^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	10	113.574	48.34 + Y - 928.82 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 4s$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	113.952	73.26 + Y - 950.75 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3p$	$^1P^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$	Q	692, 375
	100	114.700	73.26 + Y - 945.10 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	100	114.738	73.22 + Y - 944.79 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	117.703	48.34 + Y - 897.91 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^1D^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		693
	10	117.876	48.36 + Y - 896.71 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^1D^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		693
	400	117.990	0.0 - 847.54	$2s^2 2p^2 - 2s^2 2p^2 (^3S) 3p$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	100	120.040	0.0 - 833.00 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$g^3S^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Q	692, 375
	10	121.263	73.26 + Y - 897.91 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 4s$	$^1P^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	400	125.178	0.0 - 798.86	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	400	125.216	0.0 - 798.62	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	500	125.286	0.0 - 798.17	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$g^3S^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	300	125.428	0.0 - 797.27	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$g^3S^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	300	125.461	0.0 - 797.06	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$g^3S^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	200	125.899	73.26 + Y - 867.55 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1S) 3d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.090	215.86 - 1008.94	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1S^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	100	126.210	215.86 - 1008.21	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1D^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.368	216.90 - 1008.21	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1D^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.458	217.44 - 1008.21	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1D^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	200	126.557	48.34 + Y - 838.49 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	100	126.608	48.36 + Y - 838.20 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.779	215.86 - 1004.6	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	100	126.814	215.86 - 1004.40	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.920	216.90 - 1004.79	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	10	126.985	216.90 - 1004.40	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	10	127.036	217.44 - 1004.63	$2s^2 2p^2 - 2s^2 2p^2 (^1D^\circ) 3d$	$^1P^\circ - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$		692
	400	127.444	48.34 + Y - 833.00 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	400	127.473	48.36 + Y - 832.84 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	400	128.025	48.36 + Y - 829.46 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	400	128.051	48.34 + Y - 829.28 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1D^\circ - ^1F$	$\frac{1}{2} - \frac{1}{2}$		692
	100	129.942	73.26 + Y - 842.83 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^\circ - ^1S$	$\frac{1}{2} - \frac{1}{2}$		692
	200	130.680	73.26 + Y - 838.49 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	100	130.723	73.22 + Y - 838.20 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$		692
	300	131.345	48.34 + Y - 809.69 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	200	131.413	48.36 + Y - 809.31 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^1D^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692
	300	131.635	73.26 + Y - 833.00 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{1}{2}$		692

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
500	133.162	48.34 + Y - 799.30 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$			692
400	133.388	48.36 + Y - 798.06 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$			692
10	134.183	48.36 + Y - 793.62 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
200	134.272	48.34 + Y - 793.10 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
300	135.791	73.26 + Y - 809.69 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
300	135.854	73.22 + Y - 809.31 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
200	138.812	73.22 + Y - 793.62 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
300	138.917	73.26 + Y - 793.10 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
10	140.171	297.92 + Y - 1011.33 + Y	$2s 2p^4 - 2s 2p^4 (^4D^o) 3d$	$^4D - ^4F$	$\frac{1}{2} - \frac{3}{2}$			692
10	140.258	297.88 + Y - 1010.86 + Y	$2s 2p^4 - 2s 2p^4 (^4D^o) 3d$	$^4D - ^4F$	$\frac{1}{2} - \frac{3}{2}$			692
200	142.232	215.86 - 919.07	$2s 2p^4 - 2s 2p^4 (^4P^o) 3s$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$			692
10	142.415	216.90 - 919.07	$2s 2p^4 - 2s 2p^4 (^4P^o) 3s$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$			692
200	144.330	215.86 - 908.72	$2s 2p^4 - 2s 2p^4 (^4S^o) 3d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
200	144.546	216.90 - 908.72	$2s 2p^4 - 2s 2p^4 (^4S^o) 3d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
100	144.661	217.44 - 908.72	$2s 2p^4 - 2s 2p^4 (^4S^o) 3d$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
200	147.897	73.26 + Y - 749.41 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4S) 3s$	$^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$			692
400	148.642	0.0 - 672.76	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
300	148.856	0.0 - 671.79	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
200	149.001	0.0 - 671.14	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
200	150.968	215.86 - 878.29	$2s 2p^4 - 2s 2p^4 (^4D^o) 3s$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
400	151.127	48.34 + Y - 710.04 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3s$	$^4D^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
100	151.188	216.90 - 878.29	$2s 2p^4 - 2s 2p^4 (^4D^o) 3s$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
100	151.303	217.44 - 878.29	$2s 2p^4 - 2s 2p^4 (^4D^o) 3s$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
200	157.036	73.26 + Y - 710.04 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3s$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
300	157.209	48.34 + Y - 684.44 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
200	157.511	48.36 + Y - 683.24 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
300	163.616	73.26 + Y - 684.44 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
5	163.662	297.88 + Y - 908.72	$2s 2p^4 - 2s 2p^4 (^4S^o) 3d$	$^4D - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$	Q		284
210	163.930	73.22 + Y - 683.24 + Y	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
110	167.510	297.88 + Y - 894.86 + Y	$2s 2p^4 - 2s 2p^4 (^4D^o) 3s$	$^4D - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$			692
100	170.631	215.86 - 801.95	$2s 2p^4 - 2s 2p^4 (^4S^o) 3s$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$			692
100	170.923	216.90 - 801.95	$2s 2p^4 - 2s 2p^4 (^4S^o) 3s$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$			692
100	171.076	217.44 - 801.95	$2s 2p^4 - 2s 2p^4 (^4S^o) 3s$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$			692
30	183.806	350.75 + Y - 894.86 + Y	$2s 2p^4 - 2s 2p^4 (^4D^o) 3s$	$^4S - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$	Q		284
30	297.482	672.76 - 1008.94	$2s^2 2p^3 (^4P) 3s - 2s 2p^3 (^4D^o) 3d$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$	Q		284
800	307.152	48.36 + Y - 373.93 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			197, 692
1000	308.264	48.34 + Y - 372.73 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4D^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			197, 692
10	330.718	48.36 + Y - 350.75 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4D^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$			692
800	332.550	73.22 + Y - 373.93 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			692
900	333.910	73.26 + Y - 372.73 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			692
800	360.319	73.22 + Y - 350.75 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$			692
800	360.367	73.26 + Y - 350.75 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$			692
200	367.557	297.92 + Y - 569.97 + Y	$2s 2p^4 - 2p^5$	$^4D - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$			692
300	369.743	297.88 + Y - 568.36 + Y	$2s 2p^4 - 2p^5$	$^4D - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$			692
1000	400.722	48.34 + Y - 297.88 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4D^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			197, 692
5	403.283							284
500	445.046	73.22 + Y - 297.92 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
600	445.190	73.26 + Y - 297.88 + Y	$2s^2 2p^3 - 2s 2p^4$	$^4P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$			692
600	459.897	0.0 - 217.44	$2s^2 2p^3 - 2s 2p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$			197, 692
850	461.051	0.0 - 216.90	$2s^2 2p^3 - 2s 2p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			197, 692
1000	463.263	0.0 - 215.86	$2s^2 2p^3 - 2s 2p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$			197, 692
10	510.102	373.93 + Y - 569.97 + Y	$2s 2p^4 - 2p^5$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$			692
100	511.193	372.73 + Y - 568.36 + Y	$2s 2p^4 - 2p^5$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$			692
10	514.350	373.93 + Y - 568.36 + Y	$2s 2p^4 - 2p^5$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$			692
10	636.579	847.54 - 1004.63	$2s 2p^3 (^4S^o) 3p - 2s 2p^3 (^4D^o) 3d$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	Q		284
5	831.868	798.86 - 919.07	$2s^2 2p^3 (^4P) 3d - 2s 2p^3 (^4P^o) 3s$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	Q		284
	1365.0	0.0 - 73.26 + Y	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S^o - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$	F, P		375
	1365.7	0.0 - 73.22 + Y	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S^o - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$	F, P		375
20	1650.654	950.75 + Y - 1011.33 + Y	$2s 2p^4 (^4D^o) 3p - 2s 2p^4 (^4D^o) 3d$	$^4F - ^4F^o$	$\frac{1}{2} - \frac{3}{2}$			284
25	1806.170	894.86 + Y - 950.23 + Y	$2s 2p^4 (^4D^o) 3s - 2s 2p^4 (^4D^o) 3p$	$^4D^o - ^4F$	$\frac{1}{2} - \frac{1}{2}$	Q		284

SODIUM VI (Na⁵⁺), Z = 11Ground State 1s²2s²2p² ³P₀ (6 electrons)Ionization Potential 1 388 500 cm⁻¹; 172.15 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
10	80.345		35.48 + X - 1280.11 + X	2s ² 2p ² - 2s ² 2p(³ P)6d	¹ D - ¹ F	2-3		692
10	80.645		103.51 + X - 1343.51 + X	2s2p ² - 2s2p ² (³ P)5d	³ S - ³ P	2-3		692
200	81.498		1.86 - 1228.88	2s ² 2p ² - 2s ² 2p(³ P)5d	g ³ P - ³ P	2-2		692
100	81.543		1.86 - 1228.21	2s ² 2p ² - 2s ² 2p(³ P)5d	g ³ P - ³ D	2-3		692
100	81.584		204.13 - 1429.86	2s2p ² - 2s2p ² (³ D)5d	³ D - ³ F	3-4	Z	692
100	83.639		35.48 + X - 1231.09 + X	2s ² 2p ² - 2s ² 2p(³ P)5d	¹ D - ¹ F	2-3		692
100	87.141		103.51 + X - 1251.07 + X	2s2p ² - 2s2p ² (³ P)4d	³ S - ³ P	2-2		692
700	87.211		103.51 + X - 1250.15 + X	2s2p ² - 2s2p ² (³ P)4d	³ S - ³ P	2-3		692
100	88.038		0.70 - 1136.38	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ P	1-2		392
200	88.143		1.86 - 1136.38	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ P	2-2		692
100	88.223		0.0 - 1133.49	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ D	0-1		692
200	88.246		0.70 - 1133.87	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ D	1-2		692
300	88.270		1.86 - 1134.75	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ D	2-3		692
100	88.340		86 - 1133.87	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ D	2-2		692
10	88.387		204.13 - 1335.52	2s2p ² - 2s2p ² (³ D)4d	³ D - ³ P	3-2		692
100	88.460		204.13 - 1334.59	2s2p ² - 2s2p ² (³ D)4d	³ D - ³ F	3-4		692
100	88.583		1.86 - 1131.15 + X	2s ² 2p ² - 2s ² 2p(³ P)4d	g ³ P - ³ D	2-2	Q	692, 375
300	90.468		35.48 + X - 1140.84 + X	2s ² 2p ² - 2s ² 2p(³ P)4d	¹ D - ¹ F	2-3		692
10	90.746		103.51 + X - 1205.49 + X	2s2p ² - 2s2p ² (³ P)4s	³ S - ³ P	2-3		692
100	91.268		241.34 - 1337.02	2s2p ² - 2s2p ² (³ D)4d	³ P - ³ D	2-2		692
10	91.414		241.34 - 1335.52	2s2p ² - 2s2p ² (³ D)4d	³ P - ³ P	2-2		692
10	91.475		241.34 - 1334.59	2s2p ² - 2s2p ² (³ D)4d	³ P - ³ F	2-3		692
10	91.737		0.70 - 1090.76	2s ² 2p ² - 2s ² 2p(³ P)4s	g ³ P - ³ P	1-2		692
10	91.836		1.86 - 1090.76	2s ² 2p ² - 2s ² 2p(³ P)4s	g ³ P - ³ P	2-2		692
10	92.608		350.30 + X - 1429.86	2s2p ² - 2s2p ² (³ D)5d	³ P - ³ F	1-2	Q, Z	692, 375
100	94.208		204.13 - 1265.58	2s2p ² - 2p ² (³ S)3p	³ D - ³ P	3-2		692
10	94.827		204.13 - 1258.61	2s2p ² - 2s2p ² (³ P)4d	³ D - ³ D	3-3		692
100	95.182		204.13 - 1254.75	2s2p ² - 2s2p ² (³ P)4d	³ D - ³ F	3-4		692
100	95.263		204.22 - 1253.95	2s2p ² - 2s2p ² (³ P)4d	³ D - ³ F	2-3		692
10	95.319		204.26 - 1253.37	2s2p ² - 2s2p ² (³ P)4d	³ D - ³ F	1-2		692
300	95.933		35.48 + X - 1077.87 + X	2s ² 2p ² - 2s2p ² (³ D)3p	¹ D - ¹ D	2-2		692
10	96.124		0.0 - 1040.22	2s ² 2p ² - 2s2p ² (³ D)3p	g ³ P - ³ D	0-1		692
100	96.196		0.70 - 1040.22	2s ² 2p ² - 2s2p ² (³ D)3p	g ³ P - ³ D	1-2		692
100	96.307		1.86 - 1040.22	2s ² 2p ² - 2s2p ² (³ D)3p	g ³ P - ³ D	2-3		692
300	96.475		35.48 + X - 1072.02 + X	2s ² 2p ² - 2s2p ² (³ D)3p	¹ D - ¹ F	2-3		692
10	97.636		241.34 - 1265.58	2s2p ² - 2p ² (³ S)3p	³ P - ³ P	2-2		692
20	98.309		241.34 - 1258.61	2s2p ² - 2s2p ² (³ P)4d	³ P - ³ D	2-3		692
10	99.004		204.13 - 1214.19	2s2p ² - 2s2p ² (³ P)4s	³ D - ³ P	3-2		692
10	99.500		0.70 - 1005.71	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ P	1-2		692
100	99.617		1.86 - 1005.71	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ P	2-2		692
100	99.680		1.86 - 1005.07	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ P	2-1		692
200	100.469		0.70 - 996.01	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ D	1-2		692
300	100.519		1.86 - 996.73	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ D	2-3		692
100	100.590		1.86 - 996.01	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ D	2-2		692
10	101.348		350.30 + X - 1337.02	2s2p ² - 2s2p ² (³ D)4d	³ P - ³ D	1-2	Q	692, 375
10	103.002		0.0 - 970.84	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ S	0-1		692
100	103.078		0.70 - 970.84	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ S	1-1		692
200	103.210		1.86 - 970.84	2s ² 2p ² - 2s2p ² (³ P)3p	g ³ P - ³ S	2-1		692
300	106.040		103.51 + X - 1046.55 + X	2s2p ² - 2s2p ² (³ P)3d	³ S - ³ P	2-1		692
300	106.077		103.51 + X - 1046.22 + X	2s2p ² - 2s2p ² (³ P)3d	³ S - ³ P	2-2		692
400	106.125		103.51 + X - 1045.79 + X	2s2p ² - 2s2p ² (³ P)3d	³ S - ³ P	2-3		692
10	106.580		103.51 + X - 1041.77 + X	2s2p ² - 2s2p ² (³ P)3d	³ S - ³ D	2-3		692
200	107.014		0.0 - 934.46	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	0-1		692
300	107.061		0.70 - 934.75	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	1-0		692
300	107.093		0.70 - 934.46	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	1-1		692
100	107.158		0.70 - 933.92	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	1-2		692
300	107.227		1.86 - 934.46	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	2-1		692
400	107.288		1.86 - 933.92	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ P	2-2		692
300	107.535		204.13 - 1134.09	2s2p ² - 2s2p ² (³ D)3d	³ D - ³ D	3-3		692
300	107.553		0.0 - 929.77	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ D	0-1		692
400	107.608		0.70 - 930.00	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ D	1-2		692
500	107.683		1.86 - 930.51	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ D	2-3		692
200	107.742		1.86 - 930.00	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ D	2-2		692
200	107.934		204.13 - 1130.63	2s2p ² - 2s2p ² (³ D)3d	³ D - ³ P	3-2		692
400	108.555		204.13 - 1125.32	2s2p ² - 2s2p ² (³ D)3d	³ D - ³ F	3-4		692
10	108.678		0.70 - 920.83 + X	2s ² 2p ² - 2s ² 2p(³ P)3d	g ³ P - ³ D	1-2		692
10	109.763		35.48 + X - 946.51 + X	2s ² 2p ² - 2s ² 2p(³ P)3d	¹ D - ¹ P	2-1		692
500	109.896		35.48 + X - 945.43 + X	2s ² 2p ² - 2s ² 2p(³ P)3d	¹ D - ¹ F	2-1		692
200	110.085		350.30 + X - 1258.61	2s2p ² - 2s2p ² (³ P)4d	³ P - ³ D	1-2	Q	692, 375
200	110.750		241.34 - 1144.28	2s2p ² - 2s2p ² (³ D)3d	³ P - ³ S	2-1		692

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	111.725		35.48 + X - 930.51	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D^o - ^3D^o$	2 - 3		692
100	111.793		35.48 + X - 930.00	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D^o - ^3D^o$	2 - 2		692
300	112.009		241.34 - 1134.09	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^3P^o - ^3D$	2 - 3		692
300	112.448		241.34 - 1130.63	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^3P^o - ^3P$	2 - 2		692
400	112.950		35.48 + X - 920.83 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1D^o - ^1D^o$	2 - 2		692
400	113.125		241.34 - 1125.32	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^3P^o - ^3F$	2 - 3		692
400	114.666		74.39 + X - 946.51 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1S - ^1P^o$	0 - 1		692
200	115.729		204.13 - 1068.26	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3D$	3 - 3		692
10	115.780		204.22 - 1067.97	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3D$	2 - 2		692
400	117.491		204.13 - 1055.26	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3F$	3 - 4		692
300	117.609		204.22 - 1054.50	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3F$	2 - 3		692
300	117.699		204.26 - 1053.89	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3F$	1 - 2		692
10	118.500		204.22 - 1048.10	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3P$	2 - 1		692
10	118.585		204.13 - 1047.41	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3P$	3 - 2		692
10	119.204		312.30 + X - 1151.26 + X	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1D^o - ^1P$	2 - 1		692
5	119.415		204.22 - 1041.77 + X	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3D$	2 - 3	Q	284
300	119.684		312.30 + X - 1147.83 + X	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1D^o - ^1F$	2 - 3		692
10	120.355		320.59 - 1151.26 + X	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^3S^o - ^1P$	1 - 1	Q	692, 375
300	120.931		241.34 - 1058.26	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	2 - 3		692
200	120.973		241.34 - 1067.97	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	1 - 2		692
100	121.004		241.34 - 1057.76	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	0 - 1		692
400	121.773		103.51 + X - 924.71 + X	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 3		692
320	121.913		103.51 + X - 923.77 + X	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 2		692
300	122.018		103.51 + X - 923.06 + X	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 1		692
5	122.199		312.30 + X - 1130.63	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1D^o - ^3P$	2 - 2	Q	284
400	123.134		204.13 - 1016.27	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^3D^o - ^3D$	3 - 3		692
400	123.744		0.70 - 808.80	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 2		692
300	123.868		0.0 - 807.32	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	0 - 1		692
500	123.929		1.86 - 808.80	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 2		692
200	123.970		0.70 - 807.32	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 1		692
400	124.059		241.34 - 1047.41	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3P$	2 - 2		692
400	124.153		1.86 - 807.32	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 1		692
10	124.850		350.30 + X - 1151.26 + X	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1P^o - ^1P$	1 - 1		692
10	125.383		350.30 + X - 1147.86 + X	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1P^o - ^1D$	1 - 2		692
400	127.837		35.48 + X - 817.72 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1D^o - ^1P^o$	2 - 1		692
200	129.040		241.34 - 1016.27	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^3P^o - ^3D$	2 - 3		692
200	133.825		204.13 - 951.39	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	3 - 2		692
100	134.021		204.22 - 950.37	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	2 - 1		692
10	134.135		204.26 - 949.78	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	1 - 0		692
300	134.532		74.39 + X - 817.72 + X	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3s$	$^1S - ^1P^o$	0 - 1		692
10	137.589		320.59 - 1047.41	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3S^o - ^3P$	1 - 2		692
200	138.693		312.30 + X - 1033.34 + X	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^1D^o - ^1D$	2 - 2		692
25	138.970		204.22 - 923.77 + X	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	2 - 2	Q	284, 375
200	140.833		241.34 - 951.39	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3P^o - ^3P$	2 - 2		692
10	141.040		241.34 - 950.37	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3P^o - ^3P$	2 - 1		692
10	146.398		350.30 + X - 1033.34 + X	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^1P^o - ^1D$	1 - 2		692
10	149.442		204.13 - 873.29	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^3D^o - ^3P$	3 - 2		692
10	149.621		204.22 - 872.58	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^3D^o - ^3P$	2 - 1		692
5	158.225		241.34 - 873.29	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^3P^o - ^3P$	2 - 2		284
5	158.517		320.59 - 951.39	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	1 - 2		284
40	166.367		350.30 + X - 951.39	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^1P^o - ^3P$	1 - 2	Q	284
30	177.637		477.28 - 1040.22	$2p^4 - 2s 2p^2(^3D) 3p$	$^3P - ^3D^o$	2 - 3		284
20	178.061		478.60 - 1040.22	$2p^4 - 2s 2p^2(^3D) 3p$	$^3P - ^3D^o$	1 - 2		284
15	178.244		479.16 - 1040.22	$2p^4 - 2s 2p^2(^3D) 3p$	$^3P - ^3D^o$	0 - 1		284
10	189.473		477.28 - 1005.07	$2p^4 - 2s 2p^2(^3F) 3p$	$^3P - ^3P^o$	2 - 1		284
10	191.205		350.30 + X - 873.29	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^1P^o - ^3P$	1 - 2	Q	693, 375
10	206.871		946.51 + X - 1429.86	$2s^2 2p(^3P^o) 3d - 2s^2 2p(^3P^o) 5d$	$^1P^o - ^3F$	1 - 2	Z	693, 375
30	293.887		996.73 - 1337.02	$2s 2p^4(^3P) 3p - 2s 2p^3(^3D) 4d$	$^3D^o - ^3D$	3 - 3		284
25	308.500		934.46 - 1258.61	$2s^2 2p(^3P^o) 3d - 2s 2p^3(^3P) 4d$	$^3P^o - ^3D$	1 - 2		284
40	311.921		0.0 - 320.59	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3S^o$	0 - 1		692
300	312.608		0.70 - 320.59	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3S^o$	1 - 1		692
500	313.748		1.86 - 320.59	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3S^o$	2 - 1		692
600	317.641		35.48 + X - 350.30 + X	$2s^2 2p^2 - 2s 2p^3$	$^1D^o - ^1P^o$	2 - 1		197, 692
800	361.250		35.48 + X - 312.30 + X	$2s^2 2p^2 - 2s 2p^3$	$^1D^o - ^1D^o$	2 - 2		197, 692
400	362.444		74.39 + X - 350.30 + X	$2s^2 2p^2 - 2s 2p^3$	$^1S - ^1P^o$	0 - 1		692
200	363.774		204.26 - 479.16	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	1 - 0		692
300	364.477		204.22 - 478.60	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	2 - 1		692
400	366.110		204.13 - 477.28	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	3 - 2		692
10	377.240		204.22 - 477.28	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	2 - 2		692
25	383.783		873.29 - 1133.87	$2s^2 2p(^3P^o) 3p - 2s^2 2p(^3P^o) 4d$	$^3P - ^3D^o$	2 - 2	Q	284
200	414.370		0.0 - 241.34	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3P^o$	0 - 1		692
400	415.505		0.70 - 241.34	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3P^o$	1 - 2		692
600	417.595		1.56 - 241.34	$2s^2 2p^2 - 2s 2p^3$	$g^3P - ^3P^o$	2 - 2		692
30	418.828							284
100	421.465		241.34 - 478.60	$2s 2p^3 - 2p^4$	$^3P^o - ^3P$	2 - 1		692

Na VI

Na VII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
200	423.821		241.34 - 477.28	$2s2p^2 - 2p^3$	$^3P^o - ^3P$	2 - 2		692
10	436.946		350.30 + X - 579.15 + X	$2s2p^2 - 2p^3$	$^1P^o - ^1S$	1 - 0	Q	693, 375
300	440.266							692
20	444.686							284
5	465.460							284
20	466.640		930.00 - 1144.28	$2s^22p(^3P^o)3d - 2s2p^2(^3D)3d$	$^3D^o - ^3S$	2 - 1	Q	284
500	489.580		0.0 - 204.26	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	0 - 1		197, 692
300	491.240		0.70 - 204.26	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	1 - 1		197, 692
600	491.340		0.70 - 204.22	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	1 - 2		197, 692
300	494.160		1.86 - 204.22	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	2 - 2		197, 692
700	494.382		1.86 - 204.13	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	2 - 3		197, 692
5	497.273		1133.49 - 1334.59	$2s^22p(^3P^o)4d - 2s2p^2(^3D)4d$	$^3D^o - ^3F$	1 - 2		284
30	504.541		1136.38 - 1334.59	$2s^22p(^3P^o)4d - 2s2p^2(^3D)4d$	$^3P^o - ^3F$	2 - 3		284
	516.00		312.30 + X - 506.09 + X	$2s2p^2 - 2p^3$	$^1D^o - ^1D$	2 - 2	Q	244
10	528.730							692
10	632.90		320.59 - 478.60	$2s2p^2 - 2p^3$	$^3S^o - ^3P$	1 - 1		692
10	638.21		320.59 - 477.28	$2s2p^2 - 2p^3$	$^3S^o - ^3P$	1 - 2		692
	641.87		350.30 + X - 506.09 + X	$2s2p^2 - 2p^3$	$^1P^o - ^1D$	1 - 2	Q	244
15	674.510		996.01 - 1144.28	$2s2p^2(^3P^o)3p - 2s2p^2(^3D)3d$	$^3D^o - ^3S$	2 - 1	Q	284
20	699.093		807.32 - 950.37	$2s^22p(^3P^o)3s - 2s2p^2(^3P)3s$	$^3P^o - ^3P$	1 - 1		284
15	733.743							284
10	798.320							284
25	810.183		872.58 - 996.01	$2s^22p(^3P^o)3p - 2s2p^2(^3P)3p$	$^3P - ^3D^o$	1 - 2	Q	284
15	814.515							284
10	818.096		1136.38 - 1258.61	$2s^22p(^3P^o)4d - 2s2p^2(^3P)4d$	$^3P^o - ^3D$	2 - 3		284
5	827.909							284
5	851.740		930.00 - 1047.41	$2s^22p(^3P^o)3d - 2s2p^2(^3P)3d$	$^3D^o - ^3P$	2 - 2		284
20	854.790		1136.38 - 1253.37	$2s^22p(^3P^o)4d - 2s2p^2(^3P)4d$	$^3P^o - ^3F$	2 - 2	Q	284
10	864.625							284
5	867.537							284
5	888.784		920.83 + X - 1033.34 + X	$2s^22p(^3P^o)3d - 2s2p^2(^3D)3s$	$^1D^o - ^1D$	2 - 2		284
5	945.223							284
20	946.064		1228.88 - 1334.59	$2s^22p(^3P^o)5d - 2s2p^2(^3D)4d$	$^3P^o - ^3F$	2 - 3	Q	284
20	967.480							284
10	974.034							284
5	985.190							284
20	1088.636							284
15	1116.780							284
	1136		0.70 - 74.39 + X	$2s^22p^2 - 2s^22p^2$	$g^3P - ^1S$	1 - 0	F, P	375
10	1136.248							284
	1178.6		1.86 - 74.39 + X	$2s^22p^2 - 2s^22p^2$	$g^3P - ^1S$	2 - 0	F, P	375
10	1429.430		1077.87 + X - 1147.83 + X	$2s2p^2(^3D)3p - 2s2p^2(^3D)3d$	$^1D^o - ^1F$	2 - 3	Q	284

SODIUM VII (Na^{6+}), $Z = 11$ Ground State $1s^22s^22p^3P_{1/2}^o$ (5 electrons)Ionization Potential $1\,681\,500 \text{ cm}^{-1}$; 208.48 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	62.725		2.14 - 1596.4	$2s^22p - 2s^28d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
10	63.185		0.0 - 1583.74	$2s^22p - 2s2p(^3P^o)5p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		692, 691
10	63.227		2.14 - 1583.74	$2s^22p - 2s2p(^3P^o)5p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
10	63.361		0.0 - 1578.35	$2s^22p - 2s2p(^3P^o)5p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		691
10	63.442		2.14 - 1578.35	$2s^22p - 2s2p(^3P^o)5p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		691
10	63.778		2.14 - 1570.08	$2s^22p - 2s^27d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
10	64.113		2.14 - 1561.89	$2s^22p - 2s2p(^3P^o)4p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
10	64.904		116.11 + Y - 1656.85 + Y	$2s2p^2 - 2s2p(^3P^o)6d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{5}{2}$		691
100	65.388		0.0 - 1529.46	$2s^22p - 2s^21d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
100	65.474		2.14 - 1529.46	$2s^22p - 2s^26d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
100	67.826		115.05 + Y - 1589.37 + Y	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{5}{2}$		691
100	67.877		116.11 + Y - 1589.37 + Y	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{5}{2}$		691
200	67.512		116.11 + Y - 1588.61 + Y	$2s2p^2 - 2s2p(^3P^o)5d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{5}{2}$		691
10	68.42?		0.0 - 1461.52	$2s^22p - 2s^25d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
100	68.519		2.14 - 1461.52	$2s^22p - 2s^25d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	68.866		0.0 - 1452.10	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
100	68.908		2.14 - 1453.35	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
10	69.314		0.0 - 1442.71	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		691
10	69.395		2.14 - 1443.17	$2s^2 2p - 2s 2p(^3P^o) 4p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		691
100	72.020		205.41 - 1593.92	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	72.979		205.45 - 1592.82	$2s 2p^2 - 2s 2p(^3P^o) 5d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	72.865		205.41 - 1577.81	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	74.097		115.05 + Y - 1464.19 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	74.180		116.11 + Y - 1464.19 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	74.217		114.31 + Y - 1461.71 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		691
300	74.255		115.05 + Y - 1461.76 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	74.268		116.11 + Y - 1462.59 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	74.861		0.0 - 1335.81	$2s^2 2p - 2s^2 4d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
300	74.980		2.14 - 1335.89	$2s^2 2p - 2s^2 4d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		691
10	76.501		115.05 + Y - 1422.18 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	76.565		116.11 + Y - 1422.18 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	76.626		115.05 + Y - 1420.09 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	76.827		366.63 + Y - 1667.98 + Y	$2p^2 - 2p^2(^3P) 4d$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		691
10	76.862		366.63 + Y - 1667.64 + Y	$2p^2 - 2p^2(^3P) 4d$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		691
100	77.353		2.14 - 1294.91	$2s^2 2p - 2s^2(^3S) 4s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
10	77.558		0.0 - 1289.35 + Y	$2s^2 2p - 2p^2(^3P) 3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$	Q	692, 375
10	78.459		264.4 - 1538.95	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
10	78.771		205.45 - 1474.53	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		691
300	78.907		205.41 - 1472.73	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		691
200	78.982		205.45 - 1471.56	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	79.477		0.0 - 1258.88	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		691
100	79.571		2.14 - 1258.88	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
100	79.620		205.45 - 1461.76 + Y	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
10	79.761		285.19 - 1538.95	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	79.786		0.0 - 1253.35	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		691
300	79.893		0.0 - 1251.67	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
300	80.008		2.14 - 1252.01	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		691
10	80.133		115.05 + Y - 1362.29 + Y	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	80.174		115.05 + Y - 1362.29 + Y	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	80.245		116.11 + Y - 1362.29 + Y	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	81.430		116.11 + Y - 1344.16 + Y	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	81.498		205.41 - 1432.50	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	81.855		116.11 + Y - 1337.79 + Y	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		691
10	82.516		366.63 + Y - 1578.35	$2p^2 - 2s 2p(^3P^o) 5p$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
10	82.636		264.4 - 1474.53	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		691
10	82.685		264.4 - 1473.81	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
100	83.180		465.11 - 1667.64 + Y	$2p^2 - 2p^2(^3P) 4d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
400	84.221		205.41 - 1392.76	$2s 2p^2 - 2p^2(^3D) 3p$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	84.832		285.19 - 1464.05	$2s 2p^2 - 2s 2p(^3P^o) 4d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	85.260		205.41 - 1378.30	$2s 2p^2 - 2p^2(^3D) 3p$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		691
300	85.297		205.45 - 1377.82	$2s 2p^2 - 2p^2(^3D) 3p$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	85.458		2.14 - 1172.34	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
400	86.596		0.0 - 1154.78	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
500	86.652		2.14 - 1156.18	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		691
300	86.758		2.14 - 1154.78	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		691
10	86.890		411.04 - 1561.89	$2p^2 - 2s 2p(^3P^o) 4p$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
100	87.141		285.19 - 1432.60	$2s 2p^2 - 2s 2p(^3P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	87.471		205.41 - 1348.72	$2s 2p^2 - 2p^2(^3P) 3p$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	88.698		0.0 - 1127.43	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		691
300	88.747		0.0 - 1126.81	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		691
400	88.865		2.14 - 1127.43	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		691
200	88.914		2.14 - 1126.81	$2s^2 2p - 2s 2p(^3P^o) 3p$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		691
100	90.173		283.87 - 1392.76	$2s 2p^2 - 2p^2(^3D) 3p$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		691
400	90.252		285.19 - 1392.76	$2s 2p^2 - 2p^2(^3D) 3p$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	90.830		205.41 - 1306.47	$2s 2p^2 - 2s 2p(^3P^o) 3s$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	91.064		205.41 - 1303.64	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
500	92.003		205.41 - 1292.33	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		691
200	92.774		114.31 + Y - 1192.19 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
100	92.809		115.05 + Y - 1192.53 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		691
100	92.843		115.05 + Y - 1192.19 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	92.883		115.05 + Y - 1191.66 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	92.930		116.11 + Y - 1192.19 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	92.976		116.11 + Y - 1191.66 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	93.393		114.31 + Y - 1185.06 + Y	$2s^2 2p - 2s 2p(^3P^o) 3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		691
400	93.434		115.05 + Y - 1185.32 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
500	93.486		116.11 + Y - 1185.79 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		691
100	93.528		116.11 + Y - 1185.32 + Y	$2s 2p^2 - 2s 2p(^3P^o) 3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	94.020		285.19 - 1348.72	$2s 2p^2 - 2p^2(^3P) 3p$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
600	94.288		0.0 - 1060.58	$2s^2 2p - 2s^2 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
700	94.468		2.14 - 1060.70	$2s^2 2p - 2s^2 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		691

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	96.845		366.63 + Y - 1399.19 + Y	$2p^2 - 2p^2(^3P)3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		691
200	96.872		366.63 + Y - 1398.90 + Y	$2p^2 - 2p^2(^3P)3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		691
300	96.922		366.63 + Y - 1398.36 + Y	$2p^2 - 2p^2(^3P)3d$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		691
100	97.790		283.87 - 1306.47	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		691
200	97.907		285.19 - 1306.47	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	98.016		412.31 - 1432.61	$2p^2 - 2p^2(^1D)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		691
300	98.080		283.87 - 1303.45	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		691
300	98.188		285.19 - 1303.64	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	98.378		412.31 - 1428.80	$2p^2 - 2p^2(^1D)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		691
300	98.394		412.40 - 1428.72	$2p^2 - 2p^2(^1D)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		691
	95.38		2.14 - 1008.42	$2s^22p - 2s^23p$	$g^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
400	99.421		205.41 - 1211.24	$2s2p^2 - 2s2p(^3P^o)3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	99.556		205.45 - 1209.91	$2s2p^2 - 2s2p(^3P^o)3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	99.680		412.31 - 1415.64	$2p^2 - 2p^2(^1D)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
100	100.337		465.11 - 1461.59	$2p^2 - 2s^25d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
200	100.718		205.41 - 1198.29	$2s2p^2 - 2s2p(^1P^o)3s$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	101.201		465.11 - 1453.35	$2p^2 - 2s2p(^1P^o)4p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
300	101.785		205.41 - 1187.89	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	101.816		205.45 - 1187.61	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	102.226		412.31 - 1390.45	$2p^2 - 2p^2(^3P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
100	102.390		412.31 - 1388.97	$2p^2 - 2p^2(^3P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		691
10	102.448		412.40 - 1388.5	$2p^2 - 2p^2(^3P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		691
100	103.354		465.11 - 1432.61	$2p^2 - 2p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		691
10	103.400		465.02 - 1432.14	$2p^2 - 2p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		691
300	103.779		115.05 + Y - 1078.65 + Y	$2s2p^2 - 2s2p(^3P^o)3s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	103.842		114.31 + Y - 1077.32 + Y	$2s2p^2 - 2s2p(^3P^o)3s$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		691
400	103.891		116.11 + Y - 1078.65 + Y	$2s2p^2 - 2s2p(^3P^o)3s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	104.000		115.05 + Y - 1076.58 + Y	$2s2p^2 - 2s2p(^3P^o)3s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		691
220	104.36		116.11 + Y - 1077.32 + Y	$2s2p^2 - 2s2p(^3P^o)3s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	104.871		264.4 - 1217.96	$2s2p^2 - 2s2p(^3P^o)3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		691
300	104.955		264.4 - 1217.19	$2s2p^2 - 2s2p(^3P^o)3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
300	105.111		0.0 - 951.35	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		691
200	105.205		465.11 - 1415.64	$2p^2 - 2p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
400	105.354		2.14 - 951.35	$2s^22p - 2s^23s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
300	107.061		264.4 - 1198.29	$2s2p^2 - 2s2p(^1P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		691
300	107.093		264.4 - 1198.29	$2s2p^2 - 2s2p(^1P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
10	108.079		465.11 - 1390.45	$2p^2 - 2p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
10	108.159		285.19 - 1209.91	$2s2p^2 - 2s2p(^3P^o)3d$	$^1P - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
200	108.193		366.63 + Y - 1290.88 + Y	$2p^2 - 2p^2(^3P)3s$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		691
100	108.373		366.63 + Y - 1289.35 + Y	$2p^2 - 2p^2(^3P)3s$	$^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		691
200	108.733		412.31 - 1331.97	$2p^2 - 2p^2(^1D)3s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
100	108.829		412.40 - 1331.14	$2p^2 - 2p^2(^1D)3s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
100	109.362		283.87 - 1198.29	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		691
200	109.519		285.19 - 1198.29	$2s2p^2 - 2s2p(^1P^o)3s$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	110.647		283.87 - 1187.61	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		691
300	110.778		285.19 - 1187.89	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	110.817		285.19 - 1187.61	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		691
300	111.211		205.41 - 1104.62	$2s2p^2 - 2s2p(^3P^o)3s$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
200	111.390		205.45 - 1103.22	$2s2p^2 - 2s2p(^3P^o)3s$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		691
10	115.361		465.11 - 1331.97	$2p^2 - 2p^2(^1D)3s$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
10	115.475		465.02 - 1331.14	$2p^2 - 2p^2(^1D)3s$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		691
10	118.840		412.31 - 1253.78	$2p^2 - 2s2p(^1P^o)3p$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		691
10	118.902		412.40 - 1253.35	$2p^2 - 2s2p(^1P^o)3p$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		691
100	119.014		264.4 - 1104.62	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
10	119.100		412.31 - 1252.01	$2p^2 - 2s2p(^1P^o)3p$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
10	119.204		264.4 - 1103.22	$2s2p^2 - 2s2p(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		691
300	122.018		285.19 - 1104.62	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		691
100	122.252		285.19 - 1103.22	$2s2p^2 - 2s2p(^3P^o)3s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		691
10	124.532		205.41 - 1008.42	$2s2p^2 - 2s^23p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	126.779		465.11 - 1253.78	$2p^2 - 2s2p(^1P^o)3p$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		691
100	126.814		465.02 - 1253.35	$2p^2 - 2s2p(^1P^o)3p$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		691
200	139.867		412.31 - 1127.43	$2p^2 - 2s2p(^3P^o)3p$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		691
20	302.563		1258.88 - 1589.37 + Y	$2s2p(^1P^o)3p - 2s2p(^3P^o)5d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Q	284, 375
20	304.030		1103.22 - 1432.14	$2s2p(^1P^o)3p - 2p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	284, 375
500	350.645		0.0 - 285.19	$2s^22p - 2s^22p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		197, 691
600	352.275		0.0 - 283.87	$2s^22p - 2s^22p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		197, 691
800	353.294		2.14 - 285.19	$2s^22p - 2s^22p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		197, 691
400	354.950		2.14 - 283.87	$2s^22p - 2s^22p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		197, 691
	378.22		0.0 - 264.4	$2s^22p - 2s^22p^2$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		250
300	381.300		2.14 - 264.4	$2s^22p - 2s^22p^2$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
10	385.061		205.41 - 465.11	$2s2p^2 - 2p^2$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		691
10	385.254		205.45 - 465.02	$2s2p^2 - 2p^2$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		691
200	396.335		114.31 + Y - 366.63 + Y	$2s2p^2 - 2p^2$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{3}{2}$		691
300	397.490		115.05 + Y - 366.63 + Y	$2s2p^2 - 2p^2$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		691
400	399.182		116.11 + Y - 366.63 + Y	$2s2p^2 - 2p^2$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		691

Na VII

Na VIII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	425.493	1348.72 - 1583.74	$2p^2(^3P)3p - 2s2p(^3P^o)5p$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	693, 375
	200	483.216	205.45 - 412.40	$2s2p^2 - 2p^3$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
	300	483.328	205.41 - 412.31	$2s2p^2 - 2p^3$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		691
	400	486.740	0.0 - 205.45	$2s^22p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		197, 691
	400	491.950	2.14 - 205.41	$2s^22p - 2s2p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		197, 691
	15	719.491	1253.78 - 1392.76	$2s2p(^1P^o)3p - 2p^2(^1D)3p$	$^1P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	284, 375
		777.83	285.19 - 413.75	$2s2p^2 - 2p^3$	$^1P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		250
		786.35	283.87 - 411.04	$2s2p^2 - 2p^3$	$^1P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		250

SODIUM VIII (Na^{7+}), $Z = 11$ Ground State $1s^22s^2\ ^1S_0$ (4 electrons)Ionization Potential $2\ 130\ 800 \text{ cm}^{-1}$; 264.19 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	51.316	128.25 + X - 2076.96 + X	0.0 - 1930.91	$2s2p - 2p(^3P^o)6p$	$^3P^o - ^3D$	2 - 3		691
10	51.789	128.25 + X - 1988.71 + X	0.0 - 1838.91	$2s^2 - 2s6p$	$g^1S - ^1P^o$	0 - 1		691
10	53.750	126.64 + X - 1933.46 + X	128.25 + X - 2081.20 + X	$2s2p - 2p(^3P^o)5p$	$^3P^o - ^3P$	2 - 2		691
100	54.380	128.25 + X - 1933.46 + X	329.76 + X - 2080.49 + X	$2s^2 - 2s5p$	$g^1S - ^1P^o$	0 - 1		691
10	55.345	126.64 + X - 1933.46 + X	243.22 - 1990.56	$2s2p - 2s6d$	$^3P^o - ^3D$	1 - 2		691
100	55.396	128.25 + X - 1933.46 + X	126.64 + X - 1848.70 + X	$2s2p - 2s6d$	$^3P^o - ^3D$	2 - 3		691
10	57.096	329.76 + X - 2081.20 + X	329.76 + X - 2080.49 + X	$2p^2 - 2p(^3P^o)6d$	$^3P - ^3P^o$	2 - 2		691
10	57.119	329.76 + X - 2080.49 + X	243.22 - 1990.56	$2p^2 - 2p(^3P^o)6d$	$^3P - ^3D^o$	2 - 3		691
10	57.230	243.22 - 1990.56	126.64 + X - 1848.70 + X	$2s2p - 2p(^3P^o)5p$	$^3P^o - ^3D$	1 - 2		691
10	58.070	126.64 + X - 1848.70 + X	128.25 + X - 1822.90 + X	$2s2p - 2s5d$	$^3P^o - ^3D$	1 - 2		691
100	59.009	128.25 + X - 1822.90 + X	243.22 - 1935.24	$2s2p - 2p(^3P^o)4p$	$^3P^o - ^3P$	2 - 2		691
10	59.131	243.22 - 1935.24	128.25 + X - 1817.32 + X	$2s2p - 2s6d$	$^3P^o - ^3D$	1 - 2		691
300	59.204	128.25 + X - 1817.32 + X	128.25 + X - 1816.04 + X	$2s2p - 2p(^3P^o)4p$	$^3P^o - ^3D$	2 - 3		691
10	59.249	128.25 + X - 1816.04 + X	0.0 - 1673.39	$2s2p - 2p(^3P^o)4p$	$^3P^o - ^3D$	2 - 2		691
200	59.759	0.0 - 1673.39	327.53 + X - 1994.4 + X	$2s^2 - 2s4p$	$g^1S - ^1P^o$	0 - 1		691
10	59.992	327.53 + X - 1994.4 + X	329.76 + X - 1994.96 + X	$2p^2 - 2p(^3P^o)5d$	$^3P - ^3D^o$	0 - 1		691
100	60.053	329.76 + X - 1994.96 + X	329.76 + X - 1994.4 + X	$2p^2 - 2p(^3P^o)5d$	$^3P - ^3P^o$	2 - 2		691
100	60.073	329.76 + X - 1994.4 + X	361.05 - 1998.03	$2p^2 - 2p(^3P^o)5d$	$^3P - ^3D^o$	2 - 1		691
200	61.088	361.05 - 1998.03	361.05 - 1991.12	$2p^2 - 2p(^3P^o)5d$	$^3D - ^3F^o$	2 - 3		691
1	61.347	361.05 - 1991.12	243.22 - 1848.98	$2p^2 - 2p(^3P^o)5d$	$^3D - ^3D^o$	2 - 2		691
100	62.276	243.22 - 1848.98	243.22 - 1827.66	$2s2p - 2s5d$	$^3P^o - ^3D$	1 - 2		691
100	63.114	243.22 - 1827.66	243.22 - 1813.21	$2s2p - 2p(^3P^o)4p$	$^3P^o - ^3D$	1 - 2		691
10	63.695	243.22 - 1813.21	125.91 + X - 1683.41 + X	$2s2p - 2p(^3P^o)4p$	$^3P^o - ^3P$	1 - 1		691
200	64.205	125.91 + X - 1683.41 + X	126.64 + X - 1683.41 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	0 - 1		691
400	64.237	126.64 + X - 1683.41 + X	128.25 + X - 1683.41 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	1 - 2		691
500	64.302	128.25 + X - 1683.41 + X	126.64 + X - 1649.54 + X	$2s2p - 2s4d$	$^3P^o - ^3D$	2 - 3		691
10	65.672	126.64 + X - 1649.54 + X	128.25 + X - 1649.54 + X	$2s2p - 2s4s$	$^3P^o - ^3S$	1 - 1		691
10	65.730	128.25 + X - 1649.54 + X	0.0 - 1513.68	$2s2p - 2s4s$	$^3P^o - ^3S$	2 - 1		691
200	66.059	0.0 - 1513.68	328.35 + X - 1835.61	$2s^2 - 2p(^3P^o)3d$	$g^1S - ^1P^o$	0 - 1		691
10	66.358	328.35 + X - 1835.61	329.76 + X - 1835.04 + X	$2p^2 - 2p(^3P^o)4d$	$^3P - ^3P^o$	1 - 1		691
200	66.433	329.76 + X - 1835.04 + X	329.76 + X - 1833.56 + X	$2p^2 - 2p(^3P^o)4d$	$^3P - ^3P^o$	2 - 2		691
400	66.498	329.76 + X - 1833.56 + X	0.0 - 1492.67 + X	$2p^2 - 2p(^3P^o)4d$	$^3P - ^3D^o$	2 - 3		691
100	67.027	0.0 - 1492.67 + X	361.05 - 1843.38	$2s^2 - 2p(^3P^o)3d$	$g^1S - ^1P^o$	0 - 1	Q	692, 375
200	67.478	361.05 - 1843.38	361.05 - 1838.76	$2p^2 - 2p(^3P^o)4d$	$^3D - ^3P^o$	2 - 1		691
400	67.672	361.05 - 1838.76	361.05 - 1827.47	$2p^2 - 2p(^3P^o)4d$	$^3D - ^3F^o$	2 - 3		691
100	68.193	361.05 - 1827.47	243.22 - 1689.98	$2p^2 - 2p(^3P^o)4d$	$^3D - ^3D^o$	2 - 2		691
300	69.120	243.22 - 1689.98	243.22 - 1656.83	$2s2p - 2s4d$	$^3P^o - ^3D$	1 - 2		691
10	70.741	243.22 - 1656.83	0.0 - 1400.52 + X	$2s2p - 2s4s$	$^3P^o - ^3S$	1 - 0		691
10	71.386	0.0 - 1400.52 + X	125.91 + X - 1460.10 + X	$2s^2 - 2p(^3P^o)3s$	$g^1S - ^1P^o$	0 - 1	Q	662, 375
300	74.956	125.91 + X - 1460.10 + X	126.64 + X - 1460.10 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3P$	0 - 1		691
300	74.980	126.64 + X - 1460.10 + X	128.25 + X - 1460.99 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3P$	1 - 1		691
400	75.043	128.25 + X - 1460.99 + X	128.25 + X - 1460.10 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3P$	2 - 2		691
300	75.096	128.25 + X - 1460.10 + X	125.91 + X - 1452.43 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3P$	2 - 1		691
100	75.385	125.91 + X - 1452.43 + X	126.64 + X - 1452.43 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3S$	0 - 1		691
200	75.428	126.64 + X - 1452.43 + X	128.25 + X - 1452.43 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3S$	1 - 1		691
300	75.518	128.25 + X - 1452.43 + X	128.25 + X - 1441.91 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3S$	2 - 1		691
500	76.123	128.25 + X - 1441.91 + X	126.64 + X - 1439.44 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3D$	2 - 3		691
100	76.173	126.64 + X - 1439.44 + X	128.25 + X - 1440.29 + X	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3D$	1 - 1		691
200	76.217	128.25 + X - 1440.29 + X	0.0 - 1294.21	$2s2p - 2p(^3P^o)3p$	$^3P^o - ^3D$	2 - 2		691
6(ω)	77.267	0.0 - 1294.21		$2s^2 - 2s3p$	$g^1S - ^1P^o$	0 - 1		691

Na VIII

Na IX

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	80.756		243.22 - 1481.52	2s2p - 2p(² P°)3p	¹ P° - ¹ S	1 - 0		691
500	81.210		243.22 - 1474.60	2s2p - 2p(² P°)3p	¹ P° - ¹ D	1 - 2		691
700	83.240		125.91 + X - 1327.26 + X	2s2p - 2s3d	³ P° - ³ D	0 - 1		691
800	83.288		126.64 + X - 1327.30 + X	2s2p - 2s3d	³ P° - ¹ D	1 - 2		691
900	83.391		128.25 + X - 1327.42 + X	2s2p - 2s3d	³ P° - ¹ D	2 - 3		691
500	84.050		243.22 - 1432.99	2s2p - 2p(² P°)3p	¹ P° - ¹ P	1 - 1		691
200	85.826		327.53 + X - 1492.67 + X	2p ² - 2p(² P°)3d	¹ P° - ³ P°	0 - 1		691
300	85.861		328.35 + X - 1493.03 + X	2p ² - 2p(² P°)3d	³ P° - ³ P°	1 - 0		691
300	85.887		328.35 + X - 1492.67 + X	2p ² - 2p(² P°)3d	³ P° - ¹ P°	1 - 1		691
100	85.936		328.35 + X - 1492.03 + X	2p ² - 2p(² P°)3d	³ P° - ³ P°	1 - 2		691
300	85.992		329.76 + X - 1492.67 + X	2p ² - 2p(² P°)3d	³ P° - ³ P°	2 - 1		691
500	86.039		329.76 + X - 1492.03 + X	2p ² - 2p(² P°)3d	³ P° - ³ P°	2 - 2		691
400	86.381		327.53 + X - 1485.19 + X	2p ² - 2p(² P°)3d	³ P° - ¹ D	0 - 1		691
500	86.417		328.35 + X - 1485.48 + X	2p ² - 2p(² P°)3d	³ P° - ¹ D	1 - 2		691
600	86.479		329.76 + X - 1486.11 + X	2p ² - 2p(² P°)3d	³ P° - ¹ D	2 - 3		691
100	86.530		329.76 + X - 1485.48 + X	2p ² - 2p(² P°)3d	³ P° - ¹ D	2 - 2		691
300	86.758		361.05 - 1513.68	2p ² - 2p(² P°)3d	¹ D - ¹ P°	2 - 1		691
700	87.211		361.05 - 1507.69	2p ² - 2p(² P°)3d	¹ D - ¹ F°	2 - 3		691
200	89.759		125.91 + X - 1240.12 + X	2s2p - 2s3s	³ P° - ³ S	0 - 1		691
300	89.818		126.64 + X - 1240.12 + X	2s2p - 2s3s	³ P° - ³ S	1 - 1		691
400	89.948		128.25 + X - 1240.12 + X	2s2p - 2s3s	³ P° - ³ S	2 - 1		691
400	90.252		361.05 - 1469.06	2p ² - 2p(² P°)3d	¹ D - ¹ D	2 - 2		691
500	90.536		243.22 - 1347.76	2s2p - 2s3d	¹ P° - ¹ D	- - 2		691
100	93.120		328.35 + X - 1402.24 + X	2p ² - 2p(² P°)3s	³ P° - ³ P°	1 - 2		691
10	93.197		327.53 + X - 1400.52 + X	2p ² - 2p(² P°)3s	³ P° - ³ P°	0 - 1		691
200	93.242		329.76 + X - 1402.24 + X	2p ² - 2p(² P°)3s	³ P° - ³ P°	2 - 2		691
10	93.339		328.35 + X - 1399.72 + X	2p ² - 2p(² P°)3s	³ P° - ³ P°	1 - 0		691
400	93.670		446.10 - 1513.68	2p ² - 2p(² P°)3d	¹ S - ¹ P°	0 - 1		691
200	93.898		361.05 - 1426.05	2p ² - 2p(² P°)3s	¹ D - ¹ P°	2 - 1		691
200	95.551		446.10 - 1492.67 + X	2p ² - 2p(² P°)3d	¹ S - ¹ P°	0 - 1		692, 375
300	98.080		243.22 - 1262.80	2s2p - 2s3s	¹ P° - ¹ S	1 - 0		691
10	102.043		446.10 - 1426.05	2p ² - 2p(² P°)3s	¹ S - ¹ P°	0 - 1		691
10	106.703		361.05 - 1298. + Z	2p ² - 2s3p	¹ D - ¹ P°	2 - 2	Q	692, 375
100	107.158		361.05 - 1294.21	2p ² - 2s3p	¹ D - ¹ P°	2 - 1		691
10	117.909		446.10 - 1294.21	2p ² - 2s3p	¹ S - ¹ P°	0 - 1		691
35	168.964		1485.19 + X - 2076.96 + X	2p(² P°)3d - 2p(² P°)6p	³ D° - ³ D	1 - 1	Q	284, 375
100	411.145		0.0 - 243.22	2s ² - 2s2p	³ S - ¹ P°	0 - 1		691
10	492.329		126.64 + X - 329.76 + X	2s2p - 2p ²	³ P° - ³ P	1 - 2		691
	492.79		243.22 - 446.15	2s2p - 2p ²	¹ P° - ¹ S	1 - 0		250
	495.76		126.64 + X - 328.35 + X	2s2p - 2p ²	³ P° - ³ P	1 - 1	P	250
100	496.249		128.25 + X - 329.76 + X	2s2p - 2p ²	³ P° - ³ P	2 - 2		691
	499.78		128.25 + X - 328.35 + X	2s2p - 2p ²	³ P° - ³ P	2 - 1		250
	789.6		0.0 - 126.64 + X	2s ² - 2s2p	³ S - ³ P°	0 - 1		211

SODIUM IX (Na⁸⁺), Z = 11Ground State 1s²2s ²S_{1/2} (3 electrons)Ionization Potential 2 418 700 cm⁻¹; 299.88 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		11.029	1416.13 - 10483.14	1s ² 3p - 1s2p(¹ P°)3p	³ P° - ³ D	$\frac{3}{2}$ - $\frac{3}{2}$	Z	283
		11.067	144.04 - 9180.00	1s ² 2p - 1s2p ²	³ P° - ³ S	$\frac{1}{2}$ - $\frac{1}{2}$	P, Z	283
		11.070	146.69 - 9180.00	1s ² 2p - 1s2p ²	³ P° - ³ S	$\frac{3}{2}$ - $\frac{1}{2}$	P, Z	283
		11.090	0.0 - 9017.13	1s ² 2s - 1s(2s2p(¹ P°))	³ S - ³ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P, Z	283
		11.092	0.0 - 9015.51	1s ² 2s - 1s(2s2p(¹ P°))	³ S - ³ P°	$\frac{1}{2}$ - $\frac{1}{2}$	P, Z	283
		11.154	0.0 - 8965.39	1s ² 2s - 1s(2s2p(³ P°))	³ S - ³ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P, Z	283
		11.157	0.0 - 8962.98	1s ² 2s - 1s(2s2p(³ P°))	³ S - ³ P°	$\frac{1}{2}$ - $\frac{1}{2}$	P, Z	283
		11.170	146.69 - 9099.24	1s ² 2p - 1s2p ²	³ P° - ³ P	$\frac{3}{2}$ - $\frac{3}{2}$	P, Z	283
		11.197	144.04 - 9075.00	1s ² 2p - 1s2p ²	³ P° - ³ D	$\frac{1}{2}$ - $\frac{3}{2}$	P, Z	283
		11.199	146.69 - 9076.06	1s ² 2p - 1s2p ²	³ P° - ³ D	$\frac{3}{2}$ - $\frac{3}{2}$	P, Z	283
10	44.723		0.0 - 2235.89	1s ² 2s - 1s ² 7p	³ S - ³ P°	$\frac{1}{2}$ - $\frac{3}{2}$		691
100	46.090		0.0 - 2169.67	1s ² 2s - 1s ² 6p	³ S - ³ P°	$\frac{1}{2}$ - $\frac{3}{2}$		691
10	47.776		144.04 - 2237.14	1s ² 2p - 1s ² 7d	³ P° - ³ D	$\frac{1}{2}$ - $\frac{3}{2}$		691
100	47.836		146.69 - 2237.17	1s ² 2p - 1s ² 7d	³ P° - ³ D	$\frac{3}{2}$ - $\frac{3}{2}$		691
200	48.553		0.0 - 2059.61	1s ² 2s - 1s ² 5p	³ S - ³ P°	$\frac{1}{2}$ - $\frac{3}{2}$		691

Na IX

Na X

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	49.326	144.04 - 2171.37	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
	200	49.386	146.69 - 2171.55	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
	100	52.116	144.04 - 2062.84	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
	200	52.186	146.69 - 2062.91	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
	1	52.487	146.69 - 2051.92	$1s^2 2p - 1s^2 5s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
	300	53.860	0.0 - 1856.67	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
	500	58.201	144.04 - 1862.22	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
	600	58.279	146.69 - 1862.57	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
	100	58.954	144.04 - 1840.34	$1s^2 2p - 1s^2 4s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		691
	200	59.042	146.69 - 1840.34	$1s^2 2p - 1s^2 4s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
	700	70.615	0.0 - 1416.13	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
	600	70.653	0.0 - 1415.37	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		691
	700	77.764	144.04 - 1429.98	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		691
	800	77.911	146.69 - 1430.20	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		691
	500	81.175	144.04 - 1375.94	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		691
	500	81.350	146.69 - 1375.94	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		691
	10	681.72	0.0 - 146.69	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		691
		694.27	0.0 - 144.04	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	P	250

SODIUM X (Na^{+}), $Z = 11$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 11 816 996 cm^{-1} ; 1465.13 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		8.686	0.0 - 11513.	$1s^2 - 1s6p$	$g^1S - ^1P^o$	0 - 1	P	728
		8.788	0.0 - 11378.65	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0 - 1	P	728
		8.983	0.0 - 11132.39	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1	P	728
		8.989	0.0 - 11124.94	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1	P	728
		9.433	0.0 - 10601.08	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1	P	624
		9.449	0.0 - 10582.95	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1	P	728
		10.06	10583.66 - 20520.4	$1s3p - 2p3p$	$^3P^o - ^3D$	2 - 3	P, Z	283
		10.119	9027.98 - 18910.4	$1s2s - 2s2p$	$^1S - ^1P^o$	0 - 1	P, Z	283
		10.157	8935.34 - 18780.8	$1s2s - 2s2p$	$^3S - ^3P^o$	1 - 2	P, Z	283
		10.170	9025.26 - 18855.7	$1s2p - 2p^2$	$^3P^o - ^3P$	2 - 2	P, Z	283
		10.193	9088.70 - 18899.3	$1s2p - 2p^2$	$^1P^o - ^1D$	1 - 2	P, Z	283
		11.0027	0.0 - 9088.70	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1	P	283
		11.0830	0.0 - 9022.87	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1	P	283
		11.16						709
		11.19	0.0 - 8935.34	$1s^2 - 1s2s$	$^1S - ^1S$	0 - 1	F, P	375
		60.67	8935.34 - 10583.66	$1s2s - 1s3p$	$^3S - ^3P^o$	1 - 2	P	375
		63.57	9027.98 - 10601.08	$1s2s - 1s3p$	$^1S - ^1P^o$	0 - 1	P	375
		109.28	10597.45 + R - 11512.5 + R	$1s3d - 1s6f$	$^3D - ^3F^o$	3 - 4	P	87
		109.36	10598.60 + K - 11513.0 + K	$1s3d - 1s6f$	$^1D - ^1F^o$	2 - 3	P	87
		128.05	10597.45 + R - 11378.4 + R	$1s3d - 1s5f$	$^3D - ^3F^o$	3 - 4	P	87
		128.16	10598.60 + K - 11378.9 + K	$1s3d - 1s5f$	$^1D - ^1F^o$	2 - 3	P	87
		176.59	10558.95 - 11125.24	$1s3s - 1s4p$	$^3S - ^3P^o$	1 - 2	P	375
		182.16	10583.43 - 11132.39	$1s3s - 1s4p$	$^1S - ^1P^o$	0 - 1	P	375
		187.25	10597.45 + R - 11131.5 + R	$1s3d - 1s4f$	$^3D - ^3F^o$	3 - 4	P	87
		187.49	10598.60 + K - 11132.0 + K	$1s3d - 1s4f$	$^1D - ^1F^o$	2 - 3	P	87
		1112.10	8935.34 - 9025.26	$1s2s - 1s2p$	$^3S - ^3P^o$	1 - 2	P	375
		1646.90	9027.98 - 9088.70	$1s2s - 1s2p$	$^1S - ^1P^o$	0 - 1	P	375

SODIUM XI (Na^{10+}), $Z = 11$ Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential $13\,297\,672\text{ cm}^{-1}$; 1648.71 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		7.596	0.0 - 13164.86	$1s - 10p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		7.614	0.0 - 13133.70	$1s - 9p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		7.639	0.0 - 13090.14	$1s - 8p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		7.677	0.0 - 13026.60	$1s - 7p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		7.735	0.0 - 12928.69	$1s - 6p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		7.833	0.0 - 12766.32	$1s - 5p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
10		8.021	0.0 - 12467.39	$1s - 4p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
20		8.459	0.0 - 11821.56	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
10		8.460	0.0 - 11819.96	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
65		10.023	0.0 - 9976.87	$1s - 2p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
35		10.029	0.0 - 9971.49	$1s - 2p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
		31.317	9971.71 - 13164.86	$2s - 10p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		31.368	9976.87 - 13164.87	$2p - 10d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		31.626	9971.71 - 13133.70	$2s - 9p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		31.677	9976.87 - 13133.72	$2p - 9d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		32.068	9971.71 - 13090.14	$2s - 8p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		32.120	9976.87 - 13090.16	$2p - 8d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		32.734	9971.71 - 13026.60	$2s - 7p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		32.789	9976.87 - 13026.64	$2p - 7d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		33.818	9971.71 - 12928.69	$2s - 6p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		33.877	9976.87 - 12928.76	$2p - 6d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		35.783	9971.71 - 12766.32	$2s - 5p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		35.848	9976.87 - 12766.43	$2p - 5d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		40.069	9971.71 - 12467.39	$2s - 4p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		40.149	9976.87 - 12467.61	$2p - 4d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		54.059	9971.71 - 11821.56	$2s - 3p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		54.194	9976.87 - 11822.09	$2p - 3d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		74.359	11820.03 - 13164.86	$3s - 10p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		74.443	11821.56 - 13164.87	$3p - 10d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		74.472	11822.09 - 13164.88	$3d - 10f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		76.125	11820.03 - 13133.70	$3s - 9p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		76.210	11821.56 - 13133.72	$3p - 9d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		76.240	11822.09 - 13133.73	$3d - 9f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		78.734	11820.03 - 13090.14	$3s - 8p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		78.827	11821.56 - 13090.16	$3p - 8d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		78.859	11822.09 - 13090.18	$3d - 8f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		82.880	11820.03 - 13026.60	$3s - 7p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		82.982	11821.56 - 13026.64	$3p - 7d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		83.017	11822.09 - 13026.66	$3d - 7f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		90.199	11820.03 - 12928.69	$3s - 6p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		90.318	11821.56 - 12928.76	$3p - 6d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		90.358	11822.09 - 12928.79	$3d - 6f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		105.676	11820.03 - 12766.32	$3s - 5p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		105.835	11821.56 - 12766.43	$3p - 5d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		105.887	11822.09 - 12766.49	$3d - 5f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		143.243	12466.74 - 13164.86	$4s - 10p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		143.372	12467.39 - 13164.87	$4p - 10d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		143.417	12467.61 - 13164.88	$4d - 10f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		149.935	12466.74 - 13133.70	$4s - 9p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		150.075	12467.39 - 13133.72	$4p - 9d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		150.123	12467.61 - 13133.73	$4d - 9f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		154.475	11820.03 - 12467.39	$3s - 4p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		154.787	11821.56 - 12467.61	$3p - 4d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		154.886	11822.09 - 12467.72	$3d - 4f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		160.412	12466.74 - 13090.14	$4s - 8p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		160.571	12467.39 - 13090.16	$4p - 8d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		160.624	12467.61 - 13090.18	$4d - 8f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		178.618	12466.74 - 13026.60	$4s - 7p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		178.810	12467.39 - 13026.64	$4p - 7d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		178.875	12467.61 - 13026.66	$4d - 7f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		216.473	12466.74 - 12928.69	$4s - 6p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		216.744	12467.39 - 12928.76	$4p - 6d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		216.833	12467.61 - 12928.79	$4d - 6f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		250.709	12765.99 - 13164.86	$5s - 10p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		250.907	12766.32 - 13164.87	$5p - 10d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		250.974	12766.43 - 13164.88	$5d - 10f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		271.953	12765.99 - 13133.70	$5s - 9p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		272.182	12766.32 - 13133.72	$5p - 9d$	$^2P^o - ^2D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		272.259	12766.43 - 13133.73	$5d - 9f$	$^2D - ^2F^o$	$\frac{3}{2} - \frac{1}{2}$	P	309
		308.500	12765.99 - 13090.14	$5s - 8p$	$^2S - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
		308.787	12766.32 - 13090.16	5p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		308.882	12766.43 - 13090.18	5d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		333.807	12466.74 - 12766.32	4s - 5p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		334.398	12467.39 - 12766.43	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		334.584	12467.61 - 12766.49	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		383.716	12765.59 - 13026.60	5s - 7p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		384.141	12766.32 - 13026.64	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		384.278	12766.43 - 13026.66	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		614.606	12765.99 - 12928.69	5s - 6p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		615.604	12766.32 - 12928.76	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		615.910	12766.43 - 12928.79	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

Mg

MAGNESIUM, $Z = 12$

Mg I

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	54.131						692
	10	70.512						692
	10	70.563						692
	100	70.762						692
	100	70.787						692
	10	71.621						692
	10	71.724						692
	100	75.112						692
	10	75.528						692
	300	75.666						692
	100	76.169						692
	100	78.643						692
	100	78.668						692
	10	82.111						692
	10	87.660						692
	100	89.256						692
	10	89.556						692
	10	90.165						692
	10	90.463						692
	10	91.013						692
	10	91.129						692
	10	92.685						692
	100	100.196						692
	100	101.322						692
	10	101.598						692
	300	104.342						692
	500	105.066						692
	100	109.420						692
	10	137.509						692
	10	139.705						692
	10	151.808						693
	10	430.767						693
	10	1579.05						693
	100	1800.28						693

MAGNESIUM I (Mg^+), $Z = 12$ Ground State $1s^2 2s^2 2p^6 3s^2 \ ^1S_0$ (12 electrons)Ionization Potential 61 671.20 cm^{-1} ; 7.646 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		200.29	0.0 - 499.29	$2p^6 3s^2 - 2p^6 (^4P^o)(3s 3p (^4P^o)) 4p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		203.15	0.0 - 492.25	$2p^6 3s^2 - 2p^6 (^4P^o)(3s 3p (^4P^o)) 4p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		204.22	0.0 - 489.67	$2p^6 3s^2 - 2p^6 3p^2 3d$	$g^1 S - X^o$	0 - 1	A, Z	894
		209.84	0.0 - 476.55	$2p^6 3s^2 - 2p^6 (^2P^o)(3s 3p^2 (^2P^o))$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		213.53	0.0 - 468.32	$2p^6 3s^2 - 2p^6 (^2P^o)(3s 3p^2 (^2S))$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		216.22	0.0 - 462.49	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 6d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		216.68	0.0 - 461.51	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 7d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		217.21	0.0 - 460.38	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 5d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		217.37	0.0 - 460.05	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 6s$	$g^1 S - \frac{1}{2} [\frac{1}{2}]^o$	0 - 1	A, Z	894
		218.19	0.0 - 458.32	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 5f$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		218.42	0.0 - 457.83	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 6s$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		218.74	0.0 - 457.14	$2p^6 3s^2 - 2p^6 (^2P^o)(3s 3p^2 (^2S))$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		219.04	0.0 - 456.54	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 4d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		219.28	0.0 - 456.04	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 3s$	$g^1 S - \frac{1}{2} [\frac{1}{2}]^o$	0 - 1	A, Z	894
		220.03	0.0 - 454.48	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 4d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		220.33	0.0 - 453.86	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 5s$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		222.03	0.0 - 450.39	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{1/2}^o) 3d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		222.67	0.0 - 449.10	$2p^6 3s^2 - 2p^6 (^2P^o)(3s 3p^2 (^2D))$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894
		223.45	0.0 - 447.53	$2p^6 3s^2 - 2p^6 3s^2 (^2P_{3/2}^o) 3d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1	A, Z	894
		223.74	0.0 - 446.94	$2p^6 3s^2 - 2p^6 (^2P^o)(3s 3p^2 (^2D))$	$g^1 S - ^1 P^o$	0 - 1	A, Z	894

Mg I

Mg II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		225.18	0.0 - 444.09	$2p^6 3s^2 - 2p^6 3s^2 (^4P_{1/2}) 4s$	$g^1 S - \frac{1}{2} [\frac{1}{2}]$	0 - 1	A, Z	894
		225.54	0.0 - 443.38	$2p^6 3s^2 - 2p^6 3s^2 (^4P_{1/2}) (3s 3p^2 (^4P))$	$g^1 S - ^3 P^2$	0 - 1	A, Z	894
		226.26	0.0 - 441.97	$2p^6 3s^2 - 2p^6 3s^2 (^4P_{1/2}) 4s$	$g^1 S - \frac{3}{2} [\frac{3}{2}]$	0 - 1	A, Z	894
		1625.22	0.0 - 61.53	$3s^2 - 3s 29p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1625.50	0.0 - 61.52	$3s^2 - 3s 28p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1625.81	0.0 - 61.51	$3s^2 - 3s 27p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1626.151	0.0 - 61.49	$3s^2 - 3s 26p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1626.36	0.0 - 61.49	$3s^2 - 3s 26p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1626.549	0.0 - 61.48	$3s^2 - 3s 25p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1626.79	0.0 - 61.47	$3s^2 - 3s 25p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1627.000	0.0 - 61.46	$3s^2 - 3s 24p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1627.27	0.0 - 61.45	$3s^2 - 3s 24p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1627.514	0.0 - 61.44	$3s^2 - 3s 23p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1627.82	0.0 - 61.43	$3s^2 - 3s 23p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1628.104	0.0 - 61.42	$3s^2 - 3s 22p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1628.46	0.0 - 61.41	$3s^2 - 3s 22p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1628.786	0.0 - 61.40	$3s^2 - 3s 21p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1629.21	0.0 - 61.38	$3s^2 - 3s 21p$	$g^1 S - ^1 P^2$	0 - 1	A	145
		1629.579	0.0 - 61.37	$3s^2 - 3s 20p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1629.6	0.0 - 61.36	$3s^2 - 3s 20p$	$g^1 S - ^1 P^2$	0 - 1	P	375
		1630.509	0.0 - 61.33	$3s^2 - 3s 19p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1630.6	0.0 - 61.33	$3s^2 - 3s 19p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1631.609	0.0 - 61.29	$3s^2 - 3s 18p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1631.7	0.0 - 61.29	$3s^2 - 3s 18p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1632.924	0.0 - 61.24	$3s^2 - 3s 17p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1633.1	0.0 - 61.24	$3s^2 - 3s 17p$	$g^1 S - ^1 P^2$	0 - 1	P	375
		1634.515	0.0 - 61.18	$3s^2 - 3s 16p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1634.7	0.0 - 61.18	$3s^2 - 3s 16p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1636.465	0.0 - 61.11	$3s^2 - 3s 15p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1636.6	0.0 - 61.10	$3s^2 - 3s 15p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1638.890	0.0 - 61.02	$3s^2 - 3s 14p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1639.1	0.0 - 61.01	$3s^2 - 3s 14p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1641.957	0.0 - 60.90	$3s^2 - 3s 13p$	$g^1 S - ^1 P^2$	0 - 1	A	96
		1642.2	0.0 - 60.89	$3s^2 - 3s 13p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	0	1645.921	0.0 - 60.76	$3s^2 - 3s 12p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1646.3	0.0 - 60.74	$3s^2 - 3s 12p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	10	1651.163	0.0 - 60.56	$3s^2 - 3s 11p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1651.7	0.0 - 60.54	$3s^2 - 3s 11p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	20	1658.312	0.0 - 60.30	$3s^2 - 3s 10p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1659.0	0.0 - 60.28	$3s^2 - 3s 10p$	$g^1 S - ^1 P^2$	0 - 1	A	375
		1668.419	0.0 - 59.94	$3s^2 - 3s 9p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1669.51	0.0 - 59.90	$3s^2 - 3s 9p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	100	1683.406	0.0 - 59.40	$3s^2 - 3s 8p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1685.13	0.0 - 59.34	$3s^2 - 3s 8p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	150	1707.056	0.0 - 58.58	$3s^2 - 3s 7p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1710.07	0.0 - 58.48	$3s^2 - 3s 7p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	200	1747.790	0.0 - 57.22	$3s^2 - 3s 6p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1753.84	0.0 - 57.02	$3s^2 - 3s 6p$	$g^1 S - ^1 P^2$	0 - 1	A	375
	300	1827.935	0.0 - 54.71	$3s^2 - 3s 5p$	$g^1 S - ^1 P^2$	0 - 1	A	96, 831
		1843.32	0.0 - 54.25	$3s^2 - 3s 5p$	$g^1 S - ^1 P^2$	0 - 1	A	375

MAGNESIUM II (Mg^{+}), $Z = 12$ Ground State $1s^2 2s^2 2p^6 3s^2 S_{1/2}$ (11 electrons)Ionization Potential 121 267.61 cm^{-1} ; 15.035 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		184.09	0.0 - 543.21	$2p^6 3s - 2p^6 3s (^1P_1) 7d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		184.31	0.0 - 542.56	$2p^6 3s - 2p^6 3s (^1P_1) 9d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		184.68	0.0 - 541.48	$2p^6 3s - 2p^6 3s (^1P_1) 9d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		184.81	0.0 - 541.10	$2p^6 3s - 2p^6 3s (^1P_1) 8d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		185.26	0.0 - 539.78	$2p^6 3s - 2p^6 3s (^1P_1) 6d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		185.59	0.0 - 538.82	$2p^6 3s - 2p^6 3s (^1P_1) 7d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		185.98	0.0 - 537.69	$2p^6 3s - 2p^6 3s (^1P_1) 7d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		186.47	0.0 - 536.28	$2p^6 3s - 2p^6 3s (^1P_1) 6d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		186.84	0.0 - 535.22	$2p^6 3s - 2p^6 3s (^1P_1) 6d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		187.19	0.0 - 534.22	$2p^6 3s - 2p^6 3s (^1P_1) 6d$	$g^1 S - ^1 S^2$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		187.38	0.0 - 533.67	$2p^2 3s - 2p^2 3s(^3P^o) 6d$	$g^o S - 2[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		188.54	0.0 - 530.39	$2p^2 3s - 2p^2 3s(^3P^o) 5d$	$g^o S - 0[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		188.91	0.0 - 529.35	$2p^2 3s - 2p^2 3s(^3P^o) 5d$	$g^o S - 1[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		189.01	0.0 - 529.07	$2p^2 3s - 2p^2 3s(^3P^o) 5d$	$g^o S - 1[3]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		189.23	0.0 - 528.46	$2p^2 3s - 2p^2 3s(^3P^o) 5d$	$g^o S - 2[3]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		189.37	0.0 - 528.07	$2p^2 3s - 2p^2 3s(^3P^o) 5d$	$g^o S - 2[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		191.29	0.0 - 522.74	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 1[3]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		191.56	0.0 - 522.03	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 1[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		191.65	0.0 - 521.78	$2p^2 3s - 2p^2 3s(^3P^o) 5s$	$g^o S - 1[1]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		192.40	0.0 - 519.75	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 2[3]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		192.55	0.0 - 519.35	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 0[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		192.84	0.0 - 518.56	$2p^2 3s - 2p^2 3s(^3P^o) 5s$	$g^o S - 1[1]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		193.09	0.0 - 517.89	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 1[3]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		193.31	0.0 - 517.3	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 1[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		193.40	0.0 - 517.06	$2p^2 3s - 2p^2 3s(^3P^o) 5s$	$g^o S - 2[1]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		193.64	0.0 - 516.42	$2p^2 3s - 2p^2 3s(^3P^o) 4d$	$g^o S - 2[2]^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		197.76	0.0 - 505.78	$2p^2 3s - 2p^2 3s(^3P^o)(3p^2(^3P))$	$g^o S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		199.31	0.0 - 501.73	$2p^2 3s - 2p^2 3s(^3P^o)(3p^2(^1S))$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		202.00	0.0 - 495.05	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 6^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		202.27	0.0 - 494.39	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 5^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		202.51	0.0 - 493.80	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 4^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		202.94	0.0 - 492.76	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 3^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		203.42	0.0 - 491.59	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 2^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		203.53	0.0 - 491.33	$2p^2 3s - 2p^2 3s(^3P^o)(3s4d(^1D))$	$g^o S - 1^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		209.09	0.0 - 478.26	$2p^2 3s - 2p^2 3s(^3P^o)(3s4s(^1S))$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	894
		209.43	0.0 - 477.49	$2p^2 3s - 2p^2 3s(^3P^o)(3s4s(^1S))$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		247.14	0.0 - 404.63	$2p^2 3s - 2p^2 3s^2$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	A, Z	894
		248.4	0.0 - 402.46	$2p^2 3s - 2p^2 3s^2$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	A, Z	894
		884.6967	0.0 - 113.03	$2p^2 3s - 2p^2 8p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		592
		884.7189	0.0 - 113.03	$2p^2 3s - 2p^2 8p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		592
		907.3752	0.0 - 110.21	$2p^2 3s - 2p^2 7p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		592
		907.4115	0.0 - 110.20	$2p^2 3s - 2p^2 7p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		592
80		946.7032	0.0 - 105.63	$2p^2 3s - 2p^2 6p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		592, 831
90		946.7694	0.0 - 105.62	$2p^2 3s - 2p^2 6p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		592, 831
140		1025.9681	0.0 - 97.47	$2p^2 3s - 2p^2 5p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		592, 831
120		1026.1133	0.0 - 97.46	$2p^2 3s - 2p^2 5p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		592, 831
250		1239.9252	0.0 - 80.65	$2p^2 3s - 2p^2 4p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		592, 831
200		1240.3947	0.0 - 80.62	$2p^2 3s - 2p^2 4p$	$g^o S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		592, 831
60		1248.511	35.67 - 115.76	$2p^2 3p - 2p^2 10s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		831
90		1249.932	35.76 - 115.76	$2p^2 3p - 2p^2 10s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		831
80		1271.2388	35.67 - 114.33	$2p^2 3p - 2p^2 8d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		592, 831
90		1271.9402	35.67 - 114.29	$2p^2 3p - 2p^2 9s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		592, 831
80		1272.7212	35.76 - 114.33	$2p^2 3p - 2p^2 8d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		592, 831
110		1273.4232	35.76 - 114.29	$2p^2 3p - 2p^2 9s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		592, 831
110		1306.7139	35.67 - 112.20	$2p^2 3p - 2p^2 7d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		592, 831
120		1307.8754	35.67 - 112.13	$2p^2 3p - 2p^2 8s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		592, 831
120		1308.2809	35.76 - 112.20	$2p^2 3p - 2p^2 7d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		592, 831
140		1309.4434	35.76 - 112.13	$2p^2 3p - 2p^2 8s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		592, 831
140		1365.5442	35.67 - 108.90	$2p^2 3p - 2p^2 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		592, 831
150		1367.2568	35.76 - 108.90	$2p^2 3p - 2p^2 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		592, 831
150		1367.7082	35.67 - 108.78	$2p^2 3p - 2p^2 7s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		592, 831
180		1369.4231	35.76 - 108.78	$2p^2 3p - 2p^2 7s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		592, 831
200		1475.9998	35.67 - 103.42	$2p^2 3p - 2p^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		592, 831
250		1478.0037	35.76 - 103.42	$2p^2 3p - 2p^2 5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		592, 831
200		1480.8797	35.67 - 103.20	$2p^2 3p - 2p^2 6s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		592, 831
300		1482.8903	35.76 - 103.20	$2p^2 3p - 2p^2 6s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		592, 831
400		1734.8523	35.67 - 93.31	$2p^2 3p - 2p^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		592, 831
500		1737.6283	35.76 - 93.31	$2p^2 3p - 2p^2 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		592, 831
400		1750.6637	35.67 - 92.79	$2p^2 3p - 2p^2 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		592, 831
500		1753.4744	35.76 - 92.79	$2p^2 3p - 2p^2 5s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		592, 831

MAGNESIUM III (Mg^{2+}), $Z = 12$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential 646 402 cm^{-1} ; 80.144 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in $10^3 cm^{-1}$)	Configurations	Terms	J - J	Notes	References
		106.30	0.0 - 940.73	$2s^2 2p^6 - 2s 2p^6 8p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		107.05	0.0 - 934.14	$2s^2 2p^6 - 2s 2p^6 7p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		108.08	0.0 - 925.24	$2s^2 2p^6 - 2s 2p^6 6p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		110.12	0.0 - 908.10	$2s^2 2p^6 - 2s 2p^6 5p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		114.34	0.0 - 874.58	$2s^2 2p^6 - 2s 2p^6 4p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
		126.49	0.0 - 790.58	$2s^2 2p^6 - 2s 2p^6 3p$	$g^1 S - ^1 P^o$	0 - 1	A, Z	440
10		157.701	0.0 - 634.11	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 9d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
10		157.981	0.0 - 632.99	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 8d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
20		158.522	0.0 - 630.83	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 8d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
20		159.198	0.0 - 628.15	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 7d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
40		159.741	0.0 - 626.01	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 7d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
50		161.108	0.0 - 620.70	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 6d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
50		161.655	0.0 - 618.60	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 6d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
20		163.562	0.0 - 611.39	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 6s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
10		164.133	0.0 - 609.26	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 6s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
80		164.394	0.0 - 608.30	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 5f$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
80		164.949	0.0 - 606.25	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 5d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
10		165.192	0.0 - 605.36	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 5d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
70		169.1406	0.0 - 591.22	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 5s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
60		169.7411	0.0 - 589.13	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 5s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
150		170.8050	0.0 - 585.47	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 4d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
150		171.3946	0.0 - 583.45	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 4d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
40		171.8984	0.0 - 581.73	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 4d$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
150		182.2415	0.0 - 548.72	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 4s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
120		182.9717	0.0 - 546.53	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 4s$	$g^1 S - \frac{3}{2} \frac{7}{2}$	0 - 1		426
4	200	186.5149	0.0 - 536.15	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 3d$	$g^1 S - ^1 P^o$	0 - 1		426
3	200	187.1977	0.0 - 534.20	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 3d$	$g^1 S - ^1 D^o$	0 - 1		426
	100	188.5296	0.0 - 530.42	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 3d$	$g^1 S - ^1 P^o$	0 - 1		426
2	1000	231.7333	0.0 - 431.53	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 3s$	$g^1 S - ^1 P^o$	0 - 1		426
1	800	234.2631	0.0 - 426.87	$2s^2 2p^6 - 2s^2 2p^6 (^1P_{1/2}) 3s$	$g^1 S - ^1 P^o$	0 - 1		426
	4	721.592	431.53 - 570.11	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{1}{2} \frac{1}{2}$	1 - 0		2
	7	725.347	426.87 - 564.73	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{1}{2} \frac{1}{2}$	1 - 1		2
	20	728.337	425.64 - 562.94	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	2 - 2		2
	20	732.625	425.64 - 562.14	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	2 - 2		2
	60	734.441	425.64 - 561.80	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	2 - 3		2
	30	736.563	426.87 - 562.63	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	40	739.276	426.87 - 562.14	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	1 - 2		2
	20	741.932	427.85 - 562.63	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	0 - 1		2
	40	744.342	425.64 - 559.99	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	2 - 1		2
	12	750.745	431.53 - 564.73	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{1}{2} \frac{1}{2}$	1 - 1		2
	40	751.121	431.53 - 564.66	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{1}{2} \frac{3}{2}$	1 - 2		2
	40	751.207	426.87 - 559.99	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{1}{2}$	1 - 1		2
	12	753.247	431.53 - 564.29	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{1}{2} \frac{3}{2}$	1 - 1		2
	7	756.808	427.85 - 559.99	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{1}{2}$	0 - 1		2
	7	760.981	431.53 - 562.94	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	1 - 2		2
	12	762.756	431.53 - 562.63	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	20	765.655	431.53 - 562.14	$2s^2 2p^6 (^1P_{1/2}) 3s - 2s^2 2p^6 (^1P_{1/2}) 4p$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	1 - 2		2
	4	821.369	467.38 - 589.13	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 S - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	7	823.788	467.38 - 588.77	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 S - \frac{3}{2} \frac{3}{2}$	1 - 2		2
	4	865.935	475.50 - 590.98	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{1}{2} \frac{1}{2}$	1 - 0		2
	40	871.720	474.05 - 588.77	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	3 - 2		2
	20	873.580	474.66 - 589.13	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	2 - 1		2
	7	876.312	474.66 - 588.77	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	2 - 2		2
	7	878.847	477.44 - 591.22	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{1}{2} \frac{1}{2}$	2 - 1		2
	7	880.107	475.50 - 589.13	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	7	886.158	478.37 - 591.22	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{1}{2} \frac{1}{2}$	1 - 1		2
	20	889.888	478.85 - 591.22	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{1}{2} \frac{1}{2}$	2 - 1		2
	7	894.744	479.46 - 591.22	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{1}{2} \frac{1}{2}$	1 - 1		2
	12	895.324	477.44 - 589.13	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	2 - 1		2
	4	896.640	479.46 - 590.98	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{1}{2} \frac{1}{2}$	1 - 0		2
	12	898.207	477.44 - 588.77	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 D - \frac{3}{2} \frac{3}{2}$	2 - 2		2
	7	902.923	478.37 - 589.13	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	7	909.730	478.85 - 588.77	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 5s$	$^1 P - \frac{3}{2} \frac{3}{2}$	2 - 2		2
	4	1229.389	467.38 - 548.72	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 4s$	$^1 S - \frac{1}{2} \frac{1}{2}$	1 - 1		2
	4	1239.827	467.38 - 548.03	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 4s$	$^1 S - \frac{1}{2} \frac{1}{2}$	1 - 0		2
	7	1263.375	467.38 - 546.53	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 4s$	$^1 S - \frac{3}{2} \frac{3}{2}$	1 - 1		2
	2	1271.784	530.42 - 609.05	$2s^2 2p^6 (^1P_{1/2}) 3d - 2s^2 2p^6 (^1P_{1/2}) 5f$	$^1 P^o - \frac{1}{2} \frac{3}{2}$	1 - 2		2
	100	1274.831	467.38 - 545.82	$2s^2 2p^6 (^1P_{1/2}) 3p - 2s^2 2p^6 (^1P_{1/2}) 4s$	$^1 S - \frac{3}{2} \frac{3}{2}$	1 - 2		2
	2	1280.702	530.96 - 609.05	$2s^2 2p^6 (^1P_{1/2}) 3d - 2s^2 2p^6 (^1P_{1/2}) 5f$	$^1 P^o - \frac{1}{2} \frac{3}{2}$	2 - 3		2
		1306.59	530.18 - 606.71	$2s^2 2p^6 (^1P_{1/2}) 3d - 2s^2 2p^6 (^1P_{1/2}) 5f$	$^1 P^o - \frac{3}{2} \frac{3}{2}$	0 - 1		2

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	1308.654	530.42 - 606.83	530.42 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
2	1310.271	532.73 - 609.05	532.73 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
7	1310.633	530.42 - 606.72	530.42 - 606.72	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
2	1310.720	530.42 - 606.71	530.42 - 606.71	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 1		2
	1314.50	532.97 - 609.05	532.97 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{1}{2}[\frac{3}{2}]$	3 - 4		2
12	1318.078	530.96 - 606.83	530.96 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
4	1320.022	530.96 - 606.72	530.96 - 606.72	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
4	1327.512	531.56 - 606.89	531.56 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	4 - 4		2
60	1329.583	531.56 - 606.77	531.56 - 606.77	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	4 - 5		2
4	1332.310	531.83 - 606.89	531.83 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	3 - 3		2
30	1334.359	531.83 - 606.78	531.83 - 606.78	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
2	1335.951	534.20 - 609.05	534.20 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{1}{2}[\frac{3}{2}]$	1 - 2		2
	1346.46	534.78 - 609.05	534.78 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
7	1348.342	532.73 - 606.89	532.73 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
12	1349.132	534.92 - 609.05	534.92 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{1}{2}[\frac{3}{2}]$	3 - 3		2
2	1349.365	532.73 - 606.83	532.73 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
12	1350.156	474.6 - 548.72	474.6 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{1}{2}[\frac{3}{2}]$	2 - 1		2
	1352.80	532.97 - 606.89	532.97 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
7	1353.804	535.18 - 609.05	535.18 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
2	1353.915	532.97 - 606.83	532.97 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3F^o - \frac{3}{2}[\frac{3}{2}]$	3 - 3		2
4	1371.769	536.15 - 609.05	536.15 - 609.05	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3P^o - \frac{1}{2}[\frac{3}{2}]$	1 - 2		2
7	1376.713	534.20 - 606.83	534.20 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
40	1378.700	475.50 - 548.03	475.50 - 548.03	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{1}{2}[\frac{3}{2}]$	1 - 0		2
2	1378.891	534.20 - 606.72	534.20 - 606.72	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
2	1386.691	534.78 - 606.89	534.78 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
4	1389.504	534.92 - 606.89	534.92 - 606.89	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
200	1391.271	474.66 - 546.53	474.66 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	2 - 1		2
350	1393.391	474.05 - 545.82	474.05 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	3 - 2		2
4	1395.642	535.18 - 606.83	535.18 - 606.83	$2s^2 2p^4 (^3P_{3/2}^o) 3d - 2s^2 2p^4 (^3P_{3/2}^o) 5f$	$^3D^o - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
	1402.82	477.44 - 548.72	477.44 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{1}{2}[\frac{3}{2}]$	2 - 1		2
80	1405.170	474.66 - 545.82	474.66 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
40	1407.880	475.50 - 546.53	475.50 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	1 - 1		2
20	1421.538	478.37 - 548.72	478.37 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	1 - 1		2
7	1422.118	475.50 - 545.82	475.50 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
100	1431.136	478.85 - 548.72	478.85 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	2 - 1		2
40	1435.550	478.37 - 548.03	478.37 - 548.03	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	1 - 0		2
4	1439.770	479.27 - 548.72	479.27 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	0 - 1		2
60	1443.738	479.46 - 548.72	479.46 - 548.72	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	1 - 1		2
40	1446.254	426.87 - 496.01	426.87 - 496.01	$2s^2 2p^4 (^3P_{3/2}^o) 3s - 2s^2 2p^4 (^3P_{3/2}^o) 3p$	$^3P^o - ^3S$	1 - 0		2
30	1447.260	477.44 - 546.53	477.44 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	2 - 1		2
20	1458.172	479.46 - 548.03	479.46 - 548.03	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{1}{2}[\frac{3}{2}]$	1 - 0		2
20	1462.305	477.44 - 545.82	477.44 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3D - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
12	1467.188	478.37 - 546.53	478.37 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	1 - 1		2
4	1474.898	467.38 - 535.18	467.38 - 535.18	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3S - ^3D^o$	1 - 2		2
2	1477.416	478.85 - 546.53	478.85 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	2 - 1		2
	1482.67	478.37 - 545.82	478.37 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
12	1486.624	479.27 - 546.53	479.27 - 546.53	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	0 - 1		2
12	1493.097	478.85 - 545.82	478.85 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
7	1506.826	479.46 - 545.82	479.46 - 545.82	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 4s$	$^3P - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
	1550.82	431.53 - 496.01	431.53 - 496.01	$2s^2 2p^4 (^3P_{3/2}^o) 3s - 2s^2 2p^4 (^3P_{3/2}^o) 3p$	$^3P^o - ^3S$	1 - 0		2
400	1572.712	467.38 - 530.96	467.38 - 530.96	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3S - ^3P^o$	1 - 2		2
200	1586.237	467.38 - 530.42	467.38 - 530.42	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3S - ^3P^o$	1 - 1		2
60	1592.360	467.38 - 530.18	467.38 - 530.18	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3S - ^3P^o$	1 - 0		2
4	1626.093	474.66 - 536.15	474.66 - 536.15	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3P^o$	2 - 1		2
4	1635.946	474.05 - 535.18	474.05 - 535.18	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	3 - 2		2
20	1642.826	474.05 - 534.92	474.05 - 534.92	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	3 - 3		2
4	1648.822	475.50 - 536.15	475.50 - 536.15	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3P^o$	1 - 1		2
12	1652.218	474.66 - 535.18	474.66 - 535.18	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	2 - 2		2
12	1659.244	474.66 - 534.92	474.66 - 534.92	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	2 - 3		2
4	1663.287	474.66 - 534.78	474.66 - 534.78	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	2 - 2		2
2	1675.710	475.50 - 535.18	475.50 - 535.18	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	1 - 2		2
4	1679.470	474.66 - 534.20	474.66 - 534.20	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	2 - 1		2
250	1687.091	475.50 - 534.78	475.50 - 534.78	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	1 - 2		2
250	1697.282	474.05 - 532.97	474.05 - 532.97	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3F^o$	3 - 3		2
7	1703.108	477.44 - 536.15	477.44 - 536.15	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3P^o$	2 - 1		2
20	1703.731	475.50 - 534.20	475.50 - 534.20	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3D^o$	1 - 1		2
4	1704.368	474.05 - 532.73	474.05 - 532.73	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3F^o$	3 - 2		2
12	1714.783	474.66 - 532.97	474.66 - 532.97	$2s^2 2p^4 (^3P_{3/2}^o) 3p - 2s^2 2p^4 (^3P_{3/2}^o) 3d$	$^3D - ^3F^o$			

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm $^{-1}$)	Configurations	Terms	J - J	Notes	References
2	1745.009		478.85 - 536.17	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	2 - 1		2
200	1747.561		475.50 - 532.73	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4F^*$	1 - 2		2
500	1748.932		474.66 - 531.83	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4F^*$	2 - 3		2
4	1757.176		474.05 - 530.96	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	3 - 2		2
20	1757.888		479.27 - 536.15	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4P - ^4P^*$	0 - 1		2
	1761.74		477.44 - 534.20	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4D^*$	2 - 1		2
30	1763.805		479.46 - 536.15	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 1		2
350	1772.982		478.37 - 534.78	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	1 - 2		2
2	1773.959		530.42 - 586.79	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{1}{2}[\frac{3}{2}]$	1 - 2		2
4	1775.942		474.66 - 530.96	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	2 - 2		2
550	1783.253		478.85 - 534.92	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	2 - 3		2
12	1787.927		478.85 - 534.78	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	2 - 2		2
20	1791.375		478.37 - 534.20	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	1 - 1		2
	1791.40		530.96 - 586.79	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
4	1793.207		474.66 - 530.42	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	2 - 1		2
300	1794.582		479.46 - 535.18	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	1 - 2		2
350	1800.662		477.44 - 532.97	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4F^*$	2 - 3		2
4	1803.087		475.50 - 530.96	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	1 - 2		2
2	1819.954		531.83 - 586.78	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{1}{2}[\frac{3}{2}]$	3 - 4		2
20	1820.421		479.27 - 534.20	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4P - ^4D^*$	0 - 1		2
2	1820.896		475.50 - 530.42	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	1 - 1		2
2	1826.750		479.46 - 534.20	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4D^*$	1 - 1		2
2	1828.974		475.50 - 530.18	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	1 - 0		2
12	1838.336		477.44 - 531.83	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4F^*$	2 - 3		2
7	1839.878		478.37 - 532.73	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4F^*$	1 - 2		2
7	1846.121		530.18 - 584.35	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	0 - 1		2
7	1846.707		530.42 - 584.57	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
2	1847.561		478.85 - 532.97	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4F^*$	2 - 3		2
2	1849.591		532.73 - 586.79	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{1}{2}[\frac{3}{2}]$	2 - 2		2
7	1850.060		532.73 - 586.78	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
4	1854.139		530.42 - 584.35	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	1 - 2		2
	1855.99		478.85 - 532.73	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4F^*$	2 - 2		2
250	1858.186		425.64 - 479.46	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	2 - 1		2
7	1858.451		532.97 - 586.78	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{1}{2}[\frac{3}{2}]$	3 - 4		2
1	1865.388		530.96 - 584.57	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
12	1865.636		530.96 - 584.56	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
40	1868.225		477.44 - 530.96	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	2 - 2		2
4	1872.956		530.96 - 584.35	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
1	1873.268		530.96 - 584.35	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4P^* - \frac{3}{2}[\frac{3}{2}]$	2 - 1		2
200	1879.492		425.64 - 478.85	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	2 - 2		2
7	1882.308		531.56 - 584.69	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	4 - 4		2
2	1886.764		531.56 - 584.56	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	4 - 3		2
12	1887.308		477.44 - 530.42	$2s^2 2p^4 (^4P_{3/2}) 3p - 2s^2 2p^4 (^4P_{3/2}) 3d$	$^4D - ^4P^*$	2 - 1		2
40	1890.380		531.56 - 584.46	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	4 - 5		2
7	1891.970		531.83 - 584.69	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	3 - 3		2
20	1896.304		425.64 - 478.37	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	2 - 1		2
7	1897.226		496.01 - 548.72	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 4s$	$^4S - \frac{1}{2}[\frac{1}{2}]$	0 - 1		2
20	1900.043		531.83 - 584.46	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
4	1901.360		534.20 - 586.79	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	1 - 2		2
20	1901.572		426.87 - 479.46	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	1 - 1		2
100	1908.500		426.87 - 479.27	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	1 - 0		2
20	1918.777		478.85 - 530.96	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	2 - 2		2
2	1921.374		478.37 - 530.42	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 1		2
2	1922.540		534.78 - 586.79	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	2 - 2		2
1	1922.788		534.78 - 586.79	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
20	1923.042		534.78 - 586.78	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
200	1923.896		426.87 - 478.85	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	1 - 2		2
30	1924.479		532.73 - 584.69	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
2	1928.198		534.92 - 586.79	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	3 - 3		2
30	1928.424		534.92 - 586.78	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	3 - 4		2
4	1928.811		532.73 - 584.57	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	2 - 2		2
1	1929.080		532.73 - 584.56	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	2 - 3		2
7	1930.374		478.37 - 530.18	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 0		2
250	1930.672		425.64 - 477.44	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4D$	2 - 2		2
40	1933.563		532.97 - 584.69	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
1	1937.539		535.18 - 586.79	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	2 - 2		2
	1937.78		535.18 - 586.79	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4D^* - \frac{1}{2}[\frac{3}{2}]$	2 - 3		2
150	1937.843		427.85 - 479.46	$2s^2 2p^4 (^4P_{3/2}) 3s - 2s^2 2p^4 (^4P_{3/2}) 3p$	$^4P^* - ^4P$	0 - 1		2
7	1938.249		532.97 - 584.56	$2s^2 2p^4 (^4P_{1/2}) 3d - 2s^2 2p^4 (^4P_{1/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	3 - 3		2
7	1938.936		478.85 - 530.42	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	2 - 1		2
12	1941.500		479.46 - 530.96	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 2		2
4	1942.036		532.97 - 584.46	$2s^2 2p^4 (^4P_{3/2}) 3d - 2s^2 2p^4 (^4P_{3/2}) 4f$	$^4F^* - \frac{3}{2}[\frac{3}{2}]$	3 - 4		2
7	1954.831		479.27 - 530.42	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	0 - 1		2
7	1962.145		479.46 - 530.42	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 1		2
4	1971.514		479.46 - 530.18	$2s^2 2p^4 (^4P_{1/2}) 3p - 2s^2 2p^4 (^4P_{1/2}) 3d$	$^4P - ^4P^*$	1 - 0		2

Mg III

Mg IV

Multiplet	Rel. in.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	12	1074.557	536.15 - 586.79	$2s^2 2p^3 (^4P^o_1) 3d$ - $2s^2 2p^3 (^4P^o_1) 4f$	$^4P^o - \frac{1}{2}(\frac{3}{2})$	1 - 2		2
	60	1077.554	426.87 - 477.44	$2s^2 2p^3 (^4P^o_1) 3s$ - $2s^2 2p^3 (^4P^o_1) 3p$	$^4P^o - ^4D$	1 - 2		2
	80	1079.327	427.85 - 478.37	$2s^2 2p^3 (^4P^o_1) 3s$ - $2s^2 2p^3 (^4P^o_1) 3p$	$^4P^o - ^4P$	0 - 1		2
		1079.43	496.01 - 546.53	$2s^2 2p^3 (^4P^o_1) 3p$ - $2s^2 2p^3 (^4P^o_1) 4s$	$^4S - \frac{3}{2}(\frac{3}{2})$	0 - 1		2
	12	1085.173	534.20 - 584.57	$2s^2 2p^3 (^4P^o_1) 3d$ - $2s^2 2p^3 (^4P^o_1) 4f$	$^4D^o - \frac{3}{2}(\frac{3}{2})$	1 - 2		2
	-	1093.759	534.20 - 584.35	$2s^2 2p^3 (^4P^o_1) 3d$ - $2s^2 2p^3 (^4P^o_1) 4f$	$^4D^o - \frac{3}{2}(\frac{3}{2})$	1 - 2		2
	4	1094.080	534.20 - 584.35	$2s^2 2p^3 (^4P^o_1) 3d$ - $2s^2 2p^3 (^4P^o_1) 4f$	$^4D^o - \frac{3}{2}(\frac{3}{2})$	1 - 1		2

MAGNESIUM IV (Mg^{3+}), $Z = 12$ Ground State $1s^2 2s^2 2p^3 \ ^4P^o_{3/2}$ (9 electrons)Ionization Potential $881\,190 \text{ cm}^{-1}$; 109.25 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	112.914			$2s^2 2p^4 - 2s^2 2p^4 (^1S) 4d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		692
80	118.164		0.0 - 846.28	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
100	118.424		0.0 - 844.42	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
80	118.476		2.23 - 846.28	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 4d$	$g^2 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
60	118.487		0.0 - 843.97	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
80	118.737		2.23 - 844.42	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
80	118.792		2.23 - 844.04	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		861
160	118.810		2.23 - 843.97	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
10	120.086							692
100	121.542		0.0 - 822.76	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5s$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
20	121.873		2.23 - 822.75	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 5s$	$g^2 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
40	123.169		0.0 - 811.39	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
160	123.266		0.0 - 811.25	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
120	123.367		0.0 - 810.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
80	123.377		0.0 - 810.49	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		861
60	123.401		0.0 - 810.37	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		861
140	123.417		0.0 - 810.25	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		861
100	123.508		2.23 - 811.89	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
100	123.567		0.0 - 809.27	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
140	123.590		0.0 - 809.13	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		861
10	123.613		0.0 - 808.97	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		861
40	123.708		2.23 - 810.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
80	123.722		2.23 - 810.49	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		861
40	123.761		2.23 - 810.25	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1F$	$\frac{1}{2} - \frac{3}{2}$		861
10	123.910		2.23 - 809.27	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
20	123.958		2.23 - 808.97	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		861
120	124.417		0.0 - 803.75	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		861
60	124.527		0.0 - 803.05	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
140	124.541		0.0 - 802.95	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
100	124.640		0.0 - 802.31	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		861
160	124.652		0.0 - 802.23	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
100	124.763		2.23 - 803.75	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		861
120	124.872		2.23 - 803.05	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
120	124.987		2.23 - 802.31	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
160	124.999		2.23 - 802.23	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 4d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
100	125.462		0.0 - 797.06	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 4s$	$g^2 P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		861
80	125.813		2.23 - 797.06	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 4s$	$g^2 P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		861
20	126.602		0.0 - 789.88	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		861
80	126.799		0.0 - 788.64	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
40	126.960		2.23 - 789.88	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		861
60	127.013		0.0 - 787.32	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
20	127.161		2.23 - 788.64	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
20	127.375		2.23 - 787.32	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 5s$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
100	129.711		0.0 - 770.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
320	129.857		0.0 - 770.08	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
?	129.966		0.0 - 769.43	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
180	129.975		0.0 - 769.38	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		861
200	130.086		2.23 - 770.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
180	130.118		0.0 - 768.53	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861
140	130.246		0.0 - 767.78	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 4d$	$g^2 P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		861

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
180	130.295	0.0 - 767.49		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{5}{2}$		861
180	130.344	2.23 - 769.43		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
180	130.354	2.23 - 769.38		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
60	130.537	2.23 - 768.29		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$		861
80	130.624	2.23 - 767.78		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
20	130.700	2.23 - 767.34		$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
100	132.123	0.0 - 756.87		$2s^2 2p^4 - 2s^2 2p^3(^1D)4s$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
60	132.509	2.23 - 756.88		$2s^2 2p^4 - 2s^2 2p^3(^1D)4s$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		861
400	132.814	0.0 - 752.93		$2s^2 2p^4 - 2s^2 2p^3(^1S)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
180	133.197	2.23 - 753.00		$2s^2 2p^4 - 2s^2 2p^3(^1S)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		861
120	137.966	0.0 - 724.82		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
200	138.261	0.0 - 723.27		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
160	138.392	2.23 - 724.82		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
160	138.689	2.23 - 723.27		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
20	138.935	0.0 - 719.78		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
20	139.117	2.23 - 721.04		$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
140	139.989	0.0 - 714.34		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3F$	$\frac{3}{2} - \frac{5}{2}$		861
200	140.119	0.0 - 713.68		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
340	140.173	0.0 - 713.41		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
200	140.425	0.0 - 712.12		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{5}{2}$		861
220	140.474	0.0 - 711.88		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
220	140.523	0.0 - 711.63		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
220	140.558	2.23 - 713.68		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		861
220	140.867	2.23 - 712.12		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		861
160	140.915	2.23 - 711.88		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
220	140.964	2.23 - 711.63		$2s^2 2p^4 - 2s^2 2p^3(^1D)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
220	146.526	0.0 - 682.47		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
200	146.837	0.0 - 681.02		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
400	146.954	0.0 - 680.49		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
220	147.006	2.23 - 682.47		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
220	147.052	0.0 - 680.03		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
220	147.234	0.0 - 679.10		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
200	147.321	2.23 - 681.02		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
360	147.406	0.0 - 678.43		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
80	147.497	0.0 - 677.98		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
340	147.535	2.23 - 680.03		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		861
160	147.629	0.0 - 677.36		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{5}{2}$		861
220	147.749	0.0 - 676.83		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4F$	$\frac{3}{2} - \frac{5}{2}$		861
180	147.884	2.23 - 678.43		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
20	147.981	2.23 - 677.98		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
200	148.117	2.23 - 677.36		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$		861
20	148.904	0.0 - 671.57		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		861
60	148.959	0.0 - 671.32		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		861
40	149.025	0.0 - 671.03		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4D$	$\frac{3}{2} - \frac{5}{2}$		861
40	149.400	2.23 - 671.57		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
20	149.456	2.23 - 671.32		$2s^2 2p^4 - 2s^2 2p^3(^4P)3d$	$g^3P^o - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
280	160.228	0.0 - 624.11		$2s^2 2p^4 - 2s^2 2p^3(^1S)3s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{5}{2}$		861
220	160.802	2.23 - 624.11		$2s^2 2p^4 - 2s^2 2p^3(^1S)3s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		861
500	171.655	0.0 - 582.56		$2s^2 2p^4 - 2s^2 2p^3(^1D)3s$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		861
400	172.311	2.23 - 582.58		$2s^2 2p^4 - 2s^2 2p^3(^1D)3s$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		861
240	180.069	0.0 - 555.34		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
500	180.615	0.0 - 553.67		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
400	180.794	2.23 - 555.34		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
280	181.344	2.23 - 553.67		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
220	183.439	0.0 - 545.14		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
140	183.915	2.23 - 545.96		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
80	184.190	2.23 - 545.14		$2s^2 2p^4 - 2s^2 2p^3(^4P)3s$	$g^3P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
40	269.282	311.53 - 682.89		$2s^2 2p^4 - 2s^2 2p^3(^1S)3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		861
100	295.395	311.53 - 650.06		$2s^2 2p^4 - 2s^2 2p^3(^1D)3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		861
1000	320.9943	0.0 - 311.53		$2s^2 2p^4 - 2s^2 2p^4$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{5}{2}$		861
800	323.3076	2.23 - 311.53		$2s^2 2p^4 - 2s^2 2p^4$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{3}{2}$		861
80	800.409	597.07 - 722.00		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
40	803.072	596.52 - 721.04		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
40	809.975	597.58 - 721.04		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
80	811.276	596.52 - 719.78		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
60	814.873	597.07 - 719.78		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{5}{2}$		861
40	840.366	637.88 - 756.88		$2s^2 2p^4(^1D)3p - 2s^2 2p^3(^1D)4s$	$^1F^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
60	842.087	638.11 - 756.87		$2s^2 2p^4(^1D)3p - 2s^2 2p^3(^1D)4s$	$^1F^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
40	852.232	604.66 - 722.00		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		861
80	854.407	604.00 - 721.04		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		861
40	854.936	605.03 - 722.00		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
80	857.289	603.14 - 719.78		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
20	861.991	605.03 - 721.04		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		861
40	863.698	604.00 - 719.78		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		861
60	865.722	609.31 - 724.82		$2s^2 2p^4(^4P)3p - 2s^2 2p^3(^4P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		861

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	80	866.735	607.89 - 723.27	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	20	868.635	604.56 - 719.78	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	40	877.486	609.31 - 723.27	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	40	890.354	612.50 - 724.82	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		861
	40	890.604	610.98 - 723.27	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	40	891.006	644.64 - 756.88	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	40	892.218	644.79 - 756.87	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^1D^o - ^1D$	$\frac{5}{2} - \frac{7}{2}$		861
	40	893.869	612.94 - 724.82	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3S^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		861
	60	902.812	612.50 - 723.27	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	20	911.011	612.23 - 722.00	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		861
	80	919.025	612.23 - 721.04	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	60	929.774	612.23 - 719.78	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	40	936.288	650.06 - 756.87	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	20	945.342	651.09 - 756.88	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
	80	1008.763	612.50 - 711.63	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^1D) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	100	1026.406	553.67 - 651.09	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		861
	100	1037.395	553.67 - 650.06	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		861
	100	1044.366	555.34 - 651.09	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		861
	80	1055.752	555.34 - 650.06	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^1D) 3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		861
	160	1210.967	596.52 - 679.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	160	1218.992	597.07 - 679.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	180	1220.900	596.52 - 678.43	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{5}{2} - \frac{7}{2}$		861
	80	1229.066	597.07 - 678.43	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	200	1235.873	597.07 - 677.98	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		861
	220	1236.936	597.58 - 678.43	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	140	1243.840	597.58 - 677.98	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		861
	120	1307.9	637.88 - 714.34	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3F^o - ^3F$	$\frac{5}{2} - \frac{5}{2}$		861
	240	1311.650	638.11 - 714.35	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3F^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	140	1311.930	638.11 - 714.34	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3F^o - ^3F$	$\frac{1}{2} - \frac{5}{2}$		861
	140	1331.592	604.00 - 679.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	200	1336.850	596.52 - 671.32	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	300	1342.163	596.52 - 671.03	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{5}{2} - \frac{7}{2}$		861
	160	1345.643	603.14 - 677.45	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
	500	1346.543	596.52 - 670.79	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	300	1346.633	597.07 - 671.32	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	260	1351.620	597.58 - 671.57	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		861
	320	1352.020	597.07 - 671.03	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	80	1355.651	604.66 - 678.43	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	260	1356.108	597.58 - 671.32	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
	160	1361.493	604.00 - 677.45	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
	140	1362.504	605.03 - 678.43	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	20	1366.733	609.31 - 682.47	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	280	1371.033	603.14 - 676.08	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
	260	1373.187	604.00 - 676.83	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	240	1375.497	604.66 - 677.36	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	140	1377.373	607.89 - 680.49	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	320	1382.544	605.03 - 677.36	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{3}{2}$		861
	400	1384.425	603.14 - 675.37	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{5}{2}$		861
	320	1385.740	604.66 - 676.83	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	120	1386.155	607.89 - 680.03	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	340	1387.494	604.00 - 676.08	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
	100	1394.356	609.31 - 681.02	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		861
	20	1398.795	610.98 - 682.47	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	320	1404.663	637.88 - 709.07	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3F^o - ^3G$	$\frac{3}{2} - \frac{1}{2}$		861
	360	1409.336	638.11 - 709.07	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3F^o - ^3G$	$\frac{1}{2} - \frac{3}{2}$		861
	120	1413.868	609.31 - 680.03	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	180	1418.378	607.89 - 678.40	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	160	1425.597	682.85 - 753.00	$2s^2 2p^4 (^1S) 3p - 2s^2 2p^4 (^1S) 3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
	220	1427.710	682.89 - 752.93	$2s^2 2p^4 (^1S) 3p - 2s^2 2p^4 (^1S) 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	140	1429.166	612.50 - 682.47	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		861
	200	1432.767	609.31 - 679.10	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{5}{2}$		861
	260	1434.866	644.64 - 714.34	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{5}{2}$		861
	300	1437.51	644.79 - 714.35	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
	340	1437.61	607.89 - 677.45	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{1}{2}$		861
		1437.8	644.79 - 714.34	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		861
	300	1438.244	612.94 - 682.47	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3S^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		861
	280	1447.395	609.31 - 678.40	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{5}{2}$		861
	160	1448.217	610.98 - 680.03	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		861
	160	1448.456	644.64 - 713.68	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	40	1451.457	644.79 - 713.68	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		861
	100	1454.171	644.64 - 713.41	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	200	1457.212	644.79 - 713.41	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^3D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		861
	200	1459.39	612.50 - 681.02	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		861
	260	1459.521	582.58 - 651.09	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		861
	300	1459.605	543.72 - 612.23	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		861

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
220	1466.635	607.89 - 676.08	607.89 - 676.08	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		861
80	1458.868	612.94 - 681.02	612.94 - 681.02	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4S - ^4P$	$\frac{1}{2} - \frac{1}{2}$		861
240	1470.777	612.50 - 680.49	612.50 - 680.49	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
200	1472.963	603.14 - 671.03	603.14 - 671.03	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{1}{2} - \frac{1}{2}$		861
300	1478.240	603.14 - 670.79	603.14 - 670.79	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{1}{2} - \frac{1}{2}$		861
320	1481.490	582.56 - 650.06	582.56 - 650.06	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
180	1481.840	582.58 - 650.06	582.58 - 650.06	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
220	1485.421	604.00 - 671.32	604.00 - 671.32	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
20	1487.265	644.64 - 711.88	644.64 - 711.88	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4D - ^4P$	$\frac{3}{2} - \frac{1}{2}$		861
320	1490.433	545.14 - 612.23	545.14 - 612.23	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4S$	$\frac{3}{2} - \frac{3}{2}$		861
240	1491.968	604.00 - 671.03	604.00 - 671.03	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
180	1494.674	604.66 - 671.57	604.66 - 671.57	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{1}{2}$		861
280	1495.482	612.23 - 679.10	612.23 - 679.10	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
120	1495.985	644.79 - 711.63	644.79 - 711.63	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
180	1497.388	604.00 - 670.79	604.00 - 670.79	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{1}{2}$		861
120	1500.118	604.66 - 671.32	604.66 - 671.32	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
180	1501.513	612.50 - 679.10	612.50 - 679.10	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
200	1502.942	605.03 - 671.57	605.03 - 671.57	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{1}{2} - \frac{1}{2}$		861
160	1508.516	605.03 - 671.32	605.03 - 671.32	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4D - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
280	1508.821	545.96 - 612.23	545.96 - 612.23	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		861
280	1510.670	612.23 - 678.43	612.23 - 678.43	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
100	1517.596	612.50 - 678.40	612.50 - 678.40	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4P - ^4F$	$\frac{3}{2} - \frac{1}{2}$		861
280	1520.967	612.23 - 677.98	612.23 - 677.98	$2s^2 2p^4(^4P)3p - 2s^2 2p^4(^4P)3d$	$^4S - ^4P$	$\frac{3}{2} - \frac{1}{2}$		861
140	1578.537	650.06 - 713.41	650.06 - 713.41	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
80	1597.738	651.09 - 713.68	651.09 - 713.68	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
320	1607.108	582.56 - 644.79	582.56 - 644.79	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
200	1607.514	582.58 - 644.79	582.58 - 644.79	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
140	1610.799	582.56 - 644.64	582.56 - 644.64	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
300	1611.215	582.58 - 644.64	582.58 - 644.64	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
100	1617.627	650.06 - 711.88	650.06 - 711.88	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		861
120	1624.136	650.06 - 711.63	650.06 - 711.63	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
80	1638.522	651.09 - 712.12	651.09 - 712.12	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		861
180	1640.892	543.72 - 604.66	543.72 - 604.66	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
40	1651.837	651.09 - 711.63	651.09 - 711.63	$2s^2 2p^4(^4D)3p - 2s^2 2p^4(^4D)3d$	$^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
300	1658.851	543.72 - 604.00	543.72 - 604.00	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
220	1669.574	545.14 - 605.03	545.14 - 605.03	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		861
360	1679.960	545.14 - 604.66	545.14 - 604.66	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
500	1683.003	543.72 - 603.14	543.72 - 603.14	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		861
340	1692.675	545.96 - 605.03	545.96 - 605.03	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{1}{2} - \frac{1}{2}$		861
400	1698.784	545.14 - 604.00	545.14 - 604.00	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		861
300	1699.654	553.67 - 612.50	553.67 - 612.50	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
240	1701.262	624.11 - 682.89	624.11 - 682.89	$2s^2 2p^4(^4S)3s - 2s^2 2p^4(^4S)3p$	$^4S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
200	1702.367	624.11 - 682.85	624.11 - 682.85	$2s^2 2p^4(^4S)3s - 2s^2 2p^4(^4S)3p$	$^4S - ^4P$	$\frac{1}{2} - \frac{1}{2}$		861
320	1703.357	545.96 - 604.66	545.96 - 604.66	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
260	1736.067	555.34 - 612.94	555.34 - 612.94	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		861
280	1744.674	553.67 - 612.08	553.67 - 612.08	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		861
240	1749.480	555.34 - 612.50	555.34 - 612.50	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861
220	1797.271	553.67 - 609.31	553.67 - 609.31	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
340	1800.167	582.56 - 638.11	582.56 - 638.11	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4F$	$\frac{3}{2} - \frac{1}{2}$		861
120	1807.746	582.56 - 637.88	582.56 - 637.88	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4F$	$\frac{3}{2} - \frac{3}{2}$		861
320	1808.286	582.58 - 637.88	582.58 - 637.88	$2s^2 2p^4(^4D)3s - 2s^2 2p^4(^4D)3p$	$^4D - ^4F$	$\frac{3}{2} - \frac{3}{2}$		861
320	1844.151	553.67 - 607.89	553.67 - 607.89	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		861
340	1853.086	555.34 - 609.31	555.34 - 609.31	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		861
440	1874.576	543.72 - 597.07	543.72 - 597.07	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
500	1893.888	543.72 - 596.52	543.72 - 596.52	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
360	1906.723	545.14 - 597.58	545.14 - 597.58	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		861
240	1925.742	545.14 - 597.07	545.14 - 597.07	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
200	1936.931	545.96 - 597.58	545.96 - 597.58	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		861
360	1946.117	545.14 - 596.52	545.14 - 596.52	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		861
340	1956.548	545.96 - 597.07	545.96 - 597.07	$2s^2 2p^4(^4P)3s - 2s^2 2p^4(^4P)3p$	$^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		861

MAGNESIUM V (Mg⁴⁺). Z = 12
Ground State 1s²2s²2p⁴ ³P₂ (8 electrons)
Ionization Potential 1 139 400 cm⁻¹; 141.27 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁴ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
10	92.409		0.0 - 1082.15	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	g ³ P - ³ P ^o	2 - 1		692
10	92.428		0.0 - 1081.88	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	g ³ P - ³ P ^o	2 - 2		692
10	92.534		1.78 - 1082.15	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	g ³ P - ³ P ^o	1 - 1	Q	692, 375
10	92.588		1.78 - 1081.88	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	g ³ P - ³ P ^o	1 - 2		692
10	92.641		0.0 - 1079.43	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	g ³ P - ³ D ^o	2 - 3		692
100	93.109		35.93 - 1109.9 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)5d	¹ D - ¹ D ^o	2 - 2		692
10	94.793		0.0 - 1054.92	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5s	g ³ P - ³ D ^o	2 - 3		692
100	95.556		35.93 - 1082.40 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	¹ D - ¹ F ^o	2 - 3		692
10	95.592		35.93 - 1082.00 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	¹ D - ¹ D ^o	2 - 2		692
200	95.803		0.0 - 1043.82	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ D ^o	2 - 3		692
100	95.909		0.0 - 1042.68	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ P ^o	2 - 2		692
100	95.965		1.78 - 1043.82	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ D ^o	1 - 2		692
200	96.019		2.52 - 1043.82	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ D ^o	0 - 1		692
100	96.085		1.78 - 1042.48	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ P ^o	1 - 1		692
10	96.159		2.52 - 1042.48	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	g ³ P - ³ P ^o	0 - 1		692
100	97.391		0.0 - 1026.77	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5d	g ³ P - ³ D ^o	2 - 3		692
200	97.439		0.0 - 1026.77	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5d	g ³ P - ³ D ^o	2 - 3		692
100	97.563		1.78 - 1026.77	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5d	g ³ P - ³ D ^o	1 - 2		692
200	97.606		1.78 - 1026.77	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5d	g ³ P - ³ D ^o	1 - 2		692
100	97.686		2.52 - 1026.28	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ P)3p	g ³ P - ³ D ^o	0 - 1		692
100	98.235		0.0 - 1017.97	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ P ^o	2 - 1		692
200	98.271		0.0 - 1017.59	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ P ^o	2 - 2		692
100	98.406		1.78 - 1017.97	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ P ^o	1 - 1		692
100	98.444		1.78 - 1017.59	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ P ^o	1 - 2		692
200	98.636		0.0 - 1013.88	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ D ^o	2 - 3		692
200	98.805		1.78 - 1013.88	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ D ^o	1 - 2		692
100	98.872		2.52 - 1013.88	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	g ³ P - ³ D ^o	0 - 1		692
400	98.983		35.93 - 1046.17 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	¹ D - ¹ F ^o	2 - 3		692
200	99.025		35.93 - 1045.74 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	¹ D - ¹ P ^o	2 - 1		692
200	99.067		35.93 - 1045.31 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	¹ D - ¹ D ^o	2 - 2		692
10	99.149							692
1	99.205		35.93 - 1043.82	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4d	¹ D - ¹ D ^o	2 - 2	Q	692, 375
100	99.535		77.28 - 1082.15	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)5d	¹ S - ¹ P ^o	0 - 1	Q	692, 375
200	99.610		0.0 - 1003.91	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5s	g ³ P - ³ S ^o	2 - 1		692
100	99.788		1.78 - 1003.91	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)5s	g ³ P - ³ S ^o	1 - 1		692
10	100.949		0.0 - 990.60	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4s	g ³ P - ³ P ^o	2 - 2		692
300	101.671		35.93 - 1019.46 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	¹ D - ¹ F ^o	2 - 3		692
300	101.782		35.93 - 1018.37 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	¹ D - ¹ D ^o	2 - 2		692
100	101.845		35.93 - 1017.59	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	¹ D - ¹ P ^o	2 - 2	Q	692, 375
200	102.079		35.93 - 1015.52 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4d	¹ D - ¹ P ^o	2 - 1		692
10	103.333		283.21 - 1250.96	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ P)5s	³ P ^o - ³ P	2 - 2	Z	692
400	103.904		0.0 - 962.43	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4d	g ³ P - ³ D ^o	2 - 3		692
300	103.947		0.0 - 962.03	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4s	g ³ P - ³ D ^o	2 - 3		692
200	104.100		1.78 - 962.40	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4d	g ³ P - ³ D ^o	1 - 2		692
200	104.140		1.78 - 962.03	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4s	g ³ P - ³ D ^o	1 - 2		692
100	104.182		2.52 - 962.38	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4d	g ³ P - ³ D ^o	0 - 1		692
100	104.214		2.52 - 962.03	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4s	g ³ P - ³ D ^o	0 - 1		692
200	104.432		35.93 - 993.34 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4s	¹ D - ¹ P ^o	2 - 1		692
200	107.661		35.93 - 964.73 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)4s	¹ D - ¹ D ^o	2 - 2		692
10	109.174		77.28 - 993.34 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)4s	¹ S - ¹ P ^o	0 - 1		692
200	109.812		0.0 - 910.64	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4s	g ³ P - ³ S ^o	2 - 1		692
100	110.029		1.78 - 910.64	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4s	g ³ P - ³ S ^o	1 - 1		692
10	110.121		2.52 - 910.64	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ S ^o)4s	g ³ P - ³ S ^o	0 - 1		692
200	110.809		0.0 - 902.44	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ D ^o	2 - 2		692
400	110.859		0.0 - 902.05	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ D ^o	2 - 3		692
200	110.939		0.0 - 901.41 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ D ^o	2 - 2		692
300	111.031		1.78 - 902.44	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ D ^o	1 - 2		692
300	111.091		2.52 - 902.68	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ D ^o	0 - 1		692
400	111.199		0.0 - 899.29	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	2 - 2		692
200	111.247		0.0 - 898.90	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	2 - 1		692
40	111.261		0.0 - 898.90	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	2 - 1		856, 375
200	111.419		1.78 - 899.29	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	1 - 2		692
200	111.467		1.78 - 898.90	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	1 - 1		692
200	111.496		1.78 - 898.67	2s ² 2p ⁴ - 2s ² 2p ³ (³ P ^o)3d	g ³ P - ³ P ^o	1 - 0		692
200	113.217		283.21 - 1166.47	2s ² 2p ⁴ - 2s ² 2p ³ (³ D)3d	³ P ^o - ³ D	2 - 3	Z	692
10	113.279		0.0 - 882.75 + W	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)3d	g ³ P - ¹ F ^o	2 - 3	Q	692, 375
200	113.414		284.83 - 1166.55	2s ² 2p ⁴ - 2s ² 2p ³ (³ D)3d	³ P ^o - ³ D	1 - 2	Z	692
100	113.518		285.71 - 1166.63	2s ² 2p ⁴ - 2s ² 2p ³ (³ D)3d	³ P ^o - ³ D	0 - 1	Z	692
400	113.703		0.0 - 879.49	2s ² 2p ⁴ - 2s ² 2p ³ (³ D ^o)3d	g ³ P - ³ S ^o	2 - 1		692
100	113.823		283.21 - 1161.77	2s ² 2p ⁴ - 2s ² 2p ³ (⁴ P)4s	³ P ^o - ³ P	2 - 2	Z	692

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
300	113.934	1.78 - 879.49	1.78 - 879.49	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4S^{\circ}$	1 - 1		692
300	113.990	0.0 - 877.24	0.0 - 877.24	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	2 - 1		692
200	114.029	2.52 - 879.49	2.52 - 879.49	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4S^{\circ}$	0 - 1		692
400	114.059	0.0 - 876.76	0.0 - 876.76	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	2 - 2		692
300	114.199	1.78 - 877.44	1.78 - 877.44	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	1 - 0		692
300	114.226	1.78 - 877.24	1.78 - 877.24	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	1 - 1		692
300	114.285	1.78 - 876.76	1.78 - 876.76	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	1 - 2		692
300	114.324	2.52 - 877.24	2.52 - 877.24	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	0 - 1		692
10	114.498	0.0 - 873.40 + W	0.0 - 873.40 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4P^{\circ}$	2 - 1	Q	692, 375
600	114.785	0.0 - 871.22	0.0 - 871.22	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	2 - 3		692
600	115.013	1.78 - 871.22	1.78 - 871.22	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	1 - 2		692
400	115.093	2.52 - 871.22	2.52 - 871.22	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	0 - 1		692
400	115.399	35.93 - 902.45 + W	35.93 - 902.45 + W	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3d$	$^4D - ^4F^{\circ}$	2 - 1		692
400	115.537	35.93 - 901.41 + W	35.93 - 901.41 + W	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3d$	$^4D - ^4D^{\circ}$	2 - 2		692
500	118.083	35.93 - 882.75 + W	35.93 - 882.75 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4D - ^4F^{\circ}$	2 - 3		692
100	118.603							692
500	118.810	35.93 - 877.57 + W	35.93 - 877.57 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4D - ^4D^{\circ}$	2 - 2		692
10	118.914	35.93 - 876.76	35.93 - 876.76	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4D - ^4P^{\circ}$	2 - 2	Q	692, 375
400	119.401	35.93 - 873.40 + W	35.93 - 873.40 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4D - ^4P^{\circ}$	2 - 1		692
400	119.447	35.93 - 873.40 + W	35.93 - 873.40 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4D - ^4P^{\circ}$	2 - 1	Q	692
10	119.978	77.28 - 910.64	77.28 - 910.64	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 4s$	$^4S - ^4S^{\circ}$	0 - 1	Q	692, 375
600	121.644	0.0 - 822.07	0.0 - 822.07	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	2 - 3		692
500	121.922	1.78 - 821.98	1.78 - 821.98	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	1 - 2		692
400	122.034	2.52 - 821.96	2.52 - 821.96	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3d$	$g^3P - ^4D^{\circ}$	0 - 1		692
400	125.600	77.28 - 873.40 + W	77.28 - 873.40 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3d$	$^4S - ^4P^{\circ}$	0 - 1		692
400	126.280	283.21 - 1075.10	283.21 - 1075.10	$2s 2p^4 - 2s 2p^3(^4P) 3d$	$^4P^{\circ} - ^4D$	2 - 3		692
200	126.544	284.83 - 1075.10	284.83 - 1075.10	$2s 2p^4 - 2s 2p^3(^4P) 3d$	$^4P^{\circ} - ^4D$	1 - 2		692
10	126.677	285.71 - 1075.10	285.71 - 1075.10	$2s 2p^4 - 2s 2p^3(^4P) 3d$	$^4P^{\circ} - ^4D$	0 - 1		692
600	132.171	0.0 - 756.59	0.0 - 756.59	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3s$	$g^3P - ^4P^{\circ}$	2 - 2		692
500	132.485	1.78 - 756.59	1.78 - 756.59	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3s$	$g^3P - ^4P^{\circ}$	1 - 2		692
300	132.623	2.52 - 756.54	2.52 - 756.54	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3s$	$g^3P - ^4P^{\circ}$	0 - 1		692
200	135.638	283.21 - 1020.47	283.21 - 1020.47	$2s 2p^4 - 2s 2p^3(^4D) 3s$	$^4P^{\circ} - ^4D$	2 - 3		692
100	135.953	284.83 - 1020.38	284.83 - 1020.38	$2s 2p^4 - 2s 2p^3(^4D) 3s$	$^4P^{\circ} - ^4D$	1 - 2		692
10	136.128	285.71 - 1020.31	285.71 - 1020.31	$2s 2p^4 - 2s 2p^3(^4D) 3s$	$^4P^{\circ} - ^4D$	0 - 1		692
600	137.234	35.93 - 764.59 + W	35.93 - 764.59 + W	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3s$	$^4D - ^4P^{\circ}$	2 - 1		692
800	137.414	0.0 - 727.72	0.0 - 727.72	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3s$	$g^3P - ^4D^{\circ}$	2 - 3		692
700	137.748	1.78 - 727.76	1.78 - 727.76	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3s$	$g^3P - ^4D^{\circ}$	1 - 2		692
600	137.880	2.52 - 727.79	2.52 - 727.79	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3s$	$g^3P - ^4D^{\circ}$	0 - 1		692
600	142.933	35.93 - 735.52 + W	35.93 - 735.52 + W	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ}) 3s$	$^4D - ^4D^{\circ}$	2 - 2		692
500	145.485	77.28 - 764.59 + W	77.28 - 764.59 + W	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ}) 3s$	$^4S - ^4P^{\circ}$	0 - 1		692
600	146.083	0.0 - 684.54	0.0 - 684.54	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3s$	$g^3P - ^4S^{\circ}$	2 - 1		692
500	146.464	1.78 - 684.54	1.78 - 684.54	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3s$	$g^3P - ^4S^{\circ}$	1 - 1		692
400	146.621	2.52 - 684.54	2.52 - 684.54	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3s$	$g^3P - ^4S^{\circ}$	0 - 1		692
	149.49	0.0 - 668.94	0.0 - 668.94	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3s$	$g^3P - ^4S^{\circ}$	2 - 2	P	680
	149.89	1.78 - 668.94	1.78 - 668.94	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ}) 3s$	$g^3P - ^4S^{\circ}$	1 - 2	P	680
10	152.019	283.21 - 941.05	283.21 - 941.05	$2s 2p^4 - 2s 2p^3(^4P) 3s$	$^4P^{\circ} - ^4P$	2 - 1		692
300	152.149	283.21 - 940.46	283.21 - 940.46	$2s 2p^4 - 2s 2p^3(^4P) 3s$	$^4P^{\circ} - ^4P$	2 - 2		692
100	152.384	284.83 - 941.05	284.83 - 941.05	$2s 2p^4 - 2s 2p^3(^4P) 3s$	$^4P^{\circ} - ^4P$	1 - 1		692
100	152.527	284.83 - 940.46	284.83 - 940.46	$2s 2p^4 - 2s 2p^3(^4P) 3s$	$^4P^{\circ} - ^4P$	1 - 2		692
10	152.591	285.71 - 941.05	285.71 - 941.05	$2s 2p^4 - 2s 2p^3(^4P) 3s$	$^4P^{\circ} - ^4P$	0 - 1		692
100	251.584	0.0 - 397.48	0.0 - 397.48	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	2 - 1		861
700	276.582	35.93 - 397.48	35.93 - 397.48	$2s^2 2p^4 - 2s 2p^4$	$^4D - ^4P^{\circ}$	2 - 1		861
200	312.302	77.28 - 397.48	77.28 - 397.48	$2s^2 2p^4 - 2s 2p^4$	$^4S - ^4P^{\circ}$	0 - 1		861
10	341.790	727.79 - 1020.38	727.79 - 1020.38	$2s^2 2p^2(^4D^{\circ}) 3s - 2s 2p^2(^4D^{\circ}) 3s$	$^4D^{\circ} - ^4D$	1 - 2	Q	693, 375
400	351.088	0.0 - 284.83	0.0 - 284.83	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	2 - 1		861
360	352.200	1.78 - 285.71	1.78 - 285.71	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	1 - 0		861
600	353.091	0.0 - 283.21	0.0 - 283.21	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	2 - 2		861
300	353.300	1.78 - 284.83	1.78 - 284.83	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	1 - 1		861
360	354.224	2.52 - 284.83	2.52 - 284.83	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4P^{\circ}$	0 - 1		861
400	355.329	1.78 - 283.21	1.78 - 283.21	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^4F^{\circ}$	1 - 2		861
100	376.665	397.48 - 662.97	397.48 - 662.97	$2s 2p^4 - 2p^4$	$^4P^{\circ} - ^4S$	1 - 0		693, 868
	1294.01	0.0 - 77.28	0.0 - 77.28	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^4S$	2 - 0	F, P	375
0	1324.58	1.78 - 77.28	1.78 - 77.28	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^4S$	1 - 0	F, P	375, 940

MAGNESIUM VI (Mg^{+5}), $Z = 12$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 1 504 300 cm^{-1} ; 186.51 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in $10^6 cm^{-1}$)	Configurations	Terms	J - J	Notes	References
100	72.430		0.0 - 1380.64	$2s^2 2p^3 - 2s^2 2p^3(^4P)6s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
300	74.319		0.0 - 1345.55	$2s^2 2p^3 - 2s^2 2p^3(^4P)5d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
10	74.461		0.0 - 1342.99	$2s^2 2p^3 - 2s^2 2p^3(^4P)5d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
200	74.574		0.0 - 1340.95	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4p$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
100	75.248		55.35 + Y - 1384.29 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)5d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
100	75.334		55.35 + Y - 1382.77 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)5d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
200	75.834		0.0 - 1318.67	$2s^2 2p^3 - 2s^2 2p^3(^4P)5s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
10	75.890		0.0 - 1317.70	$2s^2 2p^3 - 2s^2 2p^3(^4P)5s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
1	76.908		84.03 + Y - 1384.29 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)5d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
10	77.301		0.0 - 1294.14 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
200	77.405		55.35 + Y - 1347.26 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)5d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
100	77.511		55.37 + Y - 1345.51 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)5d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
10	77.639		0.0 - 1288.31 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$g^4S^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692, 375
10	78.239		55.35 + Y - 1333.49 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4S)4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
10	79.059							692
200	79.817		0.0 - 1252.87	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
400	79.830		0.0 - 1252.66	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
400	79.857		0.0 - 1252.24	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	80.032		0.0 - 1249.5	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
200	80.075		0.0 - 1248.83	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
100	80.563		55.37 + Y - 1296.52 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4D^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
10	80.724		55.35 + Y - 1294.14 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	80.930		55.35 + Y - 1290.99 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
300	81.106		55.35 + Y - 1288.31 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
200	82.238		247.95 - 1463.93	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)5d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	82.475		84.03 + Y - 1296.52 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		692
100	82.853		84.03 + Y - 1290.99 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
400	83.403		55.35 + Y - 1254.35 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
300	83.519		55.37 + Y - 1252.71 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
200	83.560		0.0 - 1196.74	$2s^2 2p^3 - 2s^2 2p^3(^4P)4s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	84.745		55.35 + Y - 1235.69 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4s$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
10	85.153		84.03 + Y - 1257.39 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)4d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
200	85.517		55.37 + Y - 1223.91 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3p$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
300	85.622		55.35 + Y - 1223.28 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3p$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
200	86.807		83.92 + Y - 1235.69 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)4s$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
10	87.406		55.35 + Y - 1199.47 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)4s$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	88.827		247.95 - 1373.76	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
200	88.952		249.58 - 1373.76	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	89.021		250.45 - 1373.76	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	89.649		84.03 + Y - 1199.47 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)4s$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
600	90.897		0.0 - 1100.15	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)3p$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
100	92.964		247.95 - 1323.61	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4s$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	93.109		249.58 - 1323.61	$2s^2 2p^3 - 2s^2 2p^3(^4S^o)4s$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{3}{2}$		692
300	93.493		55.35 + Y - 1124.99 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4S)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
400	95.385		0.0 - 1048.38	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
400	95.421		0.0 - 1047.99	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
500	95.483		0.0 - 1047.31	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
300	95.637		0.0 - 1045.62	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
300	95.675		0.0 - 1045.21	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
200	95.803		55.37 + Y - 1099.18 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.085		84.03 + Y - 1124.89 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4S)3d$	$^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.159		247.95 - 1287.89	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.240		247.95 - 1287.04	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
200	96.256		55.35 + Y - 1094.25 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	96.303		55.37 + Y - 1093.76 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.388		249.58 - 1287.04	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	96.467		250.45 - 1287.04	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		692
200	96.670		247.95 - 1282.40	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		692
200	96.704		247.95 - 1282.03	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.797		249.58 - 1282.67	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	96.857		249.58 - 1282.03	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	96.903		250.45 - 1282.40	$2s^2 2p^3 - 2s^2 2p^3(^4D^o)3d$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		692
400	96.939		55.35 + Y - 1086.92 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
400	96.973		55.37 + Y - 1086.56 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692
500	97.251		55.37 + Y - 1083.64 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
500	97.278		55.35 + Y - 1083.33 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		692
300	98.508		84.03 + Y - 1099.18 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		692
400	98.983		84.03 + Y - 1094.25 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
200	99.025		83.92 + Y - 1093.76 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4D)3d$	$^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		692
400	99.279		55.35 + Y - 1062.61 + Y	$2s^2 2p^3 - 2s^2 2p^3(^4P)3d$	$^4D^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		692

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
400	99.333	99.333	55.37 + Y - 1062.05 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		692
300	99.713	99.713	84.03 + Y - 1086.92 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		692
300	99.738	99.738	83.92 + Y - 1086.56 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		692
500	100.702	100.702	55.35 + Y - 1048.38 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		692
400	100.904	100.904	55.37 + Y - 1046.41 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		692
200	101.508	101.508	55.37 + Y - 1040.67 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
300	101.556	101.556	55.35 + Y - 1040.06 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
500	102.189	102.189	84.03 + Y - 1062.61 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		692
500	102.239	102.239	83.92 + Y - 1062.05 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		692
300	104.519	104.519	83.92 + Y - 1040.67 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		692
500	104.597	104.597	84.03 + Y - 1040.06 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
200	105.410	105.410	341.79 + Y - 1290.46 + Y	$2s 2p^4 - 2s 2p^4 (^3D^o) 3d$	$^3D^o - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		692
300	105.502	105.502	341.75 + Y - 1289.60 + Y	$2s 2p^4 - 2s 2p^4 (^3D^o) 3d$	$^3D^o - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		692
100	105.778	105.778	341.79 + Y - 1287.04	$2s 2p^4 - 2s 2p^4 (^3D^o) 3d$	$^3D^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
100	105.830	105.830	247.95 - 1192.63 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
400	107.820	107.820	247.95 - 1175.40	$2s 2p^4 - 2s 2p^4 (^3S^o) 3d$	$^3P^o - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		692
300	108.015	108.015	249.58 - 1175.40	$2s 2p^4 - 2s 2p^4 (^3S^o) 3d$	$^3P^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		692
200	108.114	108.114	250.45 - 1175.40	$2s 2p^4 - 2s 2p^4 (^3S^o) 3d$	$^3P^o - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		692
100	108.148	108.148	247.95 - 1172.61	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	108.338	108.338	249.58 - 1172.61	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	108.441	108.441	250.45 - 1172.61	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		692
300	111.160	111.160	83.92 + Y - 983.42 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3S) 3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		692
400	111.199	111.199	84.03 + Y - 983.42 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3S) 3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{3}{2}$		692
500	111.552	111.552	0.0 - 896.44	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
400	111.746	111.746	0.0 - 894.89	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
400	111.864	111.864	0.0 - 893.94	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
500	113.189	113.189	55.35 + Y - 938.83 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^1D) 3s$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		692
10	114.412	114.412	247.95 - 1122.02	$2s 2p^4 - 2s 2p^4 (^3D^o) 3s$	$^3P^o - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		692
10	114.624	114.624	249.58 - 1122.02	$2s 2p^4 - 2s 2p^4 (^3D^o) 3s$	$^3P^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		692
10	114.725	114.725	250.45 - 1122.02	$2s 2p^4 - 2s 2p^4 (^3D^o) 3s$	$^3P^o - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		692
500	116.968	116.968	55.35 + Y - 910.30 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
300	117.226	117.226	55.37 + Y - 908.40 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
100	117.527	117.527	341.75 + Y - 1192.63 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3D^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	120.283	120.283						692
10	120.415	120.415						692
500	121.025	121.025	84.03 + Y - 910.30 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
300	121.290	121.290	83.92 + Y - 908.40 + Y	$2s^2 2p^2 - 2s^2 2p^2 (^3P) 3s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		692
100	123.590	123.590	341.75 + Y - 1150.84 + Y	$2s 2p^4 - 2s 2p^4 (^3D^o) 3s$	$^3D^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		692
300	125.206	125.206	247.95 - 1046.63	$2s 2p^4 - 2s 2p^4 (^3S^o) 3s$	$^3P^o - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		692
300	125.459	125.459	249.58 - 1046.63	$2s 2p^4 - 2s 2p^4 (^3S^o) 3s$	$^3P^o - ^3S^o$	$\frac{3}{2} - \frac{3}{2}$		692
400	125.600	125.600	250.45 - 1046.63	$2s 2p^4 - 2s 2p^4 (^3S^o) 3s$	$^3P^o - ^3S^o$	$\frac{1}{2} - \frac{3}{2}$		692
100	126.450	126.450	401.82 + Y - 1192.63 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3S^o - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		692
100	126.488	126.488	401.82 + Y - 1192.33 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3S^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		692
200	130.294	130.294	425.18 + Y - 1192.63 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		692
100	130.630	130.630	427.14 + Y - 1192.63 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		692
10	130.701	130.701	427.14 + Y - 1192.33 + Y	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3P^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		692
10	137.814	137.814	425.18 + Y - 1150.84 + Y	$2s 2p^4 - 2s 2p^4 (^3D^o) 3s$	$^3D^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		692
650	268.986	268.986	55.37 + Y - 427.14 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
750	270.394	270.394	55.35 + Y - 425.18 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
10	288.652	288.652	55.37 + Y - 401.82 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3D^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		692
300	291.348	291.348	83.92 + Y - 427.14 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		692
200	291.458	291.458	84.03 + Y - 427.14 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
200	293.026	293.026	83.92 + Y - 425.18 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		692
400	293.124	293.124	84.03 + Y - 425.18 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
300	314.554	314.554	83.92 + Y - 401.82 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		692
400	314.676	314.676	84.03 + Y - 401.82 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		692
	319.80	319.80	341.79 + Y - 654.51 + Y	$2s 2p^4 - 2p^4$	$^3D^o - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		238
	322.44	322.44	341.75 + Y - 651.83 + Y	$2s 2p^4 - 2p^4$	$^3D^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		238
700	349.155	349.155	55.35 + Y - 341.75 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		692
200	387.787	387.787	83.92 + Y - 341.79 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		692
300	388.020	388.020	84.03 + Y - 341.75 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		692
600	399.289	399.289	0.0 - 250.45	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		692
700	400.676	400.676	0.0 - 249.58	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
800	403.315	403.315	0.0 - 247.95	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		692
	436.06	436.06	425.18 + Y - 654.51 + Y	$2s 2p^4 - 2p^4$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	P	250
	439.82	439.82	427.14 + Y - 654.51 + Y	$2s 2p^4 - 2p^4$	$^3P^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	441.22	441.22	425.18 + Y - 651.83 + Y	$2s 2p^4 - 2p^4$	$^3P^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		250
	445.06	445.06	427.14 + Y - 651.83 + Y	$2s 2p^4 - 2p^4$	$^3P^o - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	250
2	1190.07	1190.07	0.0 - 84.03 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	F	940
1	1191.64	1191.64	0.0 - 83.92 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	F	940
	1805.93	1805.93	0.0 - 55.37 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375, 940
100	1806.62	1806.62	0.0 - 55.35 + Y	$2s^2 2p^2 - 2s^2 2p^2$	$^3S^o - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1900.04	1900.04						693

MAGNESIUM VII (Mg⁶⁺), Z = 12Ground State 1s²2s²2p² ³P₀ (6 electrons)Ionization Potential 1 814 300 cm⁻¹; 224.95 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁴ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
10	58.316		2.94 - 1717.73	2s ² 2p ² - 2s2p(³ P)5p	³ P - ³ D	2 - 3		692
1	59.640		118.65 + K - 1795.38 + K	2s2p ² - 2s2p(¹ P)6d	¹ S - ¹ P	2 - 3		692
10	60.138		2.94 - 1665.78	2s ² 2p ² - 2s2p(³ P)6d	³ P - ³ P	2 - 2		692
10	62.166		118.65 + K - 1727.25 + K	2s2p ² - 2s2p(¹ P)5d	¹ S - ¹ P	2 - 3		692
10	62.615		1.13 - 1597.94	2s ² 2p ² - 2s2p(³ P)5d	³ P - ³ P	1 - 2	Q	692, 375
100	62.696		2.94 - 1597.94	2s ² 2p ² - 2s2p(³ P)5d	³ P - ³ P	2 - 2		692
107	63.396		2.94 - 1580.33	2s ² 2p ² - 2s2p(¹ P)4p	³ P - ³ D	2 - 3		692
200	64.122		40.98 + Y - 1600.51 + Y	2s ² 2p ² - 2s2p(³ P)5d	¹ D - ¹ F	2 - 3		692
100	64.377		40.98 + Y - 1594.33 + Y	2s ² 2p ² - 2s2p(³ P)5d	¹ D - ¹ D	2 - 2		692
10	66.788		232.87 - 1730.14	2s2p ² - 2s2p(¹ P)5d	¹ D - ¹ F	3 - 4		692
10	67.453		118.65 + K - 1601.16 + K	2s2p ² - 2s2p(¹ P)4d	¹ S - ¹ P	2 - 1		692
100	67.470		118.65 + K - 1600.79 + K	2s2p ² - 2s2p(¹ P)4d	¹ S - ¹ P	2 - 2		692
200	67.497		118.65 + K - 1600.20 + K	2s2p ² - 2s2p(¹ P)4d	¹ S - ¹ P	2 - 3		692
100	67.593		1.13 - 1472.14	2s ² 2p ² - 2s2p(³ P)4d	³ P - ³ P	1 - 2		692
200	68.064		2.94 - 1472.14	2s ² 2p ² - 2s2p(³ P)4d	³ P - ³ P	2 - 2		692
200	68.100		1.13 - 1469.56	2s ² 2p ² - 2s2p(³ P)4d	³ P - ³ D	1 - 2		692
300	68.144		2.94 - 1470.42	2s ² 2p ² - 2s2p(³ P)4d	³ P - ³ D	2 - 3		692
200	68.352		232.87 - 1695.88	2s2p ² - 2s2p(³ D)4d	³ D - ¹ F	3 - 4		692
300	69.615		40.98 + Y - 1477.46 + Y	2s ² 2p ² - 2s2p(³ P)4d	¹ D - ¹ F	2 - 3		692
10	69.900		118.65 + K - 1549.27 + K	2s2p ² - 2s2p(¹ P)4s	¹ S - ¹ P	2 - 3		692
100	70.193		40.98 + Y - 1465.63 + Y	2s ² 2p ² - 2s2p(³ P)4d	¹ D - ¹ D	2 - 2		692
100	71.786		85.17 + Y - 1478.20 + Y	2s ² 2p ² - 2s2p(³ P)4d	¹ S - ¹ P	0 - 1		692
10	72.546		232.87 - 1611.3	2s2p ² - 2s2p(¹ P)4d	¹ D - ¹ D	3 - 3		692
100	72.787		232.87 - 1606.75	2s2p ² - 2s2p(¹ P)4d	¹ D - ¹ F	3 - 4		692
10	72.852		232.98 - 1605.62	2s2p ² - 2s2p(¹ P)4d	¹ D - ¹ F	2 - 3		692
1	72.896		233.03 - 1604.84	2s2p ² - 2s2p(¹ P)4d	¹ D - ¹ F	1 - 2		692
10	73.112		232.87 - 1600.20 + K	2s2p ² - 2s2p(¹ P)4d	¹ D - ¹ P	3 - 3	Q	692, 375
400	75.975		40.98 + Y - 1357.21 + Y	2s ² 2p ² - 2s2p(³ D)3p	¹ D - ¹ D	2 - 2		692
300	76.392		40.98 + Y - 1350.02 + Y	2s ² 2p ² - 2s2p(³ D)3p	¹ D - ¹ F	2 - 3		692
100	77.033		1.13 - 1299.24	2s ² 2p ² - 2s2p(³ D)3p	³ P - ³ D	1 - 2		692
200	77.144		2.94 - 1299.24	2s ² 2p ² - 2s2p(³ D)3p	³ P - ³ D	2 - 3		692
10	78.376		1.13 - 1276.52	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ P	1 - 0	Q	692, 375
10	78.405		1.13 - 1276.52	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ P	1 - 2		692
200	78.521		2.94 - 1276.52	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ P	2 - 2		692
500	79.131		1.13 - 1264.83	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ D	1 - 2		692
500	79.168		2.94 - 1266.08	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ D	2 - 3		692
100	79.248		2.94 - 1264.83	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ D	2 - 2		692
100	81.024		1.13 - 1235.33	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ S	1 - 1		692
300	81.133		2.94 - 1235.33	2s ² 2p ² - 2s2p(¹ P)3p	³ P - ³ S	2 - 1		692
400	82.940		118.65 + K - 1324.34 + K	2s2p ² - 2s2p(¹ P)3d	¹ S - ¹ P	2 - 1		692
400	82.969		118.65 + K - 1323.92 + K	2s2p ² - 2s2p(¹ P)3d	¹ S - ¹ P	2 - 2		692
500	83.015		118.65 + K - 1323.25 + K	2s2p ² - 2s2p(¹ P)3d	¹ S - ¹ P	2 - 3		692
400	83.403		118.65 + K - 1317.65 + K	2s2p ² - 2s2p(¹ P)3d	¹ S - ¹ D	2 - 3		692
300	83.519		0.0 - 1197.47	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	0 - 1		692
200	83.560		1.13 - 1197.87	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	1 - 0		692
200	83.587		1.13 - 1197.47	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	1 - 1		692
10	83.635		1.13 - 1196.77	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	1 - 2		692
300	83.716		2.94 - 1197.47	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	2 - 1		692
500	83.766		2.94 - 1196.77	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ P	2 - 2		692
300	83.910		0.0 - 1191.75	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ D	0 - 1		692
400	83.959		1.13 - 1192.19	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ D	1 - 2		692
500	84.022		2.94 - 1193.06	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ D	2 - 3		692
300	84.087		2.94 - 1192.19	2s ² 2p ² - 2s2p(³ P)3d	³ P - ³ D	2 - 2		692
10	84.189		232.87 - 1420.67	2s2p ² - 2s2p(³ D)3d	¹ D - ¹ P	3 - 2		692
500	84.642		232.87 - 1414.31	2s2p ² - 2s2p(³ D)3d	¹ D - ¹ F	3 - 4		692
10	85.091		542.34 - 1717.73	2p ² - 2s2p(¹ P)5p	¹ P - ¹ D	2 - 3	Q	692, 375
10	85.336		40.98 + Y - 1212.82 + Y	2s ² 2p ² - 2s2p(³ P)3d	¹ D - ¹ P	2 - 1		692
700	85.407		40.98 + Y - 1211.85 + Y	2s ² 2p ² - 2s2p(³ P)3d	¹ D - ¹ F	2 - 3		692
200	86.032							692
10	86.147		274.92 - 1435.72	2s2p ² - 2s2p(³ D)3d	¹ P - ¹ S	2 - 1	Q	692, 375
100	86.762		40.98 + Y - 1193.06	2s ² 2p ² - 2s2p(³ P)3d	¹ D - ¹ D	2 - 3	Q	692, 375
500	87.131		274.92 - 1422.61	2s2p ² - 2s2p(³ D)3d	¹ P - ¹ D	2 - 3		692
400	87.175		274.92 - 1422.04	2s2p ² - 2s2p(³ D)3d	¹ P - ¹ D	1 - 2		692
600	87.722		40.98 + Y - 1180.95 + Y	2s ² 2p ² - 2s2p(³ P)3d	¹ D - ¹ D	2 - 2		692
400	87.767		274.92 - 1414.31	2s2p ² - 2s2p(³ D)3d	¹ P - ¹ F	2 - 3		692
500	87.889		40.98 + Y - 1178.82 + Y	2s ² 2p ² - 2s2p(³ P)3d	¹ D - ¹ F	2 - 2		692
600	88.680		85.17 + Y - 1212.82 + Y	2s ² 2p ² - 2s2p(³ P)3d	¹ S - ¹ P	0 - 1		692
200	89.407		232.87 - 1351.36	2s2p ² - 2s2p(¹ P)3d	¹ D - ¹ D	3 - 3		692
200	89.448		232.98 - 1350.95	2s2p ² - 2s2p(¹ P)3d	¹ D - ¹ D	2 - 2		692
10	89.476		233.03 - 1350.63	2s2p ² - 2s2p(¹ P)3d	¹ D - ¹ D	1 - 1		692

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	90.338		85.17 + Y - 1191.75	$2s^2 2p^2 - 2s^2 2p(^3P^o) 3d$	$^1S - ^3D^o$	0 - 1	Q	692, 375
400	90.706		232.87 - 1335.33	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3F$	3 - 4		692
300	90.815		232.98 - 1334.12	$2s 2p^3 - 2s 2p^2(^1P) 3d$	$^1D^o - ^3F$	2 - 3		692
600	90.897		233.03 - 1333.17	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3D^o - ^3F$	1 - 2		692
10	91.302		118.65 + K - 1213.68	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 2	Q	692, 375
10	91.460		232.98 - 1326.03	$2s 2p^3 - 2s 2p^2(^1P) 3d$	$^1D^o - ^3P$	2 - 1		692
100	91.573		232.87 - 1324.98	$2s 2p^3 - 2s 2p^2(^1P) 3d$	$^1D^o - ^3P$	3 - 2		692
300	92.256		354.45 + Y - 1438.39 + Y	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1D^o - ^3F$	2 - 3		692
10	92.503		354.45 + Y - 1435.72	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1D^o - ^3S$	2 - 1	Q	692, 375
200	92.898		274.92 - 1351.36	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	2 - 3		692
200	92.934		274.92 - 1350.95	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	1 - 2		692
100	92.964		274.92 - 1350.63	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3D$	0 - 1		692
400	94.043		118.65 + K - 1181.99 + K	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 3		692
300	94.174		113.65 + K - 1180.51 + K	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3S^o - ^3P$	2 - 2		692
400	95.027		232.87 - 1285.20	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^1D^o - ^3D$	3 - 3		692
10	95.089		274.92 - 1326.57	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3P$	1 - 0		692
100	95.139		274.92 - 1326.03	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3P$	0 - 1		692
100	95.233		274.92 - 1324.98	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3P^o - ^3P$	2 - 2		692
200	95.259		1.13 - 1050.91	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 2		692
400	95.385		0.7 - 1048.39	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3F^o$	0 - 1		692
400	95.421		2.94 - 1050.91	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 2		692
500	95.483		1.13 - 1048.39	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 1		692
100	95.556		1.13 - 1047.62	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	1 - 0		692
300	95.637		2.94 - 1048.39	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$g^3P - ^3P^o$	2 - 1		692
200	96.019		397.18 + Y - 1438.64 + Y	$2s 2p^3 - 2s 2p^2(^3D) 3d$	$^1P^o - ^3D$	1 - 2		692
300	98.032		40.98 + Y - 1061.06 + Y	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$^1D - ^3P^o$	2 - 1		692
400	98.983		274.92 - 1285.20	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^3P^o - ^3D$	2 - 3		692
100	100.374		354.45 + Y - 1350.95	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^1D^o - ^3D$	2 - 2	Q	692, 375
100	100.421		354.45 + Y - 1350.63	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^1D^o - ^3D$	2 - 1	Q	692, 375
200	101.956		232.87 - 1213.68	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	3 - 2		692
10	102.053		354.45 + Y - 1334.12	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^1D^o - ^3F$	2 - 3	Q	692, 375
100	102.138		232.98 - 1212.06	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3D^o - ^3P$	2 - 1		692
300	102.471		85.17 + Y - 1061.06 + Y	$2s^2 2p^3 - 2s^2 2p(^3P^o) 3s$	$^1S - ^3P^o$	0 - 1		692
300	102.906		354.45 + Y - 1326.03	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^1D^o - ^3P$	2 - 1	Q	692, 375
10	103.743		362.13 - 1326.03	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3S^o - ^3P$	1 - 1		692
10	103.859		362.13 - 1324.98	$2s 2p^3 - 2s 2p^2(^3P) 3d$	$^3S^o - ^3P$	1 - 2		692
100	105.159		354.45 + Y - 1305.33 + Y	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^1D^o - ^3D$	2 - 2		692
200	106.453		658.47 + Y - 1597.94	$2p^4 - 2s^2 2p(^3P^o) 5d$	$^1S - ^3P^o$	0 - 1	Q	692, 375
200	106.524		274.92 - 1213.68	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3P^o - ^3P$	2 - 2		692
100	106.707		274.92 - 1212.06	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3P^o - ^3P$	2 - 1		692
10	106.809		274.92 - 1211.17	$2s 2p^3 - 2s 2p^2(^3P) 3s$	$^3P^o - ^3P$	1 - 0		692
10	110.121		397.18 + Y - 1305.33 + Y	$2s 2p^3 - 2s 2p^2(^3D) 3s$	$^1P^o - ^3D$	1 - 2		692
10	111.984		232.87 - 1125.85	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^1D^o - ^3P$	3 - 2		692
10	112.135		232.98 - 1124.94	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^1D^o - ^3P$	2 - 1		692
1	112.269		233.03 - 1123.75	$2s 2p^3 - 2s^2 2p(^3P^o) 3p$	$^1D^o - ^3P$	1 - 0		692
200	276.145		0.0 - 362.13	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3S^o$	0 - 1		692
300	277.007		1.13 - 362.13	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3S^o$	1 - 1		692
400	278.406		2.94 - 362.13	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3S^o$	2 - 1		692
300	280.744		40.98 + Y - 397.18 + Y	$2s^2 2p^3 - 2s 2p^3$	$^1D - ^3P^o$	2 - 1		692
400	319.016		40.98 + Y - 354.45 + Y	$2s^2 2p^3 - 2s 2p^3$	$^1D - ^3D^o$	2 - 2		692
	320.50		85.17 + Y - 397.18 + Y	$2s^2 2p^3 - 2s 2p^3$	$^1S - ^3P^o$	0 - 1		244
	321.07		232.98 - 544.43	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	2 - 1	P	250
	323.12		232.87 - 542.34	$2s 2p^3 - 2p^4$	$^3D^o - ^3P$	3 - 2	P	250
10	363.770		0.0 - 274.92	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3P^o$	0 - 1		692
200	365.230		1.13 - 274.92	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3P^o$	1 - 2		692
400	367.679		2.94 - 274.92	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3P^o$	2 - 2		692
	369.85		274.92 - 545.29	$2s 2p^3 - 2p^4$	$^3P^o - ^3P$	1 - 0		250
	371.08		274.92 - 544.43	$2s 2p^3 - 2p^4$	$^3P^o - ^3P$	2 - 1		250
	373.99		274.92 - 542.34	$2s 2p^3 - 2p^4$	$^3P^o - ^3P$	2 - 2		250
	382.72		397.18 + Y - 658.47 + Y	$2s 2p^3 - 2p^4$	$^1P^o - ^3S$	1 - 0		244
100	429.134		0.0 - 233.03	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3D^o$	0 - 1		692
200	431.318		1.13 - 232.98	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3D^o$	1 - 2		692
10	434.710		2.94 - 232.98	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3D^o$	2 - 2		692
200	434.923		2.94 - 232.87	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3D^o$	2 - 3		692
	450.69		354.45 + Y - 576.33 + Y	$2s 2p^3 - 2p^4$	$^1D^o - ^3D$	2 - 2		244
	545.98		362.13 - 545.29	$2s 2p^3 - 2p^4$	$^3S^o - ^3P$	1 - 0		250
	548.54		362.13 - 544.43	$2s 2p^3 - 2p^4$	$^3S^o - ^3P$	1 - 1		250
	554.89		362.13 - 542.34	$2s 2p^3 - 2p^4$	$^3S^o - ^3P$	1 - 2		250
	558.22		357.18 + Y - 576.33 + Y	$2s 2p^3 - 2p^4$	$^1P^o - ^3D$	1 - 2		250
	850.9		1.13 - 118.65 + K	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3S^o$	1 - 2	P	680
	864.2		2.94 - 118.65 + K	$2s^2 2p^3 - 2s 2p^3$	$g^3P - ^3S^o$	2 - 2	P	680
1	1189.84		1.13 - 85.17 + Y	$2s^2 2p^3 - 2s^2 2p^3$	$g^3P - ^3S$	1 - 0	F	940
	1216.06		2.94 - 85.17 + Y	$2s^2 2p^3 - 2s^2 2p^3$	$g^3P - ^3S$	2 - 0	F, P	375

MAGNESIUM VIII (Mg⁷⁺), Z = 12
Ground State 1s²2s²2p ³P_{1/2} (5 electrons)
Ionization Potential 2 145 100 cm⁻¹; 265.96 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
	20	50.219	3.30 - 1994.58	2s ² 2p - 2s2p(³ P ^o)5p	g ³ P ^o - ¹ D	3/2 - 3/2		833
	20	50.386	3.30 - 1987.98	2s ² 2p - 2s2p(³ P ^o)5p	g ³ P ^o - ¹ P	3/2 - 3/2		833
	10	51.040	131.76 + X - 2091. + X	2s2p ² - 2s2p(³ P ^o)6d	¹ P - ¹ P ^o	3/2 - 3/2		833
	40	51.098	133.48 + X - 2090.5 + X	2s2p ² - 2s2p(³ P ^o)6d	¹ P - ¹ D ^o	3/2 - 3/2		833
	20	51.389	0.0 - 1946.06	2s ² 2p - 2s ² 6d	g ³ P ^o - ¹ D	3/2 - 3/2		833
	40	51.470	3.30 - 1946.06	2s ² 2p - 2s ² 6d	g ³ P ^o - ¹ D	3/2 - 3/2		833
	10	52.395	133.48 + X - 2042.06 + X	2s2p ² - 2p ² (³ P)4p	¹ P - ¹ D ^o	3/2 - 3/2		691
	40	52.628	232.31 - 2132.42	2s2p ² - 2s2p(¹ P ^o)5d	¹ D - ¹ D ^o	3/2 - 3/2		833
	80	52.692	232.28 - 2130.1	2s2p ² - 2s2p(¹ P ^o)5d	¹ D - ¹ F ^o	3/2 - 3/2		833
	20	53.438	131.76 + X - 2003.09 + X	2s2p ² - 2s2p(³ P ^o)5d	¹ P - ¹ P ^o	3/2 - 3/2		833
	10	53.484	131.76 + X - 2002.22 + X	2s2p ² - 2s2p(³ P ^o)5d	¹ P - ¹ D ^o	3/2 - 3/2		691
	100	53.512	133.48 + X - 2002.22 + X	2s2p ² - 2s2p(³ P ^o)5d	¹ P - ¹ D ^o	3/2 - 3/2		691
	10	53.744	232.28 - 2092.95	2s2p ² - 2s2p(³ P ^o)6d	¹ D - ¹ F ^o	3/2 - 3/2		833
	10	53.812	0.0 - 1858.32	2s ² 2p - 2s ² 5d	g ³ P ^o - ¹ D	3/2 - 3/2		691
	100	53.905	3.30 - 1858.42	2s ² 2p - 2s ² 5d	g ³ P ^o - ¹ D	3/2 - 3/2		691
	60	54.853	0.0 - 1823.05	2s ² 2p - 2s2p(³ P ^o)4p	g ³ P ^o - ¹ D	3/2 - 3/2		833
	100	54.886	3.30 - 1825.26	2s ² 2p - 2s2p(³ P ^o)4p	g ³ P ^o - ¹ D	3/2 - 3/2		691
	10	55.222	3.30 - 1814.18	2s ² 2p - 2s2p(³ P ^o)4p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	10	56.358	232.28 - 2006.65	2s2p ² - 2s2p(³ P ^o)5d	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	56.403	232.31 - 2005.26	2s2p ² - 2s2p(³ P ^o)5d	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	57.590	232.28 - 1968.69	2s2p ² - 2s2p(¹ P ^o)4d	¹ D - ¹ D ^o	3/2 - 3/2		691
	100	57.736	232.28 - 1964.30	2s2p ² - 2s2p(¹ P ^o)4d	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	58.537	131.76 + X - 1840.08 + X	2s2p ² - 2s2p(³ P ^o)4d	¹ P - ¹ P ^o	3/2 - 3/2		691
	200	58.614	131.76 + X - 1838.02 + X	2s2p ² - 2s2p(³ P ^o)4d	¹ P - ¹ D ^o	3/2 - 3/2		691
	300	58.667	133.48 + X - 1838.02 + X	2s2p ² - 2s2p(³ P ^o)4d	¹ P - ¹ D ^o	3/2 - 3/2		691
	200	59.038	0.0 - 1693.82	2s ² 2p - 2s ² 4d	g ³ P ^o - ¹ D	3/2 - 3/2		691
	300	59.153	3.30 - 1693.84	2s ² 2p - 2s ² 4d	g ³ P ^o - ¹ D	3/2 - 3/2		691
	40	60.316	131.76 + X - 1789.55 + X	2s2p ² - 2s2p(³ P ^o)4s	¹ P - ¹ P ^o	3/2 - 3/2		833
	10	60.384	133.48 + X - 1789.55 + X	2s2p ² - 2s2p(³ P ^o)4s	¹ P - ¹ P ^o	3/2 - 3/2		691
	10	60.806	3.30 - 1647.88	2s ² 2p - 2s ² (¹ S)4s	g ³ P ^o - ¹ S	3/2 - 3/2		691
	200	61.891	232.28 - 1848.03	2s2p ² - 2s2p(³ P ^o)4d	¹ D - ¹ F ^o	3/2 - 3/2		691
	100	61.964	232.31 - 1846.15	2s2p ² - 2s2p(³ P ^o)4d	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	62.291	232.28 - 1837.65	2s2p ² - 2s2p(³ P ^o)4d	¹ D - ¹ D ^o	3/2 - 3/2		691
	10	64.246	0.0 - 1556.52	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ S	3/2 - 3/2		691
	100	64.377	3.30 - 1556.52	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ S	3/2 - 3/2		691
	100	64.488	0.0 - 1550.56	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	100	64.518	0.0 - 1549.96	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	200	64.635	3.30 - 1550.56	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	200	64.702	3.30 - 1548.85	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ D	3/2 - 3/2		691
	10	64.811	131.76 + X - 1674.77 + X	2s2p ² - 2p ² (³ P)3p	¹ P - ¹ S ^o	3/2 - 3/2		691
	100	64.878	133.48 + X - 1674.77 + X	2s2p ² - 2p ² (³ P)3p	¹ P - ¹ S ^o	3/2 - 3/2		691
	100	65.735	131.76 + X - 1653.06 + X	2s2p ² - 2p ² (³ P)3p	¹ P - ¹ P ^o	3/2 - 3/2		691
	200	65.806	133.48 + X - 1653.06 + X	2s2p ² - 2p ² (³ P)3p	¹ P - ¹ P ^o	3/2 - 3/2		691
	300	66.069	133.48 + X - 1647.05 + X	2s2p ² - 2p ² (³ P)3p	¹ P - ¹ D ^o	3/2 - 3/2		691
	400	67.731	232.28 - 1708.86	2s2p ² - 2p ² (¹ D)3p	¹ D - ¹ D ^o	3/2 - 3/2		691
	100	68.450	0.0 - 1460.91	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ S	3/2 - 3/2		691
	100	68.550	232.28 - 1691.07	2s2p ² - 2p ² (¹ D)3p	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	68.580	232.31 - 1691.07	2s2p ² - 2p ² (¹ D)3p	¹ D - ¹ F ^o	3/2 - 3/2		691
	200	68.606	3.30 - 1460.91	2s ² 2p - 2s2p(¹ P ^o)3p	g ³ P ^o - ¹ S	3/2 - 3/2		691
	10	69.327	232.31 - 1674.77 + X	2s2p ² - 2p ² (³ P)3p	¹ D - ¹ S ^o	3/2 - 3/2	Q	692, 375
	400	69.413	0.0 - 1440.56	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ D	3/2 - 3/2		691
	500	69.467	3.30 - 1442.84	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ D	3/2 - 3/2		691
	100	69.577	3.30 - 1440.56	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ D	3/2 - 3/2		691
	10	70.878	298.29 - 1708.86	2s2p ² - 2p ² (¹ D)3p	¹ S - ¹ D ^o	3/2 - 3/2	Q	692, 375
	100	70.953	0.0 - 1409.40	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	200	71.007	0.0 - 1408.37	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	300	71.118	3.30 - 1409.40	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	100	71.168	3.30 - 1408.37	2s ² 2p - 2s2p(³ P ^o)3p	g ³ P ^o - ¹ P	3/2 - 3/2		691
	100	71.454	414.38 + X - 1814.8	2p ² - 2s2p(³ P ^o)4p	¹ S ^o - ¹ P	3/2 - 3/2	Q	692, 375
	300	72.027	320.73 - 1708.86	2s2p ² - 2p ² (¹ D)3p	¹ P - ¹ D ^o	3/2 - 3/2		691
	10	72.546	232.28 - 1610.67	2s2p ² - 2s2p(¹ P ^o)3d	¹ D - ¹ P ^o	3/2 - 3/2		691
	100	72.684	232.28 - 1608.22	2s2p ² - 2s2p(¹ P ^o)3d	¹ D - ¹ D ^o	3/2 - 3/2		691
	400	73.250	232.28 - 1597.47	2s2p ² - 2s2p(¹ P ^o)3d	¹ D - ¹ F ^o	3/2 - 3/2		691
	10	73.710	130.66 + X - 1487.00	2s2p ² - 2s2p(¹ P ^o)3s	¹ P - ¹ P ^o	3/2 - 3/2	Q	692, 375
	10	73.773	131.76 + X - 1487.00	2s2p ² - 2s2p(¹ P ^o)3s	¹ P - ¹ P ^o	3/2 - 3/2	Q	692, 375
	100	73.825	130.66 + X - 1485.15 + X	2s2p ² - 2s2p(³ P ^o)3d	¹ P - ¹ P ^o	3/2 - 3/2		691
	200	73.862	131.76 + X - 1485.64 + X	2s2p ² - 2s2p(³ P ^o)3d	¹ P - ¹ P ^o	3/2 - 3/2		691
	100	73.890	131.76 + X - 1485.15 + X	2s2p ² - 2s2p(³ P ^o)3d	¹ P - ¹ P ^o	3/2 - 3/2		691
	100	73.927	131.76 + X - 1484.45 + X	2s2p ² - 2s2p(³ P ^o)3d	¹ P - ¹ P ^o	3/2 - 3/2		691
	200	73.981	133.48 + X - 1485.15 + X	2s2p ² - 2s2p(³ P ^o)3d	¹ P - ¹ P ^o	3/2 - 3/2		691

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	300	74.021	133.48 + X - 1484.45 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ P°	½ - ½		691
	300	74.274	130.66 + X - 1476.96 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	300	74.319	131.76 + X - 1477.34 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	400	74.366	133.48 + X - 1478.18 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	100	74.411	133.48 + X - 1477.34 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	100	74.676	414.38 + X - 1753.32	2p ³ - 2p ³ (¹ D)3d	⁴ S° - ⁴ P	½ - ½	Q	692, 375
	600	74.858	0.0 - 1335.86	2s ² 2p - 2s ² 3d	⁴ P° - ⁴ D	½ - ½		691
	700	75.034	3.30 - 1336.03	2s ² 2p - 2s ² 3d	⁴ P° - ⁴ D	½ - ½		691
	100	76.199	298.29 - 1610.67	2s2p ² - 2s2p(¹ P°)3d	⁴ S - ⁴ P°	½ - ½		691
	100	76.714	414.38 + X - 1717.92 + X	2p ³ - 2p ³ (¹ P)3d	⁴ S° - ⁴ P	½ - ½		691
	200	76.740	414.38 + X - 1717.48 + X	2p ³ - 2p ³ (¹ P)3d	⁴ S° - ⁴ P	½ - ½		691
	300	76.788	414.38 + X - 1716.67 + X	2p ³ - 2p ³ (¹ P)3d	⁴ S° - ⁴ P	½ - ½		691
	200	77.405	318.73 - 1610.67	2s2p ² - 2s2p(¹ P°)3d	⁴ P - ⁴ P°	½ - ½		691
	100	77.511	320.73 - 1610.67	2s2p ² - 2s2p(¹ P°)3d	⁴ P - ⁴ P°	½ - ½		691
	500	77.572	318.73 - 1607.87	2s2p ² - 2s2p(¹ P°)3d	⁴ P - ⁴ D°	½ - ½		691
	500	77.671	320.73 - 1608.22	2s2p ² - 2s2p(¹ P°)3d	⁴ P - ⁴ D°	½ - ½		691
	600	77.737	465.76 - 1752.15	2p ³ - 2p ³ (¹ D)3d	⁴ D° - ⁴ F	½ - ½		691
	600	78.446	232.28 - 1507.04	2s2p ² - 2s2p(² P°)3d	⁴ D - ⁴ F°	½ - ½		691
	600	78.574	232.31 - 1504.99	2s2p ² - 2s2p(² P°)3d	⁴ D - ⁴ F°	½ - ½		691
		78.6	3.30 - 1276 + W	2s ² 2p - 2s ² 3p	⁴ P° - ⁴ P°	½ - ½	F, P	375
	200	79.695	232.28 - 1487.00	2s2p ² - 2s2p(¹ P°)3s	⁴ D - ⁴ P°	½ - ½		691
	200	79.880	131.76 + X - 1383.73	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½	Q	692, 375
	400	80.229	232.28 - 1478.71	2s2p ² - 2s2p(² P°)3d	⁴ D - ⁴ D°	½ - ½		691
	400	80.255	232.31 - 1478.36	2s2p ² - 2s2p(² P°)3d	⁴ D - ⁴ D°	½ - ½		691
	10	80.806	465.76 - 1703.41	2p ³ - 2p ³ (¹ P)3d	⁴ D° - ⁴ D°	½ - ½		691
	100	80.889	465.76 - 1702.02	2p ³ - 2p ³ (¹ P)3d	⁴ D° - ⁴ F	½ - ½		691
	100	81.304	524.67 - 1754.29	2p ³ - 2p ³ (¹ D)3d	⁴ P° - ⁴ P	½ - ½	Q	691
	10	81.368	524.67 - 1753.32	2p ³ - 2p ³ (¹ D)3d	⁴ P° - ⁴ P	½ - ½	Q	691
	300	81.732	131.76 + X - 1355.30 + X	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	81.790	130.66 + X - 1353.28 + X	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	400	81.844	133.48 + X - 1355.30 + X	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	81.943	131.76 + X - 1352.12 + X	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	81.979	133.48 + X - 1353.28 + X	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	82.238	298.29 - 1514.27	2s2p ² - 2s2p(² P°)3d	⁴ S - ⁴ P°	½ - ½		691
	300	82.317	298.29 - 1513.10	2s2p ² - 2s2p(² P°)3d	⁴ S - ⁴ P°	½ - ½		691
	200	82.598	0.0 - 1210.69	2s ² 2p - 2s ² 3s	⁴ P° - ⁴ S	½ - ½		691
	200	82.709	524.67 - 1733.74	2p ³ - 2p ³ (¹ D)3d	⁴ P° - ⁴ D	½ - ½		691
	300	82.822	3.30 - 1210.69	2s ² 2p - 2s ² 3s	⁴ P° - ⁴ S	½ - ½		691
	300	84.087	298.29 - 1487.00	2s2p ² - 2s2p(¹ P°)3s	⁴ S - ⁴ P°	½ - ½		691
	10	84.827	524.67 - 1703.41	2p ³ - 2p ³ (¹ P)3d	⁴ P° - ⁴ D	½ - ½		691
	100	84.919	414.38 + X - 1591.97 + X	2p ³ - 2p ³ (¹ P)3s	⁴ S° - ⁴ P	½ - ½		691
	10	85.064	414.38 + X - 1589.97 + X	2p ³ - 2p ³ (¹ P)3s	⁴ S° - ⁴ P	½ - ½		691
	10	85.153	414.38 + X - 1588.74 + X	2p ³ - 2p ³ (¹ P)3s	⁴ S° - ⁴ P	½ - ½		691
	200	85.248	465.76 - 1638.81	2p ³ - 2p ³ (¹ D)3s	⁴ D° - ⁴ D	½ - ½		691
	300	85.599	318.73 - 1487.00	2s2p ² - 2s2p(¹ P°)3s	⁴ P - ⁴ P°	½ - ½		691
	400	85.749	320.73 - 1487.00	2s2p ² - 2s2p(¹ P°)3s	⁴ P - ⁴ P°	½ - ½		691
	100	86.234	318.73 - 1478.36	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	100	86.359	320.73 - 1478.71	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½		691
	200	86.417	320.73 - 1478.36	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½	Q	692, 375
	200	86.440	320.73 - 1477.34 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	½ - ½	Q	692, 375
	200	86.847	232.28 - 1383.73	2s2p ² - 2s2p(² P°)3s	⁴ D - ⁴ P°	½ - ½		691
	100	87.017	232.31 - 1381.47	2s2p ² - 2s2p(² P°)3s	⁴ D - ⁴ P°	½ - ½		691
	200	88.016	414.38 + X - 1550.56	2p ³ - 2s2p(¹ P°)3p	⁴ S° - ⁴ P	½ - ½	Q	692, 375
	100	92.115	298.29 - 1383.73	2s2p ² - 2s2p(² P°)3s	⁴ S - ⁴ P°	½ - ½		691
	10	92.324	298.29 - 1381.47	2s2p ² - 2s2p(² P°)3s	⁴ S - ⁴ P°	½ - ½		691
	100	93.720	524.67 - 1591.97 + X	2p ³ - 2p ³ (¹ P)3s	⁴ P° - ⁴ P	½ - ½	Q	692, 375
	10	93.911	318.73 - 1383.73	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	10	93.972	524.67 - 1588.74 + X	2p ³ - 2p ³ (¹ P)3s	⁴ P° - ⁴ P	½ - ½	Q	692, 375
	400	94.043	320.73 - 1383.73	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	94.276	320.73 - 1381.47	2s2p ² - 2s2p(² P°)3s	⁴ P - ⁴ P°	½ - ½		691
	200	97.465	524.67 - 1550.56	2p ³ - 2s2p(¹ P°)3p	⁴ P° - ⁴ P	½ - ½		691
	10	97.525	524.67 - 1549.96	2p ³ - 2s2p(¹ P°)3p	⁴ P° - ⁴ P	½ - ½		691
	200	97.606	524.67 - 1548.85	2p ³ - 2s2p(¹ P°)3p	⁴ P° - ⁴ D	½ - ½		691
	100	97.686	524.67 - 1548.03	2p ³ - 2s2p(¹ P°)3p	⁴ P° - ⁴ D	½ - ½		691
	10	100.519	414.38 + X - 1409.40	2p ³ - 2s2p(¹ P°)3p	⁴ S° - ⁴ P	½ - ½	Q	692, 375
	200	100.597	414.38 + X - 1408.37	2p ³ - 2s2p(² P°)3p	⁴ S° - ⁴ P	½ - ½	Q	692, 375
	10	269.295	1717.48 + X - 2088.79 + X	2p ³ (² P°)3d - 2s2p(² P°)6d	⁴ P - ⁴ D°	½ - ½	Q	693, 375
	10	297.393	1355.30 + X - 1693.84	2s2p(² P°)3s - 2s ² 4d	⁴ P° - ⁴ D	½ - ½	Q	693, 375
	10	311.806	0.0 - 320.73	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ P	½ - ½		691
	100	313.743	0.0 - 318.73	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ P	½ - ½		691
	200	315.022	3.30 - 320.73	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ P	½ - ½		691
	100	317.029	3.30 - 318.73	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ P	½ - ½		691
	10	335.130	0.0 - 298.29	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ S	½ - ½		691
	100	339.007	3.30 - 298.29	2s ² 2p - 2s ² 2p ²	⁴ P° - ⁴ S	½ - ½		691
		341.75	232.28 - 524.89	2s2p ² - 2p ³	⁴ D - ⁴ P°	½ - ½		250

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		342.07	232.31 - 524.67	$2s2p^2 - 2p^3$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		250
		352.46	130.66 + X - 414.38 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{3}{2}$		250
		353.86	131.76 + X - 414.38 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		250
	10	356.000	133.48 + X - 414.38 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		691
		428.27	232.28 - 465.76	$2s2p^2 - 2p^3$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		250
	10	430.467	0.0 - 232.31	$2s^22p - 2s2p^2$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		691
	100	436.726	3.30 - 232.28	$2s^22p - 2s2p^2$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		691
		441.30	298.29 - 524.89	$2s2p^2 - 2p^3$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		250
		441.76	298.29 - 524.67	$2s2p^2 - 2p^3$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	10	465.972	1610.67 - 1825.26	$2s2p(^1P^o)3d - 2s2p(^3P^o)4p$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	693, 375
		485.06	318.73 - 524.89	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	250
		485.59	318.73 - 524.67	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
		489.82	320.73 - 524.89	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	250
		490.36	320.73 - 524.67	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$	P	250
	10	491.045	1514.27 - 1717.92 + X	$2s2p(^3P^o)3d - 2p^3(^3P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	693, 375
		679.77	318.73 - 465.84	$2s2p^2 - 2p^3$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		250
		685.55	320.73 - 465.76	$2s2p^2 - 2p^3$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		250

MAGNESIUM ION (Mg^{+}), $Z = 12$ Ground State $1s^22s^2\ ^1S_0$ (4 electrons)Ionization Potential 2 647 440 cm^{-1} ; 328.24 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	40.638	0.0 - 2460.75	$1s^22s^2 - 1s^22s7p$	$g^4S - ^1P^o$	0 - 1		832
	40	41.803	0.0 - 2392.17	$1s^22s^2 - 1s^22s6p$	$g^4S - ^1P^o$	0 - 1		832
	10	43.087	141.70 + X - 2462.7 + X	$1s^22s2p - 1s^22s7d$	$^1P^o - ^1D$	1 - 2		832
	20	43.138	144.16 + X - 2462.7 + X	$1s^22s2p - 1s^22s7d$	$^1P^o - ^1D$	2 - 3		832
	50	43.481	144.16 + X - 2444.28 + X	$1s^22s2p - 1s^22p5p$	$^1P^o - ^1P$	2 - 2		832
	60	43.843	0.0 - 2280.87	$1s^22s^2 - 1s^22s5p$	$g^4S - ^1P^o$	0 - 1		832
	40	44.373	141.70 + X - 2395.6 + X	$1s^22s2p - 1s^22s6d$	$^1P^o - ^1D$	1 - 2		832
	60	44.420	144.16 + X - 2395.6 + X	$1s^22s2p - 1s^22s6d$	$^1P^o - ^1D$	2 - 3		832
	20	44.983	405.10 - 2627.8 + Y	$1s^22p^2 - 1s^22p7d$	$^1D - ^1F^o$	2 - 3		832
	40	45.635	271.69 - 2462.99	$1s^22s2p - 1s^22s7d$	$^1P^o - ^1D$	1 - 2		832
	20	45.980	271.69 - 2446.55	$1s^22s2p - 1s^22p5p$	$^1P^o - ^1D$	1 - 2		832
	40	46.340	405.10 - 2562.7 + Y	$1s^22p^2 - 1s^22p6d$	$^1D - ^1F^o$	2 - 3		832
	160	46.657	141.70 + X - 2284.99 + X	$1s^22s2p - 1s^22s5d$	$^1P^o - ^1D$	1 - 2		832
	10	46.711	144.16 + X - 2284.99 + X	$1s^22s2p - 1s^22s5d$	$^1P^o - ^1D$	2 - 3		691
	60	47.041	271.69 - 2397.49	$1s^22s2p - 1s^22s6d$	$^1P^o - ^1D$	1 - 2		832
	10	47.818	144.16 + X - 2235.68	$1s^22s2p - 1s^22p(^3P^o)4p$	$^1P^o - ^1P$	2 - 2		691
	100	47.947	144.16 + X - 2229.80 + X	$1s^22s2p - 1s^22p(^3P^o)4p$	$^1P^o - ^1D$	2 - 3		691
	10	48.024	369.40 + X - 2451.68 + X	$1s^22p^2 - 1s^22p(^3P^o)5d$	$^1P - ^1D^o$	2 - 3		691
	100	48.340	0.0 - 2068.68	$1s^22s^2 - 1s^22s4p$	$g^4S - ^1P^o$	0 - 1		691
	10	48.794	405.10 - 2454.53	$1s^22p^2 - 1s^22p(^3P^o)5d$	$^1D - ^1F^o$	2 - 3		691
	1	49.586	271.69 - 2288.39	$1s^22s2p - 1s^22s5d$	$^1P^o - ^1D$	1 - 2		691
	10	50.777	271.69 - 2241.08	$1s^22s2p - 1s^22p(^3P^o)4p$	$^1P^o - ^1D$	1 - 2		691
	10	51.560	140.58 + X - 2080.02 + X	$1s^22s2p - 1s^22s4d$	$^1P^o - ^1D$	0 - 1		691
	300	51.591	141.70 + X - 2080.07 + X	$1s^22s2p - 1s^22s4d$	$^1P^o - ^1D$	1 - 2		691
	400	51.654	144.16 + X - 2080.12 + X	$1s^22s2p - 1s^22s4d$	$^1P^o - ^1D$	2 - 3		691
	10	53.112	367.23 + X - 2249.52 + X	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1P - ^1P^o$	1 - 2		691
	200	53.188	369.40 + X - 2249.52 + X	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1P - ^1P^o$	2 - 2		691
	200	53.222	369.40 + X - 2248.31 + X	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1P - ^1D^o$	2 - 3		691
	200	54.011	405.10 - 2256.57	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1D - ^1F^o$	2 - 3		691
	10	54.463	405.10 - 2240.85	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1D - ^1D^o$	2 - 2		691
	200	55.060	271.69 - 2087.89	$1s^22s2p - 1s^22s4d$	$^1P^o - ^1D$	1 - 2		691
	10	56.861	499.64 - 2258.12	$1s^22p^2 - 1s^22p(^3P^o)4d$	$^1S - ^1P^o$	0 - 1		691
	200	61.038	141.70 + X - 1780.06 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o - ^1P$	1 - 2		691
	100	61.088	141.70 + X - 1778.75 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o - ^1P$	1 - 1		691
	300	61.127	144.16 + X - 1780.06 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o - ^1P$	2 - 2		691
	200	61.175	144.16 + X - 1778.75 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o - ^1P$	2 - 1		691
	10	61.359	140.58 + X - 1770.43 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o$	0 - 1		691
	100	61.393	141.70 + X - 1770.43 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o$	1 - 1		691
	200	61.489	144.16 + X - 1770.43 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o$	2 - 1		691
	400	61.924	144.16 + X - 1759.05 + X	$1s^22s2p - 1s^22p(^3P^o)3p$	$^1P^o - ^1D$	2 - 3		691

Multiples	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	61.964	141.70 + X - 1755.79 + X	$1s^2 2s 2p - 1s^2 2p(^3P^o) 3p$	$^3P^o - ^3D$	1 - 1		691
	10	62.020	144.16 + X - 1756.55 + X	$1s^2 2s 2p - 1s^2 2p(^3P^o) 3p$	$^3P^o - ^3D$	2 - 2		691
	500	62.751	0.0 - 1593.91	$1s^2 2s^2 - 1s^2 2s 3p$	$g^1S - ^1P^o$	0 - 1		691
	400	65.609	271.69 - 1795.87	$1s^2 2s 2p - 1s^2 2p(^3P^o) 3p$	$^1P^o - ^1D$	1 - 2		691
	500	67.090	140.58 + X - 1631.06 + X	$1s^2 2s 2p - 1s^2 2s 3d$	$^3P^o - ^3D$	0 - 1		691
	600	67.135	141.70 + X - 1631.23 + X	$1s^2 2s 2p - 1s^2 2s 3d$	$^3P^o - ^3D$	1 - 2		691
	700	67.239	144.16 + X - 1631.39 + X	$1s^2 2s 2p - 1s^2 2s 3d$	$^3P^o - ^3D$	2 - 3		691
	400	67.731	271.69 - 1748.12	$1s^2 2s 2p - 1s^2 2p(^3P^o) 3p$	$^1P^o - ^1P$	1 - 1		691
	10	68.949	365.93 + X - 1816.28 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	0 - 1		691
	100	68.986	367.23 + X - 1816.80 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	1 - 0		691
	100	69.009	367.23 + X - 1816.28 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	1 - 1		691
	10	69.058	367.23 + X - 1815.20 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	1 - 2		691
	100	69.116	369.40 + X - 1816.28 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	2 - 1		691
	300	69.161	369.40 + X - 1815.29 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3P^o$	2 - 2		691
	200	69.374	365.93 + X - 1807.44 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3D^o$	0 - 1		691
	400	69.413	367.23 + X - 1807.93 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3D^o$	1 - 2		691
	500	69.467	369.40 + X - 1808.92 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3D^o$	2 - 3		691
	100	69.513	369.40 + X - 1807.93 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^3P - ^3D^o$	2 - 2		691
	300	69.615	405.10 - 1841.57	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^1D - ^1P^o$	2 - 1		691
	600	69.950	405.10 - 1834.69	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^1D - ^1F^o$	2 - 3		691
	100	71.841	140.58 + X - 1532.49 + X	$1s^2 2s 2p - 1s^2 2s 3s$	$^3P^o - ^3S$	0 - 1		691
	200	71.901	141.70 + X - 1532.49 + X	$1s^2 2s 2p - 1s^2 2s 3s$	$^3P^o - ^3S$	1 - 1		691
	300	72.027	144.16 + X - 1532.49 + X	$1s^2 2s 2p - 1s^2 2s 3s$	$^3P^o - ^3S$	2 - 1		691
	300	72.226	405.10 - 1789.29	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^1D - ^1D^o$	2 - 2		691
	400	72.312	271.69 - 1654.58	$1s^2 2s 2p - 1s^2 2s 3d$	$^1P^o - ^1D$	1 - 2		691
	200	74.274	367.23 + X - 1713.85 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	1 - 2		691
	300	74.319	365.93 + X - 1711.31 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	0 - 1		691
	400	74.366	369.40 + X - 1713.85 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	2 - 2		691
	100	74.411	367.23 + X - 1711.31 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	1 - 1		691
	10	74.461	367.23 + X - 1710.22 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	1 - 0		691
	100	74.520	499.64 - 1841.57	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^1S - ^1P^o$	0 - 1		691
	100	74.520	369.40 + X - 1711.31 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^3P - ^3P^o$	2 - 1		691
	100	74.738	405.10 - 1743.00	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^1D - ^1P^o$	2 - 1		691
	100	76.459	499.64 - 1807.44 + X	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3d$	$^1S - ^3D^o$	0 - 1	Q	692, 375
	600	77.737	271.69 - 1558.08	$1s^2 2s 2p - 1s^2 2s 3s$	$^1P^o - ^1S$	1 - 0		691
	100	80.428	499.64 - 1743.00	$1s^2 2p^2 - 1s^2 2p(^3P^o) 3s$	$^1S - ^1P^o$	0 - 1		691
	10	91.385	499.64 - 1593.91	$1s^2 2p^2 - 1s^2 2s 3p$	$^1S - ^1P^o$	0 - 1		691
	10	117.880	1598.4 + Z - 2446.55	$1s^2 2s 3p - 1s^2 2p 5p$	$^3P^o - ^1D$	2 - 2	Q	692, 375
	100	368.071	0.0 - 271.69	$1s^2 2s^2 - 1s^2 2s 2p$	$g^1S - ^1P^o$	0 - 1		691
		438.69	271.69 - 499.64	$1s^2 2s 2p - 1s^2 2p^2$	$^1P^o - ^1S$	1 - 0		250
	10	439.180	141.70 + X - 369.40 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	1 - 2		691
		441.20	140.58 + X - 367.23 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	0 - 1		250
		443.40	141.70 + X - 367.23 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	1 - 1		250
	10	443.981	144.16 + X - 369.40 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	2 - 2		691
		445.97	141.70 + X - 365.93 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	1 - 0		250
		448.29	144.16 + X - 367.23 + X	$1s^2 2s 2p - 1s^2 2p^2$	$^3P^o - ^3P$	2 - 1		250
	1	705.72	0.0 - 141.70 + X	$1s^2 2s^2 - 1s^2 2s 2p$	$g^1S - ^1P^o$	0 - 1	P	211, 856
		749.55	271.69 - 405.10	$1s^2 2s 2p - 1s^2 2p^2$	$^1P^o - ^1D$	1 - 2		250

MAGNESIUM X (Mg^{++}), $Z = 12$ Ground State $1s^2 2s^2 S_{1/2}$ (3 electrons)Ionization Potential $2\,964\,400 \text{ cm}^{-1}$; 367.54 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	2	7.998 8.0358 8.0514	0.0 - 12503. 163.99 - 12607.8 163.99 - 12584.2	$1s^2 2s - 1s 2s(^1S) 3p$ $1s^2 2p - 1s 2p(^1P^o) 3p$ $1s^2 2p - 1s 2p(^1P^o) 3p$	$g^1S - ^1P^o$ $^1P^o - ^1D$ $^1P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$ $\frac{3}{2} - \frac{3}{2}$ $\frac{3}{2} - \frac{1}{2}$	Z Z Z	283 624, 809 624
	4	8.0688	163.99 - 12557.4	$1s^2 2p - 1s 2p(^1P^o) 3p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	624, 809
	3	8.092	163.99 - 12522.	$1s^2 2p - 1s 2p(^1P^o) 3p$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	283, 809
	5	9.1771	1727.83 - 12624.5	$1s^2 3p - 1s 2p(^1P^o) 3p$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	624, 636
	4	9.187	2270.15 - 13155.1	$1s^2 4p - 1s 2p 4p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	636
		9.1912	1727.83 - 12607.8	$1s^2 3p - 1s 2p(^1P^o) 3p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	624
	3	9.195	2520.9 - 13396.4	$1s^2 5p - 1s 2p 5p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	636
	4	9.218	160.01 - 11008.6	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629, 636

Mg X

Mg XI

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	2	9.221	163.99 - 11008.6	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		9.234	0.0 - 10828.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		9.235	1682.65 - 12503.	$1s^2 3s - 1s 2s(^1S) 3p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629, 636
		9.266	2656.5 - 13448.6	$1s^2 6p - 1s 2p 6p$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	636
16		9.2832	0.0 - 10772.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	624, 636
13		9.285	0.0 - 10770.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		9.294	160.01 - 10919.9	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629, 636
		9.297	163.99 - 10919.9	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		9.300	163.99 - 10916.4	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
32		9.316	160.01 - 10895.1	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629, 636
		9.318	163.99 - 10894.8	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		9.319	163.99 - 10894.8	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		9.382	160.01 - 10819.6	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		9.383	163.99 - 10821.6	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		9.384	163.99 - 10819.6	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		9.386	163.99 - 10817.9	$1s^2 2p - 1s 2p^3$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		9.391	0.0 - 10648.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
3		35.366	0.0 - 2827.6	$1s^2 2s - 1s^2 9p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
6		35.827	0.0 - 2791.2	$1s^2 2s - 1s^2 8p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
35		36.518	0.0 - 2738.4	$1s^2 2s - 1s^2 7p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
60		37.644	0.0 - 2656.5	$1s^2 2s - 1s^2 6p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
60		38.769	160.01 - 2739.3	$1s^2 2p - 1s^2 7d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		234
120		38.823	163.99 - 2739.8	$1s^2 2p - 1s^2 7d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		234
250		39.669	0.0 - 2520.9	$1s^2 2s - 1s^2 5p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
120		40.022	160.01 - 2658.5	$1s^2 2p - 1s^2 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		234
200		40.080	163.99 - 2659.	$1s^2 2p - 1s^2 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		234
250		42.294	160.01 - 2524.3	$1s^2 2p - 1s^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		234
400		42.363	163.99 - 2524.6	$1s^2 2p - 1s^2 5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		234
6		42.523	160.01 - 2511.6	$1s^2 2p - 1s^2 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		234
10		42.596	163.99 - 2511.6	$1s^2 2p - 1s^2 5s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		234
400		44.050	0.0 - 2270.15	$1s^2 2s - 1s^2 4p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
250		47.231	160.01 - 2277.18	$1s^2 2p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		234
400		47.310	163.99 - 2277.69	$1s^2 2p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		234
700		57.876	0.0 - 1727.83	$1s^2 2s - 1s^2 3p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		234
700		57.920	0.0 - 1726.52	$1s^2 2s - 1s^2 3p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		234
400		63.152	160.01 - 1743.41	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		234
700		63.295	163.99 - 1743.88	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		234
35		65.672	160.01 - 1682.65	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		234
60		65.847	163.99 - 1682.65	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		234
100		94.721	1682.65 - 2738.4	$1s^2 3s - 1s^2 7p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	Q	692, 375
200		100.545	1743.88 - 2738.4	$1s^2 3d - 1s^2 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	692, 375
		170.21	1682.65 - 2270.15	$1s^2 3s - 1s^2 4p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		375
		181.60	1726.52 - 2277.18	$1s^2 3p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	244
		181.86	1727.83 - 2277.69	$1s^2 3p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		244
		187.17	1743.88 - 2278.15	$1s^2 3d - 1s^2 4f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		244
23		609.79	0.0 - 163.99	$1s^2 2s - 1s^2 2p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		730, 856
12		624.95	0.0 - 166.01	$1s^2 2s - 1s^2 2p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		730, 856

MAGNESIUM XI (Mg^{10+}), $Z = 12$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential $14\ 210\ 175 \text{ cm}^{-1}$; 1761.85 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
2		7.128	0.0 - 14029.	$1s^2 - 1s 9p$	$g^1S - ^1P^o$	0 - 1		809
3		7.156	0.0 - 13974.	$1s^2 - 1s 8p$	$g^1S - ^1P^o$	0 - 1		809
4		7.177	0.0 - 13933.	$1s^2 - 1s 7p$	$g^1S - ^1P^o$	0 - 1		809
4		7.225	0.0 - 13841.	$1s^2 - 1s 6p$	$g^1S - ^1P^o$	0 - 1		624, 799
6		7.3101	0.0 - 13679.63	$1s^2 - 1s 5p$	$g^1S - ^1P^o$	0 - 1		236, 809
10		7.4730	0.0 - 13381.53	$1s^2 - 1s 4p$	$g^1S - ^1P^o$	0 - 1		236, 809
44		7.8503	0.0 - 12738.29	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1		236, 809
2		7.8629	0.0 - 12717.99	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1		647, 809
		8.445	12719.05 - 24560.	$1s 3p - 2p 3p$	$^1P^o - ^1D$	2 - 3	Z	283
		8.458	10906.89 - 22730.	$1s 2p - 2p^2$	$^1P^o - ^1S$	1 - 0	Z	839

Mg XI

Mg XII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	8.4943	8.5228	10839.04 - 22611.6	1s2s - 2s2p	$^1S - ^1P^o$	0 - 1	P, Z	626
			10736.42 - 22469.4	1s2s - 2s2p	$^3S - ^3P^o$	1 - 1	Z	624, 809
2	8.5313	8.5487	10836.65 - 22578.2	1s2p - 2p ²	$^3P^o - ^3P$	2 - 2	P, Z	626
			10906.89 - 22604.6	1s2p - 2p ²	$^1P^o - ^1D$	1 - 2	P, Z	624, 809
1	8.573		10906.89 - 22556.2	1s2p - 2p ²	$^1P^o - ^3P$	1 - 2	Q, Z	624, 809
100	9.1685	9.2310	10839.04 - 22469.4	1s2s - 2s2p	$^1S - ^1P^o$	0 - 1	Z	624
			0.0 - 10906.89	1s ² - 1s2p	$g^4S - ^1P^o$	0 - 1		236, 636
31	9.314		0.0 - 10833.09	1s ² - 1s2p	$g^4S - ^3P^o$	0 - 1		446, 636
32			0.0 - 10736.42	1s ² - 1s2s	$g^4S - ^3S$	0 - 1	F, P	375, 636
	50.44		10736.42 - 12719.05	1s2s - 1s3p	$^3S - ^1P^o$	1 - 2	P	375
	52.65		10839.04 - 12738.29	1s2s - 1s3p	$^1S - ^1P^o$	0 - 1	P	375
	90.32		12761.0 + R - 13868.2 + R	1s3d - 1s6f	$^1D - ^3F^o$	3 - 4	P	87
	90.38		12765.0 + K - 13871.4 + K	1s3d - 1s6f	$^1D - ^1F^o$	2 - 3	P	87
	105.83		12761.0 + R - 13705.9 + R	1s3d - 1s5f	$^1D - ^3F^o$	3 - 4	P	87
	105.92		12765.0 + K - 13709.1 + K	1s3d - 1s5f	$^1D - ^1F^o$	2 - 3	P	87
	146.58		12691.44 - 13373.64	1s3s - 1s4p	$^3S - ^1P^o$	1 - 2	P	375
	150.83		12718.55 - 13381.53	1s3s - 1s4p	$^1S - ^1P^o$	0 - 1	P	375
	154.77		12761.0 + R - 13407.1 + R	1s3d - 1s4f	$^1D - ^3F^o$	3 - 4	P	87
	154.95		12765.0 + K - 13410.4 + K	1s3d - 1s4f	$^1D - ^1F^o$	2 - 3	P	87
	997.71		10736.42 - 10836.65	1s2s - 1s ² p	$^3S - ^1P^o$	1 - 2	P	375
	1473.84		10839.04 - 10906.89	1s2s - 1s2p	$^1S - ^1P^o$	0 - 1	P	375

MAGNESIUM XII (Mg^{11+}), $Z = 12$ Ground State 1s $^2S_{1/2}$ (1 electron)Ionization Potential 15 829 38 cm^{-1} ; 1962.68 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
3	6.381	6.396	0.0 - 15671.87	1s - 10p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309
			0.0 - 15634.73	1s - 9p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309
			0.0 - 15582.94	1s - 8p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309
			0.0 - 15507.31	1s - 7p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309
			0.0 - 15390.79	1s - 6p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309, 809
			0.0 - 15197.53	1s - 5p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309, 809
8	6.580		0.0 - 14841.73	1s - 4p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309, 809
10	6.738		0.0 - 14073.06	1s - 3p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309, 809
20	7.106		0.0 - 14070.80	1s - 3p	$g^4S - ^1P^o$	$1/2 - 1/2$	P	309, 809
10	7.107		0.0 - 11877.60	1s - 2p	$g^4S - ^1P^o$	$1/2 - 3/2$	P	309, 809
60	8.419		0.0 - 11869.97	1s - 2p	$g^4S - ^1P^o$	$1/2 - 1/2$	P	309, 809
120	8.425	26.305	11870.28 - 15671.87	2s - 10p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15671.89	2p - 10d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 15634.78	2s - 9p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15634.81	2p - 9d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 15582.94	2s - 8p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15582.98	2p - 8d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 15507.31	2s - 7p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15507.37	2p - 7d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 15390.79	2s - 6p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15390.88	2p - 6d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 15197.53	2s - 5p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 15197.69	2p - 5d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 14841.73	2s - 4p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 14842.05	2p - 4d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			11870.28 - 14073.06	2s - 3p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			11877.60 - 14073.81	2p - 3d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			14070.89 - 15671.87	3s - 10p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			14073.06 - 15671.89	3p - 10d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			14073.81 - 15671.90	3d - 10f	$^1D - ^3F^o$	$3/2 - 1/2$	P	309
			14070.89 - 15634.78	3s - 9p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			14073.06 - 15634.81	3p - 9d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309
			14073.81 - 15634.83	3d - 9f	$^1D - ^3F^o$	$3/2 - 1/2$	P	309
			14070.89 - 15582.94	3s - 8p	$^1S - ^1P^o$	$1/2 - 3/2$	P	309
			14073.06 - 15582.98	3p - 8d	$^1P^o - ^1D$	$3/2 - 3/2$	P	309

Mg XII

Mg XII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		66.261	14073.81 - 15583.00	3d - 8f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		69.618	14370.89 - 15507.31	3s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		69.720	14073.06 - 15507.37	3p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		69.755	14073.81 - 15507.40	3d - 7f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		75.764	14070.89 - 15390.79	3s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		75.883	14073.06 - 15390.88	3p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		75.923	14073.81 - 15390.93	3d - 6f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		88.760	14070.89 - 15197.53	3s - 5p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		88.918	14073.06 - 15197.69	3p - 5d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		88.971	14073.81 - 15197.77	3d - 5f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		120.330	14840.82 - 15671.87	4s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		120.460	14841.73 - 15671.89	4p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		120.504	14842.05 - 15671.90	4d - 10f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		125.950	14840.82 - 15634.78	4s - 9p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		126.091	14841.73 - 15634.81	4p - 9d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		126.139	11842.05 - 15634.83	4d - 9f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		129.729	14070.89 - 14841.73	3s - 4p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		130.041	14073.06 - 14842.05	3p - 4d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		130.141	14073.81 - 14842.21	3d - 4f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		134.749	14840.82 - 15582.94	4s - 8p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		134.908	14841.73 - 15582.98	4p - 8d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		134.962	14842.05 - 15583.00	4d - 8f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		150.039	14840.82 - 15507.31	4s - 7p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		150.232	14841.73 - 15507.37	4p - 7d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		150.296	14842.05 - 15507.40	4d - 7f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		181.828	14840.82 - 15390.79	4s - 6p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		182.100	14841.73 - 15390.88	4p - 6d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		182.189	14842.05 - 15390.93	4d - 6f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		210.611	15197.06 - 15671.87	5s - 10p	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		210.810	15197.53 - 15671.89	5p - 10d	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		210.877	15197.69 - 15671.90	5d - 10f	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$	P	309

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		7.886						624
	10	53.598						233
	10	55.143						233
	10	56.545						233
	50	57.244						233
	50	57.271						233
	50	61.373						233
	100	61.472						233
	10	61.900						233
	10	64.418						233
	10	66.996						233
	10	67.873						233
	50	68.439						233
	50	68.458						233
	50	69.379						233
	10	71.077						233
	50	71.139						233
	70	71.590						233
	10	71.867						233
	10	71.987						233
	70	78.573						233
	50	79.783						233
	10	80.014						233
	10	80.403						233
	70	82.128						233
	50	82.582						233
	50	86.282						233
	10	86.540						233
	500	91.023						233
	10	95.405						233
	200	95.720						233
	10	95.859						233
	10	96.939						233
	10	104.227						233
	10	106.471						233
	10	1291.81						693
	10	1320.71						693
	10	1429.57						693

ALUMINUM I (Al^{0+}), Z = 13Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \text{ } ^3\text{P}_{1/2}$ (13 electrons)Ionization Potential 48 278.37 cm^{-1} ; 5.986 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	1762.892	0.0 - 56.72	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{P}$	$\frac{1}{2} - \frac{3}{2}$	Z	197, 198
	200	1765.632	0.0 - 56.64	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{P}$	$\frac{1}{2} - \frac{1}{2}$	Z	197, 198
	200	1766.381	0.11 - 56.72	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{P}$	$\frac{3}{2} - \frac{3}{2}$	Z	197, 198
	200	1769.133	0.11 - 56.64	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{P}$	$\frac{3}{2} - \frac{1}{2}$	Z	197, 198
		1932.255	0.0 - 51.75	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{S}$	$\frac{1}{2} - \frac{1}{2}$	P, Z	198
		1936.448	0.11 - 51.75	$3s^2 3p - 3s 3p^2$	$g^3\text{P}^* - ^3\text{S}$	$\frac{3}{2} - \frac{1}{2}$	P, Z	198

ALUMINUM II (Al^{2+}), $Z = 13$
 Ground State $1s^2 2s^2 2p^6 3s^2 \ ^1S_0$ (12 electrons)
 Ionization Potential $151\,862.7\text{ cm}^{-1}$; 18.829 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	2	683.529	0.0 - 146.30	$3s^2 - 3s10p$	$g^1S - ^1P^o$	0 - 1		961
	5	689.936	0.0 - 144.94	$3s^2 - 3s9p$	$g^1S - ^1P^o$	0 - 1		961
	10	699.489	0.0 - 142.96	$3s^2 - 3s8p$	$g^1S - ^1P^o$	0 - 1		961
	20	714.695	0.0 - 139.92	$3s^2 - 3s7p$	$g^1S - ^1P^o$	0 - 1		961
	25	741.182	0.0 - 134.92	$3s^2 - 3s6p$	$g^1S - ^1P^o$	0 - 1		961
	20	794.475	0.0 - 125.87	$3s^2 - 3s5p$	$g^1S - ^1P^o$	0 - 1		961
	20	905.152	37.58 - 148.06	$3s3p - 3s12s$	$^1P^o - ^1S$	2 - 1		961
	10	910.916	37.45 - 147.23	$3s3p - 3s11s$	$^1P^o - ^1S$	1 - 1		961
	10	911.497	37.58 - 147.29	$3s3p - 3s10d$	$^1P^o - ^1D$	2 - 3		961
	40	911.946	37.58 - 147.23	$3s3p - 3s11s$	$^1P^o - ^1S$	2 - 1		961
	30	919.672	37.45 - 146.19	$3s3p - 3s9d$	$^1P^o - ^1D$	1 - 2		961
	50	922.317	37.45 - 146.11	$3s3p - 3s10s$	$^1P^o - ^1S$	1 - 1		961
	50	920.716	37.58 - 146.19	$3s3p - 3s9d$	$^1P^o - ^1D$	2 - 3		961
	75	921.367	37.58 - 146.11	$3s3p - 3s10s$	$^1P^o - ^1S$	1 - 1		961
	20	932.408	37.39 - 144.64	$3s3p - 3s8d$	$^1P^o - ^1D$	0 - 1		961
	40	932.938	37.45 - 144.64	$3s3p - 3s8d$	$^1P^o - ^1D$	1 - 2		961
	50	933.408	37.39 - 144.53	$3s3p - 3s9s$	$^1P^o - ^1S$	0 - 1		961
	75	933.938	37.45 - 144.53	$3s3p - 3s9s$	$^1P^o - ^1S$	1 - 1		961
	100	934.015	37.58 - 144.64	$3s3p - 3s8d$	$^1P^o - ^1D$	2 - 3		961
	100	935.020	37.58 - 144.53	$3s3p - 3s9s$	$^1P^o - ^1S$	2 - 1		961
	100	935.275	0.0 - 106.92	$3s^2 - 3s4p$	$g^1S - ^1P^o$	0 - 1		961
	75	952.630	37.39 - 142.37	$3s3p - 3s7d$	$^1P^o - ^1D$	0 - 1		961
	100	953.182	37.45 - 142.37	$3s3p - 3s7d$	$^1P^o - ^1D$	1 - 2		961
	125	954.305	37.58 - 142.37	$3s3p - 3s7d$	$^1P^o - ^1D$	2 - 3		961
	100	954.847	37.45 - 142.18	$3s3p - 3s8s$	$^1P^o - ^1S$	1 - 1		961
	125	955.977	37.58 - 142.18	$3s3p - 3s8s$	$^1P^o - ^1S$	2 - 1		961
	100	985.989	37.39 - 138.81	$3s3p - 3s6d$	$^1P^o - ^1D$	0 - 1		961
	125	986.571	37.45 - 138.81	$3s3p - 3s6d$	$^1P^o - ^1D$	1 - 2		961
	150	987.777	37.58 - 138.82	$3s3p - 3s6d$	$^1P^o - ^1D$	2 - 3		961
	75	989.052	37.39 - 138.50	$3s3p - 3s7s$	$^1P^o - ^1S$	0 - 1		961
	100	989.648	37.45 - 138.50	$3s3p - 3s7s$	$^1P^o - ^1S$	1 - 1		961
	125	990.862	37.58 - 138.50	$3s3p - 3s7s$	$^1P^o - ^1S$	2 - 1		961
	150	1047.889	37.39 - 132.82	$3s3p - 3s5d$	$^1P^o - ^1D$	0 - 1		961
	170	1048.559	37.45 - 132.82	$3s3p - 3s5d$	$^1P^o - ^1D$	1 - 2		961
	190	1049.923	37.58 - 132.82	$3s3p - 3s5d$	$^1P^o - ^1D$	2 - 3		961
	100	1054.603	37.39 - 132.22	$3s3p - 3s6s$	$^1P^o - ^1S$	0 - 1		961
	125	1055.280	37.45 - 132.22	$3s3p - 3s6s$	$^1P^o - ^1S$	1 - 1		961
	150	1056.661	37.58 - 132.22	$3s3p - 3s6s$	$^1P^o - ^1S$	2 - 1		961
	35	1132.726	59.85 - 148.14	$3s3p - 3s11d$	$^1P^o - ^1D$	1 - 2		961
	100	1142.953	59.85 - 147.34	$3s3p - 3s10d$	$^1P^o - ^1D$	1 - 2		961
	125	1157.088	59.85 - 146.28	$3s3p - 3s9d$	$^1P^o - ^1D$	1 - 2		961
	100	1158.210	59.85 - 146.19	$3s3p - 3s10s$	$^1P^o - ^1S$	1 - 0		961
	125	1177.437	59.85 - 144.78	$3s3p - 3s8d$	$^1P^o - ^1D$	1 - 2		961
	125	1179.354	59.85 - 144.64	$3s3p - 3s9s$	$^1P^o - ^1S$	1 - 0		961
	125	1189.185	37.39 - 121.48	$3s3p - 3s4d$	$^1P^o - ^1D$	0 - 1		961
	150	1190.052	37.45 - 121.48	$3s3p - 3s4d$	$^1P^o - ^1D$	1 - 2		961
	190	1191.811	37.58 - 121.48	$3s3p - 3s4d$	$^1P^o - ^1D$	2 - 3		961
	150	1208.352	59.85 - 142.61	$3s3p - 3s7d$	$^1P^o - ^1D$	1 - 2		961
	100	1209.191	37.39 - 120.09	$3s3p - 3s5s$	$^1P^o - ^1S$	0 - 1		961
	125	1210.082	37.45 - 120.09	$3s3p - 3s5s$	$^1P^o - ^1S$	1 - 1		961
	150	1211.898	37.58 - 120.09	$3s3p - 3s5s$	$^1P^o - ^1S$	2 - 1		961
	125	1211.953	59.85 - 142.36	$3s3p - 3s8s$	$^1P^o - ^1S$	1 - 0		961
	125	1258.858	59.85 - 139.29	$3s3p - 3s6d$	$^1P^o - ^1D$	1 - 2		961
	150	1266.648	59.85 - 138.80	$3s3p - 3s7s$	$^1P^o - ^1S$	1 - 0		961
	150	1350.178	59.85 - 133.92	$3s3p - 3s5d$	$^1P^o - ^1D$	1 - 2		961
	150	1371.240	59.85 - 132.78	$3s3p - 3s6s$	$^1P^o - ^1S$	1 - 0		961
	340	1539.830	59.85 - 124.79	$3s3p - 3s4d$	$^1P^o - ^1D$	1 - 2		961
	1	1555.943	85.48 - 149.75	$3p^2 - 3s16p$	$^1D - ^1P^o$	2 - 1		961
	1	1560.35	85.48 - 149.57	$3p^2 - 3s14f$	$^1D - ^1F^o$	2 - 3		653
	1	1563.580	85.48 - 149.44	$3p^2 - 3s15p$	$^1D - ^1P^o$	2 - 1		961
	100	1569.385	85.48 - 149.20	$3p^2 - 3s13f$	$^1D - ^1F^o$	2 - 3		379
	3	1573.003	85.48 - 149.05	$3p^2 - 3s14p$	$^1D - ^1P^o$	2 - 1		961
	1	1580.919	85.48 - 148.74	$3p^2 - 3s12f$	$^1D - ^1F^o$	2 - 3		961
	4	1584.708	85.48 - 148.58	$3p^2 - 3s13p$	$^1D - ^1P^o$	2 - 1		961
	112	1596.059	85.48 - 148.14	$3p^2 - 3s11f$	$^1D - ^1F^o$	2 - 3		961
	20	1599.410	85.48 - 148.00	$3p^2 - 3s12p$	$^1D - ^1P^o$	2 - 1		961
	10	1616.415	85.48 - 147.35	$3p^2 - 3s10f$	$^1D - ^1F^o$	2 - 3		961
	50	1618.399	85.48 - 147.27	$3p^2 - 3s11p$	$^1D - ^1P^o$	2 - 1		961
	125	1625.627	59.85 - 121.37	$3s3p - 3s5s$	$^1P^o - ^1S$	1 - 0		961
	100	1644.235	85.48 - 146.30	$3p^2 - 3s10p$	$^1D - ^1P^o$	2 - 1		961

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	100	1644.809	85.48 - 146.28	$3p^2 - 3s9f$	$^1D - ^1F$	2 - 3		961
	400	1670.787	0.0 - 59.85	$3s^2 - 3s3p$	$^3S - ^1P$	0 - 1		961
	80	1681.809	85.48 - 144.94	$3p^2 - 3s9p$	$^1D - ^1P$	2 - 1		961
	100	1686.250	85.48 - 144.78	$3p^2 - 3s8f$	$^1D - ^1F$	2 - 3		961
6	340	1719.440	37.39 - 95.55	$3s3p - 3s3d$	$^1P - ^1D$	0 - 1		961
6	255	1721.244	37.45 - 95.55	$3s3p - 3s3d$	$^1P - ^1D$	1 - 1		961
6	365	1721.271	37.45 - 95.55	$3s3p - 3s3d$	$^1P - ^1D$	1 - 2		961
6	255	1724.952	37.58 - 95.55	$3s3p - 3s3d$	$^1P - ^1D$	2 - 2		961
6	365	1724.984	37.58 - 95.55	$3s3p - 3s3d$	$^1P - ^1D$	2 - 3		961
	50	1739.738	85.48 - 142.96	$3p^2 - 3s8p$	$^1D - ^1P$	2 - 1		961
	60	1750.612	85.48 - 142.60	$3p^2 - 3s7f$	$^1D - ^1F$	2 - 3		961
5	210	1760.104	37.45 - 94.27	$3s3p - 3p^2$	$^1P - ^1P$	1 - 2		961
5	190	1761.975	37.39 - 94.15	$3s3p - 3p^2$	$^1P - ^1P$	0 - 1		961
5	255	1763.869	37.45 - 94.15	$3s3p - 3p^2$	$^1P - ^1P$	1 - 1		961
5	315	1763.952	37.58 - 94.27	$3s3p - 3p^2$	$^1P - ^1P$	2 - 2		961
5	190	1765.815	37.45 - 94.08	$3s3p - 3p^2$	$^1P - ^1P$	1 - 0		961
5	225	1767.731	37.58 - 94.15	$3s3p - 3p^2$	$^1P - ^1P$	2 - 1		961
	10	1772.802	94.08 - 150.49	$3p^2 - 3p3d$	$^1P - ^1D$	0 - 1		961
	25	1774.002	94.15 - 150.52	$3p^2 - 3p3d$	$^1P - ^1D$	1 - 2		961
	10	1774.770	94.15 - 150.49	$3p^2 - 3p3d$	$^1P - ^1D$	1 - 1		961
	1	1776.19	91.27 - 147.57	$3s4s - 3s11p$	$^3S - ^1P$	1 - 2		961
	100	1776.975	94.27 - 150.54	$3p^2 - 3p3d$	$^1P - ^1D$	2 - 3		961
	3	1777.825	94.27 - 150.52	$3p^2 - 3p3d$	$^1P - ^1D$	2 - 2		961
	70	1807.417	91.27 - 146.60	$3s4s - 3s10p$	$^3S - ^1P$	1 - 2		961
	20	1807.585	91.27 - 146.60	$3s4s - 3s10p$	$^3S - ^1P$	1 - 1		961
	1	1807.651	91.27 - 146.59	$3s4s - 3s10p$	$^3S - ^1P$	1 - 0		961
	50	1818.352	95.55 - 150.54	$3s3d - 3p3d$	$^1D - ^1D$	3 - 3		961
	3	1818.392	95.55 - 150.54	$3s3d - 3p3d$	$^1D - ^1D$	2 - 3		961
	1	1819.285	95.55 - 150.52	$3s3d - 3p3d$	$^1D - ^1D$	2 - 2		961
	2	1820.124	95.55 - 150.49	$3s3d - 3p3d$	$^1D - ^1D$	1 - 1		961
	290	1828.588	91.27 - 145.96	$3s4s - 3p4s$	$^3S - ^1P$	1 - 2		961
	225	1832.837	91.27 - 145.83	$3s4s - 3p4s$	$^3S - ^1P$	1 - 1		961
	170	1834.808	91.27 - 145.78	$3s4s - 3p4s$	$^3S - ^1P$	1 - 0		961
	60	1836.964	85.48 - 139.92	$3p^2 - 3s7p$	$^1D - ^1P$	2 - 1		961
	0	1839.39	95.55 - 149.92	$3s3d - 3s15f$	$^1D - ^1F$	2 - 3		961
	1	1848.888	95.35 - 149.44	$3s4s - 3s15p$	$^1S - ^1P$	0 - 1		961
	2	1849.15	95.55 - 149.63	$3s3d - 3s14f$	$^1D - ^1F$	3 - 4		961
	90	1855.805	91.27 - 145.16	$3s4s - 3s9p$	$^3S - ^1P$	1 - 2		961
4	190	1855.929	37.39 - 91.27	$3s3p - 3s4s$	$^1P - ^1S$	0 - 1		961
	90	1856.096	91.27 - 145.15	$3s4s - 3s9p$	$^3S - ^1P$	1 - 1		961
	30	1856.274	91.27 - 145.15	$3s4s - 3s9p$	$^3S - ^1P$	1 - 0		961
4	315	1858.026	37.45 - 91.27	$3s3p - 3s4s$	$^1P - ^1S$	1 - 1		961
	110	1859.980	85.48 - 139.25	$3p^2 - 3s6f$	$^1D - ^1F$	2 - 3		961
	5	1862.081	95.35 - 149.05	$3s4s - 3s14p$	$^1S - ^1P$	0 - 1		961
4	400	1862.311	37.58 - 91.27	$3s3p - 3s4s$	$^1P - ^1S$	2 - 1		961
	5	1877.04	95.55 - 148.83	$3s3d - 3s12f$	$^1D - ^1F$	3 - 4		961
	8	1878.504	95.35 - 148.58	$3s4s - 3s13p$	$^1S - ^1P$	0 - 1		961
	10	1897.401	95.55 - 148.25	$3s3d - 3s11f$	$^1D - ^1F$	3 - 4		961
	3	1897.460	95.55 - 148.25	$3s3d - 3s11f$	$^1D - ^1F$	2 - 3		961
	1	1897.500	95.55 - 148.25	$3s3d - 3s11f$	$^1D - ^1F$	1 - 2		961
	25	1899.194	95.35 - 148.00	$3s4s - 3s12p$	$^1S - ^1P$	0 - 1		961
	8	1904.326	94.08 - 146.60	$3p^2 - 3s10p$	$^1P - ^1P$	0 - 1		961
	25	1906.408	94.15 - 146.60	$3p^2 - 3s10p$	$^1P - ^1P$	1 - 2		961
	4	1906.596	94.15 - 146.60	$3p^2 - 3s10p$	$^1P - ^1P$	1 - 1		961
	8	1906.674	94.15 - 146.59	$3p^2 - 3s10p$	$^1P - ^1P$	1 - 0		961
	80	1910.825	94.27 - 146.60	$3p^2 - 3s10p$	$^1P - ^1P$	2 - 2		961
	15	1911.013	94.27 - 146.60	$3p^2 - 3s10p$	$^1P - ^1P$	2 - 1		961
	1	1922.16	95.55 - 147.57	$3s3d - 3s11p$	$^1D - ^1P$	3 - 2		961
	50	1924.754	95.55 - 147.50	$3s3d - 3s10f$	$^1D - ^1F$	3 - 4		961
	30	1924.825	95.55 - 147.50	$3s3d - 3s10f$	$^1D - ^1F$	2 - 3		961
	10	1924.879	95.55 - 147.50	$3s3d - 3s10f$	$^1D - ^1F$	1 - 2		961
	60	1926.029	95.35 - 147.27	$3s4s - 3s11p$	$^1S - ^1P$	0 - 1		961
	20	1926.948	91.27 - 143.17	$3s4s - 3s8p$	$^3S - ^1P$	1 - 2		961
	10	1927.070	91.27 - 143.17	$3s4s - 3s8p$	$^3S - ^1P$	1 - 1		961
	0	1927.13	91.27 - 143.17	$3s4s - 3s8p$	$^3S - ^1P$	1 - 0		961
	150	1929.978	94.15 - 145.96	$3p^2 - 3p4s$	$^1P - ^1P$	1 - 2		961
	125	1931.048	59.85 - 111.64	$3s3p - 3p^2$	$^1P - ^1S$	1 - 0		961
	150	1932.377	94.08 - 145.83	$3p^2 - 3p4s$	$^1P - ^1P$	0 - 1		961
	225	1934.503	94.27 - 145.96	$3p^2 - 3p4s$	$^1P - ^1P$	2 - 2		961
	125	1934.713	94.15 - 145.83	$3p^2 - 3p4s$	$^1P - ^1P$	1 - 1		961
	125	1936.907	94.15 - 145.78	$3p^2 - 3p4s$	$^1P - ^1P$	1 - 0		961
	150	1939.261	94.27 - 145.83	$3p^2 - 3p4s$	$^1P - ^1P$	2 - 1		961
	8	1958.247	94.08 - 145.15	$3p^2 - 3s9p$	$^1P - ^1P$	0 - 1		961
	1	1958.77	95.55 - 146.60	$3s3d - 3s10p$	$^1D - ^1P$	3 - 2		816, 375
	0	1959.00	95.55 - 146.60	$3s3d - 3s10p$	$^1D - ^1P$	2 - 1		816, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	3	1960.322	94.15 - 145.16	$3p^2 - 3s9p$	$^1P - ^1P^o$	1 - 2		961
	3	1960.646	94.15 - 145.15	$3p^2 - 3s9p$	$^1P - ^1P^o$	1 - 1		961
	10	1960.846	94.15 - 145.15	$3p^2 - 3s9p$	$^1P - ^1P^o$	1 - 0		961
	70	1962.590	95.55 - 146.50	$3s3d - 3s9f$	$^1D - ^1F^o$	3 - 4		961
	8	1962.645	95.55 - 146.50	$3s3d - 3s9f$	$^1D - ^1F^o$	3 - 3		961
	60	1962.691	95.55 - 146.50	$3s3d - 3s9f$	$^1D - ^1F^o$	2 - 3		961
	70	1962.735	95.35 - 146.30	$3s4s - 3s10p$	$^1S - ^1P^o$	0 - 1		961
	50	1962.763	95.55 - 146.50	$3s3d - 3s9f$	$^1D - ^1F^o$	2 - 2		961
	40	1964.990	94.27 - 145.16	$3p^2 - 3s9p$	$^1P - ^1P^o$	2 - 2		961
	10	1965.316	94.27 - 145.15	$3p^2 - 3s9p$	$^1P - ^1P^o$	2 - 1		961
	10	1983.650	95.55 - 145.96	$3s3d - 3p4s$	$^1D - ^1P^o$	3 - 2		961
	3	1988.699	95.55 - 145.83	$3s3d - 3p4s$	$^1D - ^1P^o$	2 - 1		961
	315	1990.531	59.85 - 110.09	$3s3p - 3s3d$	$^1P^o - ^1D$	1 - 2		961
	1	1991.05	95.55 - 145.78	$3s3d - 3p4s$	$^1D - ^1P^o$	1 - 0		816, 375

ALUMINUM III (Al^{3+}), $Z = 13$ Ground State $1s^2 2s^2 2p^6 3s^2 \ ^3S_{1/2}$ (11 electrons)Ionization Potential $229\,445.71 \text{ cm}^{-1}$; 28.448 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	70	486.8839	0.0 - 205.39	$2p^6 3s - 2p^6 7p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
	30	486.9124	0.0 - 205.38	$2p^6 3s - 2p^6 7p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
	250	511.1384	0.0 - 195.64	$2p^6 3s - 2p^6 6p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
	150	511.1907	0.0 - 195.62	$2p^6 3s - 2p^6 6p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
	500	560.3173	0.0 - 178.47	$2p^6 3s - 2p^6 5p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
3								
	200	560.4331	0.0 - 178.43	$2p^6 3s - 2p^6 5p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
		644.3339	53.68 - 208.88	$2p^6 3p - 2p^6 7d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
		645.3063	53.92 - 208.88	$2p^6 3p - 2p^6 7d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		826
	100	670.0676	53.68 - 202.92	$2p^6 3p - 2p^6 7s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		826
	200	671.1184	53.92 - 202.92	$2p^6 3p - 2p^6 7s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		826
		677.0819	53.68 - 201.38	$2p^6 3p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
		678.1548	53.92 - 201.38	$2p^6 3p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		826
		678.1564	53.92 - 201.38	$2p^6 3p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
2								
	500	695.8289	0.0 - 143.71	$2p^6 3s - 2p^6 4p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
2								
	400	696.2170	0.0 - 143.63	$2p^6 3s - 2p^6 4p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
	200	725.6826	53.68 - 191.48	$2p^6 3p - 2p^6 6s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		826
	300	726.9152	53.92 - 191.48	$2p^6 3p - 2p^6 6s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		826
		739.6707	53.68 - 188.88	$2p^6 3p - 2p^6 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
		740.9514	53.92 - 188.88	$2p^6 3p - 2p^6 5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		826
		740.9550	53.92 - 188.88	$2p^6 3p - 2p^6 5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
	400	855.0340	53.68 - 170.64	$2p^6 3p - 2p^6 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		826
	500	856.7457	53.92 - 170.64	$2p^6 3p - 2p^6 5s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		826
	400	892.0242	53.68 - 165.79	$2p^6 3p - 2p^6 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
	50	893.8874	53.92 - 165.79	$2p^6 3p - 2p^6 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		826
	450	893.8969	53.92 - 165.79	$2p^6 3p - 2p^6 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
		1071.730	115.96 - 209.26	$2p^6 3d - 2p^6 7f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		826
		1071.757	115.96 - 209.26	$2p^6 3d - 2p^6 7f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1118.173	115.96 - 205.39	$2p^6 3d - 2p^6 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1118.202	115.96 - 205.39	$2p^6 3d - 2p^6 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		826
		1118.353	115.96 - 205.38	$2p^6 3d - 2p^6 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		826
	10	1162.588	115.96 - 201.97	$2p^6 3d - 2p^6 6f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		826
	5	1162.621	115.96 - 201.97	$2p^6 3d - 2p^6 6f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1254.933	115.96 - 195.64	$2p^6 3d - 2p^6 6p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1254.969	115.96 - 195.64	$2p^6 3d - 2p^6 6p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		826
		1255.284	115.96 - 195.62	$2p^6 3d - 2p^6 6p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		826
		1262.248	126.16 - 205.39	$2p^6 4s - 2p^6 7p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
		1262.440	126.16 - 205.38	$2p^6 4s - 2p^6 7p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
	100	1352.810	115.96 - 189.88	$2p^6 3d - 2p^6 5f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		826
	5	1352.816	115.96 - 189.88	$2p^6 3d - 2p^6 5f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		826
	70	1352.858	115.96 - 189.88	$2p^6 3d - 2p^6 5f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{5}{2}$		826
	600	1379.670	53.68 - 126.16	$2p^6 3p - 2p^6 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		826
	800	1384.132	53.92 - 126.16	$2p^6 3p - 2p^6 4s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		826
		1439.311	126.16 - 195.64	$2p^6 4s - 2p^6 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
		1439.726	126.16 - 195.62	$2p^6 4s - 2p^6 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
		1532.600	143.63 - 208.88	$2p^6 4p - 2p^6 7d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1 1	700	1534.489	143.71 - 208.88	$2p^6 4p - 2p^6 7d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
		1599.639	115.96 - 178.47	$2p^6 3d - 2p^6 5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1599.697	115.96 - 178.47	$2p^6 3d - 2p^6 5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1600.642	115.96 - 178.43	$2p^6 3d - 2p^6 5p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		826
		1605.766	53.58 - 115.96	$2p^6 3p - 2p^6 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
	100	1611.814	53.92 - 115.96	$2p^6 3p - 2p^6 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
		1611.874	53.92 - 115.96	$2p^6 3p - 2p^6 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
	800	1686.676	143.63 - 202.92	$2p^6 4p - 2p^6 7s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		826
		1688.958	143.71 - 202.92	$2p^6 4p - 2p^6 7s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		826
		1731.836	143.63 - 201.38	$2p^6 4p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		826
	1000	1734.243	143.71 - 201.38	$2p^6 4p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
		1734.253	143.71 - 201.38	$2p^6 4p - 2p^6 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		826
		1854.716	0.0 - 53.92	$2p^6 3s - 2p^6 3p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
		1862.790	0.0 - 53.68	$2p^6 3s - 2p^6 3p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
	600	1911.817	126.16 - 178.47	$2p^6 4s - 2p^6 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		826
	300	1913.166	126.16 - 178.43	$2p^6 4s - 2p^6 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		826
		1935.840	115.96 - 167.61	$2p^6 3d - 2p^6 4f$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		826
	15	1935.863	115.96 - 167.61	$2p^6 3d - 2p^6 4f$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		826
	200	1935.949	115.96 - 167.61	$2p^6 3d - 2p^6 4f$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$		826

ALUMINUM IV (Al^{3+}), $Z = 13$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential $967 \pm 04 \text{ cm}^{-1}$; 119.99 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		77.18	0.0 - 1295.7	$2s^2 2p^6 - 2s^2 2p^6 8p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		77.79	0.0 - 1285.5	$2s^2 2p^6 - 2s^2 2p^6 7p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		78.79	0.0 - 1269.2	$2s^2 2p^6 - 2s^2 2p^6 6p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		80.56	0.0 - 1241.0	$2s^2 2p^6 - 2s^2 2p^6 5p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		80.56	0.0 - 1241.0	$2s^2 2p^6 - 2s^2 2p^6 5p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
	50	84.38	0.0 - 1185.1	$2s^2 2p^6 - 2s^2 2p^6 4p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		84.48	0.0 - 1183.7	$2s^2 2p^6 - 2s^2 2p^6 4p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		95.56	0.0 - 1046.5	$2s^2 2p^6 - 2s^2 2p^6 3p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		95.68	0.0 - 1045.2	$2s^2 2p^6 - 2s^2 2p^6 3p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		108.535	0.0 - 921.36	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 6d$	$g^1S - \frac{1}{2}[\frac{3}{2}]$	0 - 1	A, Z	693
	100	108.907	0.0 - 918.22	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 6d$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		693
		111.196	0.0 - 899.28	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 5d$	$g^1S - \frac{1}{2}[\frac{3}{2}]$	0 - 1		233, 693
		111.589	0.0 - 896.14	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 5d$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		233, 693
		111.781	0.0 - 894.61	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 5d$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		233, 693
		114.313	0.0 - 874.76	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 5s$	$g^1S - \frac{1}{2}[\frac{1}{2}]$	0 - 1		233, 693
	250	114.737	0.0 - 871.51	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 5s$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		233, 693
		116.464	0.0 - 858.64	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 4d$	$g^1S - \frac{1}{2}[\frac{3}{2}]$	0 - 1		233, 693
		116.921	0.0 - 855.27	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		233, 693
		117.370	0.0 - 852.01	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1	P	925, 233
		124.030	0.0 - 806.23	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 4s$	$g^1S - \frac{1}{2}[\frac{1}{2}]$	0 - 1		385
	300	124.550	0.0 - 802.91	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 4s$	$g^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1		385
		129.730	0.0 - 770.84	$2s^2 2p^6 - 2s^2 2p^6 3d$	$g^1S - ^1P^o$	0 - 1		385
		130.39	0.0 - 766.88	$2s^2 2p^6 - 2s^2 2p^6 3d$	$g^1S - ^1D^o$	0 - 1		385
		131.647	0.0 - 759.60	$2s^2 2p^6 - 2s^2 2p^6 3d$	$g^1S - ^1P^o$	0 - 1		385
		160.074	0.0 - 624.72	$2s^2 2p^6 - 2s^2 2p^6 3s$	$g^1S - ^1P^o$	0 - 1		385
	700	161.688	0.0 - 618.47	$2s^2 2p^6 - 2s^2 2p^6 3s$	$g^1S - ^1P^o$	0 - 1		385
		476.13	618.47 - 828.50	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{1}{2}[\frac{1}{2}]$	1 - 1		888
		476.27	618.47 - 828.44	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{1}{2}[\frac{3}{2}]$	1 - 2		888
		477.60	618.47 - 827.84	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{1}{2}[\frac{3}{2}]$	1 - 1		888
		477.73	618.47 - 827.80	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{1}{2}]$	1 - 0		888
	30	478.26	616.64 - 825.74	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 2		888
		479.30	616.64 - 825.28	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 1		888
		479.76	620.06 - 828.50	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{1}{2}[\frac{1}{2}]$	0 - 1		888
		481.01	616.64 - 824.54	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 2		888
		481.29	620.06 - 827.84	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{1}{2}[\frac{3}{2}]$	0 - 1		888
	100	482.08	616.64 - 824.08	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	2 - 3		888
		482.48	618.47 - 825.74	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		888
		483.55	618.47 - 825.28	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 1		888
		485.28	618.47 - 824.54	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{3}{2}]$	1 - 2		888
		488.36	616.64 - 821.41	$2s^2 2p^6 3s - 2s^2 2p^6 (^1P^o) 4p$	$^1P^o - \frac{3}{2}[\frac{1}{2}]$	2 - 1		888

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	490.73	624.72 - 828.50	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{1/2}) 4p$	$1P^\circ - \frac{1}{2} \frac{1}{2}$	1 - 1		888
	40	490.88	624.72 - 828.44	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{1/2}) 4p$	$1P^\circ - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	20	492.31	671.63 - 874.76	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 5s$	$1S - \frac{1}{2} \frac{1}{2}$	1 - 1		888
	25	492.78	618.47 - 821.41	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{3/2}) 4p$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	1 - 1		888
	10	496.66	620.06 - 821.41	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{3/2}) 4p$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	0 - 1		888
	15	497.47	624.72 - 825.74	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{3/2}) 4p$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	5	498.61	624.72 - 825.28	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{3/2}) 4p$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	1 - 1		888
	30	500.29	671.63 - 871.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1S - \frac{3}{2} \frac{1}{2}$	1 - 1		888
	10	500.42	624.72 - 824.54	$2s^2 2p^3 3s - 2s^2 2p^3 (^4P_{3/2}) 4p$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	5	501.62	671.63 - 870.99	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1S - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	20	525.95	680.86 - 870.99	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1D - \frac{3}{2} \frac{1}{2}$	3 - 2		888
	5	526.81	681.68 - 871.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 1		888
	5	528.26	681.68 - 870.99	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 2		888
	2	530.42	682.98 - 871.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1D - \frac{3}{2} \frac{1}{2}$	1 - 1		888
	1	532.49	686.96 - 874.76	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 5s$	$1P - \frac{1}{2} \frac{1}{2}$	1 - 1		888
	15	534.98	687.83 - 874.76	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 5s$	$1P - \frac{1}{2} \frac{1}{2}$	2 - 1		888
	3	536.36	688.31 - 874.76	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 5s$	$1P - \frac{1}{2} \frac{1}{2}$	0 - 1		888
	5	537.34	688.65 - 874.76	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 5s$	$1P - \frac{1}{2} \frac{1}{2}$	1 - 1		888
	5	541.86	686.96 - 871.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1P - \frac{3}{2} \frac{1}{2}$	1 - 1		888
	10	545.97	687.83 - 870.99	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1P - \frac{3}{2} \frac{1}{2}$	2 - 2		888
	2	548.43	688.65 - 870.99	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1P - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	15	552.67	671.63 - 852.57	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1S - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	20	571.61	681.68 - 856.63	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{1}{2} \frac{1}{2}$	2 - 2		888
	20	575.89	682.98 - 856.63	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1D - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	10	577.66	680.86 - 853.97	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	3 - 3		888
	5	578.32	685.73 - 858.64	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1D - \frac{1}{2} \frac{3}{2}$	2 - 1		888
	40	580.41	681.68 - 853.97	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	10	581.18	681.68 - 853.75	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 2		888
	100	581.91	680.86 - 852.71	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	3 - 4		888
	70	583.59	681.68 - 853.04	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	5	585.13	685.73 - 856.63	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1D - \frac{1}{2} \frac{3}{2}$	2 - 2		888
	3	585.44	687.83 - 858.64	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1P - \frac{1}{2} \frac{3}{2}$	2 - 1		888
	5	587.11	681.68 - 852.01	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 1		888
	20	589.39	686.96 - 856.63	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1P - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	60	591.62	687.83 - 856.86	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1P - \frac{1}{2} \frac{1}{2}$	2 - 3		888
	2	592.42	687.83 - 856.63	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1P - \frac{1}{2} \frac{1}{2}$	2 - 2		888
	40	594.38	685.73 - 853.97	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1D - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	30	594.55	688.65 - 856.84	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1P - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	10	598.95	688.31 - 855.27	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1P - \frac{3}{2} \frac{1}{2}$	0 - 1		888
	2	603.83	686.96 - 852.57	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1P - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	10	607.04	687.83 - 852.57	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4d$	$1P - \frac{3}{2} \frac{1}{2}$	2 - 2		888
	1	635.31	714.10 - 871.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 5s$	$1S - \frac{3}{2} \frac{1}{2}$	0 - 1		888
	30	691.82	714.10 - 858.64	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1S - \frac{1}{2} \frac{1}{2}$	0 - 1		888
	10	708.34	714.10 - 855.27	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4d$	$1S - \frac{3}{2} \frac{1}{2}$	0 - 1		888
	10	712.43	760.47 - 900.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1P^\circ - \frac{1}{2} \frac{1}{2}$	2 - 3		888
	7	724.62	759.19 - 897.20	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1P^\circ - \frac{3}{2} \frac{3}{2}$	0 - 1		888
	30	726.63	759.60 - 897.22	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1P^\circ - \frac{3}{2} \frac{3}{2}$	1 - 2		888
	60	728.71	763.61 - 900.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1F^\circ - \frac{1}{2} \frac{1}{2}$	2 - 3		888
	60	730.22	760.47 - 897.42	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1P^\circ - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	3	732.35	764.30 - 900.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1F^\circ - \frac{1}{2} \frac{1}{2}$	3 - 3		888
	5	736.11	761.69 - 897.54	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	4 - 3		888
	200	737.27	761.69 - 897.32	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	4 - 5		888
	5	739.31	762.27 - 897.54	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	3 - 3		888
	5	739.93	762.27 - 897.42	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	3 - 3		888
	100	740.44	762.27 - 897.33	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	3 - 4		888
	20	742.947	671.63 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4s$	$1S - \frac{1}{2} \frac{1}{2}$	1 - 1		385
	5	746.43	766.88 - 900.85	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1D^\circ - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	20	746.71	763.61 - 897.54	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	40	747.35	763.61 - 897.42	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	2	748.63	763.61 - 897.20	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	2 - 1		888
	60	749.07	767.35 - 900.85	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1D^\circ - \frac{1}{2} \frac{1}{2}$	3 - 4		888
	40	750.52	764.30 - 897.54	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	3 - 3		888
	40	751.41	767.75 - 900.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1D^\circ - \frac{1}{2} \frac{1}{2}$	2 - 3		888
	2	751.68	764.30 - 897.33	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1F^\circ - \frac{3}{2} \frac{1}{2}$	3 - 4		888
		761.761	671.63 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4s$	$1S - \frac{3}{2} \frac{1}{2}$	1 - 1		385
	6	765.97	766.88 - 897.44	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1D^\circ - \frac{3}{2} \frac{1}{2}$	1 - 2		888
	3	766.31	767.04 - 897.54	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{3/2}) 5f$	$1D^\circ - \frac{3}{2} \frac{1}{2}$	2 - 3		888
	100	767.747	671.63 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4s$	$1S - \frac{3}{2} \frac{1}{2}$	1 - 2		385
	10	769.13	770.84 - 900.85	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P_{1/2}) 5f$	$1P^\circ - \frac{1}{2} \frac{1}{2}$	1 - 2		888
	10	802.875	681.68 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4s$	$1D - \frac{1}{2} \frac{1}{2}$	2 - 1		385
	1	811.341	682.98 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4s$	$1D - \frac{1}{2} \frac{1}{2}$	1 - 1		385
	50	817.473	682.98 - 805.31	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4s$	$1D - \frac{1}{2} \frac{1}{2}$	1 - 0		385
	150	824.911	681.68 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4s$	$1D - \frac{3}{2} \frac{3}{2}$	2 - 1		385
	200	826.287	680.86 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{3/2}) 4s$	$1D - \frac{3}{2} \frac{3}{2}$	3 - 2		385
	50	829.828	685.73 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P_{1/2}) 4s$	$1D - \frac{1}{2} \frac{1}{2}$	2 - 1		385

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	831.939	681.68 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1D - \frac{3}{2}[\frac{3}{2}]$	2 - 2			385
30	837.398	686.96 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{1/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	1 - 1			385
1	841.050	682.98 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1D - \frac{3}{2}[\frac{3}{2}]$	1 - 2			385
200	844.564	687.83 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{1/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	2 - 1			385
50	844.949	686.96 - 805.31	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	1 - 0			385
10	847.995	688.31 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	0 - 1			385
80	850.447	688.65 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	1 - 1			385
100	853.393	685.73 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1D - \frac{3}{2}[\frac{3}{2}]$	2 - 1			385
50	857.198	688.65 - 805.31	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1P - \frac{1}{2}[\frac{1}{2}]$	1 - 0			385
150	860.937	685.73 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1D - \frac{3}{2}[\frac{3}{2}]$	2 - 2			385
10	862.455	686.96 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 1			385
1	868.994	687.83 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	2 - 1			385
5	870.154	686.96 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			385
20	872.626	688.31 - 802.51	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	0 - 1			385
80	876.803	687.83 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	2 - 2			385
50	883.138	688.65 - 801.88	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{5/2}) 4s$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			385
30	1017.940	759.60 - 857.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
100	1018.168	759.19 - 857.41	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	0 - 1			888
200	1022.082	759.60 - 857.44	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
100	1022.362	759.60 - 857.41	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 1			888
5	1023.93	763.61 - 861.27	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{1}{2}[\frac{1}{2}]$	2 - 2			888
150	1024.248	763.61 - 861.25	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{1}{2}[\frac{1}{2}]$	2 - 3			888
5	1027.08	760.47 - 857.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	2 - 2			888
500	1027.343	760.47 - 857.81	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	2 - 3			888
100	1031.39	764.30 - 861.25	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{1}{2}[\frac{1}{2}]$	3 - 4			888
30	1040.340	761.69 - 857.81	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	4 - 3			888
800	1042.169	761.69 - 857.64	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	4 - 5			888
200	1044.064	762.27 - 858.05	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 3			888
200	1045.766	618.47 - 714.10	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P - ^1S$	1 - 0			385
700	1048.515	762.27 - 857.65	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 4			888
500	1058.901	763.61 - 858.05	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	2 - 3			888
150	1059.396	766.88 - 861.27	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{1}{2}[\frac{1}{2}]$	1 - 2			888
40	1061.135	767.04 - 861.27	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{1}{2}[\frac{1}{2}]$	2 - 2			888
500	1061.429	767.04 - 861.25	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{1}{2}[\frac{1}{2}]$	2 - 3			888
600	1064.891	767.35 - 861.25	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{1}{2}[\frac{1}{2}]$	3 - 4			888
500	1066.567	764.30 - 858.06	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 4			888
600	1069.437	767.75 - 861.26	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{1}{2}[\frac{1}{2}]$	2 - 3			888
100	1071.241	764.30 - 857.65	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1F - \frac{3}{2}[\frac{3}{2}]$	3 - 4			888
5	1085.331	714.10 - 806.23	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1S - \frac{1}{2}[\frac{1}{2}]$	0 - 1			385
200	1098.718	767.04 - 858.05	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	2 - 3			888
300	1099.461	766.88 - 857.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
20	1101.34	767.04 - 857.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	2 - 2			888
200	1102.417	767.35 - 858.06	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	3 - 4			888
70	1104.285	766.88 - 857.44	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
20	1104.617	766.88 - 857.41	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	1 - 1			888
50	1105.402	767.35 - 857.81	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1D - \frac{3}{2}[\frac{3}{2}]$	3 - 3			888
400	1105.738	770.84 - 861.27	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{1}{2}[\frac{1}{2}]$	1 - 2			888
600	1118.824	624.72 - 714.10	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P - ^1S$	1 - 0			385
500	1125.613	671.63 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1S - ^1P$	1 - 2			385
5	1126.001	714.10 - 802.91	$2s^2 2p^3 3p - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4s$	$^1S - \frac{3}{2}[\frac{3}{2}]$	0 - 1			385
400	1136.821	671.63 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1S - ^1P$	1 - 1			385
200	1142.058	671.63 - 759.19	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1S - ^1P$	1 - 0			385
200	1149.450	770.84 - 857.84	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
1150.870	680.86 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	3 - 2				385
250	1154.730	770.84 - 857.44	$2s^2 2p^3 3d - 2s^2 2p^3 (^4P^{\circ}_{3/2}) 4f$	$^1P - \frac{3}{2}[\frac{3}{2}]$	1 - 2			888
150	1156.263	680.86 - 767.35	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	3 - 3			385
1	1160.42	680.86 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	3 - 2		P	385
300	1161.885	681.68 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 2			385
150	1167.36	681.68 - 767.35	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 3			385
5	1171.59	681.68 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 2			385
10	1173.719	681.68 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 1			385
1174.967	685.73 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P$	2 - 1				385
20	1179.666	682.98 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	1 - 2			385
50	1189.711	682.98 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	1 - 2			385
200	1191.907	682.98 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	1 - 1			385
150	1192.212	686.96 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P$	1 - 1			385
400	1198.500	680.86 - 764.30	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F$	3 - 3			385
1	1204.722	687.83 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P$	2 - 1			385
10	1208.401	680.86 - 763.61	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F$	3 - 2			385
40	1211.724	688.31 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P$	0 - 1			385
300	1216.723	688.65 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P$	1 - 1			385
300	1219.171	685.73 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 2			385
400	1220.546	681.68 - 763.61	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F$	2 - 2			385
10	1225.236	685.73 - 767.35	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D$	2 - 3			385
300	1228.310	680.86 - 762.27	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F$	3 - 3			385

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
40	1229.908	685.73 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1D^*$	2 - 2			385
900	1237.187	680.86 - 761.69	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F^*$	3 - 4			385
10	1237.744	686.96 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 2			385
600	1240.206	682.98 - 763.61	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F^*$	1 - 2			385
700	1240.861	681.68 - 762.27	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F^*$	2 - 3			385
700	1248.790	686.96 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 2			385
150	1251.235	686.96 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 1			385
40	1256.083	680.86 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	3 - 2			385
900	1257.624	687.83 - 767.35	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	2 - 3			385
300	1262.544	687.83 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	2 - 2			385
800	1264.181	688.65 - 767.75	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 2			385
1	1265.03	687.83 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	2 - 1			385
20	1269.209	681.68 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	2 - 2			385
1000	1272.763	685.73 - 764.30	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F^*$	2 - 3			385
5	1275.731	688.65 - 767.04	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 2			385
50	1278.265	688.65 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1D^*$	1 - 1			385
40	1283.484	681.68 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	2 - 1			385
20	1290.486	682.98 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	1 - 2			385
100	1302.13							693
30	1304.547	686.96 - 763.61	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1F^*$	1 - 2			385
1	1305.21	682.98 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	1 - 1			385
200	1306.432	685.73 - 762.27	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1F^*$	2 - 3			385
60	1307.762	687.83 - 764.30	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1F^*$	2 - 3			385
20	1312.135	682.98 - 759.19	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	1 - 0			385
1	1319.57	687.83 - 763.61	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1F^*$	2 - 2			385
400	1337.898	685.73 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	2 - 2			385
150	1353.745	685.73 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1D - ^1P^*$	2 - 1			385
10	1359.49							693
100	1360.298	686.96 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	1 - 2			385
500	1376.618	687.83 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	2 - 2			385
500	1388.789	616.64 - 688.65	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	2 - 1			385
40	1392.33	688.65 - 760.47	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	1 - 2			385
60	1393.42	687.83 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	2 - 1			385
	1402.776	688.31 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	0 - 1			385
300	1404.751	616.64 - 687.83	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	2 - 2			385
100	1409.490	688.65 - 759.60	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	1 - 1			385
10	1412.24							693
100	1417.558	688.65 - 759.19	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1P - ^1P^*$	1 - 0			385
200	1422.176	616.64 - 686.96	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	2 - 1			385
250	1424.995	618.47 - 688.65	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 1			385
600	1431.935	618.47 - 688.31	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 0			385
10	1432.97	766.88 - 836.67	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{1/2}^{\circ}) 4p$	$^1D^* - \frac{1}{2} [\frac{1}{2}]$	1 - 0			888
700	1441.825	618.47 - 687.83	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 2			385
800	1447.512	616.64 - 685.73	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	2 - 2			385
10	1449.70							693
600	1457.956	620.06 - 688.65	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	0 - 1			385
250	1460.168	618.47 - 686.96	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 1			385
15	1466.24	759.60 - 827.80	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{1}{2}]$	1 - 0			888
30	1470.024	760.47 - 828.50	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{1/2}^{\circ}) 4p$	$^1P^* - \frac{1}{2} [\frac{1}{2}]$	2 - 1			888
40	1471.303	760.47 - 828.44	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{1}{2} [\frac{3}{2}]$	2 - 2			888
10	1481.26							693
700	1486.887	618.47 - 685.73	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	1 - 2			385
800	1494.791	620.06 - 686.96	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	0 - 1			385
300	1507.442	616.64 - 682.98	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	2 - 1			385
100	1511.88	759.60 - 825.74	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{1}{2}]$	1 - 2			888
10	1513.20	759.19 - 825.28	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{3}{2}]$	0 - 1			888
400	1519.07	770.84 - 836.67	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{1/2}^{\circ}) 4p$	$^1P^* - \frac{1}{2} [\frac{1}{2}]$	1 - 0			888
300	1532.16	760.47 - 825.74	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{3}{2}]$	2 - 2			888
800	1537.540	616.64 - 681.68	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	2 - 2			385
500	1550.192	618.47 - 682.98	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	1 - 1			385
50	1553.00							693
1	1556.88	763.61 - 827.84	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{1/2}^{\circ}) 4p$	$^1F^* - \frac{1}{2} [\frac{3}{2}]$	2 - 1			888
1000	1557.254	616.64 - 680.86	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	2 - 3			385
500	1559.03	764.30 - 828.44	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{1/2}^{\circ}) 4p$	$^1F^* - \frac{1}{2} [\frac{3}{2}]$	3 - 2			888
700	1564.164	624.72 - 688.65	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 1			385
100	1572.54	624.72 - 688.31	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 0			385
900	1582.040	618.47 - 681.68	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	1 - 2			385
800	1584.460	624.72 - 687.83	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 2			385
400	1589.275	620.06 - 682.98	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1D$	0 - 1			385
300	1602.77	761.69 - 824.08	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1F^* - \frac{3}{2} [\frac{1}{2}]$	4 - 3			838
400	1606.646	624.72 - 686.96	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^* - ^1P$	1 - 1			385
1	1607.31	759.19 - 821.41	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{1}{2}]$	0 - 1			888
400	1617.81	759.60 - 821.41	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1P^* - \frac{3}{2} [\frac{1}{2}]$	1 - 1			888
200	1617.93	762.27 - 824.08	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1F^* - \frac{3}{2} [\frac{1}{2}]$	3 - 3			888
350	1621.68	763.61 - 825.28	$2s^2 2p^3 3d - 2s^2 2p^3 ({}^1P_{3/2}^{\circ}) 4p$	$^1F^* - \frac{3}{2} [\frac{3}{2}]$	2 - 1			888

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
600	1627.536	1627.536	764.30 - 825.74	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^1F^{\circ} - \frac{3}{2}[\frac{3}{2}]$	3 - 2		888
50	1628.58	1628.58	767.04 - 828.44	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{1/2}) 4p$	$^1D^{\circ} - \frac{1}{2}[\frac{3}{2}]$	2 - 2		888
500	1636.822	1636.822	767.35 - 828.44	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{1/2}) 4p$	$^3D^{\circ} - \frac{1}{2}[\frac{3}{2}]$	3 - 2		888
800	1639.055	1639.055	624.72 - 685.73	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^{\circ} - ^1D^{\circ}$	1 - 2		385
300	1641.05	1641.05	760.47 - 821.41	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^3P^{\circ} - \frac{3}{2}[\frac{1}{2}]$	2 - 1		888
200	1641.20	1641.20	763.61 - 824.54	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^3F^{\circ} - \frac{3}{2}[\frac{3}{2}]$	2 - 2		888
50	1641.55	1641.55	766.88 - 827.80	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^3D^{\circ} - \frac{3}{2}[\frac{1}{2}]$	1 - 0		888
200	1644.47	1644.47	767.04 - 827.84	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{1/2}) 4p$	$^1D^{\circ} - \frac{1}{2}[\frac{3}{2}]$	2 - 1		888
200	1646.15	1646.15	767.75 - 828.50	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{1/2}) 4p$	$^3D^{\circ} - \frac{1}{2}[\frac{1}{2}]$	2 - 1		888
1	1647.79	1647.79	767.75 - 828.44	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{1/2}) 4p$	$^3D^{\circ} - \frac{1}{2}[\frac{3}{2}]$	2 - 2		888
20	1672.722	1672.722	764.30 - 824.08	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^1F^{\circ} - \frac{3}{2}[\frac{3}{2}]$	3 - 3		888
200	1712.43	1712.43	766.88 - 825.28	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^3D^{\circ} - \frac{3}{2}[\frac{3}{2}]$	1 - 1		888
5	1716.28	1716.28	624.72 - 682.98	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^{\circ} - ^1D^{\circ}$	1 - 1		385
40	1734.24	1734.24	770.84 - 828.50	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^1P^{\circ} - \frac{1}{2}[\frac{1}{2}]$	1 - 1		888
20	1754.120	1754.120	770.84 - 827.84	$2s^2 2p^3 3d - 2s^2 2p^4 (^4P^{\circ}_{3/2}) 4p$	$^1P^{\circ} - \frac{1}{2}[\frac{3}{2}]$	1 - 1		888
100	1755.431	1755.431	624.72 - 681.68	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^1P^{\circ} - ^1D^{\circ}$	1 - 2		385
200	1762.424	1762.424	714.10 - 770.84	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1S - ^1P^{\circ}$	0 - 1		385
1000	1818.563	1818.563	616.64 - 671.63	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^3P^{\circ} - ^3S$	2 - 1		385
700	1881.159	1881.159	618.47 - 671.63	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^3P^{\circ} - ^3S$	1 - 1		385
50	1894.48	1894.48	714.10 - 766.88	$2s^2 2p^3 3p - 2s^2 2p^3 3d$	$^1S - ^3D^{\circ}$	0 - 1		385
300	1939.022	1939.022	620.06 - 671.63	$2s^2 2p^3 3s - 2s^2 2p^3 3p$	$^3P^{\circ} - ^3S$	0 - 1		385

ALUMINUM V (Al⁺⁺), Z = 13Ground State $1s^2 2s^2 2p^3 \ ^4P^{\circ}_{3/2}$ (9 electrons)Ionization Potential 1 240 684 cm^{-1} ; 153.826 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	85.662	85.662	0.0 - 1167.38	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 5d$	$g^3P^{\circ} - ^3S$	$\frac{3}{2} - \frac{1}{2}$		233
350	85.804	85.804	0.0 - 1165.45	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 6d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
10	85.922	85.922	0.0 - 1163.85	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 6d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
100	87.020	87.020	0.0 - 1149.16	$2s^2 2p^3 - 2s^2 2p^4 (^1S) 4d$	$g^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
50	87.279	87.279	3.44 - 1149.26	$2s^2 2p^3 - 2s^2 2p^4 (^1S) 4d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
100	88.425	88.425	0.0 - 1130.9	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
400	88.539	88.539	0.0 - 1129.35	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
100	88.636	88.636	3.44 - 1131.65	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
200	88.688	88.688	0.0 - 1127.55	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
50	88.817	88.817	3.44 - 1129.35	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
1	88.945	88.945	3.44 - 1127.73	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 5d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
250	90.630	90.630	0.0 - 1103.38	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		233
100	90.646	90.646	0.0 - 1103.19	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
200	90.701	90.701	0.0 - 1102.54	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^3S$	$\frac{3}{2} - \frac{1}{2}$		233
200	90.914	90.914	3.44 - 1103.38	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
50	90.982	90.982	3.44 - 1102.54	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^3S$	$\frac{1}{2} - \frac{1}{2}$		233
10	91.078	91.078	3.44 - 1101.4	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		233
50	91.750	91.750	0.0 - 1089.96	$2s^2 2p^3 - 2s^2 2p^4 (^1S) 4s$	$g^3P^{\circ} - ^3S$	$\frac{3}{2} - \frac{1}{2}$		233
10	92.039	92.039	3.44 - 1089.96	$2s^2 2p^3 - 2s^2 2p^4 (^1S) 4s$	$g^3P^{\circ} - ^3S$	$\frac{1}{2} - \frac{1}{2}$		233
20	93.654	93.654	0.0 - 1067.77	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		233
350	93.755	93.755	0.0 - 1066.61	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
200	93.855	93.855	0.0 - 1065.46	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
70	93.880	93.880	0.0 - 1065.17	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		233
300	93.955	93.955	3.44 - 1067.77	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
100	93.981	93.981	0.0 - 1064.05	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		233
70	94.089	94.089	0.0 - 1062.82	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
120	94.117	94.117	0.0 - 1062.51	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		233
100	94.160	94.160	3.44 - 1065.46	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
100	94.187	94.187	3.44 - 1065.17	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		233
10	94.321	94.321	3.44 - 1063.65	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
10	94.394	94.394	3.44 - 1062.82	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4d$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
30	95.835	95.835	0.0 - 1043.49	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4s$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
20	96.150	96.150	3.44 - 1043.50	$2s^2 2p^3 - 2s^2 2p^4 (^1D) 4s$	$g^3P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
20	99.200	99.200	0.0 - 1008.07	$2s^2 2p^3 - 2s^2 2p^4 (^3P) 4s$	$g^3P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		873
10	99.277	99.277	0.0 - 1007.29	$2s^2 2p^3 - 2s^2 2p^4 (^1S) 3d$	$g^3P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	99.290		0.0 - 1007.15	$2s^2 2p^3 - 2s^2 2p^3 (^1S) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
40	99.425		0.0 - 1005.79	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
30	99.541		3.44 - 1008.07	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
80	99.614		3.44 - 1007.29	$2s^2 2p^3 - 2s^2 2p^3 (^1S) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
10	99.774		3.44 - 1005.79	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 4s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
300	103.805		0.0 - 963.32	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
400	103.882		0.0 - 962.63	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
150	103.992		0.0 - 961.64	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
250	104.072		0.0 - 960.87	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
200	104.122		0.0 - 960.42	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		873
250	104.181		3.44 - 963.32	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
200	104.362		3.44 - 961.64	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
100	104.447		3.44 - 960.87	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
150	104.496		3.44 - 960.42	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3d$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		873
200	107.711		0.0 - 928.41	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
600	107.948		0.0 - 926.39	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
150	108.005		0.0 - 925.89	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
300	108.059		0.0 - 925.43	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
300	108.113		3.44 - 928.41	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
100	108.316		0.0 - 923.23	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
150	108.388		0.0 - 922.61	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
150	108.406		3.44 - 925.89	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
50	108.445		0.0 - 922.13	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
200	108.462		3.44 - 925.43	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
20	108.530		0.0 - 921.42	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
50	108.617		0.0 - 920.68	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
200	108.708		0.0 - 919.90	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
30	108.849		3.44 - 922.13	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
10	108.941		3.44 - 921.42	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
100	109.024		3.44 - 920.68	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^3F$	$\frac{1}{2} - \frac{3}{2}$		873
2	109.630		0.0 - 912.16	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		873
5	109.675		0.0 - 911.78	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
1	109.730		0.0 - 911.33	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
5	110.045		3.44 - 912.16	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3d$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		873
250	118.497		0.0 - 843.91	$2s^2 2p^3 - 2s^2 2p^3 (^1S) 3s$	$g^3 P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		873
200	118.983		3.44 - 843.91	$2s^2 2p^3 - 2s^2 2p^3 (^1S) 3s$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		873
900	125.529		0.0 - 796.62	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3s$	$g^3 P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
800	126.068		3.44 - 796.65	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3s$	$g^3 P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
800	130.411		0.0 - 766.79	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
1000	130.847		0.0 - 764.25	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
900	131.002		3.44 - 766.79	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
900	131.438		3.44 - 764.25	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
1	132.407		0.0 - 755.24	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
500	132.626		0.0 - 751.99	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
200	133.010		0.0 - 751.84	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
50	133.233		3.44 - 753.99	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$g^3 P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
50	136.249		358.82 - 1092.76	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		233
100	136.668		358.82 - 1090.51	$2s^2 2p^3 - 2s^2 2p^3 (^3P) 3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		233
5	179.003		358.82 - 917.46	$2s^2 2p^3 - 2s^2 2p^3 (^1S) 3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		873
2	189.977		358.82 - 885.19	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		873
10	190.569		358.82 - 883.56	$2s^2 2p^3 - 2s^2 2p^3 (^1D) 3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		873
1000	278.694		0.0 - 358.82	$2s^2 2p^3 - 2s^2 2p^3$	$g^3 P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		873
900	281.394		3.44 - 358.82	$2s^2 2p^3 - 2s^2 2p^3$	$g^3 P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		873
15	456.08		910.97 - 1130.24	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^1D - 2[4]^+$	$\frac{1}{2} - \frac{3}{2}$		113
8	456.73		911.33 - 1130.28	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^1D - 2[4]^+$	$\frac{3}{2} - \frac{1}{2}$		113
10	457.00		911.78 - 1130.60	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^1D - 2[2]^+$	$\frac{3}{2} - \frac{3}{2}$		113
10	463.51		955.76 - 1171.50	$2s^2 2p^3 (^1D) 3d - 2s^2 2p^3 (^1D_2) 5f$	$^3G - 2[5]^+$	$\frac{3}{2} - \frac{1}{2}$		113
8	466.24		918.76 - 1133.24	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3F - 1[4]^+$	$\frac{1}{2} - \frac{3}{2}$		113
20	469.24		917.61 - 1130.72	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3F - 2[5]^+$	$\frac{3}{2} - \frac{1}{2}$		113
5	471.34		921.08 - 1133.24	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3F - 1[4]^+$	$\frac{1}{2} - \frac{3}{2}$		113
5	471.74		918.76 - 1130.74	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3F - 2[5]^+$	$\frac{1}{2} - \frac{3}{2}$		113
8	474.75		922.61 - 1133.25	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3F - 1[4]^+$	$\frac{3}{2} - \frac{1}{2}$		113
8	475.63		923.23 - 1133.47	$2s^2 2p^3 (^3P) 3d - 2s^2 2p^3 (^3P_2) 5f$	$^3P - 1[3]^+$	$\frac{3}{2} - \frac{1}{2}$		113
10	479.02		963.35 - 1172.12	$2s^2 2p^3 (^1D) 3d - 2s^2 2p^3 (^1D_2) 5f$	$^3F - 2[4]^+$	$\frac{1}{2} - \frac{3}{2}$		113
5	516.73		818.14 - 1004.45	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
3	538.90		817.36 - 1002.93	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
3	541.161		818.14 - 1002.93	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
20	543.572		818.96 - 1002.93	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
50	544.29		817.36 - 1001.09	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
40	546.60		818.14 - 1001.09	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
30	561.40		865.37 - 1043.50	$2s^2 2p^3 (^1D) 3p - 2s^2 2p^3 (^1D) 4s$	$^3F^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	562.730		865.78 - 1043.49	$2s^2 2p^3 (^1D) 3p - 2s^2 2p^3 (^1D) 4s$	$^3F^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		873
20	566.847		828.04 - 1004.45	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^1D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
60	568.492		827.03 - 1002.93	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^1D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
20	568.629		828.59 - 1004.45	$2s^2 2p^3 (^3P) 3p - 2s^2 2p^3 (^3P) 4s$	$^1D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	570.364	825.76 - 1001.09	825.76 - 1001.09	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{1}{2} - \frac{3}{2}$		873
15	571.76	828.04 - 1002.93	828.04 - 1002.93	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
5	574.499	827.03 - 1001.09	827.03 - 1001.09	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
8	574.77	834.08 - 1008.07	834.08 - 1008.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
50	575.473	832.02 - 1005.79	832.02 - 1005.79	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
2	579.53	917.40 - 1089.96	917.40 - 1089.96	$2s^2 2p^4 (^1S) 3p - 2s^2 2p^4 (^1S) 4s$	$^2P^\circ - ^2S$	$\frac{1}{2} - \frac{3}{2}$		873
5	579.73	917.46 - 1089.96	917.46 - 1089.96	$2s^2 2p^4 (^1S) 3p - 2s^2 2p^4 (^1S) 4s$	$^2P^\circ - ^2S$	$\frac{3}{2} - \frac{5}{2}$		873
10	582.395	834.08 - 1005.79	834.08 - 1005.79	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4D^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
10	584.334	836.94 - 1008.07	836.94 - 1008.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^2P^\circ - ^2P$	$\frac{3}{2} - \frac{5}{2}$		873
20	585.61	835.03 - 1005.79	835.03 - 1005.79	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^2P^\circ - ^2P$	$\frac{1}{2} - \frac{3}{2}$		873
4	588.371	838.12 - 1008.07	838.12 - 1008.07	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^2S^\circ - ^2P$	$\frac{1}{2} - \frac{3}{2}$		873
8	590.078	874.03 - 1043.50	874.03 - 1043.50	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{5}{2}$		873
10	590.98	874.28 - 1043.49	874.28 - 1043.49	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 4s$	$^4D^\circ - ^4D$	$\frac{3}{2} - \frac{5}{2}$		873
4	592.24	836.94 - 1005.79	836.94 - 1005.79	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^2P^\circ - ^2P$	$\frac{3}{2} - \frac{5}{2}$		875
8	605.03	837.65 - 1002.93	837.65 - 1002.93	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 4s$	$^4S^\circ - ^4P$	$\frac{3}{2} - \frac{5}{2}$		873
15	620.460	911.33 - 1072.50	911.33 - 1072.50	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 0[3]$	$\frac{3}{2} - \frac{5}{2}$		113
10	622.02	910.97 - 1071.74	910.97 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 1[3]$	$\frac{1}{2} - \frac{3}{2}$		113
10	623.39	911.33 - 1071.74	911.33 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
20	623.749	910.97 - 1071.30	910.97 - 1071.30	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 1[4]$	$\frac{1}{2} - \frac{3}{2}$		113
25	627.400	911.78 - 1071.17	911.78 - 1071.17	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 1[5]$	$\frac{3}{2} - \frac{5}{2}$		113
25	629.062	912.16 - 1071.13	912.16 - 1071.13	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 1[2]$	$\frac{1}{2} - \frac{3}{2}$		113
8	635.64	911.33 - 1068.65	911.33 - 1068.65	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{5}{2}$		113
10	636.008	910.97 - 1068.21	910.97 - 1068.21	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[3]$	$\frac{1}{2} - \frac{3}{2}$		113
30	636.552	910.97 - 1068.07	910.97 - 1068.07	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		113
90	636.708	910.97 - 1068.03	910.97 - 1068.03	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		113
30	637.675	911.33 - 1068.15	911.33 - 1068.15	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{5}{2}$		113
80	637.984	911.33 - 1068.07	911.33 - 1068.07	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[4]$	$\frac{3}{2} - \frac{5}{2}$		113
30	638.147	911.78 - 1068.48	911.78 - 1068.48	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[2]$	$\frac{3}{2} - \frac{5}{2}$		113
50	639.518	911.78 - 1068.15	911.78 - 1068.15	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{5}{2}$		113
30	639.712	912.16 - 1068.48	912.16 - 1068.48	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4D - 2[2]$	$\frac{1}{2} - \frac{3}{2}$		113
25	646.009	955.76 - 1110.55	955.76 - 1110.55	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^2G - 2[4]$	$\frac{3}{2} - \frac{5}{2}$		113
100	651.204	955.76 - 1109.32	955.76 - 1109.32	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^2G - 2[5]$	$\frac{3}{2} - \frac{5}{2}$		113
5	653.66	918.76 - 1071.74	918.76 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[3]$	$\frac{1}{2} - \frac{3}{2}$		113
10	655.300	919.90 - 1072.50	919.90 - 1072.50	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 0[3]$	$\frac{3}{2} - \frac{5}{2}$		113
65	655.564	918.76 - 1071.30	918.76 - 1071.30	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[4]$	$\frac{1}{2} - \frac{3}{2}$		113
1	658.42	919.90 - 1071.78	919.90 - 1071.78	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
60	658.56	919.90 - 1071.74	919.90 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
70	660.36	919.90 - 1071.33	919.90 - 1071.33	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[4]$	$\frac{3}{2} - \frac{5}{2}$		113
100	660.964	917.61 - 1068.91	917.61 - 1068.91	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[5]$	$\frac{3}{2} - \frac{5}{2}$		113
50	661.803	920.68 - 1071.78	920.68 - 1071.78	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
5	663.72	921.08 - 1071.74	921.08 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^2F - 1[3]$	$\frac{1}{2} - \frac{3}{2}$		113
50	664.804	917.61 - 1068.03	917.61 - 1068.03	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^2F - 2[4]$	$\frac{3}{2} - \frac{5}{2}$		113
90	665.675	921.08 - 1071.30	921.08 - 1071.30	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^2F - 1[4]$	$\frac{1}{2} - \frac{3}{2}$		113
90	665.938	918.76 - 1068.92	918.76 - 1068.92	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[5]$	$\frac{1}{2} - \frac{3}{2}$		113
70	667.156	922.61 - 1072.50	922.61 - 1072.50	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^2F - 0[3]$	$\frac{3}{2} - \frac{5}{2}$		113
50	667.944	921.42 - 1071.13	921.42 - 1071.13	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[2]$	$\frac{1}{2} - \frac{3}{2}$		113
1	668.26	922.13 - 1071.78	922.13 - 1071.78	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
25	669.720	918.76 - 1068.07	918.76 - 1068.07	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		113
10	669.92	923.23 - 1072.50	923.23 - 1072.50	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 0[3]$	$\frac{3}{2} - \frac{5}{2}$		113
20	670.546	922.61 - 1071.74	922.61 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
50	670.977	922.13 - 1071.17	922.13 - 1071.17	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[2]$	$\frac{3}{2} - \frac{5}{2}$		113
40	673.104	960.87 - 1109.43	960.87 - 1109.43	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^2P - 2[2]$	$\frac{3}{2} - \frac{5}{2}$		113
70	673.325	923.23 - 1071.74	923.23 - 1071.74	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[3]$	$\frac{3}{2} - \frac{5}{2}$		113
20	674.269	919.90 - 1068.21	919.90 - 1068.21	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[3]$	$\frac{3}{2} - \frac{5}{2}$		113
15	674.53	919.90 - 1068.15	919.90 - 1068.15	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[3]$	$\frac{3}{2} - \frac{5}{2}$		113
10	674.88	919.90 - 1068.07	919.90 - 1068.07	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4F - 2[4]$	$\frac{3}{2} - \frac{5}{2}$		113
15	675.20	923.23 - 1071.33	923.23 - 1071.33	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[4]$	$\frac{3}{2} - \frac{5}{2}$		113
30	675.336	960.42 - 1108.49	960.42 - 1108.49	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^2S - 2[1]$	$\frac{1}{2} - \frac{3}{2}$		113
20	675.938	923.23 - 1071.17	923.23 - 1071.17	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 1[2]$	$\frac{3}{2} - \frac{5}{2}$		113
65	676.380	921.08 - 1068.92	921.08 - 1068.92	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^2F - 2[5]$	$\frac{1}{2} - \frac{3}{2}$		113
45	676.595	921.42 - 1069.21	921.42 - 1069.21	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 2[1]$	$\frac{1}{2} - \frac{3}{2}$		113
40	676.838	921.42 - 1069.16	921.42 - 1069.16	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_1) 4f$	$^4P - 2[1]$	$\frac{1}{2} - \frac{3}{2}$		113
55	677.248	962.63 - 1110.79	962.63 - 1110.79	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^4D - 2[3]$	$\frac{3}{2} - \frac{5}{2}$		113
20	677.377	960.87 - 1108.49	960.87 - 1108.49	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^4P - 2[1]$	$\frac{3}{2} - \frac{5}{2}$		113
100	679.373	963.35 - 1110.55	963.35 - 1110.55	$2s^2 2p^4 (^1D) 3d - 2s^2 2p^4 (^1D_2) 4f$	$^2F - 2[4]$	$\frac{1}{2} - \frac{3}{2}$		113
10	679.659	921.08 - 106						

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
60	684.402	926.39 - 1072.50	926.39 - 1072.50	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_0)4f$	$^3D - ^3G$	$\frac{3}{2} - \frac{1}{2}$		113
1	684.58	963.36 - 1109.43	963.36 - 1109.43	$2s^2 2p^4(^1D)3d - 2s^2 2p^4(^1D_2)4f$	$^1F - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
5	684.74	922.61 - 1068.65	922.61 - 1068.65	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3F - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
5	685.58	962.63 - 1108.49	962.63 - 1108.49	$2s^2 2p^4(^1D)3d - 2s^2 2p^4(^1D_2)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
10	686.169	925.43 - 1071.17	925.43 - 1071.17	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
60	686.827	922.61 - 1068.21	922.61 - 1068.21	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3F - ^3D$	$\frac{3}{2} - \frac{1}{2}$		113
1	687.81	926.39 - 1071.78	926.39 - 1071.78	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
25	688.531	925.89 - 1071.13	925.89 - 1071.13	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		113
1	689.76	923.23 - 1068.21	923.23 - 1068.21	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		113
60	689.927	926.39 - 1071.33	926.39 - 1071.33	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{1}{2}$		113
60	693.896	928.41 - 1072.52	928.41 - 1072.52	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_0)4f$	$^3P - ^3G$	$\frac{3}{2} - \frac{3}{2}$		113
60	697.491	926.41 - 1071.78	926.41 - 1071.78	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
40	697.751	925.89 - 1069.21	925.89 - 1069.21	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		113
50	698.218	925.43 - 1068.65	925.43 - 1068.65	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
30	700.473	928.41 - 1071.17	928.41 - 1071.17	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
40	700.680	925.43 - 1068.15	925.43 - 1068.15	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		113
5	701.315	925.89 - 1068.48	925.89 - 1068.48	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_1)4f$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		113
70	705.127	926.39 - 1068.21	926.39 - 1068.21	$2s^2 2p^4(^3P)3d - 2s^2 2p^4(^3P_2)4f$	$^3D - ^3D$	$\frac{3}{2} - \frac{1}{2}$		113
30	826.826	764.25 - 885.19	764.25 - 885.19	$2s^2 2p^4(^3P)3s - 2s^2 2p^4(^1D)3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
80	838.156	764.25 - 883.56	764.25 - 883.56	$2s^2 2p^4(^3P)3s - 2s^2 2p^4(^1D)3p$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
	844.582	766.79 - 885.19	766.79 - 885.19	$2s^2 2p^4(^3P)3s - 2s^2 2p^4(^1D)3p$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
50	856.394	766.79 - 883.56	766.79 - 883.56	$2s^2 2p^4(^3P)3s - 2s^2 2p^4(^1D)3p$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
60	944.62	817.36 - 923.23	817.36 - 923.23	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
40	951.55	818.14 - 923.23	818.14 - 923.23	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
40	954.49	817.36 - 922.13	817.36 - 922.13	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
2	961.54	818.14 - 922.13	818.14 - 922.13	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
40	968.25	818.14 - 921.42	818.14 - 921.42	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
30	969.26	818.96 - 922.13	818.96 - 922.13	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
2	976.05	818.96 - 921.42	818.96 - 921.42	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
20	1020.52	865.37 - 963.36	865.37 - 963.36	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3F - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
50	1024.91	865.78 - 963.35	865.78 - 963.35	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3F - ^3F$	$\frac{1}{2} - \frac{1}{2}$		873
5	1028.17	865.37 - 962.63	865.37 - 962.63	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3F - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
1	1057.36	828.04 - 922.61	828.04 - 922.61	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
2	1059.14	817.36 - 911.78	817.36 - 911.78	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
5	1059.65	832.02 - 926.39	832.02 - 926.39	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
3	1063.27	827.03 - 921.08	827.03 - 921.08	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		873
10	1063.53	818.14 - 912.16	818.14 - 912.16	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		873
70	1064.24	817.36 - 911.33	817.36 - 911.33	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
80	1067.87	818.14 - 911.78	818.14 - 911.78	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
250	1068.26	817.36 - 910.97	817.36 - 910.97	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		873
200	1073.02	818.14 - 911.33	818.14 - 911.33	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
10	1075.28	825.76 - 918.76	825.76 - 918.76	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$		873
30	1076.73	827.03 - 919.90	827.03 - 919.90	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
40	1077.35	818.96 - 911.78	818.96 - 911.78	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		873
30	1079.41	828.04 - 920.68	828.04 - 920.68	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
70	1085.92	828.59 - 920.68	828.59 - 920.68	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		873
100	1088.52	828.04 - 919.90	828.04 - 919.90	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
500	1088.57	825.76 - 917.61	825.76 - 917.61	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{1}{2} - \frac{3}{2}$		873
300	1090.14	827.03 - 918.76	827.03 - 918.76	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		873
8	1093.22	836.94 - 928.41	836.94 - 928.41	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
10	1094.75	834.08 - 925.43	834.08 - 925.43	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
10	1100.60	835.03 - 925.89	835.03 - 925.89	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
	1103.85	832.02 - 922.61	832.02 - 922.61	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
20	1106.20	835.03 - 925.43	835.03 - 925.43	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		873
70	1106.41	865.37 - 955.75	865.37 - 955.75	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3F - ^3G$	$\frac{3}{2} - \frac{1}{2}$		873
20	1107.55	838.12 - 928.41	838.12 - 928.41	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		873
100	1111.48	865.78 - 955.76	865.78 - 955.76	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3F - ^3G$	$\frac{1}{2} - \frac{3}{2}$		873
20	1112.51	917.40 - 1007.29	917.40 - 1007.29	$2s^2 2p^4(^1S)3p - 2s^2 2p^4(^1S)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		873
10	1115.04	917.46 - 1007.15	917.46 - 1007.15	$2s^2 2p^4(^1S)3p - 2s^2 2p^4(^1S)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
50	1117.93	836.94 - 926.39	836.94 - 926.39	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
30	1119.39	874.03 - 963.36	874.03 - 963.36	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
10	1119.94	874.03 - 963.32	874.03 - 963.32	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
20	1121.79	834.08 - 923.23	834.08 - 923.23	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
50	1122.66	874.28 - 963.35	874.28 - 963.35	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		873
200	1122.88	832.02 - 921.08	832.02 - 921.08	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		873
2	1128.62	874.03 - 962.63	874.03 - 962.63	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
80	1139.43	796.65 - 885.19	796.65 - 885.19	$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
60	1129.62	834.08 - 922.61	834.08 - 922.61	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		873
2	1130.00	836.94 - 925.43	836.94 - 925.43	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
10	1131.84	874.28 - 962.63	874.28 - 962.63	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		873
1	1139.25	838.12 - 925.89	838.12 - 925.89	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		873
1	1141.39	874.03 - 961.64	874.03 - 961.64	$2s^2 2p^4(^1D)3p - 2s^2 2p^4(^1D)3d$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		873
300	1150.30	796.62 - 883.56	796.62 - 883.56	$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
10	1150.67	796.65 - 883.56	796.65 - 883.56	$2s^2 2p^4(^1D)3s - 2s^2 2p^4(^1D)3p$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		873
30	1152.89	832.02 - 918.76	832.02 - 918.76	$2s^2 2p^4(^3P)3p - 2s^2 2p^4(^3P)3d$	$^3D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		873

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	1154.90	874.28 - 960.87	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1D^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	350	1165.42	751.84 - 837.65	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1S^*$	$\frac{3}{2} - \frac{3}{2}$		873
	250	1168.48	837.65 - 923.23	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1S^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	200	1173.47	825.76 - 910.97	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	20	1179.86	827.03 - 911.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	120	1183.62	837.65 - 922.13	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1S^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	100	1186.18	827.03 - 911.33	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	15	1188.67	828.04 - 912.16	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	8	1191.20	827.03 - 910.97	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	50	1193.76	837.65 - 921.42	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1S^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1194.10	828.04 - 911.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	200	1195.37	753.99 - 837.65	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1S^*$	$\frac{3}{2} - \frac{3}{2}$		873
	20	1200.56	828.04 - 911.33	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1202.00	828.59 - 911.78	$2s^2 2p^4(^3P) 3p - 2s^2 2p^4(^3P) 3d$	$^1D^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	50	1213.48	755.24 - 837.65	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1S^*$	$\frac{3}{2} - \frac{3}{2}$		873
	3	1253.11	883.56 - 963.36	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1F$	$\frac{3}{2} - \frac{3}{2}$		873
	2	1253.76	883.56 - 963.32	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1264.67	883.56 - 962.63	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	873
	8	1280.01	885.19 - 963.32	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1D$	$\frac{3}{2} - \frac{3}{2}$		873
	500	1287.70	796.62 - 874.28	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	100	1288.23	796.65 - 874.28	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	30	1291.91	796.62 - 874.03	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	200	1292.44	796.65 - 874.03	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	30	1293.51	883.56 - 960.87	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1301.13	883.56 - 960.42	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1S$	$\frac{3}{2} - \frac{3}{2}$		873
	5	1308.16	885.19 - 961.64	$2s^2 2p^4(^1D) 3p - 2s^2 2p^4(^1D) 3d$	$^1P^* - ^1P$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1312.43	751.84 - 828.04	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	400	1330.06	751.84 - 827.03	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1340.52	753.99 - 828.59	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	400	1350.518	753.99 - 828.04	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
		1352.871	751.84 - 825.76	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
		1353.745	764.25 - 838.12	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1S^*$	$\frac{3}{2} - \frac{3}{2}$		873
	150	1359.64	843.91 - 917.46	$2s^2 2p^4(^1S) 3s - 2s^2 2p^4(^1S) 3p$	$^1S - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	400	1363.351	755.24 - 828.59	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	600	1369.20	753.99 - 827.03	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	300	1373.70	755.24 - 828.04	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	100	1375.79	764.25 - 836.94	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	100	1402.021	766.79 - 838.12	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1S^*$	$\frac{3}{2} - \frac{3}{2}$		873
	100	1412.772	764.25 - 835.03	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	80	1425.64	766.79 - 836.94	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
		1431.961	764.25 - 834.08	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	400	1445.87	796.62 - 865.78	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1F^*$	$\frac{3}{2} - \frac{3}{2}$		873
	30	1454.65	796.62 - 865.37	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1F^*$	$\frac{3}{2} - \frac{3}{2}$		873
	300	1455.265	796.65 - 865.37	$2s^2 2p^4(^1D) 3s - 2s^2 2p^4(^1D) 3p$	$^1D - ^1F^*$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1465.392	766.79 - 835.03	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	600	1475.64	764.25 - 832.02	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	300	1486.05	766.79 - 834.08	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1D^*$	$\frac{3}{2} - \frac{3}{2}$		873
	700	1508.37	751.84 - 818.14	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	1000	1526.14	751.84 - 817.36	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	500	1539.124	753.99 - 818.96	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	150	1558.92	753.99 - 818.14	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	50	1569.25	755.24 - 818.96	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	300	1577.90	753.99 - 817.36	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	10	1579.38	1108.49 - 1171.81	$2s^2 2p^4(^1D_2) 4f - 2s^2 2p^4(^1D_2) 5g$	$2[1] - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		113
	350	1589.87	755.24 - 818.14	$2s^2 2p^4(^3P) 3s - 2s^2 2p^4(^3P) 3p$	$^1P - ^1P^*$	$\frac{3}{2} - \frac{3}{2}$		873
	20	1593.54	1068.07 - 1130.82	$2s^2 2p^4(^3P_2) 4f - 2s^2 2p^4(^3P_2) 5g$	$2[4] - 2[5]$	$\frac{3}{2} - \frac{3}{2}$		113
	20	1595.46	1068.15 - 1130.83	$2s^2 2p^4(^3P_2) 4f - 2s^2 2p^4(^3P_2) 5g$	$2[3] - 2[4]$	$\frac{3}{2} - \frac{3}{2}$		113
	60	1596.95	1109.32 - 1171.93	$2s^2 2p^4(^1D_2) 4f - 2s^2 2p^4(^1D_2) 5g$	$2[5] - 2[6]$	$\frac{3}{2} - \frac{3}{2}$		113
	20	1602.03	1068.48 - 1130.91	$2s^2 2p^4(^3P_2) 4f - 2s^2 2p^4(^3P_2) 5g$	$2[2] - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		113
	10	1621.36	1110.55 - 1172.23	$2s^2 2p^4(^1D_2) 4f - 2s^2 2p^4(^1D_2) 5g$	$2[4] - 2[5]$	$\frac{3}{2} - \frac{3}{2}$		113

ALUMINUM VI (Al^{5+}), $Z = 13$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 1 536 300 cm^{-1} ; 190.48 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	68.167		0.0 - 1466.99	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3D^o$	2 - 3		233
10	68.223		0.0 - 1465.78	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3P^o$	2 - 2		233
1	68.289		2.73 - 1467.1	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 5d$	$g^3P - ^3D^o$	1 - 2		233
300	72.674		0.0 - 1376.4 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3F^o$	2 - 3	Q	233, 375
1	72.714		0.0 - 1375.25	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 5d$	$g^3P - ^3D^o$	2 - 3		233
250	72.810		0.0 - 1373.44	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3D^o$	2 - 3		233
50	72.865		2.73 - 1375.14	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3D^o$	1 - 2		233
100	72.926		0.0 - 1371.22	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3P^o$	2 - 2		233
100	73.076		2.73 - 1371.22	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$g^3P - ^3P^o$	1 - 2		233
1	73.334		41.17 - 1404.76 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 5s$	$^1D - ^1D^o$	2 - 2		233
10	74.259		0.0 - 1346.32 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3F^o$	2 - 3	Q	233, 375
50	74.346		0.0 - 1345.03	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3S^o$	2 - 1		233
300	74.444		0.0 - 1343.32	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3P^o$	2 - 2		233
50	74.504		2.73 - 1345.03	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3S^o$	1 - 1		233
150	74.592		2.73 - 1343.32	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3P^o$	1 - 2		233
250	74.656		0.0 - 1339.48	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3D^o$	2 - 3		233
50	74.813		2.73 - 1339.48	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$g^3P - ^3D^o$	1 - 2		233
100	74.892		41.17 - 1376.4 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$^1D - ^3F^o$	2 - 3		233
100	75.164		41.17 - 1371.22	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4d$	$^1D - ^3P^o$	2 - 2	Q	233, 375
610	76.402		2.73 - 1311.61 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4s$	$g^3P - ^3P^o$	1 - 1	Q	859, 375
200	76.618		41.17 - 1346.32 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1D - ^3F^o$	2 - 3		233
200	76.697		41.17 - 1344.97 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1D - ^3D^o$	2 - 2		233
200	76.794		41.17 - 1343.32	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1D - ^3P^o$	2 - 2	Q	233, 375
50	76.953		41.17 - 1340.63 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1D - ^3P^o$	2 - 1		233
50	77.052		41.17 - 1339.48	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1D - ^3D^o$	2 - 2	Q	233, 375
500	77.945		0.0 - 1282.96	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4d$	$g^3P - ^3D^o$	2 - 3		233
100	78.112		2.73 - 1282.96	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4d$	$g^3P - ^3D^o$	1 - 2		233
100	78.149		0.0 - 1279.22 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4s$	$g^3P - ^3D^o$	2 - 2	Q	233, 375
50	78.178		3.83 - 1282.96	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4d$	$g^3P - ^3D^o$	0 - 1		233
70	78.459		0.0 - 1274.55	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4s$	$g^3P - ^3D^o$	2 - 3		233
10	78.628		2.73 - 1274.55	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4s$	$g^3P - ^3D^o$	1 - 2		233
10	78.712		41.17 - 1311.61 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4s$	$^1D - ^3P^o$	2 - 1		233
10	79.557		88.21 - 1345.03	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4d$	$^1S - ^3S^o$	0 - 1	Q	233, 375
70	80.770		41.17 - 1279.22 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 4s$	$^1D - ^3D^o$	2 - 2		233
50	81.738		88.21 - 1311.61 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 4s$	$^1S - ^3P^o$	0 - 1		233
70	82.082		0.0 - 1218.29	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4s$	$g^3P - ^3S^o$	2 - 1		233
50	82.267		2.73 - 1218.29	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4s$	$g^3P - ^3S^o$	1 - 1		233
10	82.338		3.83 - 1218.29	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4s$	$g^3P - ^3S^o$	0 - 1		233
100	84.650							233
20	84.801							233
70	84.828							233
10	84.928		41.17 - 1218.29	$2s^2 2p^4 - 2s^2 2p^3(^3S^o) 4s$	$^1D - ^3S^o$	2 - 1	Q	233, 375
10	85.189		0.0 - 1173.59 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3F^o$	2 - 3	Q	693, 375
100	85.423		0.0 - 1170.65	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3D^o$	2 - 2		233
1000	85.515		0.0 - 1169.39	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$^1S - ^3D^o$	2 - 3		233
200	85.569		0.0 - 1168.69	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3F^o$	2 - 2		233
300	85.622		2.73 - 1170.65	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3D^o$	1 - 2		233
300	85.724		0.0 - 1166.53	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3F^o$	2 - 3		233
400	85.764		2.73 - 1168.69	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3F^o$	1 - 2		233
350	85.817		0.0 - 1165.26	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	2 - 2		233
100	85.865		0.0 - 1164.62	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	2 - 1		233
10	85.970							233
150	86.020		2.73 - 1165.26	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 2		233
150	86.070		2.73 - 1164.62	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 1		233
150	86.097		2.73 - 1164.22	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	1 - 0		233
200	86.147		3.83 - 1164.62	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$g^3P - ^3P^o$	0 - 1		233
10	86.975		0.0 - 1149.79 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3F^o$	2 - 3	Q	233, 375
400	87.334		0.0 - 1145.02	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3S^o$	2 - 1		233
350	87.544		2.73 - 1145.02	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3S^o$	1 - 1		233
500	87.592		0.0 - 1141.67	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	2 - 1		233
100	87.629		3.83 - 1145.02	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3S^o$	0 - 1		233
650	87.655		0.0 - 1140.84	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	2 - 2		233
250	87.783		2.73 - 1141.91	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	1 - 0		233
250	87.802		2.73 - 1141.67	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	1 - 1		233
350	87.866		2.73 - 1140.84	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	1 - 2		233
250	87.887		3.83 - 1141.67	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	0 - 1		233
1000	88.170		0.0 - 1134.17	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3D^o$	2 - 3		233
10	88.241		2.73 - 1136.04 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3P^o$	1 - 1	Q	233, 375
750	88.273		41.17 - 1173.99 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o) 3d$	$^1D - ^3F^o$	2 - 3		233
100	88.325		0.0 - 1132.18	$2s^2 2p^4 - 2s^2 2p^3(^3D^o) 3d$	$g^3P - ^3F^o$	2 - 3		233

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
750	88.376		2.73 - 1134.17	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)3d$	$g^3P - ^3D^o$	1 - 2		233
250	88.469		3.83 - 1134.17	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$g^3P - ^3D^o$	0 - 1		233
100	88.688		41.17 - 1168.69 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3d$	$^1D - ^1D^o$	2 - 2		233
1000	90.200		41.17 - 1149.79 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)3d$	$^1D - ^1F^o$	2 - 3		233
600	90.858		41.17 - 1141.76 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1D - ^1D^o$	2 - 2		233
500	91.332		41.17 - 1136.04 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1D - ^1P^o$	2 - 1		233
750	92.626		0.0 - 1079.61	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3d$	$g^3P - ^3D^o$	2 - 3		233
200	92.636		0.0 - 1079.49	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3d$	$g^3P - ^3D^o$	2 - 2		233
500	92.875		2.73 - 1079.49	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3d$	$g^3P - ^3D^o$	1 - 2		233
250	92.970		3.83 - 1079.46	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3d$	$g^3P - ^3D^o$	0 - 1		233
100	95.436		88.21 - 1136.04 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1S - ^1P^o$	0 - 1		233
100	95.624		88.21 - 1134.17	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1S - ^3D^o$	0 - 1	Q	233, 375
10	96.071							233
10	96.442		323.00 - 1359.89	$2s 2p^5 - 2s 2p^4(^3S)3s$	$^3P^o - ^3S$	2 - 1		233
50	96.673		325.47 - 1359.89	$2s 2p^5 - 2s 2p^4(^3S)3s$	$^3P^o - ^3S$	1 - 1		233
10	98.684							233
600	100.616		0.0 - 993.88	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	2 - 2		233
100	100.639		0.0 - 993.66	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	2 - 1		233
200	100.894		2.73 - 993.88	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	1 - 2		233
200	100.919		2.73 - 993.66	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	1 - 1		233
150	101.027		3.83 - 993.66	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	0 - 1		233
10	103.062		323.00 - 1293.29	$2s 2p^5 - 2s 2p^4(^3D)3s$	$^3P^o - ^3D$	2 - 3		233
300	103.940		41.17 - 1003.24 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$^1D - ^1P^o$	2 - 1		233
1000	104.047		0.0 - 961.1	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3s$	$g^3P - ^3D^o$	2 - 3		233
800	104.344		2.73 - 961.1	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3s$	$g^3P - ^3D^o$	1 - 2		233
400	104.466		3.83 - 961.1	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3s$	$g^3P - ^3D^o$	0 - 1		233
10	104.960		41.17 - 993.88	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$^1D - ^3P^o$	2 - 2	Q	233, 375
700	107.620		41.17 - 970.33 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3s$	$^1D - ^1D^o$	2 - 2		233
350	109.284		88.21 - 1003.24 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$^1S - ^1P^o$	0 - 1		233
1000	109.514		0.0 - 913.13	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3s$	$g^3P - ^3S^o$	2 - 1		233
600	109.843		2.73 - 913.13	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3s$	$g^3P - ^3S^o$	1 - 1		233
200	109.974		3.83 - 913.13	$2s^2 2p^4 - 2s^2 2p^3(^1S^o)3s$	$g^3P - ^3S^o$	0 - 1		233
50	113.314		323.00 - 1205.5	$2s 2p^5 - 2s 2p^4(^3P)3s$	$^3P^o - ^3P$	2 - 1		233
150	113.437		323.00 - 1204.55	$2s 2p^5 - 2s 2p^4(^3P)3s$	$^3P^o - ^3P$	2 - 2		233
50	113.623		325.47 - 1205.5	$2s 2p^5 - 2s 2p^4(^3P)3s$	$^3P^o - ^3P$	1 - 1		233
50	113.756		325.47 - 1204.55	$2s 2p^5 - 2s 2p^4(^3P)3s$	$^3P^o - ^3P$	1 - 2		233
50	221.535		0.0 - 451.40	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^1P^o$	2 - 1		113
600	243.766		41.17 - 451.40	$2s^2 2p^4 - 2s 2p^5$	$^1D - ^1P^o$	2 - 1		113
300	275.343		88.21 - 451.40	$2s^2 2p^4 - 2s 2p^5$	$^1S - ^1P^o$	0 - 1		113
350	307.249		0.0 - 325.47	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	2 - 1		113
300	308.563		2.73 - 326.82	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	1 - 0		113
400	309.597		0.0 - 323.00	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	2 - 2		113
300	309.851		2.73 - 325.47	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	1 - 1		113
300	310.907		3.83 - 325.47	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	0 - 1		113
300	312.237		2.73 - 323.00	$2s^2 2p^4 - 2s 2p^5$	$g^3P - ^3P^o$	1 - 2		113
	328.67		451.40 - 755.64	$2s 2p^5 - 2p^6$	$^1P^o - ^1S$	1 - 0		868
5	421.46		88.21 - 325.47	$2s^2 2p^4 - 2s 2p^5$	$^1S - ^3P^o$	0 - 1		113
	1133.6		0.0 - 88.21	$2s^2 2p^4 - 2s^2 2p^5$	$g^3P - ^1S$	2 - 0	F, P	375
	1169.9		2.73 - 88.21	$2s^2 2p^4 - 2s^2 2p^5$	$g^3P - ^1S$	1 - 0	F	108
40	1592.62		1141.76 + X - 1204.55	$2s^2 2p^3(^1D^o)3d - 2s 2p^4(^3P)3s$	$^1D^o - ^3P$	2 - 2	Q	113

ALUMINUM VII (Al⁶⁺), Z = 13Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 1 947 300 cm^{-1} ; 241.44 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	58.379		62.14 + X - 1774.94 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		864, 233
1	58.750		0.0 - 1702.07	$2s^2 2p^3 - 2s^2 2p^2(^3P)5s$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		864, 233
10	59.481		94.65 + X - 1774.94 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)5d$	$^3P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Q	233, 375
10	59.827		62.14 + X - 1733.79 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		864, 233
10	59.911		62.09 + X - 1731.22 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)5d$	$^3D^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		233
12	62.292		0.0 - 1605.24	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		864
	62.330		0.0 - 1604.35	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$	P	375
27	62.354		0.0 - 1603.75	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		864
1	62.430		0.0 - 1601.74	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		864
8	62.465		0.0 - 1600.67	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		864

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
65	63.005		62.14 + X - 1649.26 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
500	63.025		62.14 + X - 1648.81 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		233
65	63.056		62.09 + X - 1648.2 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
1	64.061		94.65 + X - 1655.54 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
8	64.328		94.65 + X - 1649.26 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
25	64.349		94.65 + X - 1648.81 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1P^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
1	64.481		62.14 + X - 1612.94 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
1	64.516		62.09 + X - 1612.2 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
12	64.698		62.14 + X - 1607.64 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
8	64.801		0.0 - 1542.85	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
9	64.816		62.09 + X - 1604.93 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
27	64.892		0.0 - 1540.74	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
12	65.020		62.14 + X - 1600.27 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
8	65.770		62.14 + X - 1582.6 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
18	65.862		94.65 + X - 1612.94 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
50	65.882		94.40 + X - 1612.2 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		233
27	66.409		94.65 + X - 1600.27 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
47	67.523		62.09 + X - 1543.06 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
	67.560		62.14 + X - 1542.31 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
60	68.534		280.2 - 1739.39	$2s^2 2p^3 - 2s^2 2p^2(^1S^o)4d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
64	68.626		282.66 - 1739.6	$2s^2 2p^3 - 2s^2 2p^2(^1S^o)4d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
30	68.675		283.96 - 1739.9	$2s^2 2p^3 - 2s^2 2p^2(^1S^o)4d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
16	69.029		94.40 + X - 1543.06 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		859
16	69.085		94.65 + X - 1542.31 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
200	69.165		94.65 + X - 1540.74	$2s^2 2p^3 - 2s^2 2p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
195	72.282		0.0 - 1383.7	$2s^2 2p^3 - 2s^2 2p^2(^1S^o)3p$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
74	74.099		62.14 + X - 1411.76 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
50	74.321		0.0 - 1345.91 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$g^4S^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
215	75.281		0.0 - 1328.55	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
250	75.313		0.0 - 1327.99	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
227	75.367		0.0 - 1326.96	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$g^4S^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
227	75.544		0.0 - 1323.94	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$g^4S^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
100	75.809		280.2 - 1599.3	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		233
195	75.846		62.14 + X - 1380.51 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
195	75.876		280.2 - 1598.27	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
262	75.903		94.40 + X - 1411.76 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
185	75.926		94.65 + X - 1411.76 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
	75.946		282.66 - 1599.3	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		864
205	76.009		282.66 - 1598.27	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
157	76.022		283.96 - 1599.3	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		864
125	76.090		283.96 - 1598.27	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		864
205	76.226		280.2 - 1592.17	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
195	76.262		280.2 - 1591.56	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
157	76.344		282.66 - 1592.55	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
140	76.366		282.66 - 1592.17	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
300	76.386		62.14 + X - 1371.34 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
215	76.400		282.66 - 1591.56	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
288	76.430		62.09 + X - 1370.65 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
215	76.440		283.96 - 1592.17	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		864
215	76.557		62.14 + X - 1368.1 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
225	76.582		62.14 + X - 1368.1 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
215	77.443		94.65 + X - 1385.75 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
91	77.778		94.65 + X - 1380.51 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
104	77.809		94.40 + X - 1379.67 + X	$2s^2 2p^3 - 2s^2 2p^2(^1L)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
250	77.906		62.14 + X - 1345.91 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
166	77.958		62.09 + X - 1345.09 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
345	78.329		94.65 + X - 1371.34 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
288	78.343		94.40 + X - 1370.65 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
262	78.365		94.65 + X - 1370.65 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
300	78.938		62.09 + X - 1328.55	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
314	79.022		62.14 + X - 1327.77 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
300	79.204		62.09 + X - 1324.75 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		864
64	79.637		62.09 + X - 1317.8 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
215	79.692		62.14 + X - 1317.02 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
390	79.928		94.65 + X - 1345.91 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
390	79.960		94.40 + X - 1345.09 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
300	79.972		94.65 + X - 1345.09 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
50	81.176		94.65 + X - 1326.56	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	233
50	81.234		94.40 + X - 1324.71	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Q	233
10	81.339		94.65 + X - 1323.94	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Q	233
262	81.741		94.40 + X - 1317.8 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
205	81.774		94.40 + X - 1317.02 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
365	81.794		94.65 + X - 1317.02 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
380	81.809		94.65 + X - 1317.02 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
50	82.423		385.64 + X - 1598.27	$2s^2 2p^3 - 2s^2 2p^2(^1D^o)3d$	$^1D^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	82.908		385.64 + X - 1591.56	$2s2p^4 - 2s2p^3(^1D^*)3d$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
512	83.833		280.2 - 1473.06	$2s2p^4 - 2s2p^3(^1S^*)3d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
475	84.005		282.66 - 1473.06	$2s2p^4 - 2s2p^3(^1S^*)3d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
422	84.095		283.96 - 1473.06	$2s2p^4 - 2s2p^3(^1S^*)3d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
100	86.393		280.2 - 1437.43 + X	$2s2p^4 - 2s2p^3(^1D^*)3s$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
118	86.666		94.40 + X - 1248.22 + X	$2s^22p^3 - 2s^22p^2(^1S)3s$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
166	86.685		94.65 + X - 1248.22 + X	$2s^22p^3 - 2s^22p^2(^1S)3s$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
475	86.884		0.0 - 1150.92	$2s^22p^3 - 2s^22p^2(^3P)3s$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
456	87.058		0.0 - 1148.63	$2s^22p^3 - 2s^22p^2(^3P)3s$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
422	87.165		0.0 - 1147.1	$2s^22p^3 - 2s^22p^2(^3P)3s$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
515	88.027		62.09 + X - 1198.06 + X	$2s^22p^3 - 2s^22p^2(^1D)3s$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
515	90.547		62.14 + X - 1166.51 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
185	90.596		94.40 + X - 1198.06 + X	$2s^22p^3 - 2s^22p^2(^1D)3s$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
185	90.627		94.65 + X - 1198.06 + X	$2s^22p^3 - 2s^22p^2(^1D)3s$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
195	90.766		62.09 + X - 1163.74 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
420	93.275		94.40 + X - 1166.51 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
550	93.298		94.65 + X - 1166.51 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
420	93.517		94.40 + X - 1163.74 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
343	93.535		94.65 + X - 1163.74 + X	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
150	94.970		94.40 + X - 1147.1	$2s^22p^3 - 2s^22p^2(^3P)3s$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
105	95.076		385.64 + X - 1437.43 + X	$2s2p^4 - 2s2p^3(^1D^*)3s$	$^1D - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
440	95.975		280.2 - 1322.18	$2s2p^4 - 2s2p^3(^1S^*)3s$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		864
375	96.207		735.53 + X - 1774.94 + X	$2p^4 - 2s^22p^2(^1D)5d$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
227	96.327		283.96 - 1322.18	$2s2p^4 - 2s2p^3(^1S^*)3s$	$^1P - ^1S^*$	$\frac{1}{2} - \frac{1}{2}$		864
	208.1		0.0 - 480.45 + X	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		375
	209.4		0.0 - 477.47 + X	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		375
100	239.030		62.09 + X - 480.45 + X	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		693
125	240.368		1323.94 - 1739.97	$2s^22p^3(^3P)3d - 2s2p^3(^1S^*)4d$	$^1D - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
200	240.770		62.14 + X - 477.47 + X	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		693
262	259.036		94.40 + X - 480.45 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
345	259.207		94.65 + X - 480.45 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
330	261.044		94.40 + X - 477.47 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
495	261.219		94.65 + X - 477.47 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
510	278.982		94.40 + X - 452.84 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
440	279.187		94.65 + X - 452.84 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1S$	$\frac{1}{2} - \frac{1}{2}$		864
100	280.745		1383.7 - 1739.9	$2s2p^3(^1S^*)3p - 2s2p^3(^1S^*)4d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
150	280.994		1383.7 - 1739.6	$2s2p^3(^1S^*)3p - 2s2p^3(^1S^*)4d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
12	281.153		1383.7 - 1739.39	$2s2p^3(^1S^*)3p - 2s2p^3(^1S^*)4d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
315	282.660		385.69 + X - 739.47 + X	$2s2p^4 - 2p^4$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
360	285.822		385.64 + X - 735.53 + X	$2s2p^4 - 2p^4$	$^1D - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
420	309.023		62.09 + X - 385.69 + X	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
475	309.072		62.09 + X - 385.64 + X	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
375	309.121		62.14 + X - 385.64 + X	$2s^22p^3 - 2s2p^4$	$^1D^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
125	343.290		94.40 + X - 385.69 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
160	343.641		94.65 + X - 385.64 + X	$2s^22p^3 - 2s2p^4$	$^1P^* - ^1D$	$\frac{1}{2} - \frac{1}{2}$		864
75	352.145		0.0 - 283.96	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
140	353.769		0.0 - 282.66	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
20	356.880		0.0 - 280.2	$2s^22p^3 - 2s2p^4$	$g^4S^* - ^1P$	$\frac{1}{2} - \frac{1}{2}$		864
35	370.753		1328.55 - 1598.27	$2s^22p^3(^3P)3d - 2s2p^3(^1D^*)3d$	$^1P - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$		864
55	381.674		477.47 + X - 739.47 + X	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
95	386.066		480.45 + X - 739.47 + X	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
125	387.521		477.47 + X - 735.53 + X	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
45	392.048		480.45 + X - 735.53 + X	$2s2p^4 - 2p^4$	$^1P - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$		864
	1054.0		0.0 - 94.88 + X	$2s^22p^3 - 2s^22p^3$	$g^4S^* - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375
	1056.8		0.0 - 94.63 + X	$2s^22p^3 - 2s^22p^3$	$g^4S^* - ^1P^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375
	1604.6		0.0 - 62.32 + X	$2s^22p^3 - 2s^22p^3$	$g^4S^* - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375, 843
	1605.9		0.0 - 62.27 + X	$2s^22p^3 - 2s^22p^3$	$g^4S^* - ^1D^*$	$\frac{1}{2} - \frac{1}{2}$	F, P	375

ALUMINUM VIII (Al⁷⁺), Z = 13Ground State 1s²2s²2p² ³P₀ (6 electrons)Ionization Potential 2 295 400 cm⁻¹; 284.60 eV

Multiplets	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
6	49.436		133.51 + Y - 2156.33 + Y	2s2p ² - 2s2p ² (³ P)5d	³ S ^o - ³ P	2 - 3		859
5	49.758		4.44 - 2014.17	2s ² 2p ² - 2s ² 2p ² (³ P ^o)5d	³ P ^o - ³ P ^o	2 - 2		859
10	53.785		133.51 + Y - 1992.76 + Y	2s2p ² - 2s2p ² (³ P)4d	³ S ^o - ³ P	2 - 1		233
10	53.800		133.51 + Y - 1992.25 + Y	2s2p ² - 2s2p ² (³ P)4d	³ S ^o - ³ P	2 - 2		233
10	53.823		133.51 + Y - 1991.45 + Y	2s2p ² - 2s2p ² (³ P)4d	³ S ^o - ³ P	2 - 3		233
200	54.217		1.74 - 1846.18	2s ² 2p ² - 2s ² 2p ² (³ P ^o)4d	³ P ^o - ³ D ^o	1 - 2		233
200	54.258		4.44 - 1847.49	2s ² 2p ² - 2s ² 2p ² (³ P ^o)4d	³ P ^o - ³ D ^o	2 - 3		233
50	55.317		46.74 + X - 1854.50 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)4d	¹ D ^o - ³ F ^o	2 - 3		859
65	55.720		46.74 + X - 1841.43 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)4d	¹ D ^o - ³ D ^o	2 - 2		859
80	57.326		262.19 - 2006.60	2s2p ² - 2s2p ² (³ P)4d	³ D ^o - ³ D	3 - 3		859
10	57.553		262.19 - 1999.71	2s2p ² - 2s2p ² (³ P)4d	³ D ^o - ³ F	3 - 4		233
87	57.597		262.39 - 1998.59	2s2p ² - 2s2p ² (³ P)4d	³ D ^o - ³ F	1 - 2		859
10	57.624		262.32 - 1997.71	2s2p ² - 2s2p ² (³ P)4d	³ D ^o - ³ F	2 - 3		233
150	61.694		46.74 + X - 1667.54 + X	2s ² 2p ² - 2s2p ² (³ D)3p	¹ D ^o - ³ D ^o	2 - 2		233
50	61.933		133.51 + Y - 1747.94	2s2p ² - 2s2p ² (³ D)3d	³ S ^o - ³ P	2 - 1	Q	233, 375
100	62.016		46.74 + X - 1659.23 + X	2s ² 2p ² - 2s2p ² (³ D)3p	¹ D ^o - ³ F ^o	2 - 3		233
10	63.203		262.19 - 1844.39	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ P	3 - 2		233
45	63.433		1.74 - 1577.76	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ P ^o	1 - 2		859
45	63.559		4.44 - 1577.76	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ P ^o	2 - 2		859
100	63.714		262.19 - 1831.7	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ F	3 - 4		233
10	63.933		0.0 - 1564.14	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ D ^o	0 - 1		233
150	63.965		1.74 - 1564.84	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ D ^o	1 - 2		233
200	64.004		4.44 - 1566.84	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ D ^o	2 - 3		233
10	64.086		4.44 - 1564.84	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ P ^o	2 - 2		233
10	65.129		309.13 - 1844.39	2s2p ² - 2s2p ² (³ P)3d	³ P ^o - ³ P	2 - 2		233
10	65.298		309.13 - 1840.57	2s2p ² - 2s2p ² (³ P)3d	³ P ^o - ³ D	2 - 3		233
50	65.381		1.74 - 1531.27	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ S ^o	1 - 1		233
50	65.494		4.44 - 1531.27	2s ² 2p ² - 2s2p ² (³ P)3p	³ P ^o - ³ S ^o	2 - 1		233
60	66.321		309.13 - 1816.95	2s2p ² - 2s2p ² (³ S)3d	³ P ^o - ³ D	2 - 3		233
10	66.363		309.13 - 1815.99	2s2p ² - 2s2p ² (³ S)3d	³ P ^o - ³ D	1 - 2		233
150	66.704		133.51 + Y - 1632.67 + Y	2s2p ² - 2s2p ² (³ P)3d	³ S ^o - ³ P	2 - 1		233
200	66.731		133.51 + Y - 1632.06 + Y	2s2p ² - 2s2p ² (³ P)3d	³ S ^o - ³ P	2 - 2		233
350	66.771		133.51 + Y - 1631.17 + Y	2s2p ² - 2s2p ² (³ P)3d	³ S ^o - ³ P	2 - 3		233
10	67.044		0.0 - 1491.57	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	0 - 1		233
100	67.096		1.74 - 1492.14	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	1 - 0		233
100	67.121		1.74 - 1491.57	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	1 - 1		233
10	67.166		1.74 - 1490.59	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	1 - 2		233
150	67.244		4.44 - 1491.57	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	2 - 1		233
500	67.288		4.44 - 1490.59	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ P ^o	2 - 2		233
250	67.360		0.0 - 1484.56	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ D ^o	0 - 1		233
500	67.408		262.19 - 1745.69	2s2p ² - 2s2p ² (³ D)3d	³ D ^o - ³ P	3 - 2		233
50	67.437		1.74 - 1484.56	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ D ^o	1 - 1		233
600	67.464		4.44 - 1486.71	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ D ^o	2 - 3		233
10	67.529		4.44 - 1485.24	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ P ^o - ³ D ^o	2 - 2		233
150	67.565		262.19 - 1742.25	2s2p ² - 2s2p ² (³ D)3d	³ D ^o - ³ D	3 - 3		233
500	67.946		262.19 - 1733.95	2s2p ² - 2s2p ² (³ D)3d	³ D ^o - ³ F	3 - 4		233
10	68.000		262.39 - 1733.95	2s2p ² - 2s2p ² (³ D)3d	³ D ^o - ³ F	1 - 2	Q	233, 375
750	68.375		46.74 + X - 1509.26 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	¹ D ^o - ³ F ^o	2 - 3		233
50	68.825		309.13 - 1762.09	2s2p ² - 2s2p ² (³ D)3d	³ P ^o - ³ S	2 - 1		233
50	69.420		309.13 - 1749.64	2s2p ² - 2s2p ² (³ D)3d	³ P ^o - ³ P	1 - 0		233
100	69.502		309.13 - 1747.94	2s2p ² - 2s2p ² (³ D)3d	³ P ^o - ³ P	2 - 1		233
200	69.611		309.13 - 1745.69	2s2p ² - 2s2p ² (³ D)3d	³ P ^o - ³ P	2 - 2		233
200	69.631		404.22 - 1840.57	2s2p ² - 2s2p ² (³ P)3d	³ S ^o - ³ D	1 - 2	Q	233, 375
150	69.773		309.13 - 1742.25	2s2p ² - 2s2p ² (³ D)3d	³ P ^o - ³ D	2 - 3		233
50	70.040		404.22 - 1831.7	2s2p ² - 2s2p ² (³ P)3d	³ S ^o - ³ F	1 - 2	Q	233, 375
300	70.161		46.74 + X - 1472.03 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	¹ D ^o - ³ D ^o	2 - 2		233
200	70.323		46.74 + X - 1468.75 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	¹ D ^o - ³ F ^o	2 - 3		233
1	70.402		262.19 - 1682.59	2s2p ² - 2s2p ² (³ P)3s	³ D ^o - ³ P	3 - 2		233
250	70.727		96.22 + X - 1510.11 + X	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ S ^o - ³ P ^o	0 - 1		233
50	70.862		404.22 - 1815.99	2s2p ² - 2s2p ² (³ S)3d	³ S ^o - ³ D	1 - 2	Q	233, 375
135	71.218		262.19 - 1665.93	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ D	3 - 3		859
125	71.274		262.32 - 1665.38	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ D	2 - 2		859
50	71.277		262.39 - 1665.38	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ D	1 - 2	Q	233, 375
70	71.625		96.22 + X - 1491.57	2s ² 2p ² - 2s ² 2p ² (³ P ^o)3d	³ S ^o - ³ P ^o	0 - 1	Q	233, 375
200	72.223		262.19 - 1646.79	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ F	3 - 4		233
200	72.324		262.32 - 1644.99	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ F	2 - 3		233
150	72.401		262.39 - 1643.59	2s2p ² - 2s2p ² (³ P)3d	³ D ^o - ³ F	1 - 2		233
100	73.278		397.04 + X - 1762.09	2s2p ² - 2s2p ² (³ T ₁)3d	¹ D ^o - ³ S	2 - 1	Q	233, 375
304	73.405		397.04 + X - 1759.33 + X	2s2p ² - 2s2p ² (³ D)3d	¹ D ^o - ³ F	2 - 3		859
150	73.703		309.13 - 1665.93	2s2p ² - 2s2p ² (³ P)3d	³ P ^o - ³ D	2 - 3		233

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	73.733		309.13 - 1665.38	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^3D$	1 - 2		233
10	73.760		309.13 - 1664.88	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^3D$	0 - 1		233
200	73.879		309.13 - 1662.74	$2s2p^2 - 2s2p^2(^3S)3s$	$^1P^o - ^3S$	2 - 1		233
120	74.016		397.04 + X - 1747.94	$2s2p^2 - 2s2p^2(^1D)3d$	$^1D^o - ^3P$	2 - 1	Q	233, 375
200	74.841		133.51 + Y - 1469.68 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1S^o - ^3P$	2 - 3		233
150	74.965		133.51 + Y - 1467.47 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1S^o - ^3P$	2 - 2		233
50	75.058		133.51 + Y - 1465.51 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1S^o - ^3P$	2 - 1		233
100	75.226		404.22 - 1733.95	$2s2p^2 - 2s2p^2(^1D)3d$	$^1S^o - ^3F$	1 - 2	Q	233, 375
70	75.397		309.13 - 1635.44	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^3P$	1 - 1		233
200	75.488		309.13 - 1633.84	$2s2p^2 - 2s2p^2(^1P)3d$	$^1P^o - ^3P$	2 - 2		233
150	75.577		262.19 - 1585.4	$2s2p^2 - 2s2p^2(^1D)3s$	$^1D^o - ^3D$	3 - 3		233
100	75.623		1.74 - 1324.08	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^3P^o$	1 - 2		233
50	75.734		0.0 - 1320.45	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^3P^o$	0 - 1		233
250	75.778		4.44 - 1324.08	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^3P^o$	2 - 2		233
100	75.894		1.74 - 1319.28	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^3P^o$	1 - 0		233
50	75.985		4.44 - 1320.45	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$g^3P - ^3P^o$	2 - 1		233
200	76.853		444.60 + X - 1745.69	$2s2p^2 - 2s2p^2(^1D)3d$	$^1P^o - ^3P$	1 - 2	Q	233, 375
300	77.605		46.74 + X - 1335.32 + X	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1D - ^1P^o$	2 - 1		233
1	78.225		404.22 - 1682.59	$2s2p^2 - 2s2p^2(^1P)3s$	$^1S^o - ^3P$	1 - 2		233
70	78.256		46.74 + X - 1324.08	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1D - ^3P^o$	2 - 2	Q	233, 375
1000	78.351		309.13 - 1555.4	$2s2p^2 - 2s2p^2(^1D)3s$	$^1P^o - ^3D$	2 - 3		233
10	78.421		133.51 + Y - 1409.4 + Z	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1S^o - ^3P$	2 - 2	Q	233, 375
150	78.508		46.74 + X - 1320.45	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1D - ^3P^o$	2 - 1	Q	233, 375
100	78.836		397.04 + X - 1665.36	$2s2p^2 - 2s2p^2(^1P)3d$	$^1D^o - ^3D$	2 - 2	Q	233, 375
120	79.455		404.22 - 1662.74	$2s2p^2 - 2s2p^2(^3S)3s$	$^1S^o - ^3S$	1 - 1		233
10	80.520		262.19 - 1507.22	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^o - ^3P$	3 - 2		233
10	80.483		262.32 - 1504.31	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^o - ^3P$	2 - 1		233
100	80.704		96.22 + X - 1335.32 + X	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1S - ^1P^o$	0 - 1		233
100	81.667		96.22 + X - 1320.45	$2s^22p^2 - 2s^22p^2(^1P^o)3s$	$^1S - ^1P^o$	0 - 1	Q	233, 375
150	82.543		397.04 + X - 1665.36 + Z	$2s2p^2 - 2s^22p^2(^1D)3s$	$^1D - ^1D$	2 - 2		233
10	83.102		252.39 - 1465.81 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1D^o - ^3P$	1 - 1	Q	233, 375
10	83.335		647.32 + X - 1847.49	$2p^4 - 2s^22p^2(^1P^o)4d$	$^1D - ^1D^o$	2 - 3	Q	233, 375
50	83.465		309.13 - 1507.22	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^3P$	2 - 2		233
10	83.635		309.13 - 1504.81	$2s2p^2 - 2s^22p^2(^1P^o)3s$	$^1P^o - ^3P$	1 - 1		233
150	83.723		309.13 - 1503.54	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^3P$	1 - 0		859
100	86.360		309.13 - 1467.47 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^3P$	1 - 2	Q	233, 375
100	86.427		309.13 - 1465.81 + Y	$2s2p^2 - 2s2p^2(^1P)3s$	$^1P^o - ^3P$	0 - 1	Q	233, 375
50	91.467		309.13 - 1402.18	$2s2p^2 - 2s^22p^2(^1P^o)3p$	$^1P^o - ^3S$	2 - 1		233
50	113.140		647.32 + X - 1551.27	$2p^4 - 2s2p^2(^1P)3p$	$^1D - ^1S^o$	2 - 1	Q	233, 375
10	247.401		0.0 - 404.22	$2s^22p^2 - 2s2p^2$	$g^3P - ^3S^o$	0 - 1		859
55	248.456		1.74 - 404.22	$2s^22p^2 - 2s2p^2$	$g^3P - ^3S^o$	1 - 1		859
100	250.139		4.44 - 404.22	$2s^22p^2 - 2s2p^2$	$g^3P - ^3S^o$	2 - 1		693, 381
10	251.347		46.74 + X - 444.60 + X	$2s^22p^2 - 2s2p^2$	$^1D - ^1P^o$	2 - 1		693
50	285.467		46.74 + X - 397.04 + X	$2s^22p^2 - 2s2p^2$	$^1D - ^1D^o$	2 - 2		693
105	285.959							859
	286.61		262.32 - 611.22	$2s2p^2 - 2p^4$	$^1D^o - ^3P$	2 - 1		380
165	287.083		96.22 + X - 444.60 + X	$2s^22p^2 - 2s2p^2$	$^1S - ^1P^o$	0 - 1	Q	859
60	287.610							859
	289.07		262.19 - 608.16	$2s2p^2 - 2p^4$	$^1D^o - ^3P$	3 - 2		380
	289.12		262.32 - 608.16	$2s2p^2 - 2p^4$	$^1D^o - ^3P$	2 - 2		296
58	289.645							859
	323.52		0.0 - 309.13	$2s^22p^2 - 2s2p^2$	$g^3P - ^3P^o$	0 - 1		380
80	323.863							859
	325.31		1.74 - 309.13	$2s^22p^2 - 2s2p^2$	$g^3P - ^3P^o$	1 - 2		380
155	325.596		1324.08 - 1631.17 + Y	$2s^22p^2(^1P^o)3s - 2s2p^2(^1P)3d$	$^1P^o - ^3P$	2 - 3	Q	859
10	328.200		4.44 - 309.13	$2s^22p^2 - 2s2p^2$	$g^3P - ^3P^o$	2 - 1		693
40	329.551		309.13 - 612.58	$2s2p^2 - 2p^4$	$^1P^o - ^3P$	1 - 0		859
65	330.982							859
	331.01		309.13 - 611.22	$2s2p^2 - 2p^4$	$^1P^o - ^3P$	1 - 1		380
	334.40		309.13 - 608.16	$2s2p^2 - 2p^4$	$^1P^o - ^3P$	2 - 2		380
215	334.951		1335.32 + X - 1633.84	$2s^22p^2(^1P^o)3s - 2s2p^2(^1P)3d$	$^1P^o - ^3P$	1 - 2		859
	340.23		444.60 + X - 738.52 + X	$2s2p^2 - 2p^4$	$^1P^o - ^3S$	1 - 0		244
	381.15		0.0 - 262.39	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	0 - 1		250
	383.70		1.74 - 262.39	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	1 - 1		380
50	383.785		1.74 - 262.32	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	1 - 2		693
100	387.970		4.44 - 262.19	$2s^22p^2 - 2s2p^2$	$g^3P - ^3D^o$	2 - 3		693
	399.57		397.04 + X - 647.32 + X	$2s2p^2 - 2p^4$	$^1D^o - ^1D$	2 - 2		244
	479.95		404.22 - 612.58	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 0	P	380
	483.10		404.22 - 611.22	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 1	P	380
	490.35		404.22 - 608.16	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 2	P	380
	493.29		444.60 + X - 647.32 + X	$2s2p^2 - 2p^4$	$^1P^o - ^1D$	1 - 2	P	250
	774.8		4.44 - 133.51 + Y	$2s^22p^2 - 2s2p^2$	$g^3P - ^3S^o$	2 - 2		375
1058.4			1.74 - 96.22 + X	$2s^22p^2 - 2s^22p^2$	$g^3P - ^3S$	1 - 0	F, P	375
1089.6			4.44 - 96.22 + X	$2s^22p^2 - 2s^22p^2$	$g^3P - ^3S$	2 - 0	F, P	375

ALUMINUM IX (Al⁸⁺), Z = 13
Ground State 1s²2s²2p ²P_{1/2} (5 electrons)
Ionization Potential 2 662 503 cm⁻¹; 330.11 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
	10	40.904	4.89 - 2449.64	2s ² (¹ S)2p - 2s2p(³ P ^o)5p	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		833
	20	41.037	4.89 - 2441.72	2s ² (¹ S)2p - 2s2p(³ P ^o)5p	<i>g</i> ³ P ^o - ³ P	$\frac{3}{2} - \frac{3}{2}$		833
	20	41.543	4.89 - 2412.03	2s ² (¹ S)2p - 2s ² 6d	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		833
	10	42.708	259.74 - 2601.2	2s2p ² - 2s2p(¹ P ^o)5d	³ D - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		833
	10	42.744	259.74 - 2599.23	2s2p ² - 2s2p(¹ P ^o)5d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		833
	20	42.928	150.51 + X - 2479.97 + X	2s2p ² - 2p ² (³ P)4p	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		833
	40	43.195	148.02 + X - 2463.2 - X	2s2p ² - 2s2p(³ P ^o)5d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		833
	40	43.237	150.51 + X - 2463.2 + X	2s2p ² - 2s2p(³ P ^o)5d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		833
	80	43.261	150.51 + X - 2462.04 + X	2s2p ² - 2s2p(³ P ^o)5d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		833
	10	43.549	4.89 - 2301.15	2s ² (¹ S)2p - 2s ² (¹ S)5d	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		233
	60	44.704	0.0 - 2236.94	2s ² (¹ S)2p - 2s2p(³ P ^o)4p	<i>g</i> ³ P ^o - ³ D	$\frac{1}{2} - \frac{3}{2}$		833
	80	44.743	4.89 - 2239.88	2s ² (¹ S)2p - 2s2p(³ P ^o)4p	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		833
	10	45.077	4.89 - 2223.32	2s ² (¹ S)2p - 2s2p(³ P ^o)4p	<i>g</i> ³ P ^o - ³ P	$\frac{3}{2} - \frac{3}{2}$		833
	40	45.344	259.74 - 2465.05	2s2p ² - 2s2p(³ P ^o)5d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		833
	40	46.896	259.74 - 2392.1	2s2p ² - 2s2p(³ P ^o)4d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		833
	80	47.417	148.02 + X - 2256.95 + X	2s2p ² - 2s2p(³ P ^o)4d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		833
	200	47.489	150.51 + X - 2256.24 + X	2s2p ² - 2s2p(³ P ^o)4d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		833
	100	47.534	150.51 + X - 2254.25 + X	2s2p ² - 2s2p(³ P ^o)4d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	47.755	0.0 - 2094.02	2s ² (¹ S)2p - 2s ² (¹ S)4d	<i>g</i> ³ P ^o - ³ D	$\frac{1}{2} - \frac{3}{2}$		233
	50	47.856	4.89 - 2094.49	2s ² (¹ S)2p - 2s ² (¹ S)4d	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		233
	20	48.765	150.51 + X - 2201.14 + X	2s2p ² - 2s2p(³ P ^o)4s	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		833
	2	48.899						859
	40	49.094	356.96 - 2393.86	2s2p ² - 2s2p(³ P ^o)4d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		833
	100	49.854	259.74 - 2265.58	2s2p ² - 2s2p(³ P ^o)4d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		233
	100	49.916	259.74 - 2262.09	2s2p ² - 2s2p(³ P ^o)4d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	52.966	0.0 - 1888.1	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ S	$\frac{1}{2} - \frac{1}{2}$		833
	10	53.098	4.89 - 1888.1	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ S	$\frac{3}{2} - \frac{1}{2}$		833
	60	53.237	0.0 - 1878.4	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{1}{2} - \frac{3}{2}$		833
	60	53.267	0.0 - 1877.34	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{1}{2} - \frac{1}{2}$		833
	10	53.376	0.0 - 1873.5	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ D	$\frac{1}{2} - \frac{3}{2}$		233
	10	53.412	4.89 - 1877.34	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{3}{2} - \frac{1}{2}$	Q	233, 375
	10	53.424	4.89 - 1876.71	2s ² (¹ S)2p - 2s2p(¹ P ^o)3p	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		233
	1	53.488	148.02 + X - 2017.67 + X	2s2p ² - 2p ² (³ P)3p	³ P - ³ S ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	53.554	150.51 + X - 2017.67 + X	2s2p ² - 2p ² (³ P)3p	³ P - ³ S ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	54.312	150.51 + X - 1991.7 + X	2s2p ² - 2p ² (³ P)3p	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		233
	200	54.457	150.51 + X - 1986.8 + X	2s2p ² - 2p ² (³ P)3p	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	1	55.622	146.36 + X - 1943.38	2s2p ² - 2s2p(¹ P ^o)3d	³ P - ³ D ^o	$\frac{1}{2} - \frac{3}{2}$	Q	233, 375
	10	55.667	259.74 - 2056.12	2s2p ² - 2p ² (¹ D)3p	³ D - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	50	56.150	0.0 - 1780.95	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ S	$\frac{1}{2} - \frac{1}{2}$		233
	30	56.274	461.99 + X - 2239.88	2p ² - 2s2p(³ P ^o)4p	³ S ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$	Q	233, 375
	70	56.304	4.89 - 1780.95	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ S	$\frac{3}{2} - \frac{1}{2}$		233
	70	56.346	259.74 - 2034.49	2s2p ² - 2p ² (¹ D)3p	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		859
	65	56.373	259.78 - 2033.68	2s2p ² - 2p ² (¹ D)3p	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		859
	100	56.899	0.0 - 1757.5	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ D	$\frac{1}{2} - \frac{3}{2}$		233
	250	56.945	4.89 - 1760.97	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		233
	10	58.060	0.0 - 1722.4	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{1}{2} - \frac{3}{2}$		233
	50	58.112	0.0 - 1720.9	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{1}{2} - \frac{1}{2}$		233
	100	58.222	4.89 - 1722.4	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{3}{2} - \frac{3}{2}$		233
	1	58.276	4.89 - 1720.9	2s ² (¹ S)2p - 2s2p(³ P ^o)3p	<i>g</i> ³ P ^o - ³ P	$\frac{3}{2} - \frac{1}{2}$		233
	10	59.381	259.74 - 1943.63	2s2p ² - 2s2p(¹ P ^o)3d	³ D - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	300	59.761	259.74 - 1933.05	2s2p ² - 2s2p(¹ P ^o)3d	³ D - ³ F ^o	$\frac{3}{2} - \frac{3}{2}$		233
	60	59.960						833
	10	60.162	146.36 + X - 1808.54 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{1}{2} - \frac{3}{2}$		233
	50	60.197	148.02 + X - 1809.22 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{3}{2} - \frac{1}{2}$		233
	10	60.222	148.02 + X - 1808.54 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	60.262	148.02 + X - 1807.55 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		233
	50	60.312	150.51 + X - 1808.54 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		233
	100	60.347	150.51 + X - 1807.55 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ P ^o	$\frac{3}{2} - \frac{3}{2}$		233
	150	60.504	146.36 + X - 1799.09 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ D ^o	$\frac{1}{2} - \frac{3}{2}$		233
	200	60.549	148.02 + X - 1799.49 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	300	60.588	150.51 + X - 1800.98 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	10	60.645	150.51 + X - 1799.49 + X	2s2p ² - 2s2p(³ P ^o)3d	³ P - ³ D ^o	$\frac{3}{2} - \frac{3}{2}$		233
	300	60.896	0.0 - 1642.14	2s ² (¹ S)2p - 2s ² (¹ S)3d	<i>g</i> ³ P ^o - ³ D	$\frac{1}{2} - \frac{3}{2}$		233
	600	61.069	4.89 - 1642.38	2s ² (¹ S)2p - 2s ² (¹ S)3d	<i>g</i> ³ P ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$		233
	10	61.262	461.99 + X - 2094.02	2p ² - 2s ² (¹ S)4d	³ S ^o - ³ D	$\frac{3}{2} - \frac{3}{2}$	Q	233, 375
	10	61.647	332.73 - 1954.71	2s2p ² - 2s2p(¹ P ^o)3d	³ S - ³ P ^o	$\frac{1}{2} - \frac{3}{2}$		233
	50	62.070	332.73 - 1943.38	2s2p ² - 2s2p(¹ P ^o)3d	³ S - ³ D ^o	$\frac{1}{2} - \frac{3}{2}$	Q	233, 375
	250	62.327	461.99 + X - 2066.35 + X	2p ² - 2p ² (³ P)3d	³ S ^o - ³ P	$\frac{3}{2} - \frac{3}{2}$		233
	150	62.369	461.99 + X - 2065.27 + X	2p ² - 2p ² (³ P)3d	³ S ^o - ³ P	$\frac{3}{2} - \frac{3}{2}$		233
	100	62.474	354.08 - 1954.71	2s2p ² - 2s2p(¹ P ^o)3d	³ P - ³ P ^o	$\frac{1}{2} - \frac{1}{2}$		233

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
100	62.587	356.96 - 1954.71	2s2p ² - 2s2p(1P ^o)3d	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
150	62.916	354.08 - 1943.38	2s2p ² - 2s2p(1P ^o)3d	² P - ² D ^o	$\frac{1}{2} - \frac{3}{2}$			233
65	62.948	519.56 - 2108.17	2p ² - 2p ² (1D)3d	¹ D ^o - ² F	$\frac{3}{2} - \frac{3}{2}$			859
500	63.025	356.96 - 1943.63	2s2p ² - 2s2p(1P ^o)3d	² P - ² D ^o	$\frac{3}{2} - \frac{3}{2}$			233
500	63.509	259.74 - 1834.3	2s2p ² - 2s2p(1P ^o)3d	² D - ² F ^o	$\frac{3}{2} - \frac{3}{2}$			233
300	63.632	259.78 - 1831.26	2s2p ² - 2s2p(1P ^o)3d	² D - ² F ^o	$\frac{3}{2} - \frac{3}{2}$			233
	63.7	4.89 - 1575. + W	2s ² (1S)2p - 2s ² 3p	² P ^o - ² P ^o	$\frac{3}{2} - \frac{3}{2}$		F, P	233
50	64.625	259.74 - 1807.02	2s2p ² - 2s2p(1P ^o)3s	² D - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
150	64.885	259.74 - 1800.91	2s2p ² - 2s2p(1P ^o)3d	² D - ² D ^o	$\frac{3}{2} - \frac{3}{2}$			233
100	64.904	259.78 - 1800.46	2s2p ² - 2s2p(1P ^o)3d	² D - ² D ^o	$\frac{3}{2} - \frac{3}{2}$			233
50	66.038	148.02 + X - 1662.34 + X	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
50	66.092	146.36 + X - 1659.35 + X	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{1}{2} - \frac{3}{2}$			233
120	66.142	150.51 + X - 1662.34 + X	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
150	66.239	148.02 + X - 1657.69 + X	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{1}{2}$			833
50	66.275	150.51 + X - 1659.35 + X	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
60	66.321	332.73 - 1840.47	2s2p ² - 2s2p(1P ^o)3d	² S - ² P ^o	$\frac{1}{2} - \frac{3}{2}$			233
10	66.624	0.0 - 1501.02	2s ² (1S)2p - 2s ² (1S)3s	² P ^o - ² S	$\frac{3}{2} - \frac{1}{2}$			233
345	66.724	585.23 - 2083.94	2p ² - 2p ² (1P)3d	² P ^o - ² D	$\frac{1}{2} - \frac{3}{2}$			859
100	66.836	4.89 - 1501.02	2s ² (1S)2p - 2s ² (1S)3s	² P ^o - ² S	$\frac{3}{2} - \frac{1}{2}$			233
10	67.828	332.73 - 1807.02	2s2p ² - 2s2p(1P ^o)3s	² S - ² P ^o	$\frac{1}{2} - \frac{3}{2}$			233
100	68.531	461.99 + X - 1921.1 + X	2p ² - 2p ² (1P)3s	² S ^o - ² P	$\frac{3}{2} - \frac{3}{2}$			233
50	68.637	461.99 + X - 1918.85 + X	2p ² - 2p ² (1P)3s	² S ^o - ² P	$\frac{3}{2} - \frac{3}{2}$			233
25	68.722	354.08 - 1809.22 + X	2s2p ² - 2s2p(1P ^o)3d	² P - ² P ^o	$\frac{1}{2} - \frac{1}{2}$		Q	859
10	68.783	354.08 - 1808.54 + X	2s2p ² - 2s2p(1P ^o)3d	² P - ² P ^o	$\frac{1}{2} - \frac{3}{2}$		Q	233, 375
50	68.825	354.08 - 1807.02	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{1}{2} - \frac{1}{2}$			233
10	68.904	356.96 - 1808.54 + X	2s2p ² - 2s2p(1P ^o)3d	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
50	68.958	356.96 - 1807.02	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
215	69.135	354.08 - 1800.46	2s2p ² - 2s2p(1P ^o)3d	² P - ² D ^o	$\frac{1}{2} - \frac{3}{2}$			859
50	69.258	356.96 - 1800.91	2s2p ² - 2s2p(1P ^o)3d	² P - ² D ^o	$\frac{3}{2} - \frac{3}{2}$			233
100	69.716	259.74 - 1801.11	2s2p ² - 2s2p(1P ^o)3s	² D - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
50	69.850	259.78 - 1690.88	2s2p ² - 2s2p(1P ^o)3s	² D - ² P ^o	$\frac{3}{2} - \frac{1}{2}$			233
100	70.090	148.02 + X - 1575. + W	2s2p ² - 2s ² 3p	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
10	71.774	585.56 - 1979. + Y	2p ² - 2p ² (1D)3s	² P ^o - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
1	73.451	332.73 - 1694.11	2s2p ² - 2s2p(1P ^o)3s	² S - ² P ^o	$\frac{1}{2} - \frac{3}{2}$			233
1	73.625	332.73 - 1690.88	2s2p ² - 2s2p(1P ^o)3s	² S - ² P ^o	$\frac{1}{2} - \frac{1}{2}$			233
50	74.785	356.96 - 1694.11	2s2p ² - 2s2p(1P ^o)3s	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			233
100	76.984	461.99 + X - 1760.97	2p ² - 2s2p(1P ^o)3p	² S ^o - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
10	77.315	585.56 - 1878.4	2p ² - 2s2p(1P ^o)3p	² P ^o - ² P	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
150	77.381	585.23 - 1877.34	2p ² - 2s ² n(1P ^o)3p	² P ^o - ² P	$\frac{1}{2} - \frac{1}{2}$			233
150	77.448	585.56 - 1876.71	2p ² - 2s2p(1P ^o)3p	² P ^o - ² D	$\frac{3}{2} - \frac{3}{2}$			233
70	82.105	356.96 - 1575. + W	2s2p ² - 2s ² 3p	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
1	85.046	585.56 - 1760.97	2p ² - 2s2p(1P ^o)3p	² P ^o - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	233, 375
100	87.932	585.23 - 1722.4	2p ² - 2s2p(1P ^o)3p	² P ^o - ² P	$\frac{1}{2} - \frac{3}{2}$		Q	233, 375
100	88.108	585.56 - 1720.9	2p ² - 2s2p(1P ^o)3p	² P ^o - ² P	$\frac{3}{2} - \frac{1}{2}$		Q	233, 375
175	280.114	0.0 - 356.96	2s ² (1S)2p - 2s2p ²	² P ^o - ² D	$\frac{1}{2} - \frac{3}{2}$			859
240	282.407	0.0 - 354.08	2s ² (1S)2p - 2s2p ²	² P ^o - ² P	$\frac{1}{2} - \frac{1}{2}$			859
345	284.015	4.89 - 356.96	2s ² (1S)2p - 2s2p ²	² P ^o - ² P	$\frac{3}{2} - \frac{3}{2}$			859
215	286.364	4.89 - 354.08	2s ² (1S)2p - 2s2p ²	² P ^o - ² P	$\frac{3}{2} - \frac{1}{2}$			859
125	300.560	0.0 - 332.73	2s ² (1S)2p - 2s2p ²	² P ^o - ² S	$\frac{1}{2} - \frac{1}{2}$			859
165	305.055	4.89 - 332.73	2s ² (1S)2p - 2s2p ²	² P ^o - ² S	$\frac{3}{2} - \frac{1}{2}$			859
	306.91	259.74 - 585.56	2s2p ² - 2p ²	² D - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			381
	307.26	259.78 - 585.23	2s2p ² - 2p ²	² D - ² P ^o	$\frac{3}{2} - \frac{1}{2}$		P	250
90	316.793	146.36 + X - 461.99 + X	2s2p ² - 2p ²	² P - ² S ^o	$\frac{1}{2} - \frac{3}{2}$			859
120	318.537	148.02 + X - 461.99 + X	2s2p ² - 2p ²	² P - ² S ^o	$\frac{3}{2} - \frac{3}{2}$			859
160	321.027	150.51 + X - 461.99 + X	2s2p ² - 2p ²	² P - ² S ^o	$\frac{3}{2} - \frac{3}{2}$			859
	384.95	0.0 - 259.78	2s ² (1S)2p - 2s2p ²	² P ^o - ² D	$\frac{1}{2} - \frac{3}{2}$			381
80	392.425	4.89 - 259.74	2s ² (1S)2p - 2s2p ²	² P ^o - ² D	$\frac{3}{2} - \frac{3}{2}$			859
	395.51	332.73 - 585.56	2s2p ² - 2p ²	² S - ² P ^o	$\frac{1}{2} - \frac{3}{2}$		P	250
	396.05	332.73 - 585.23	2s2p ² - 2p ²	² S - ² P ^o	$\frac{1}{2} - \frac{1}{2}$			250
	432.03	354.08 - 585.56	2s2p ² - 2p ²	² P - ² P ^o	$\frac{1}{2} - \frac{3}{2}$			381
	432.66	354.08 - 585.23	2s2p ² - 2p ²	² P - ² P ^o	$\frac{1}{2} - \frac{1}{2}$			381
	437.46	356.96 - 585.56	2s2p ² - 2p ²	² P - ² P ^o	$\frac{3}{2} - \frac{3}{2}$			381
	438.09	356.96 - 585.23	2s2p ² - 2p ²	² P - ² P ^o	$\frac{3}{2} - \frac{1}{2}$			381
	603.65	354.08 - 519.74	2s2p ² - 2p ²	² P - ² D ^o	$\frac{1}{2} - \frac{3}{2}$		P	375
	615.01	356.96 - 519.56	2s2p ² - 2p ²	² P - ² D ^o	$\frac{3}{2} - \frac{3}{2}$		P	375

ALUMINUM X (Al¹⁴⁺), Z = 13Ground State 1s²2s² 1S_g (4 electrons)Ionization Potential 3 221 080 cm⁻¹; 399.37 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁴ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
25	34.445		0.0 - 2903.18	2s ² - 2s6p	g ¹ S - ¹ P ^o	0 - 1		832
10	35.301		156.53 + X - 2989.85 + X	2s2p - 2s7d	³ P ^o - ³ D	1 - 2		832
10	35.340		160.16 + X - 2989.85 + X	2s2p - 2s7d	¹ P ^o - ³ D	2 - 3		832
50	35.888		160.16 + X - 2946.65 + X	2s2p - 2p5p	³ P ^o - ³ P	2 - 2		832
25	36.188		0.0 - 2763.35	2s ² - 2s5p	g ¹ S - ¹ P ^o	0 - 1		832
25	36.350		156.53 + X - 2907.4 + X	2s2p - 2s6d	³ P ^o - ³ D	1 - 2		832
50	36.403		160.16 + X - 2907.4 + X	2s2p - 2s6d	¹ P ^o - ³ D	2 - 3		832
100	38.255		156.53 + X - 2770.52 + X	2s2p - 2s5d	³ P ^o - ³ D	1 - 2		832
125	38.310		160.16 + X - 2770.52 + X	2s2p - 2s5d	¹ P ^o - ³ D	2 - 3		832
75	39.291		409.46 + X - 2954.57 + X	2p ² - 2p5d	³ P - ³ P ^o	2 - 2		832
100	39.535		160.16 + X - 2689.6 + X	2s2p - 2p4p	³ P ^o - ³ P	2 - 2		832
125	39.628		160.16 + X - 2683.67 + X	2s2p - 2p4p	¹ P ^o - ³ D	2 - 3		832
50	39.853		449.74 + Y - 2958.09 + Y	2p ² - 2p5d	¹ D - ¹ F ^o	2 - 3		832
100	39.925		0.0 - 2504.7	2s ² - 2s4p	g ¹ S - ¹ P ^o	0 - 1		832
25	40.421		300.5 - 2774.36	2s2p - 2s5d	¹ P ^o - ¹ D	1 - 2		832
100	41.730		300.5 - 2696.76	2s2p - 2p4p	¹ P ^o - ¹ D	1 - 2		832
75	42.310		154.85 + X - 2518.34 + X	2s2p - 2s4d	³ P ^o - ³ D	0 - 1		832
200	42.340		156.53 + X - 2518.34 + X	2s2p - 2s4d	¹ P ^o - ³ D	1 - 2		832
350	42.403		160.16 + X - 2518.34 + X	2s2p - 2s4d	¹ P ^o - ³ D	2 - 3		832
75	43.460		406.27 + X - 2705.72 + X	2p ² - 2p4d	³ P - ³ P ^o	1 - 2		832
350	43.549		409.46 + X - 2705.72 + X	2p ² - 2p4d	³ P - ³ P ^o	2 - 2		832
100	43.577		409.46 + X - 2704.25 + X	2p ² - 2p4d	¹ P - ³ D ^o	2 - 3		832
10	44.136		449.74 + Y - 2714.56	2p ² - 2p(³ P ^o)4d	¹ D - ¹ F ^o	2 - 3		233
75	44.493		449.74 + Y - 2696.39 + Y	2p ² - 2p4d	¹ D - ¹ D ^o	2 - 2		832
10	44.907		300.5 - 2527.47	2s2p - 2s4d	¹ P ^o - ¹ D	1 - 2		233
75	46.223		553.27 - 2716.7 + Z	2p ² - 2p4d	¹ S - ¹ P ^o	0 - 1		832
50	50.670		156.53 + X - 2130.18 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ P	1 - 2		233
75	50.717		156.53 + X - 2128.3 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ P	1 - 1		832
350	50.762		160.16 + X - 2130.18 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ P	2 - 2		832
50	50.802		160.16 + X - 2128.3 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ P	2 - 1		233
50	50.903		154.85 + X - 2119.44 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ S	0 - 1		832
10	50.946		156.53 + X - 2119.44 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ S	1 - 1		233
10	51.039		160.16 + X - 2119.44 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ S	2 - 1		233
350	51.362		156.53 + X - 2103.56 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ D	1 - 2		233
1	51.400		156.53 + X - 2101.95 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ D	1 - 1		233
1	51.454		160.16 + X - 2103.56 + X	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ D	2 - 2		233
300	51.979		0.0 - 1923.85	2s ² - 2s3p	g ¹ S - ¹ P ^o	0 - 1		233
220	54.115		300.5 - 2148.32	2s2p - 2p(³ P ^o)3p	³ P ^o - ¹ D	1 - 2		233
150	55.227		154.85 + X - 1965.56 + X	2s2p - 2s3d	³ P ^o - ³ D	0 - 1		233
500	55.272		156.53 + X - 1965.77 + X	2s2p - 2s3d	³ P ^o - ³ D	1 - 2		233
750	55.376		160.16 + X - 1966.05 + X	2s2p - 2s3d	³ P ^o - ³ D	2 - 3		233
50	55.731		300.5 - 2094.73	2s2p - 2p(³ P ^o)3p	³ P ^o - ³ P	1 - 1		233
75	56.590		404.34 + X - 2171.35 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ P ^o	0 - 1		832
10	56.650		406.27 + X - 2171.35 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ P ^o	1 - 1		233
75	56.696		406.27 + X - 2169.96 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ P ^o	1 - 2		832
10	56.762		409.46 + X - 2171.35 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ P ^o	2 - 1		233
200	56.802		409.46 + X - 2169.96 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ P ^o	2 - 2		233
250	56.945		404.34 + X - 2160.38 + X	2p ² - 2p3d	³ P - ³ D ^o	0 - 1		832
150	56.964		406.27 + X - 2161.63 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ D ^o	1 - 2		233
250	57.024		409.46 + X - 2163.11 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ D ^o	2 - 3		233
10	57.072		409.46 + X - 2161.63 + X	2p ² - 2p(³ P ^o)3d	³ P - ³ D ^o	2 - 2		233
75	57.116		409.46 + X - 2160.38 + X	2p ² - 2p3d	³ P - ³ D ^o	2 - 1		832
350	57.368		449.74 + Y - 2192.06	2p ² - 2p(³ P ^o)3d	¹ D - ¹ F ^o	2 - 3		233
10	57.663		406.27 + X - 2140.69	2p ² - 2p(³ P ^o)3d	³ P - ³ D ^o	1 - 2	Q	233, 375
1	58.808		154.85 + X - 1855.51 + X	2s2p - 2s3s	³ P ^o - ³ S	0 - 1		233
100	58.858		156.53 + X - 1855.51 + X	2s2p - 2s3s	³ P ^o - ³ S	1 - 1		233
150	58.987		160.16 + X - 1855.51 + X	2s2p - 2s3s	³ P ^o - ³ S	2 - 1		233
300	59.107		300.5 - 1992.25	2s2p - 2s3d	³ P ^o - ¹ D	1 - 2		832
10	59.298		404.34 + X - 2090.98 + Y	2p ² - 2p3s	³ P - ³ P ^o	0 - 1	Q	233, 375
125	59.884							859
50	60.052		300.5 - 1965.77 + X	2s2p - 2s3d	³ P ^o - ³ D	1 - 2	Q	233, 375
205	60.632		404.34 + X - 2053.62 + X	2p ² - 2p(³ P ^o)3s	³ P - ³ P ^o	0 - 1		859
10	60.700		409.46 + X - 2056.91 + X	2p ² - 2p(³ P ^o)3s	³ P - ³ P ^o	2 - 2		233
250	60.787		406.27 + X - 2051.36 + X	2p ² - 2p(³ P ^o)3s	³ P - ³ P ^o	1 - 0		859
50	60.809		409.46 + X - 2053.62 + X	2p ² - 2p(³ P ^o)3s	³ P - ³ P ^o	2 - 1	Q	233, 375
185	60.925		449.74 + Y - 2090.98 + Y	2p ² - 2p3s	¹ D - ¹ P ^o	2 - 1		859
200	63.134		300.5 - 1884.33	2s2p - 2s3s	³ P ^o - ³ S	1 - 0		233
10	64.269		300.5 - 1855.51 + X	2s2p - 2s3s	³ P ^o - ³ S	1 - 1	Q	233, 375
175	65.032		553.27 - 2090.98 + Y	2p ² - 2p3s	¹ S - ¹ P ^o	0 - 1	P	859
50	65.632		406.27 + X - 1930. + Z	2p ² - 2s3p	³ P - ³ P ^o	1 - 2	Q	233, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	65.821		409.46 + X - 1929. + Z	$2p^2 - 2s3p$	$^3P - ^3P'$	2 - 1	Q	233, 375
10	135.231		1966.05 + X - 2705.72 + X	$2s3d - 2p4d$	$^3D - ^3P'$	3 - 2	Q	693, 375
50	135.620		2169.96 + X - 2907.4 + X	$2p(^3P')3d - 2s6d$	$^3P' - ^3D$	2 - 3	Q	693, 375
	177.80		1966.05 + X - 2528.48 + X	$2s3d - 2s4f$	$^3D - ^3F'$	3 - 4		244
20	332.783		0.0 - 300.5	$2s^2 - 2s2p$	$g^3S - ^3P'$	0 - 1		856
10	332.891							693
	395.36		156.53 + X - 409.46 + X	$2s_p - 2p^2$	$^3P' - ^3P$	1 - 2		381
	395.62		300.5 - 553.27	$2s2p - 2p^2$	$^3P' - ^3S$	1 - 0	P	250
	397.76		154.85 + X - 406.27 + X	$2s2p - 2p^2$	$^3P' - ^3P$	0 - 1		381
	400.43		156.53 + X - 406.27 + X	$2s2p - 2p^2$	$^3P' - ^3P$	1 - 1		381
	401.12		160.16 + X - 409.46 + X	$2s2p - 2p^2$	$^3P' - ^3P$	2 - 2		381
10	401.183							693
	403.55		156.53 + X - 404.34 + X	$2s2p - 2p^2$	$^3P' - ^3P$	1 - 0		381
	406.31		160.16 + X - 406.27 + X	$2s2p - 2p^2$	$^3P' - ^3P$	2 - 1		381
	637.99		0.0 - 156.53 + X	$2s^2 - 2s2p$	$g^3S - ^3P'$	0 - 1	P	386
	670.06		300.5 - 449.74 + Y	$2s2p - 2p^2$	$^3P' - ^3D$	1 - 2		250

ALUMINUM XI (Al^{10+}), Z = 13Ground State $1s^2 2s^2 \ ^3S_{1/2}$ (3 electrons)Ionization Potential 3 565 600 cm^{-1} ; 442.08 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	6.748		0.0 - 14819.	$1s^2 2s - 1s(2s3p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$	Z	283
	6.780		181.81 - 14930.8	$1s^2 2p - 1s2p(^3P')3p$	$^3P' - ^3D$	$\frac{3}{2} - \frac{5}{2}$	Z	283
	6.792		181.81 - 14904.8	$1s^2 3p - 1s2p(^3P')3p$	$^3P' - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Z	283
	6.805		181.81 - 14876.8	$1s^2 2p - 1s2p(^3P')3p$	$^3P' - ^3D$	$\frac{3}{2} - \frac{5}{2}$	Z	283
	6.824		181.81 - 14835.8	$1s^2 2p - 1s2p(^3P')3p$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	283
5	6.83		0.0 - 14640.	$1s^2 2s - 1s(2s3p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$	Z	636
10	7.765		2070.52 - 14948.5	$1s^2 3p - 1s2p4p$	$^3P' - ^3D$	$\frac{3}{2} - \frac{5}{2}$	Z	636
10	7.773		2070.52 - 14933.2	$1s^2 3p - 1s2p(^3P')3p$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	283, 636
2	7.796		176.01 - 13003.	$1s^2 2p - 1s2p^2$	$^3P' - ^3S$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283, 636
6	7.800		181.81 - 13003.	$1s^2 2p - 1s2p^2$	$^3P' - ^3S$	$\frac{3}{2} - \frac{1}{2}$	P, Z	283, 636
	7.810		0.0 - 12804.	$1s^2 2s - 1s(2s2p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$	P, Z	283
	7.811		0.0 - 12802.	$1s^2 2s - 1s(2s2p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
11	7.815		2020.46 - 14819.	$1s^2 3s - 1s(2s3p(^3P'))$	$^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$	Z	636
5	7.827		2070.52 - 14835.8	$1s^2 3p - 1s2p(^3P')3p$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	636
14	7.846		0.0 - 12745.	$1s^2 2s - 1s(2s2p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$	P, Z	283, 636
	7.849		0.0 - 12740.	$1s^2 2s - 1s(2s2p(^3P'))$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
11	7.856		181.81 - 12910.8	$1s^2 2p - 1s2p^2$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	283, 636
66	7.875		176.01 - 12874.	$1s^2 2p - 1s2p^2$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P, Z	283, 636
	7.878		181.81 - 12875.8	$1s^2 2p - 1s2p^2$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P, Z	283
6	29.416		0.0 - 3399.5	$1s^2 2s - 1s^2 9p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
10	29.793		0.0 - 3356.5	$1s^2 2s - 1s^2 8p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
20	30.376		0.0 - 3292.1	$1s^2 2s - 1s^2 7p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
35	31.313		0.0 - 3193.6	$1s^2 2s - 1s^2 6p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
3	31.426		176.01 - 3358.	$1s^2 2p - 1s^2 8d$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
6	31.483		181.81 - 3358.1	$1s^2 2p - 1s^2 8d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		234
6	32.068		176.01 - 3294.3	$1s^2 2p - 1s^2 7d$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
10	32.128		181.81 - 3294.3	$1s^2 2p - 1s^2 7d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		234
200	33.007		0.0 - 3029.7	$1s^2 2s - 1s^2 5p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
10	33.109		176.01 - 3196.2	$1s^2 2p - 1s^2 6d$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
35	33.172		181.81 - 3196.4	$1s^2 2p - 1s^2 6d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		234
200	34.994		176.01 - 3033.5	$1s^2 2p - 1s^2 5d$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
250	35.065		181.81 - 3033.6	$1s^2 2p - 1s^2 5d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		234
6	35.163		176.01 - 3019.7	$1s^2 2p - 1s^2 5s$	$^3P' - ^3S$	$\frac{1}{2} - \frac{1}{2}$		234
6	35.239		181.81 - 3019.7	$1s^2 2p - 1s^2 5s$	$^3P' - ^3S$	$\frac{3}{2} - \frac{1}{2}$		234
400	36.675		0.0 - 2726.7	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234
250	39.091		176.01 - 2734.	$1s^2 2p - 1s^2 4d$	$^3P' - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
400	39.180		181.81 - 2734.14	$1s^2 2p - 1s^2 4d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		234
60	39.530		176.01 - 2705.6	$1s^2 2p - 1s^2 4s$	$^3P' - ^3S$	$\frac{1}{2} - \frac{1}{2}$		234
90	39.623		181.81 - 2705.6	$1s^2 2p - 1s^2 4s$	$^3P' - ^3S$	$\frac{3}{2} - \frac{1}{2}$		234
700	48.297		0.0 - 2070.52	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P'$	$\frac{1}{2} - \frac{3}{2}$		234

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
700	48.338		0.0 - 2068.77	$1s^2 2s - 1s^2 3p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{1}{2}$		234
400	52.299		176.01 - 2087.98	$1s^2 2p - 1s^2 3d$	$^2 P^o - ^2 D^o$	$\frac{1}{2} - \frac{1}{2}$		234
700	52.446		181.81 - 2088.54	$1s^2 2p - 1s^2 3d$	$^2 P^o - ^2 D^o$	$\frac{3}{2} - \frac{1}{2}$		234
60	54.388		181.81 - 2020.46	$1s^2 2p - 1s^2 3s$	$^2 P^o - ^2 S$	$\frac{3}{2} - \frac{1}{2}$		234
100	81.560		2068.77 - 3294.3	$1s^2 3p - 1s^2 7d$	$^2 P^o - ^2 D^o$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
	150.31		2734.14 - 3399.5	$1s^2 4d - 1s^2 9p$	$^2 D - ^2 P^o$	$\frac{3}{2} - \frac{1}{2}$		244
	150.69		2070.52 - 2734.14	$1s^2 3p - 1s^2 4d$	$^2 P^o - ^2 D$	$\frac{3}{2} - \frac{1}{2}$	P	244
	154.66		2088.54 - 2735.1	$1s^2 3d - 1s^2 4f$	$^2 D - ^2 F^o$	$\frac{3}{2} - \frac{1}{2}$		244
2	550.03		0.0 - 181.81	$1s^2 2s - 1s^2 2p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{1}{2}$		730, 856
1	568.15		0.0 - 176.01	$1s^2 2s - 1s^2 2p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{1}{2}$		730, 856

ALUMINUM XII (Al^{11+}), $Z = 13$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 16 824 908 cm^{-1} ; 2086.04 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5.992		0.0 - 16689.	$1s^2 - 1s10p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.0095		0.0 - 16640.3	$1s^2 - 1s9p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.0294		0.0 - 16585.4	$1s^2 - 1s8p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.059		0.0 - 16504.	$1s^2 - 1s7p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.1745		0.0 - 16372.1	$1s^2 - 1s6p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.1745		0.0 - 16193.35	$1s^2 - 1s5p$	$g^1 S - ^1 P^o$	0 - 1		624
	6.3137		0.0 - 15838.45	$1s^2 - 1s4p$	$g^1 S - ^1 P^o$	0 - 1		236
	6.6310		0.0 - 15072.51	$1s^2 - 1s3p$	$g^1 S - ^1 P^o$	0 - 1		644, 636
	6.6444		0.0 - 15050.01	$1s^2 - 1s3p$	$g^1 S - ^1 P^o$	0 - 1		644
	7.1913		12891.48 - 26797.2	$1s2p - 2p^2$	$^1 P^o - ^1 S$	1 - 0	Z	624
	7.2282		12816.13 - 26651.	$1s2s - 2s2p$	$^1 S - ^1 P^o$	0 - 1	Z	624
	7.2518		12703.46 - 26497.5	$1s2s - 2s2p$	$^3 S - ^3 P^o$	1 - 2	Z	624
	7.260		12814.58 - 26588.6	$1s2p - 2p^2$	$^2 P^o - ^2 P$	2 - 2	Z	283
	7.2745		12891.46 - 26638.1	$1s2p - 2p^2$	$^1 P^o - ^1 D$	1 - 2	Z	624
	7.7571		0.0 - 12891.48	$1s^2 - 1s2p$	$g^1 S - ^1 P^o$	0 - 1	P	918, 809
	7.8067		0.0 - 12809.48	$1s^2 - 1s2p$	$g^1 S - ^3 P^o$	0 - 1	P	918, 809
	7.872		0.0 - 12703.46	$1s^2 - 1s2s$	$g^1 S - ^3 S$	0 - 1	F, P	375
	42.59		12703.46 - 15051.53	$1s2s - 1s3p$	$^3 S - ^3 P^o$	1 - 2	P	375
	44.32		12816.13 - 15072.51	$1s2s - 1s3p$	$^1 S - ^1 P^o$	0 - 1	P	375
	75.90		15075.00 + R - 16392.52 + R	$1s3d - 1s6f$	$^1 D - ^3 F^o$	3 - 4	P	87
	75.95		15095.00 + K - 16411.66 + K	$1s3d - 1s6f$	$^1 D - ^3 F^o$	2 - 3	P	87
	88.93		15075.00 + R - 16199.48 + R	$1s3d - 1s5f$	$^1 D - ^3 F^o$	3 - 4	P	87
	89.00		15095.00 + K - 16218.60 + K	$1s3d - 1s5f$	$^1 D - ^3 F^o$	2 - 3	P	87
	123.610		15020.85 - 15219.84	$1s3s - 1s4p$	$^3 S - ^3 P^o$	1 - 2	P	375
	126.93		15050.61 - 15838.45	$1s3s - 1s4p$	$^1 S - ^1 P^o$	0 - 1	P	375
	130.06		15075.00 + R - 15843.88 + R	$1s3d - 1s4f$	$^1 D - ^3 F^o$	3 - 4	P	87
	130.21		15095.00 + K - 15862.99 + K	$1s3d - 1s4f$	$^1 D - ^3 F^o$	2 - 3	P	87
	899.93		12703.46 - 12814.58	$1s2s - 1s2p$	$^3 S - ^3 P^o$	1 - 2	P	375
	1327.14		12816.13 - 12891.48	$1s2s - 1s2p$	$^1 S - ^1 P^o$	0 - 1	P	375

ALUMINUM XIII (Al^{12+}), $Z = 13$ Ground State $1s \ ^2S_{1/2}$ (1 electron)Ionization Potential 18 584 123 cm^{-1} ; 2304.16 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5.435		0.0 - 18398.60	$1s - 10p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	5.448		0.0 - 18355.07	$1s - 9p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	5.466		0.0 - 18294.22	$1s - 8p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	5.493		0.0 - 18205.46	$1s - 7p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
	5.534		0.0 - 18068.69	$1s - 6p$	$g^2 S - ^2 P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	5.605	0.0 - 17841.85	1s - 5p	$g^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309
		5.739	0.0 - 17424.23	1s - 4p	$g^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	F	309, 375
	30	6.053	0.0 - 16522.00	1s - 3p	$g^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
	65	7.171	0.0 - 13945.22	1s - 2p	$g^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
35	7.176	0.0 - 13934.70	1s - 2p	$g^*S - ^*P^*$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375	
	22.404	13935.12 - 18398.60	2s - 10p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	22.455	13945.22 - 18398.63	2p - 10d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	22.625	13935.12 - 18355.07	2s - 9p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	22.676	13945.22 - 18355.11	2p - 9d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	22.940	13935.12 - 18294.22	2s - 8p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	22.994	13945.22 - 18294.28	2p - 8d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	23.417	13935.12 - 18205.46	2s - 7p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	23.472	13945.22 - 18205.54	2p - 7d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	F	309	
	24.192	13935.12 - 18068.69	2s - 6p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	24.251	13945.22 - 18068.82	2p - 6d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	25.597	13935.12 - 17841.85	2s - 5p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	25.662	13945.22 - 17842.07	2p - 5d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	28.661	13935.12 - 17424.23	2s - 4p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	28.740	13945.22 - 17424.67	2p - 4d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	38.657	13935.12 - 16522.00	2s - 3p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	38.793	13945.22 - 16523.03	2p - 3d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	53.203	16519.01 - 18398.60	3s - 10p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	53.287	16522.00 - 18398.63	3p - 10d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	53.316	16523.03 - 18398.64	3d - 10f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	54.464	16519.01 - 18355.07	3s - 9p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	54.552	16522.00 - 18355.11	3p - 9d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	54.582	16523.03 - 18355.13	3d - 9f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	56.331	16519.01 - 18294.22	3s - 8p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	56.425	16522.00 - 18294.28	3p - 8d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	56.456	16523.03 - 18294.30	3d - 8f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	59.296	16519.01 - 18205.46	3s - 7p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	59.399	16522.00 - 18205.54	3p - 7d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	59.434	16523.03 - 18205.58	3d - 7f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	64.529	16519.01 - 18068.69	3s - 6p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	64.649	16522.00 - 18068.82	3p - 6d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	64.689	16523.03 - 18068.88	3d - 6f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	75.595	16519.01 - 17841.85	3s - 5p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	75.754	16522.00 - 17842.07	3p - 5d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	75.806	16523.03 - 17842.18	3d - 5f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	102.498	17422.97 - 18398.60	4s - 10p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	102.628	17424.23 - 18398.63	4p - 10d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	102.672	17424.67 - 18398.64	4d - 10f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	107.284	17422.97 - 18355.07	4s - 9p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	107.425	17424.23 - 18355.11	4p - 9d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	107.473	17424.67 - 18355.13	4d - 9f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	110.470	16519.01 - 17424.23	3s - 4p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	110.783	16522.00 - 17424.67	3p - 4d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	110.882	16523.03 - 17424.88	3d - 4f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	114.778	17422.97 - 18294.22	4s - 8p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	114.937	17424.23 - 18294.28	4p - 8d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	114.990	17424.67 - 18294.30	4d - 8f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	127.798	17422.97 - 18205.46	4s - 7p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	127.991	17424.23 - 18205.54	4p - 7d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	128.055	17424.67 - 18205.58	4d - 7f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	154.866	17422.97 - 18068.69	4s - 6p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	155.139	17424.23 - 18068.82	4p - 6d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	155.228	17424.67 - 18068.88	4d - 6f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	179.405	17841.20 - 18398.60	5s - 10p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	179.604	17841.85 - 18398.63	5p - 10d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	179.671	17842.07 - 18398.64	5d - 10f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	194.601	17841.20 - 18355.07	5s - 9p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	194.831	17841.85 - 18355.11	5p - 9d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	194.908	17842.07 - 18355.13	5d - 9f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	220.741	17841.20 - 18294.22	5s - 8p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	221.029	17841.85 - 18294.28	5p - 8d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	221.125	17842.07 - 18294.30	5d - 8f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	238.734	17422.97 - 17841.85	4s - 5p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	239.328	17424.23 - 17842.07	4p - 5d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	239.513	17424.67 - 17842.18	4d - 5f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	271.532	17841.20 - 18205.46	5s - 7p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	274.958	17841.85 - 18205.54	5p - 7d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	275.095	17842.07 - 18205.58	5d - 7f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	
	439.585	17841.20 - 18068.69	5s - 6p	$^*S - ^*P^*$	$\frac{1}{2} - \frac{3}{2}$	P	309	
	440.587	17841.85 - 18068.82	5p - 6d	$^*P^* - ^*D$	$\frac{3}{2} - \frac{3}{2}$	P	309	
	440.894	17842.07 - 18068.88	5d - 6f	$^*D - ^*F^*$	$\frac{3}{2} - \frac{7}{2}$	P	309	

Si

SILICON, Z = 14

Si

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		6.763						624
		6.806						624
	20	53.025						231
	20	53.063						231
	50	56.145						231
	20	60.421						231
	50	62.386						231
	50	63.183						231
	50	65.711						231
	100	68.786						231
	20	68.833						231
	100	70.771						231
	50	82.622						231
	20	85.614						231
		87.57						534
		90.09						534
	50	92.957						231
	50	107.2						931
		109.54						534
	50	111.6						931
	50	112.4						931
	20	115.6						931
	20	118.2						931
	20	119.4						931
	20	120.3						931
	20	120.7						931
	20	121.1						931
	50	122.5						931
	50	123.1						931
	50	123.5						931
	20	125.4						931
	50	139.4						931
	50	140.7						931
	50	150.6						931
	50	151.1						931
	50	151.7						931
	50	152.4						931
	50	153.1						931
		155.26						534
		156.6						534
		157.7						534
	50	158.1						931
	20	162.4						931
	50	165.7						931
	50	166.2						931
	50	167.2						931
	20	168.5						931
	50	169.7						931
	50	170.5						931
	50	174.7						931
	100	175.0						931
	50	175.8						931
	50	176.9						931
	50	178.5						931
	50	180.2						931
	50	180.9						931
	50	181.7						931
	50	182.0						931
	20	182.5						931
	50	183.3						931
	50	184.5						931
	50	186.6						931
	50	188.3						931
		193.67						534
	20	203.9						931
	50	204.3						931
	50	205.4						931
	20	208.2						931
	50	210.2						931
	20	212.5						931

Si

Si I

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	213.0						931
	20	214.2						931
	50	218.3						931
	20	230.0						931
		231.74						534
	50	244.3						931
	50	251.7						931
	20	252.4						931
		262.98						534
		264.74						534
		268.00						534
	50	280.1						931
	20	283.1						931
		284.2						534
	20	286.0						931
	50	286.9						931
	50	294.7						931
	50	295.6						931
	50	297.9						931
		300.02						534
	50	302.0						931
	50	305.5						931
	50	314.7						931
		321.81						534
		322.90						534
	50	332.1						931
	20	332.8						931
	20	334.4						931
	50	337.1						931
	50	342.2						931
		359.95						534
	50	361.9						931
	50	373.4						931
		384.32						534
		385.4						534
		387.39						534
		393.15						534
		397.47						534
		398.65						534
		400.82						534
		404.30						534
		406.54						534
		409.1						534
		481.15						534
		517.5						534

SILICON I (Si^+), $Z = 14$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$ (14 electrons)Ionization Potential $65\,747.55 \text{ cm}^{-1}$; 8.152 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
41.12	10	1255.276	0.0 - 79.66	$3s^2 3p^2 - 3s 3p^3$	$g^4P - ^4S^o$	0 - 1	Z	608
41.12	40	1256.490	0.08 - 79.66	$3s^2 3p^2 - 3s 3p^3$	$g^4P - ^4S^o$	1 - 1	Z	608
41.12	50	1258.795	0.22 - 79.66	$3s^2 3p^2 - 3s 3p^3$	$g^4P - ^4S^o$	2 - 1	Z	608
	1	1363.045	6.30 - 79.66	$3s^2 3p^2 - 3s 3p^3$	$^1D - ^4S^o$	2 - 1	P, Z	441
	1	1517.035					A	106
	1	1517.130	0.08 - 65.99	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})50d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.169	0.08 - 65.99	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})49d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.207	0.08 - 65.99	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})48d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.214	0.08 - 65.99	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})48d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.264	0.08 - 65.99	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})47d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.306	0.08 - 65.98	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})46d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.369	0.08 - 65.98	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})45d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.426	0.08 - 65.98	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})44d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.490	0.08 - 65.98	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})43d$	$g^4P - ^4P^o$	1 - 1	A, Z	106
	1	1517.534	0.08 - 65.97	$3s^2 3p^2 - 3s^2 3p(^3P^o_{2/2})42d$	$g^4P - ^4P^o$	1 - 1	A, Z	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	1517.624	0.08 - 65.97	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})41d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	1	1517.703	0.08 - 65.97	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})40d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	1	1517.782	0.08 - 65.96	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})39d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1517.867	0.08 - 65.96	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})38d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1517.963	0.08 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})37d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.069	0.08 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})36d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.107			A		A	106
	5	1518.187	0.08 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})35d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.307	0.08 - 65.94	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})34d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.434	0.08 - 65.93	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})33d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.594	0.08 - 65.93	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})32d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.720	0.0 - 65.84	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})24d$	$g^3P - ^3P^{\circ}$	0 - 1	A, Z	106
	5	1518.763	0.08 - 65.92	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})31d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1518.926	0.08 - 65.91	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})30d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1519.125	0.08 - 65.90	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})29d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1519.364	0.08 - 65.89	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})28d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	10	1519.584	0.08 - 65.88	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})27d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	10	1519.857	0.08 - 65.87	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})26d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1520.157	0.08 - 65.86	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})25d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1520.189			A		A	106
	5	1520.202			A		A	106
	5	1520.291	0.22 - 66.00	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})56d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.324	0.22 - 66.00	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})55d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.353	0.22 - 66.00	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})54d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.389	0.22 - 66.00	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})53d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.423	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})52d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.463	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})51d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1520.503	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})50d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.540	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})49d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.586	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})48d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.637	0.22 - 65.99	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})47d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.685	0.22 - 65.98	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})46d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.732	0.22 - 65.98	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})45d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.796	0.22 - 65.98	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})44d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.859	0.22 - 65.98	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})43d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1520.892	0.08 - 65.83	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})23d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1520.926	0.22 - 65.97	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})42d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1520.996	0.22 - 65.97	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})41d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.073	0.22 - 65.97	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})40d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.156	0.22 - 65.96	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})39d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.246	0.22 - 65.96	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})38d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	15	1521.338	0.22 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})37d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1521.415	0.0 - 65.73	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})19d$	$g^3P - ^3D^{\circ}$	0 - 1	A	106
	5	1521.445	0.22 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})36d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.559	0.22 - 65.95	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})35d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.686	0.22 - 65.94	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})34d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.820	0.22 - 65.93	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})33d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	10	1521.840	0.08 - 65.79	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})21d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	5	1521.907			A		A	106
	5	1521.970	0.22 - 65.93	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})32d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	1	1522.036	0.0 - 65.70	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})20s$	$g^3P - ^3P^{\circ}$	0 - 1	A	106
	1	1522.052			A		A	106
	1	1522.111	0.0 - 65.70	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})18d$	$g^3P - ^3P^{\circ}$	0 - 1	A	106
	10	1522.131	0.22 - 65.92	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})31d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	1	1522.169			A		A	106
	5	1522.231	0.0 - 65.69	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})18d$	$g^3P - ^3D^{\circ}$	0 - 1	A	106
	5	1522.280			A		A	106
	10	1522.315	0.22 - 65.91	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})30d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	1	1522.345			A		A	106
	10	1522.433	0.08 - 65.76	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})20d$	$g^3P - ^3P^{\circ}$	1 - 1	A, Z	106
	1	1522.482			A		A	106
	15	1522.510	0.22 - 65.90	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})29d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	1	1522.557			A		A	106
	1	1522.642			A		A	106
	15	1522.734	0.22 - 65.89	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})28d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	1	1522.829			A		A	106
	5	1522.960	0.22 - 65.88	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})27d$	$g^3P - ^3P^{\circ}$	2 - 1	A, Z	106
	15	1522.983	0.22 - 65.88	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})27d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106
	5	1523.043			A		A	106
	5	1523.109	0.08 - 65.73	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})19d$	$g^3P - ^3P^{\circ}$	1 - 1	A	106
	1	1523.122			A		A	106
	1	1523.174			A		A	106
	5	1523.200	0.0 - 65.65	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ})17d$	$g^3P - ^3D^{\circ}$	0 - 1	A	106
	1	1523.235	0.22 - 65.87	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})26d$	$g^3P - ^3P^{\circ}$	2 - 1	A, Z	106
	10	1523.259	0.22 - 65.87	$3s^2 3p^2 - 3s^2 3p(^4P^{\circ}_{3/2})26d$	$g^3P - ^3D^{\circ}$	2 - 3	A, Z	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	1523.308						A	106
5	1523.458						A	106
5	1523.543	0.22 - 65.86		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})25d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
10	1523.568	0.22 - 65.86		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})25d$	$g^3P - ^3D^o$	2 - 3	A, Z	106
5	1523.620						A	106
1	1523.701						A	106
1	1523.732						A	106
1	1523.776						A	106
5	1523.806	0.08 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)20s$	$g^3P - ^1P^o$	1 - 1	A	106
5	1523.856						A	106
1	1523.895	0.22 - 65.84		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})24d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
15	1523.915	0.08 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3P^o$	1 - 0	A	106
1	1523.966	0.08 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3P^o$	1 - 2	A	106
1	1523.986						A	106
5	1524.011	0.08 - 65.69		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3D^o$	1 - 1	A	106
5	1524.067	0.0 - 65.61		$3s^2 3p^2 - 3s^2 3p(^3P^o)18s$	$g^3P - ^1P^o$	0 - 1	A	106
5	1524.130						A	106
10	1524.192	0.0 - 65.61		$3s^2 3p^2 - 3s^2 3p(^3P^o)16d$	$g^3P - ^3P^o$	0 - 1	A	106
1	1524.242						A	106
5	1524.269						A	106
5	1524.279	0.22 - 65.83		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})23d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
5	1524.292	0.22 - 65.83		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})23d$	$g^3P - ^3P^o$	2 - 2	A, Z	106
10	1524.316	0.22 - 65.83		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})23d$	$g^3P - ^3D^o$	2 - 3	A, Z	106
10	1524.345	0.0 - 65.60		$3s^2 3p^2 - 3s^2 3p(^3P^o)16d$	$g^3P - ^3D^o$	0 - 1	A	106
5	1524.417						A	106
1	1524.478	0.08 - 65.67		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3F^o$	1 - 2	A	106
5	1524.535						A	106
5	1524.621						A	106
1	1524.690						A	106
5	1524.723	0.22 - 65.81		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})22d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
10	1524.742	0.22 - 65.81		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})22d$	$g^3P - ^3P^o$	2 - 2	A, Z	106
5	1524.767	0.22 - 65.81		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})22d$	$g^3P - ^3D^o$	2 - 3	A, Z	106
5	1524.830						A	106
5	1524.852	0.08 - 65.66		$3s^2 3p^2 - 3s^2 3p(^3P^o)17d$	$g^3P - ^3P^o$	1 - 0	A	106
5	1524.873	0.08 - 65.66		$3s^2 3p^2 - 3s^2 3p(^3P^o)17d$	$g^3P - ^3P^o$	1 - 1	A	106
5	1524.970						A	106
1	1524.989	0.08 - 65.65		$3s^2 3p^2 - 3s^2 3p(^3P^o)17d$	$g^3P - ^3D^o$	1 - 1	A	106
5	1525.056						A	106
5	1525.091						A	106
1	1525.191						A	106
10	1525.236	0.22 - 65.79		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})21d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
5	1525.254	0.22 - 65.79		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})21d$	$g^3P - ^3P^o$	2 - 2	A, Z	106
10	1525.285	0.22 - 65.78		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})21d$	$g^3P - ^3D^o$	2 - 3	A, Z	106
5	1525.381	0.0 - 65.56		$3s^2 3p^2 - 3s^2 3p(^3P^o)17s$	$g^3P - ^1P^o$	0 - 1	A	106
5	1525.421						A	106
1	1525.579	0.0 - 65.55		$3s^2 3p^2 - 3s^2 3p(^3P^o)15d$	$g^3P - ^3P^o$	0 - 1	A	106
5	1525.619						A	106
1	1525.707						A	106
5	1525.758	0.0 - 65.54		$3s^2 3p^2 - 3s^2 3p(^3P^o)15d$	$g^3P - ^3D^o$	0 - 1	A	106
5	1525.792						A	106
5	1525.832	0.22 - 65.76		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})20d$	$g^3P - ^3P^o$	2 - 1	A, Z	106
5	1525.851	0.22 - 65.76		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})20d$	$g^3P - ^3P^o$	2 - 2	A, Z	106
15	1525.886	0.22 - 65.76		$3s^2 3p^2 - 3s^2 3p(^3P^o_{3/2})20d$	$g^3P - ^3D^o$	2 - 3	A, Z	106
15	1525.983	0.08 - 65.61		$3s^2 3p^2 - 3s^2 3p(^3P^o)16d$	$g^3P - ^3P^o$	1 - 0	A	106
10	1526.035						A	106
5	1526.054	0.08 - 65.61		$3s^2 3p^2 - 3s^2 3p(^3P^o)16d$	$g^3P - ^3P^o$	1 - 2	A	106
10	1526.141	0.08 - 65.60		$3s^2 3p^2 - 3s^2 3p(^3P^o)16d$	$g^3P - ^3D^o$	1 - 1	A	106
15	1526.253						A	106
1	1526.456						A	106
10	1526.506	0.22 - 65.73		$3s^2 3p^2 - 3s^2 3p(^3P^o)19d$	$g^3P - ^3P^o$	2 - 1	A	106
1	1526.549	0.22 - 65.73		$3s^2 3p^2 - 3s^2 3p(^3P^o)19d$	$g^3P - ^3P^o$	2 - 2	A	106
15	1526.585	0.22 - 65.73		$3s^2 3p^2 - 3s^2 3p(^3P^o)19d$	$g^3P - ^3D^o$	2 - 3	A	106
1	1526.609	0.22 - 65.73		$3s^2 3p^2 - 3s^2 3p(^3P^o)19d$	$g^3P - ^3D^o$	2 - 1	A	106
10	1526.766						A	106
10	1526.894						A	106
5	1527.027	0.0 - 65.49		$3s^2 3p^2 - 3s^2 3p(^3P^o)16s$	$g^3P - ^1P^o$	0 - 1	A	106
10	1527.185	0.08 - 65.56		$3s^2 3p^2 - 3s^2 3p(^3P^o)24d$	$g^3P - ^3D^o$	1 - 2	A	106
10	1527.223	0.0 - 65.48		$3s^2 3p^2 - 3s^2 3p(^3P^o)14d$	$g^3P - ^3P^o$	0 - 1	A	106
5	1527.252	0.08 - 65.55		$3s^2 3p^2 - 3s^2 3p(^3P^o)17s$	$g^3P - ^3P^o$	1 - 2	A	106
10	1527.301	0.22 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3P^o$	2 - 1	A	106
10	1527.316	0.22 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3P^o$	2 - 1	A	106
10	1527.343	0.08 - 65.55		$3s^2 3p^2 - 3s^2 3p(^3P^o)15d$	$g^3P - ^3P^o$	1 - 0	A	106
10	1527.367	0.22 - 65.70		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3P^o$	2 - 2	A	106
20	1527.399	0.22 - 65.69		$3s^2 3p^2 - 3s^2 3p(^3P^o)18d$	$g^3P - ^3D^o$	2 - 3	A	106
5	1527.460	0.08 - 65.55		$3s^2 3p^2 - 3s^2 3p(^3P^o)15d$	$g^3P - ^3P^o$	1 - 2	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5	1527.522					A	106
	5	1527.555	0.08 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^3P - ^3D^o$	1 - 1	A	106
	15	1527.588	0.08 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P^o) 23d$	$g^3P - ^3D^o$	1 - 2	A	106
	1	1527.771					A	106
	1	1527.941	0.0 - 65.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 21s$	$g^3P - ^3P^o$	0 - 1	A	106
	15	1527.989	0.08 - 65.52	$3s^2 3p^2 - 3s^2 3p(^3P^o) 22d$	$g^3P - ^3D^o$	1 - 2	A	106
	1	1528.035					A	106
	10	1528.072	0.0 - 65.44	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19d$	$g^3P - ^3P^o$	0 - 1	A	106
	5	1528.144	0.22 - 65.66	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^3P - ^3P^o$	2 - 1	A	106
	5	1528.185	0.22 - 65.66	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^3P - ^3P^o$	2 - 2	A	106
	10	1528.238					A	106
	5	1528.250					A	106
	10	1528.277	0.22 - 65.66	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3P^o$	2 - 1	A	106
	10	1528.328	0.22 - 65.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3P^o$	2 - 2	A	106
	15	1528.372	0.22 - 65.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3D^o$	2 - 3	A	106
	5	1528.426					A	106
	10	1528.485	0.22 - 65.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3F^o$	2 - 3	A	106
	5	1528.564					A	106
	15	1528.596	0.08 - 65.50	$3s^2 3p^2 - 3s^2 3p(^3P^o) 21d$	$g^3P - ^3D^o$	1 - 2	A	106
	1	1528.726	0.0 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P^o) 20s$	$g^3P - ^3P^o$	0 - 1	A	106
	15	1528.871	0.0 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$g^3P - ^3P^o$	0 - 1	A	106
	5	1528.890	0.08 - 65.48	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^3P - ^3P^o$	1 - 2	A	106
	15	1529.004	0.08 - 65.48	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3P^o$	1 - 0	A	106
	15	1529.022	0.08 - 65.48	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3P^o$	1 - 1	A	106
	15	1529.061	0.0 - 65.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^3P - ^3P^o$	0 - 1	A	106
	15	1529.202	0.08 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 20d$	$g^3P - ^3D^o$	1 - 2	A	106
	5	1529.229					A	106
	5	1529.268	0.08 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3D^o$	1 - 1	A	106
	10	1529.307	0.22 - 65.61	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18s$	$g^3P - ^3P^o$	2 - 2	A	106
	15	1529.396	0.22 - 65.61	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^3P - ^3P^o$	2 - 1	A	106
	10	1529.440					A	106
	15	1529.464	0.22 - 65.61	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^3P - ^3P^o$	2 - 2	A	106
	20	1529.532	0.22 - 65.60	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^3P - ^3D^o$	2 - 3	A	106
	10	1529.561	0.0 - 65.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^3P - ^3D^o$	0 - 1	A	106
	15	1529.647					A	106
	10	1529.686	0.0 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^3P - ^3P^o$	0 - 1	A	106
	1	1529.746	0.08 - 65.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 21s$	$g^3P - ^3P^o$	1 - 0	A	106
	15	1529.778	0.08 - 65.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19d$	$g^3P - ^3D^o$	1 - 2	A	106
	5	1529.826	0.22 - 65.59	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^3P - ^3F^o$	2 - 3	A	106
	15	1529.870	0.0 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3P^o$	0 - 1	A	106
	1	1529.914					A	106
	1	1530.311	0.08 - 65.42	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3F^o$	1 - 2	A	106
	10	1530.325	0.22 - 65.57	$3s^2 3p^2 - 3s^2 3p(^3P^o) 25d$	$g^3P - ^3F^o$	2 - 3	A	106
	1	1530.412					A	106
	1	1530.544	0.08 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P^o) 20s$	$g^3P - ^3P^o$	1 - 0	A	106
	10	1530.602	0.22 - 65.56	$3s^2 3p^2 - 3s^2 3p(^3P^o) 24d$	$g^3P - ^3D^o$	2 - 2	A	106
	5	1530.638	0.22 - 65.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 24d$	$g^3P - ^3F^o$	2 - 3	A	106
	10	1530.657	0.22 - 65.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17s$	$g^3P - ^3P^o$	2 - 2	A	106
	4	1530.676	0.08 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$g^3P - ^3P^o$	1 - 1	P	441
	15	1530.690	0.08 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$g^3P - ^3D^o$	1 - 2	A	106
	15	1530.738					A	106
	15	1530.787	0.22 - 65.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^3P - ^3P^o$	2 - 1	A	106
	15	1530.867	0.08 - 65.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^3P - ^3P^o$	1 - 1	P	441
	20	1530.875	0.22 - 65.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^3P - ^3P^o$	2 - 2	A	106
	20	1530.929	0.22 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^3P - ^3D^o$	2 - 3	A	106
	20	1531.002	0.22 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P^o) 23d$	$g^3P - ^3D^o$	2 - 2	A	106
	15	1531.070	0.08 - 65.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^3P - ^3P^o$	1 - 0	A	106
	15	1531.116	0.08 - 65.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^3P - ^3P^o$	1 - 1	A	106
	1	1531.185					A	106
	10	1531.276	0.22 - 65.53	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^3P - ^3F^o$	2 - 3	A	106
	10	1531.373	0.08 - 65.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^3P - ^3D^o$	1 - 1	A	106
	1	1531.410	0.22 - 65.52	$3s^2 3p^2 - 3s^2 3p(^3P^o) 22d$	$g^3P - ^3D^o$	2 - 2	A	106
	5	1531.491	0.08 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^3P - ^3P^o$	1 - 0	A	106
	25	1531.602	0.08 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3D^o$	1 - 2	A	106
	5	1531.676	0.08 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^3P - ^3P^o$	1 - 1	A	106
	10	1531.904	0.0 - 65.28	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^3P - ^3P^o$	0 - 1	A	106
	5	1532.018	0.22 - 65.50	$3s^2 3p^2 - 3s^2 3p(^3P^o) 21d$	$g^3P - ^3D^o$	2 - 2	A	106
	10	1532.077	0.22 - 65.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 21d$	$g^3P - ^3F^o$	2 - 3	A	106
	5	1532.210					A	106
	1	1532.252	0.22 - 65.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^3P - ^3P^o$	2 - 1	A	106
	10	1532.295	0.0 - 65.26	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^3P - ^3D^o$	0 - 1	A	106
	5	1532.316	0.22 - 65.48	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^3P - ^3P^o$	2 - 2	A	106
	15	1532.446	0.22 - 65.48	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3P^o$	2 - 1	A	106
	20	1532.490	0.08 - 65.33	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^3P - ^3F^o$	1 - 2	A	106
	10	1532.603	0.22 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^3P - ^3D^o$	2 - 3	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
15	1532.624	0.22 - 65.47		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^3 P^o$	2 - 2	A	106
30	1532.646	0.22 - 65.47		$3s^2 3p^2 - 3s^2 3p(^3P^o) 20d$	$g^4 P - ^1 F^o$	2 - 3	A	106
5	1532.815	0.08 - 65.32		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^1 P^o$	1 - 1	A	106
5	1532.871						A	106
15	1532.929	0.08 - 65.31		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^3 D^o$	1 - 2	A	106
1	1532.976						A	106
10	1533.036	0.22 - 65.45		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^1 F^o$	2 - 3	A	106
1	1533.166	0.22 - 65.45		$3s^2 3p^2 - 3s^2 3p(^3P^o) 21s$	$g^4 P - ^3 P^o$	2 - 1	A	106
5	1533.205	0.22 - 65.45		$3s^2 3p^2 - 3s^2 3p(^3P^o) 19d$	$g^4 P - ^3 D^o$	2 - 2	A	106
80	1533.410	0.08 - 65.29		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^4 P - ^1 P^o$	1 - 1	P	441
10	1533.508	0.08 - 65.29		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^4 P - ^3 P^o$	1 - 2	A	106
15	1533.672	0.08 - 65.28		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 P^o$	1 - 0	A	106
15	1533.717	0.08 - 65.28		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 P^o$	1 - 1	A	106
5	1533.791	0.0 - 65.20		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^4 P - ^3 P^o$	0 - 1	A	106
10	1533.937	0.08 - 65.27		$3s^2 3p^2 - 3s^2 3p(^3P^o) 17s$	$g^4 P - ^3 P^o$	1 - 1	A	106
5	1533.972	0.08 - 65.27		$3s^2 3p^2 - 3s^2 3p(^3P^o) 17s$	$g^4 P - ^3 P^o$	1 - 0	A	106
20	1534.112	0.08 - 65.26		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 D^o$	1 - 1	A	106
20	1534.184	0.08 - 65.26		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^4 P - ^3 D^o$	1 - 2	A	106
10	1534.236	0.22 - 65.40		$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$g^4 P - ^1 F^o$	2 - 3	A	106
10	1534.255	0.08 - 65.26		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^4 P - ^1 P^o$	1 - 1	A	106
5	1534.299	0.22 - 65.40		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^4 P - ^1 P^o$	2 - 1	A	106
10	1534.364	0.22 - 65.40		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^4 P - ^3 P^o$	2 - 2	A	106
15	1534.431	0.22 - 65.39		$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$g^4 P - ^3 D^o$	2 - 2	A	106
15	1534.547	0.22 - 65.39		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^3 P^o$	2 - 1	A	106
1	1534.618						A	106
25	1534.707	0.22 - 65.38		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^3 P^o$	2 - 2	A	106
25	1534.778	0.22 - 65.38		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^3 D^o$	2 - 3	A	106
1	1534.818	0.08 - 65.23		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^4 P - ^3 D^o$	1 - 2	A	106
10	1534.883	0.0 - 65.15		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^4 P - ^1 P^o$	0 - 1	A	106
1	1534.928	0.22 - 65.37		$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^4 P - ^3 P^o$	2 - 1	A	106
20	1534.932	0.22 - 65.37		$3s^2 3p^2 - 3s^2 3p(^3P^o) 19s$	$g^4 P - ^3 P^o$	2 - 1	P	441
20	1534.996	0.22 - 65.37		$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$g^4 P - ^1 F^o$	2 - 3	A	106
10	1535.266	0.0 - 65.14		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 P^o$	0 - 1	A	106
15	1535.472	0.22 - 65.35		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^1 F^o$	2 - 3	A	106
5	1535.537						A	106
1	1535.604	0.08 - 65.20		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^4 P - ^3 P^o$	1 - 1	A	106
5	1535.634	0.08 - 65.20		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^4 P - ^3 P^o$	1 - 0	A	106
15	1535.705	0.0 - 65.12		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 D^o$	0 - 1	A	106
15	1535.896	0.0 - 65.11		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^4 P - ^3 P^o$	0 - 1	A	106
10	1535.931	0.08 - 65.18		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^1 P^o$	1 - 1	A	106
5	1536.035	0.22 - 65.33		$3s^2 3p^2 - 3s^2 3p(^3P^o) 18s$	$g^4 P - ^3 P^o$	2 - 1	A	106
20	1536.085	0.08 - 65.18		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^3 D^o$	1 - 2	A	106
1	1536.257	0.22 - 65.32		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^1 P^o$	2 - 1	A	106
15	1536.285	0.0 - 65.09		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^1 P^o$	0 - 1	A	106
10	1536.366	0.22 - 65.31		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^3 D^o$	2 - 2	A	106
15	1536.473	0.22 - 65.31		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^1 F^o$	2 - 3	A	106
1	1536.624						A	106
1	1536.672	0.08 - 65.15		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^3 D^o$	1 - 2	A	106
1	1536.699	0.08 - 65.15		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^4 P - ^1 P^o$	1 - 1	A	106
10	1536.763	0.22 - 65.30		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$g^4 P - ^3 D^o$	2 - 2	A	106
10	1536.830	0.08 - 65.15		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^4 P - ^3 P^o$	1 - 2	A	106
5	1536.852	0.22 - 65.29		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^4 P - ^1 P^o$	2 - 1	A	106
10	1536.953	0.22 - 65.29		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^4 P - ^3 P^o$	2 - 2	A	106
15	1537.016	0.08 - 65.14		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 P^o$	1 - 0	A	106
15	1537.086	0.08 - 65.14		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 P^o$	1 - 1	A	106
15	1537.159	0.22 - 65.28		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 P^o$	2 - 1	A	106
25	1537.297	0.22 - 65.27		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 P^o$	2 - 2	A	106
10	1537.322	0.08 - 65.13		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 P^o$	1 - 2	A	106
10	1537.382	0.22 - 65.27		$3s^2 3p^2 - 3s^2 3p(^3P^o) 17s$	$g^4 P - ^3 P^o$	2 - 1	A	106
20	1537.474	0.22 - 65.26		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^3 D^o$	2 - 3	A	106
15	1537.524	0.08 - 65.12		$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^4 P - ^3 D^o$	1 - 1	A	106
25	1537.618	0.22 - 65.26		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^4 P - ^1 F^o$	2 - 3	A	106
5	1537.696	0.08 - 65.11		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^4 P - ^3 P^o$	1 - 0	A	106
5	1537.714	0.08 - 65.11		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^4 P - ^3 P^o$	1 - 1	A	106
25	1537.935	0.08 - 65.10		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^3 D^o$	1 - 2	A	106
15	1538.109	0.08 - 65.09		$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^4 P - ^1 P^o$	1 - 1	A	106
5	1538.271	0.22 - 65.23		$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$g^4 P - ^3 D^o$	2 - 2	A	106
10	1538.380	0.22 - 65.23		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^1 F^o$	2 - 3	A	106
10	1538.410	0.0 - 65.00		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^4 P - ^3 P^o$	0 - 1	A	106
20	1538.876	0.0 - 64.98		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^1 P^o$	0 - 1	A	106
10	1538.922	0.22 - 65.20		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^4 P - ^1 F^o$	2 - 2	A	106
5	1539.057	0.22 - 65.20		$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$g^4 P - ^3 P^o$	2 - 1	A	106
20	1539.236	0.0 - 64.97		$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^4 P - ^1 P^o$	0 - 1	A	106
5	1539.384	0.22 - 65.18		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^1 P^o$	2 - 1	A	106
15	1539.537	0.22 - 65.18		$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^4 P - ^3 D^o$	2 - 2	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
41.10	9	1539.689	0.08 - 65.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3F^o$	1-2	P	441
	25	1539.705	0.22 - 65.17	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^o P - ^3F^o$	2-3	A	106
	5	1539.738	0.0 - 64.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	0-1	A	106
	15	1540.131	0.22 - 65.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$g^o P - ^1D^o$	2-2	A	106
	10	1540.152	0.22 - 65.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^1P^o$	2-1	A	106
41.11	5	1540.239	0.08 - 65.00	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^o P - ^3P^o$	1-1	A	106
	15	1540.286	0.22 - 65.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^3P^o$	2-2	A	106
	15	1540.354	0.0 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3D^o$	0-1	A	106
	20	1540.544	0.22 - 65.14	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3P^o$	?-1	A	106
	30	1540.707	0.08 - 64.98	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^o P - ^3D^o$	1-1	A	106
	30	1540.783	0.22 - 65.13	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3P^o$	2-2	A	106
	40	1540.963	0.22 - 65.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3D^o$	2-3	A	106
	10	1540.978	0.22 - 65.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3D^o$	2-1	A	106
	5	1541.064	0.08 - 64.97	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^1P^o$	1-1	A	106
	5	1541.178	0.22 - 65.11	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15s$	$g^o P - ^3P^o$	2-1	A	106
	10	1541.198	0.08 - 64.96	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	1-2	A	106
	25	1541.322	0.22 - 65.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^o P - ^3F^o$	2-3	A	106
	20	1541.397	0.22 - 65.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^o P - ^3D^o$	2-2	P	441
41.10	20	1541.415	0.08 - 64.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	1-0	A	106
41.10	20	1541.569	0.08 - 64.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	1-1	A	106
	15	1541.620	0.08 - 64.94	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^o P - ^1D^o$	1-2	A	106
	10	1541.758	0.0 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^3P^o$	0-1	A	106
41.11	15	1542.185	0.08 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3D^o$	1-1	A	106
41.10	15	1542.270	0.08 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	1-2	A	106
	25	1542.432	0.22 - 65.06	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$g^o P - ^1D^o$	2-2	A	106
	5	1543.158	0.22 - 65.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3F^o$	2-2	A	106
	1	1543.593	0.08 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^3P^o$	1-1	A	106
	5	1543.631	0.08 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^3P^o$	1-0	A	106
	15	1543.710	0.22 - 65.00	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$g^o P - ^3P^o$	2-1	P	441
	35	1543.724	0.08 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3D^o$	1-2	A	106
	15	1544.184	0.22 - 64.98	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^o P - ^3D^o$	2-2	A	106
	10	1544.266	0.08 - 64.83	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^1P^o$	1-1	A	106
	10	1544.540	0.22 - 64.97	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^1P^o$	2-1	A	106
	15	1544.591	0.22 - 64.97	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^o P - ^3F^o$	2-3	A	106
	10	1544.676	0.22 - 64.96	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	2-2	A	106
	10	1545.025	0.0 - 64.72	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	0-1	A	106
	10	1545.045	0.22 - 64.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	2-1	A	106
	10	1545.099	0.22 - 64.94	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$g^o P - ^1D^o$	2-2	A	106
	15	1545.163	0.08 - 64.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^1D^o$	1-2	A	106
	25	1545.575	0.22 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3D^o$	2-3	A	106
41.08	20	1545.612	0.0 - 64.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	0-1	A	106
41.11	1	1545.664	0.22 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3D^o$	2-1	A	106
	15	1545.749	0.22 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	2-2	A	106
	5	1546.007					A	106
	5	1546.098	0.0 - 64.68	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	0-1	A	106
	1	1546.559						608
41.10	30	1546.590	0.22 - 64.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3F^o$	2-3	A	106
41.09	25	1546.674	0.0 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3D^o$	0-1	A	106
	5	1546.869	0.08 - 64.72	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	1-1	A	106
	10	1547.079	0.22 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$g^o P - ^3P^o$	2-1	A	106
	20	1547.129	0.08 - 64.71	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^3P^o$	1-2	A	106
	10	1547.214	0.22 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^3D^o$	2-2	A	106
	25	1547.362	0.08 - 64.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	1-0	A	106
	1	1547.373	0.08 - 64.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	1-0		608
	20	1547.452	0.08 - 64.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	1-1	A	106
41.08	5	1547.731	0.08 - 64.69	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	1-2	A	106
	15	1547.943	0.08 - 64.68	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	1-1	A	106
	10	1548.048	0.08 - 64.67	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	1-0	A	106
41.09	20	1548.518	0.08 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3D^o$	1-1	A	106
	15	1548.649	0.22 - 64.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$g^o P - ^1D^o$	2-2	A	106
41.11	25	1548.716	0.08 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3D^o$	1-2	A	106
	15	1548.978	0.08 - 64.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^1P^o$	1-1	A	106
	10	1549.536	0.22 - 64.76	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3F^o$	2-2	A	106
	5	1550.369	0.22 - 64.72	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	2-1	A	106
	15	1550.630	0.22 - 64.71	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^3P^o$	2-2	A	106
41.08	20	1550.958	0.22 - 64.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	2-1	A	106
41.08	25	1551.240	0.22 - 64.69	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3P^o$	2-2	A	106
	10	1551.454	0.22 - 64.68	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$g^o P - ^3P^o$	2-1	A	106
41.09	20	1551.856	0.22 - 64.66	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3D^o$	2-3	A	106
	1	1551.9323						370
41.09	10	1552.022	0.0 - 64.43	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^3P^o$	0-1	A	106
	15	1552.180					A	106
41.11	45	1552.209	0.22 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^1P^o$	2-3	A	106
	1	1552.490	0.22 - 64.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^3P^o$	2-1	P	441
	5	1552.515	0.08 - 64.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^3F^o$	1-2	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
41.07	25	1552.948	0.0 - 64.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1P^o$	0 - 1	A	106
	30	1553.370	0.0 - 64.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	0 - 1	A	106
	5	1553.883	0.08 - 64.43	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	1 - 1	A	106
	10	1554.029	0.08 - 64.43	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	1 - 0	A	106
41.05	5	1554.297	0.0 - 64.34	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	0 - 1	A	106
	1	1554.476	0.22 - 64.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$g^o P - ^1D^o$	2 - 2	A	106
41.09	30	1554.700	0.08 - 64.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1D^o$	1 - 2	A	106
	1	1554.808	0.08 - 64.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1P^o$	1 - 1	A	106
41.07	10	1555.233	0.08 - 64.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	1 - 1	A	106
41.03	15	1555.463	0.08 - 64.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	1 - 2	A	106
41.06	20	1555.514	0.0 - 64.29	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	0 - 1	A	106
41.05	25	1555.660	0.08 - 64.36	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	1 - 0	A	106
	0	1555.946	15.39 - 79.66	$3s^2 3p^2 - 3s^2 3p^2$	$^1S - ^3S$	0 - 1	P, Z	441
	5	1556.043	0.22 - 64.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1F^o$	2 - 2	A	106
41.05	20	1556.160	0.08 - 64.34	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	1 - 1	A	106
41.05	30	1556.527	0.08 - 64.32	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	1 - 2	A	106
	20	1556.547	0.08 - 64.32	$3s^2 3p^2 - 3s^2 3p^2$	$g^o P - ^1D^o$	1 - 2	A	106
41.06	20	1557.382	0.08 - 64.29	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	1 - 1	A	106
	10	1557.416	0.22 - 64.43	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$g^o P - ^1P^o$	2 - 1	A	106
41.09	25	1558.238	0.22 - 64.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1D^o$	2 - 2	A	106
	10	1558.349	0.22 - 64.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1P^o$	2 - 1	A	106
	15	1558.453	0.08 - 64.24	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1D^o$	1 - 2	A	106
41.07	20	1558.773	0.22 - 64.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	2 - 1	A	106
41.03	20	1559.004	0.22 - 64.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	2 - 2	A	106
	30	1559.362	0.22 - 64.35	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1F^o$	2 - 3	A	106
41.05	25	1559.705	0.22 - 64.34	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	2 - 1	A	106
41.05	30	1560.072	0.22 - 64.32	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	2 - 2	A	106
	20	1560.093	0.22 - 64.32	$3s^2 3p^2 - 3s^2 3p^2$	$g^o P - ^1D^o$	2 - 2	A	106
41.03	15	1560.406	0.0 - 64.09	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	0 - 1	A	106
41.06	8	1560.7425	0.22 - 64.30	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	2 - 3	A	610
41.06	5	1560.934	0.22 - 64.29	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	2 - 1	A	106
41.06	30	1561.822	0.08 - 64.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	1 - 2	A	106
41.02	4	1562.0065	0.22 - 64.24	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$g^o P - ^1D^o$	2 - 2	A	610
	1	1562.0531						370
41.03	5	1562.286	0.08 - 64.09	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	1 - 1	A	106
41.03	10	1562.436	0.08 - 64.08	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	1 - 0	A	106
41.04	25	1563.364	0.22 - 64.19	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1F^o$	2 - 3	A	106
41.02	15	1563.886	0.08 - 64.02	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	1 - 1	A	106
41.01	8	1564.6138	0.08 - 63.99	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1F^o$	1 - 2	A	610
41	20	1565.322	0.0 - 63.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	0 - 1	A	106
	15	1565.395	0.22 - 64.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	2 - 2	A	106
41.03	10	1565.861	0.22 - 64.09	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$g^o P - ^1P^o$	2 - 1	A	106
	10	1566.303	0.0 - 63.84	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	0 - 1	A	106
41	5	1567.212	0.08 - 63.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	1 - 1	A	106
41.02	5	1567.465	0.22 - 64.02	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1P^o$	2 - 1	A	106
37.04	8	1567.7263	0.08 - 63.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	1 - 2	A	610
	15	1567.808	0.08 - 63.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$g^o P - ^1D^o$	1 - 2	A	106
40.01	10	1568.1963	0.08 - 63.84	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	1 - 1	A	610
40	3	1568.6182	0.0 - 63.75	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	0 - 1	A	610
41.01	8	1569.3185	0.22 - 63.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8s$	$g^o P - ^1F^o$	2 - 3	A	610
40.01	25	1570.026	0.08 - 63.77	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	1 - 2	A	106
40	3	1570.5175	0.08 - 63.75	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	1 - 1	A	610
41	20	1570.808	0.22 - 63.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	2 - 1	A	106
37.04	25	1571.321	0.22 - 63.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	2 - 2	A	106
40	10	1571.4058	0.08 - 63.71	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	1 - 2	A	610
	35	1571.796	0.22 - 63.84	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	2 - 1	A	106
37.04	30	1572.718	0.0 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	0 - 1	A	106
	1	1572.9245						370
	5	1572.947					A	106
	1	1573.3433						370
40.01	10	1573.6350	0.22 - 63.77	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	2 - 2	A	610
40	25	1573.8840	0.22 - 63.76	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	2 - 3	A	610
40	10	1574.126	0.22 - 63.75	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	2 - 1	A	106
37.04	5	1574.625	0.08 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	1 - 1	A	106
	1	1574.7456						370
37.04	10	1574.810	0.08 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	1 - 0	A	106
40.01	30	1574.8435	0.22 - 63.72	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	2 - 2	A	610
40.01	45	1574.847	0.08 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	1 - 2	A	106
37.03	10	1575.1268	0.0 - 63.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	0 - 1	A	610
39	40	1576.825	0.22 - 63.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1F^o$	2 - 3	A	106
37.03	30	1577.042	0.08 - 63.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	1 - 1	A	106
37.04	25	1578.258	0.22 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$g^o P - ^1P^o$	2 - 1	A	106
40.01	25	1578.478	0.22 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1D^o$	2 - 2	A	106
38	12	1580.3001	0.06 - 63.36	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	1 - 2	A	610
37.03	5	1580.684	0.22 - 63.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$g^o P - ^1P^o$	2 - 1	A	106

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Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
21	1	1675.859	6.30 - 65.97	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})41d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1675.943	6.30 - 65.97	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})40d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1676.025					A	106
	1	1676.066	6.30 - 65.96	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})39d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1676.166	6.30 - 65.96	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})38d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1676.280	6.30 - 65.95	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})37d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1676.408	6.30 - 65.95	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})36d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1676.550	6.30 - 65.95	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})35d$	$^1D - ^1D^*$	2-3	A, Z	106
	15	1676.8207	0.0 - 59.64	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	0-1		610
	1	1677.054	6.30 - 65.93	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})32d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1677.247	6.30 - 65.92	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})31d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1677.465	6.30 - 65.91	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})30d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1677.663					A	106
	1	1677.705	6.30 - 65.90	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})29d$	$^1D - ^1D^*$	2-3	A, Z	106
	5	1678.176	6.30 - 65.88	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})27d$	$^1D - ^1D^*$	2-3	A, Z	106
22	5	1678.613	6.30 - 65.87	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})26d$	$^1D - ^1D^*$	2-3	A, Z	106
	5	1678.991	6.30 - 65.86	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})25d$	$^1D - ^1D^*$	2-3	A, Z	106
	5	1679.413	6.30 - 65.84	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})24d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1680.322	6.30 - 65.81	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})24s$	$^1D - ^1P^*$	2-1	A, Z	106
	5	1680.444	6.30 - 65.81	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})22d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1680.935	6.30 - 65.79	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})23s$	$^1D - ^1P^*$	2-1	A, Z	106
	5	1681.074	6.30 - 65.78	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})21d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1681.639	6.30 - 65.76	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})22s$	$^1D - ^1P^*$	2-1	A, Z	106
	5	1681.802	6.30 - 65.76	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})20d$	$^1D - ^1D^*$	2-3	A, Z	106
	1	1682.448	6.30 - 65.74	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})21s$	$^1D - ^1P^*$	2-1	A	106
21	70	1682.6734	0.08 - 59.51	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	1-2		610
	3	1683.1189	0.22 - 59.64	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	2-1		610
	1	1683.423	6.30 - 65.70	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})20s$	$^1D - ^1P^*$	2-1	A	106
	1	1683.590	6.30 - 65.70	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18d$	$^1D - ^1P^*$	2-2	A	106
	10	1683.643	6.30 - 65.69	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18d$	$^1D - ^1D^*$	2-3	A	106
	1	1683.722					A	106
	1	1683.757					A	106
	1	1683.851					A	106
	1	1684.235	6.30 - 65.67	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18d$	$^1D - ^1F^*$	2-2	A	106
	1	1684.408					A	106
21	5	1684.546	6.30 - 65.66	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})19s$	$^1D - ^1P^*$	2-1	A	106
	5	1684.674					A	106
	10	1684.815	6.30 - 65.65	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})17d$	$^1D - ^1D^*$	2-3	A	106
	5	1684.959	6.30 - 65.65	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})17d$	$^1D - ^1F^*$	2-3	A	106
	5	1685.092					A	106
	1	1685.307					A	106
	1	1685.505	6.30 - 65.63	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})17d$	$^1D - ^1F^*$	2-2	A	106
	1	1685.628					A	106
	1	1685.864					A	106
	1	1685.910	6.30 - 65.61	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18s$	$^1D - ^1P^*$	2-1	A	106
21	0	1686.233	6.30 - 65.60	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})16d$	$^1D - ^1D^*$	2-3	P	441
	5	1686.372					A	106
	5	1686.591	6.30 - 65.59	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})16d$	$^1D - ^1F^*$	2-3	A	106
	100	1686.8185	0.22 - 59.51	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	2-2		610
	1	1686.993	6.30 - 65.58	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})16d$	$^1D - ^1F^*$	2-2	A	106
21	20	1687.0923	0.0 - 59.27	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	0-1		610
	5	1687.192	6.30 - 65.57	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})25d$	$^1D - ^1F^*$	2-3	A	106
	1	1687.299					A	106
	1	1687.457					A	106
	1	1687.521	6.30 - 65.56	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})17s$	$^1D - ^1P^*$	2-1	A	106
	5	1687.595	6.30 - 65.55	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})24d$	$^1D - ^1F^*$	2-3	A	106
	10	1687.929	6.30 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})15d$	$^1D - ^1D^*$	2-3	A	106
	5	1688.016	6.30 - 65.54	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})23d$	$^1D - ^1F^*$	2-3	A	106
	5	1688.352	6.30 - 65.53	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})15d$	$^1D - ^1F^*$	2-3	A	106
	5	1688.962	6.30 - 65.51	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})15d$	$^1D - ^1F^*$	2-2	A	106
21	60	1689.2902	0.08 - 59.27	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	1-1		610
	5	1689.326	6.30 - 65.49	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})21d$	$^1D - ^1F^*$	2-3	A	106
	1	1689.487					A	106
	5	1689.536	6.30 - 65.49	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})16s$	$^1D - ^1P^*$	2-1	A	106
	15	1689.969	6.30 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})14d$	$^1D - ^1D^*$	2-3	A	106
	10	1690.020	6.30 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})20d$	$^1D - ^1F^*$	2-3	A	106
	1	1690.069	6.30 - 65.47	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})14d$	$^1D - ^1D^*$	2-1	A	106
	5	1690.491	6.30 - 65.45	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})14d$	$^1D - ^1F^*$	2-3	A	106
	60	1690.7589	0.08 - 59.22	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})6s$	$g^2P - (^{3/2}, ^{1/2})^*$	1-0		610
	1	1691.065	6.30 - 65.43	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})19d$	$^1D - ^1F^*$	2-3	A	106
21	5	1691.352	6.30 - 65.42	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})14d$	$^1D - ^1F^*$	2-2	A	106
	1	1691.612	6.30 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})20s$	$^1D - ^1P^*$	2-1	A	106
	1	1691.802	6.30 - 65.41	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18d$	$^1D - ^1D^*$	2-2	A	106
	10	1691.949	6.30 - 65.40	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})18d$	$^1D - ^1F^*$	2-3	A	106
	5	1692.024	6.30 - 65.40	$3s^2 3p^2 - 3s^2 3p(^3P_{21/2})15s$	$^1D - ^1P^*$	2-1	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Term	J - J	Notes	References
18	1	1692.189	6.30 - 65.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18d$	$^1D - ^1D^o$	2-2	A	106
	20	1692.609	6.30 - 65.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$^1D - ^1D^o$	2-3	A	106
	5	1692.640	6.30 - 65.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$^1D - ^1D^o$	2-1	A	106
	20	1692.875	6.30 - 65.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17d$	$^1D - ^1F^o$	2-3	A	106
	125	1693.2934	0.0 - 59.06	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4c$	$^3P - ^1D^o$	0-1		610
21	60	1693.4681	0.22 - 59.27	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6a$	$^3P - (^{1/2}, ^{1/2})$	2-1		610
	5	1694.010	6.30 - 65.33	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$^1D - ^1F^o$	2-2	A	106
	1	1694.137	6.30 - 65.33	$3s^2 3p^2 - 3s^2 3p(^3P^o) 18s$	$^1D - ^1P^o$	2-1	A	106
	5	1694.542	6.30 - 65.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$^1D - ^1D^o$	2-2	A	106
	10	1694.671	6.30 - 65.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$^1D - ^1F^o$	2-3	A	106
18	1	1695.025	6.30 - 65.30	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16d$	$^1D - ^1D^o$	2-2	A	106
	1	1695.070					A	106
	5	1695.133	6.30 - 65.29	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$^1D - ^1P^o$	2-1	A	106
	90	1695.5074	0.08 - 59.06	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1D^o$	1-1		610
	1	1695.66	6.30 - 65.27	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1F^o$	2-2	A	106
18	1	1695.771	6.30 - 65.27	$3s^2 3p^2 - 3s^2 3p(^3P^o) 17s$	$^1D - ^1P^o$	2-1	A	106
	20	1695.891	6.30 - 65.26	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1D^o$	2-3	A	106
	1	1695.982	6.30 - 65.26	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1D^o$	2-1	A	106
	15	1696.065	6.30 - 65.26	$3s^2 3p^2 - 3s^2 3p(^3P^o) 15d$	$^1D - ^1F^o$	2-3	A	106
	200	1696.2065	0.08 - 59.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1D^o$	1-2		610
18	1	1696.994	6.30 - 65.23	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1F^o$	2-3	A	106
	5	1697.652	6.30 - 65.20	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1F^o$	2-2	A	106
	1	1697.818	6.30 - 65.20	$3s^2 3p^2 - 3s^2 3p(^3P^o) 16s$	$^1D - ^1P^o$	2-1	A	106
	250	1697.9409	0.22 - 59.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1D^o$	2-3		610
	1	1698.209	6.30 - 65.18	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$^1D - ^1P^o$	2-1	A	106
18	5	1698.403	6.30 - 65.18	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$^1D - ^1D^o$	2-2	A	106
	15	1698.606	6.30 - 65.17	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$^1D - ^1F^o$	2-3	A	106
	1	1699.122	6.30 - 65.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14d$	$^1D - ^1D^o$	2-2	A	106
	5	1699.155	6.30 - 65.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$^1D - ^1P^o$	2-1	A	106
	10	1699.7162	0.22 - 59.06	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1D^o$	2-1		610
18	1	1699.931	6.30 - 65.13	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1P^o$	2-2	A	106
	25	1700.137	6.30 - 65.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1D^o$	2-3	A	106
	1	1700.15	6.30 - 65.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1D^o$	2-3	A	106
	90	1700.4193	0.22 - 59.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1D^o$	2-2		610
	20	1700.573	6.30 - 65.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$^1D - ^1F^o$	2-3	A	106
16	80	1700.6360	0.0 - 58.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1P^o$	0-1		610
	1	1700.863	6.30 - 65.09	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13d$	$^1D - ^1P^o$	2-1	A	106
	1	1702.6978						370
	10	1702.811	6.30 - 65.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1F^o$	2-2	A	106
	70	1702.8694	0.08 - 58.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1P^o$	1-1		610
16	5	1703.480	6.30 - 65.00	$3s^2 3p^2 - 3s^2 3p(^3P^o) 14s$	$^1D - ^1P^o$	2-1	A	106
	5	1704.055	6.30 - 64.98	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1P^o$	2-1	A	106
	1	1704.195					A	106
	100	1704.4416	0.22 - 58.89	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1F^o$	2-3		610
	5	1704.492	6.30 - 64.97	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12s$	$^1D - ^1P^o$	2-1	A	106
17	30	1704.560	6.30 - 64.97	$3s^2 3p^2 - 3s^2 3p(^3P^o) 12d$	$^1D - ^1F^o$	2-3	A	106
	35	1705.755	6.30 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1D^o$	2-3	A	106
	5	1705.866	6.30 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1D^o$	2-1	A	106
	1	1705.967	6.30 - 64.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1P^o$	2-2	A	106
	30	1706.994	6.30 - 64.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1F^o$	2-3	A	106
16	8	1707.1148	0.22 - 58.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^3P - ^1P^o$	2-1		610
	5	1707.589	6.30 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 13s$	$^1D - ^1P^o$	2-1	A	106
	5	1707.750	6.30 - 64.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1D^o$	2-2	A	106
	5	1708.417	6.30 - 64.83	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1D^o$	2-1	A	106
	25	1709.502	6.30 - 64.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11d$	$^1D - ^1F^o$	2-3	A	106
81.05	15	1710.579	6.30 - 64.76	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1F^o$	2-2	A	106
	1	1710.744						370
	20	1711.595	6.30 - 64.72	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$^1D - ^1P^o$	2-1	A	106
	45	1713.408	6.30 - 64.66	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1D^o$	2-3	A	106
	1	1713.616	6.30 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1D^o$	2-1	A	106
81.05	10	1713.810					A	106
	35	1713.837	6.30 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1F^o$	2-3	A	106
	10	1713.858	6.30 - 64.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1D^o$	2-2	P	441
	5	1714.182	6.30 - 64.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10d$	$^1D - ^1P^o$	2-1	A	106
	20	1718.514	6.30 - 64.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1F^o$	2-2	A	106
81.05	15	1720.189	6.30 - 64.43	$3s^2 3p^2 - 3s^2 3p(^3P^o) 11s$	$^1D - ^1P^o$	2-1	A	106
	1	1721.199	6.30 - 64.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1D^o$	2-2	A	106
	10	1721.326	6.30 - 64.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1P^o$	2-1	A	106
	10	1721.841	6.30 - 64.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$^1D - ^1P^o$	2-1	A	106
	45	1722.562	6.30 - 64.35	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1F^o$	2-3	A	106
81.03	40	1724.243	6.30 - 64.30	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^1D^o$	2-3	A	106
	10	1724.477	6.30 - 64.29	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^1D^o$	2-1	A	106
	5	1725.791	6.30 - 64.24	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9d$	$^1D - ^1D^o$	2-2	A	106
	30	1727.444	6.30 - 64.19	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^1F^o$	2-3	A	106
	20	1729.923	6.30 - 64.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^1D^o$	2-2	A	106

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
81.01	10	1730.492	6.30 - 64.09	$3s^2 3p^2 - 3s^2 3p(^3P^o) 10s$	$^1D - ^3P$	2-1	A	106
	10	1732.453	6.30 - 64.02	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^3P$	2-1	A	106
	15	1733.344	6.30 - 63.99	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^3F$	2-2	A	106
	30	1734.718	6.30 - 63.95	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^3F$	2-3	A	106
	25	1736.539	6.30 - 63.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$^1D - ^3P$	2-1	A	106
80	5	1737.269	6.30 - 63.86	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8d$	$^1D - ^1D^o$	2-2	A	106
	5	1739.993	6.30 - 63.77	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3P$	2-2	A	106
	20	1740.2988	6.30 - 63.76	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3D^o$	2-3		610
	20	1740.597	6.30 - 63.75	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3D^o$	2-1	A	106
	20	1743.8941	6.30 - 63.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3F$	2-3		610
77.03	25	1745.3475	0.08 - 57.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$g^3P - ^3F$	1-2		610
	5	1745.646	6.30 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 9s$	$^1D - ^3P$	2-1	A	106
	5	1745.916	6.30 - 63.58	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3D^o$	2-2	A	106
	40	1747.4141	0.22 - 57.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$g^3P - ^3F$	2-3		610
	5	1748.616	6.30 - 63.49	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3P$	2-1	A	106
77.02	3	1749.8076	0.22 - 57.37	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$g^3P - ^3F$	2-2		610
	10	1752.624	6.30 - 63.36	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3F$	2-2	A	106
	20	1753.101	6.30 - 63.34	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3F$	2-3	A	106
	3	1757.2827	6.30 - 63.20	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7d$	$^1D - ^3D^o$	2-2		610
	10	1759.5831	6.30 - 63.13	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8s$	$^1D - ^3P$	2-1		610
77.01	1	1760.600	6.30 - 63.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3P$	2-1	A	106
	1	1762.999	6.30 - 63.02	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3P$	2-2	A	106
	80	1763.6607	0.0 - 56.70	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	0-1		610
	90	1765.0296	0.08 - 56.73	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	1-0		610
	50	1765.6215	6.30 - 62.94	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3D^o$	2-3		610
76	10	1765.945	6.30 - 62.93	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3D^o$	2-1	A	106
	100	1766.0627	0.08 - 56.70	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	1-1		610
	50	1766.3541	0.08 - 56.69	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	1-2		610
	5	1769.461	6.30 - 62.81	$3s^2 3p^2 - 3s^2 3p(^3P^o) 8s$	$^1D - (^{1/2}, ^{1/2})^o$	2-1	A	106
	70	1769.7859	6.30 - 62.80	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3F$	2-3		610
75.01	14	1770.6295	0.22 - 56.70	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	2-1		610
	10	1770.659	6.30 - 62.77	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3D^o$	2-2	P	441
	300	1770.9223	0.22 - 56.69	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P$	2-2		610
	12	1772.2254	0.08 - 56.50	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$g^3P - ^1D^o$	1-2		610
	5	1774.076	6.30 - 62.67	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3P$	2-1	A	106
73.01	13	1776.8241	0.22 - 56.50	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$g^3P - ^1D^o$	2-2		610
	25	1783.2315	6.30 - 62.38	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3F$	2-3		610
	8	1784.0884	6.30 - 62.35	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3F$	2-2		610
	25	1790.2548	6.30 - 62.16	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6d$	$^1D - ^3D^o$	2-2		610
	6	1797.3560	6.30 - 61.94	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3P$	2-1		610
71	30	1799.1193	6.30 - 61.88	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7s$	$^1D - (^{3/2}, ^{1/2})^o$	2-1		610
	1	1800.406	6.30 - 61.84	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3P$	2-2	A	106
	6	1801.003	6.30 - 61.82	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7s$	$^1D - (^{3/2}, ^{1/2})^o$	2-2	P	441
	20	1808.4301	6.30 - 61.60	$3s^2 3p^2 - 3s^2 3p(^3P^o) 7s$	$^1D - (^{1/2}, ^{1/2})^o$	2-1		610
	100	1809.1047	6.30 - 61.57	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3D^o$	2-3		610
68.01	1	1813.27	6.30 - 61.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3D^o$	2-2		507
	250	1814.0794	6.30 - 61.42	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3F$	2-3		610
	10	1817.9562	6.30 - 61.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3P$	2-1		610
	30	1822.4553	0.0 - 54.87	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^1P^o$	0-1		610
	10	1825.021	0.08 - 54.87	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^1P^o$	1-1	A	106
66	10	1829.8975	0.22 - 54.87	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^1P^o$	2-1		610
	200	1836.5102	0.08 - 54.53	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	1-2		610
	40	1838.0120	6.30 - 60.71	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3F$	2-3		610
	8	1840.0418	6.30 - 60.65	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3F$	2-2		610
	125	1841.1520	0.0 - 54.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	0-1		610
65	11	1841.4490	0.22 - 54.53	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	2-2		610
	200	1843.7700	0.08 - 54.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	1-1		610
	200	1845.5203	0.0 - 54.19	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	0-1		610
	200	1846.1118	0.08 - 54.25	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	1-0		610
	300	1847.4737	0.08 - 54.21	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	1-2		610
64	200	1848.1504	0.08 - 54.19	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	1-1		610
	250	1848.7480	0.22 - 54.31	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P$	2-1		610
	400	1850.6719	0.22 - 54.26	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	2-3		610
	70	1851.7829	6.30 - 60.30	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5d$	$^1D - ^3D^o$	2-2		610
	250	1852.4717	0.22 - 54.21	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	2-2		610
63	10	1853.1521	0.22 - 54.19	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1D^o$	2-1		610
	1	1861.693					A	106
	1	1861.799	6.30 - 60.01	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^1D - ^3P$	2-1	A	106
	1	1865.028	6.30 - 59.92	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4d$	$^1D - ^3P$	2-2	A	106
	25	1873.1036	0.0 - 53.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1P^o$	0-1		610
62	175	1874.8423	6.30 - 59.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6s$	$^1D - (^{3/2}, ^{1/2})^o$	2-1		610
	30	1875.8129	0.08 - 53.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1P^o$	1-1		610
	7	1879.432	6.30 - 59.51	$3s^2 3p^2 - 3s^2 3p(^3P^o) 6s$	$^1D - (^{3/2}, ^{1/2})^o$	2-2	P	441
	5	1880.9657	0.22 - 53.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1P^o$	2-1		610
	30	1881.8538	0.22 - 53.36	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^1P^o$	2-3		610

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
61	45	1887.6928	6.30 - 59.27	$3s^2 3p^2 - 3s^2 3p(^3P^o)6s$	$^1D - (^{1/2}, ^{1/2})^o$	2 - 1		610
58	175	1893.252	6.30 - 59.12	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1D^o$	2 - 3		370
58	1	1895.461	6.30 - 59.06	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1D^o$	2 - 1		370
58	1	1896.339	6.30 - 59.03	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1D^o$	2 - 2		370
57	400	1901.3377	6.30 - 58.89	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1F^o$	2 - 3		610
56	40	1904.6647	6.30 - 58.80	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1P^o$	2 - 1		610
55	50	1954.9681	6.30 - 57.45	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1F^o$	2 - 3		610
55	1	1957.965	6.3 - 57.37	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1F^o$	2 - 2		370
7	400	1977.5978	0.0 - 50.57	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1D^o$	0 - 1		610
7	400	1979.2056	0.08 - 50.60	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1P^o$	1 - 0		610
7	300	1980.6185	0.08 - 50.57	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1P^o$	1 - 1		610
7	300	1983.2330	0.08 - 50.50	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1P^o$	1 - 2		610
53.01	3	1984.0719	6.30 - 56.70	$3s^2 3p^2 - 3s^2 3p^2$	$^1D - ^1P^o$	2 - 1		610
53.01	20	1984.4400	6.30 - 56.69	$3s^2 3p^2 - 3s^2 3p^2$	$^1D - ^1P^o$	2 - 2		610
7	500	1986.3640	0.22 - 50.57	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1P^o$	2 - 1		610
7	1000	1988.9977	0.22 - 50.50	$3s^2 3p^2 - 3s^2 3p(^3P^o)3d$	$g^2P - ^1P^o$	2 - 2		610
53	50	1991.8537	6.30 - 56.50	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1D^o$	2 - 2		610

SILICON II (Si^{1+}), $Z = 14$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P^o_{1/2}$ (13 electrons)Ionization Potential 131 838.4 cm^{-1} ; 16.346 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
6.09	348	693.41						127
6.09	0	711.24	0.0 - 140.58	$3s^2 3p - 3s^2 3p(^3P^o)4p$	$g^2P^o - ^1D$	$1/2 - 3/2$	Z	504, 678
6.09	1	711.83	0.29 - 140.77	$3s^2 3p - 3s^2 3p(^3P^o)4p$	$g^2P^o - ^1D$	$3/2 - 3/2$	Z	504, 678
6.08	2	755.362	0.29 - 132.68	$3s^2 3p - 3s^2 3p(^3P^o)4p$	$g^2P^o - ^1P$	$3/2 - 3/2$	Z	504, 678
6.07	3	803.234	0.0 - 124.50	$3s^2 3p - 3s^2 8d$	$g^2P^o - ^1D$	$1/2 - 3/2$		504, 678
6.07	10	805.101	0.29 - 124.50	$3s^2 3p - 3s^2 8d$	$g^2P^o - ^1D$	$3/2 - 3/2$		504, 678
6.06	2	818.590	0.0 - 122.16	$3s^2 3p - 3s^2 7d$	$g^2P^o - ^1D$	$1/2 - 3/2$		504, 678
8.08	0	819.49	42.93 - 164.97	$3s^2 3p^2 - 3s^2 3p(^3P^o)5d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
6.06	20	820.516	0.29 - 122.16	$3s^2 3p - 3s^2 7d$	$g^2P^o - ^1D$	$3/2 - 3/2$		504, 678
8.08	3	820.63	43.11 - 164.97	$3s^2 3p^2 - 3s^2 3p(^3P^o)5d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
6.05	3	820.9210	0.0 - 121.81	$3s^2 3p - 3s^2 8s$	$g^2P^o - ^1S$	$1/2 - 1/2$		371, 678, 504
8.07	2	821.450	43.11 - 164.84	$3s^2 3p^2 - 3s^2 3p(^3P^o)5d$	$^1P - ^1D^o$	$3/2 - 1/2$	Z	504, 678
6.05	5	822.8613	0.29 - 121.81	$3s^2 3p - 3s^2 8s$	$g^2P^o - ^1S$	$3/2 - 1/2$		371, 678, 504
8.06	1	826.42	43.11 - 164.11	$3s^2 3p^2 - 3s^2 3p(^3P^o)6s$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
6.04	20	843.7192	0.0 - 118.52	$3s^2 3p - 3s^2 6d$	$g^2P^o - ^1D$	$1/2 - 3/2$		371, 678, 504
6.04	40	845.7684	0.29 - 118.52	$3s^2 3p - 3s^2 6d$	$g^2P^o - ^1D$	$3/2 - 3/2$		371, 678, 504
6.03	5	848.0700	0.0 - 117.92	$3s^2 3p - 3s^2 7s$	$g^2P^o - ^1S$	$1/2 - 1/2$		371, 678, 504
6.03	10	850.1409	0.29 - 117.92	$3s^2 3p - 3s^2 7s$	$g^2P^o - ^1S$	$3/2 - 1/2$		371, 678, 504
6.02	100	889.7228	0.0 - 112.39	$3s^2 3p - 3s^2 5d$	$g^2P^o - ^1D$	$1/2 - 3/2$		371, 678, 504
6.02	200	892.0007	0.29 - 112.39	$3s^2 3p - 3s^2 5d$	$g^2P^o - ^1D$	$3/2 - 3/2$		371, 678, 504
6.01	10	899.4063	0.0 - 111.18	$3s^2 3p - 3s^2 6s$	$g^2P^o - ^1S$	$1/2 - 1/2$		371, 678, 504
6.01	20	901.7359	0.29 - 111.18	$3s^2 3p - 3s^2 6s$	$g^2P^o - ^1S$	$3/2 - 1/2$		371, 678, 504
8.05	0	905.71	42.82 - 153.25	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$1/2 - 1/2$	Z	504, 678
8.05	0	906.126	42.82 - 153.18	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$1/2 - 3/2$	Z	504, 678
8.05	1	906.586	42.93 - 153.23	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$3/2 - 1/2$	Z	504, 678
8.05	0	907.033	42.93 - 153.18	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.05	0	907.762	42.93 - 153.09	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.05	1	908.461	43.11 - 153.18	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.05	3	909.209	43.11 - 153.09	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.04	5	912.375	42.82 - 152.43	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$1/2 - 3/2$	Z	504, 678
8.04	5	912.459	42.82 - 152.42	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$1/2 - 1/2$	Z	504, 678
8.04	10	913.012	42.93 - 152.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$3/2 - 3/2$	Z	504, 678
8.04	3	913.264	42.93 - 152.43	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$3/2 - 3/2$	Z	504, 678
8.04	20	913.853	43.11 - 152.54	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$3/2 - 1/2$	Z	504, 678
8.04	2	914.476	43.11 - 152.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1P - ^1D^o$	$3/2 - 1/2$	Z	504, 678
8.03	5	928.297	42.93 - 150.66	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.03	1	929.206	42.82 - 150.44	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1P - ^1P^o$	$1/2 - 3/2$	Z	504, 678
8.03	20	929.810	43.11 - 150.66	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1P - ^1P^o$	$3/2 - 3/2$	Z	504, 678
8.03	0	930.242	42.82 - 150.32	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1P - ^1P^o$	$1/2 - 1/2$	Z	504, 678
8.03	5	931.200	42.93 - 150.32	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1P - ^1P^o$	$3/2 - 1/2$	Z	504, 678

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
8.03	5	931.557	43.11 - 150.44	$3s3p^2 - 3s3p(^3P^o)5s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
	159	942.20						127
6	100	989.8730	0.0 - 101.02	$3s^23p - 3s^24d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
6	200	992.6826	0.29 - 101.02	$3s^23p - 3s^24d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
5.01	25	1020.6989	0.0 - 97.97	$3s^23p - 3s^25s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
5.01	50	1023.7002	0.29 - 97.97	$3s^23p - 3s^25s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
13.08	0	1034.967	55.33 - 151.95	$3s3p^2 - 3s3p(^3P^o)5s$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.07	2	1056.899	55.31 - 149.93	$3s3p^2 - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.07	30	1057.050	55.33 - 149.93	$3s3p^2 - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.07	15	1057.503	55.31 - 149.87	$3s3p^2 - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.07	2	1057.690	55.33 - 149.87	$3s3p^2 - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
	2	1082.400						504, 678
	3	1084.144						504, 678
13.06	20	1127.442	55.31 - 144.00	$3s3p^2 - 3p^2$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.06	40	1127.907	55.33 - 143.98	$3s3p^2 - 3p^2$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
5	100	1190.4157	0.0 - 84.00	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
5	200	1193.2894	0.0 - 83.80	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
5	250	1194.5001	0.29 - 84.00	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
5	100	1197.3936	0.29 - 83.80	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
	10	1216.117						504, 678
8.02	0	1222.288	42.82 - 124.64	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	5	1222.635	42.82 - 124.62	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	20	1223.907	42.93 - 124.64	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	20	1224.252	42.93 - 124.62	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	10	1224.972	42.93 - 124.57	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	50	1226.814	42.82 - 124.34	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	20	1226.887	43.11 - 124.62	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	40	1226.986	42.82 - 124.33	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.02	100	1227.604	43.11 - 124.57	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	10	1228.437	42.93 - 124.34	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	25	1228.617	42.93 - 124.33	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	150	1228.746	42.93 - 124.32	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	200	1229.388	43.11 - 124.45	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8.01	5	1231.406	43.11 - 124.32	$3s3p^2 - 3s3p(^3P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
	5	1233.354						504, 678
	10	1235.920						504, 678
	3	1237.36						504, 678
8	100	1246.738	42.82 - 123.03	$3s3p^2 - 3p^2$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
8	150	1248.426	42.93 - 123.03	$3s3p^2 - 3p^2$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.05	100	1250.089	55.31 - 135.30	$3s3p^2 - 3p^2$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.05	150	1250.433	55.33 - 135.30	$3s3p^2 - 3p^2$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
8	200	1251.164	43.11 - 123.03	$3s3p^2 - 3p^2$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
4	500	1260.4212	0.0 - 79.34	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
4	1000	1264.7374	0.29 - 79.36	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
4	100	1265.0010	0.29 - 79.34	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		371, 678, 504
	3	1274.300						504, 678
	5	1275.662						504, 678
3	100	1304.3720	0.0 - 76.67	$3s^23p - 3s3p^2$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		371, 504, 678
13.04	50	1305.590	55.33 - 131.92	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
3	200	1309.2769	0.29 - 76.67	$3s^23p - 3s3p^2$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		371, 504, 678
13.04	20	1309.458	55.31 - 131.68	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.04	2	1309.77	55.33 - 131.68	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
	2	1311.265						504, 678
7	100	1346.873	42.93 - 117.18	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
7	100	1348.543	42.82 - 116.98	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
7	150	1350.057	43.11 - 117.18	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
	20	1350.520	42.93 - 116.98	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
	20	1350.658	42.82 - 116.86	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
7	100	1352.635	42.93 - 116.86	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
7	100	1353.718	43.11 - 116.98	$3s3p^2 - 3s3p(^3P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.03	5	1403.783	55.31 - 126.55	$3s3p^2 - 3s^210p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.03	1	1404.170	55.31 - 126.53	$3s3p^2 - 3s^210p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.03	6	1404.478	55.33 - 126.53	$3s3p^2 - 3s^210p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.02	10	1409.073	55.31 - 126.28	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.02	2	1409.90	55.31 - 126.24	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.02	20	1410.219	55.33 - 126.24	$3s3p^2 - 3s3p(^3P^o)3d$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
18.06	10	1416.972	79.36 - 149.93	$3s^23d - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
18.06	5	1417.781	79.34 - 149.87	$3s^23d - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
18.06	0	1418.110	79.36 - 149.87	$3s^23d - 3s3p(^3P^o)4d$	$^3D - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
13.01	1	1434.400	55.31 - 125.03	$3s3p^2 - 3s^29p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13.01	2	1434.542	55.33 - 125.03	$3s3p^2 - 3s^29p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13	2	1438.576	55.31 - 124.82	$3s3p^2 - 3s^28f$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
13	4	1438.931	55.33 - 124.82	$3s3p^2 - 3s^28f$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
30	2	1471.775	84.00 - 151.95	$3s3p^2 - 3s3p(^3P^o)5s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
12.02	1	1474.304	55.31 - 123.14	$3s3p^2 - 3s^28p$	$^3D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678

Si II

Si III

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
12.02	15	1474.649	55.33 - 123.14	$3s3p^2 - 3s^28p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		504, 678
12.02	5	1475.188	55.31 - 123.10	$3s3p^2 - 3s^28p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
12.01	1	1476.928	55.33 - 123.03	$3s3p^2 - 3p^2$	$^1D - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
12	15	1484.873	55.31 - 122.66	$3s3p^2 - 3s^27f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
15.04	90	1485.024	76.67 - 144.00	$3s3p^2 - 3p^2$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
12	30	1485.224	55.33 - 122.66	$3s3p^2 - 3s^27f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
15.04	100	1485.513	76.67 - 143.98	$3s3p^2 - 3p^2$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
11.01	3	1508.741	55.31 - 121.59	$3s3p^2 - 3s3p(^1P^o)4s$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
11.01	100	1509.101	55.33 - 121.59	$3s3p^2 - 3s3p(^1P^o)4s$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
11.01	50	1512.072	55.31 - 121.44	$3s3p^2 - 3s3p(^1P^o)4s$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
29	30	1513.570	83.80 - 149.87	$3s3p^2 - 3s3p(^1P^o)4d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$	Z	504, 678
29	60	1516.910	84.00 - 149.93	$3s3p^2 - 3s3p(^1P^o)4d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 518
29	5	1518.221	84.00 - 149.87	$3s3p^2 - 3s3p(^1P^o)4d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
2	500	1526.7076	0.0 - 65.50	$3s^23p - 3s^24s$	$g^2P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$		371, 504, 678
2	1000	1533.4320	0.29 - 65.50	$3s^23p - 3s^24s$	$g^2P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$		371, 504, 678
11	10	1562.451	55.31 - 119.31	$3s3p^2 - 3s^26f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
11	15	1562.845	55.33 - 119.31	$3s3p^2 - 3s^26f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
10.02	10	1563.765	55.33 - 119.27	$3s3p^2 - 3s^27p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
10.02	5	1564.066	55.31 - 119.25	$3s3p^2 - 3s^27p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
28	3	1661.059	83.80 - 144.00	$3s3p^2 - 3p^2$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
28	1	1661.633	83.80 - 143.98	$3s3p^2 - 3p^2$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
28	0	1667.267	84.00 - 143.98	$3s3p^2 - 3p^2$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
10.01	2	1704.967	55.33 - 113.98	$3s3p^2 - 3s^26p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
10	10	1710.826	55.31 - 113.76	$3s3p^2 - 3s^25f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
10	20	1711.296	55.33 - 113.76	$3s3p^2 - 3s^25f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
18.05	4	1786.817	79.34 - 135.30	$3s^23d - 3p^2$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
18.05	8	1787.538	79.36 - 135.30	$3s^23d - 3p^2$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
1	150	1808.0117	0.0 - 55.31	$3s^23p - 3s3p^2$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		370, 504, 678
1	200	1816.9278	0.29 - 55.33	$3s^23p - 3s3p^2$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		370, 504, 678
1	10	1817.4511	0.29 - 55.31	$3s^23p - 3s3p^2$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		370, 504, 678
9.02	1	1868.765	55.31 - 108.82	$3s3p^2 - 3s3p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
9.02	20	1869.317	55.33 - 108.82	$3s3p^2 - 3s3p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
9.02	15	1870.227	55.31 - 108.78	$3s3p^2 - 3s3p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
9.02	3	1870.782	55.33 - 108.78	$3s3p^2 - 3s3p(^1P^o)3d$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
18.04	100	1902.459	79.36 - 131.92	$3s^23d - 3s3p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
31	5	1904.326	101.02 - 153.54	$3s^24d - 3s3p(^1P^o)4d$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
	3	1905.878	97.97 - 150.44	$3s^25s - 3s3p(^1P^o)5s$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
18.04	50	1910.621	79.34 - 131.68	$3s^23d - 3s3p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
18.04	0	1911.265	79.36 - 131.68	$3s^23d - 3s3p(^1P^o)3d$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		504, 678
27	50	1941.667	83.80 - 135.30	$3s3p^2 - 3p^2$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
23	15	1944.586	81.25 - 132.68	$3s^24p - 3s3p(^1P^o)4p$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
23	3	1945.504	81.19 - 132.59	$3s^24p - 3s3p(^1P^o)4p$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
23	1	1947.769	81.25 - 132.59	$3s^24p - 3s3p(^1P^o)4p$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
27	10	1949.331	84.00 - 135.30	$3s3p^2 - 3p^2$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678
27	100	1949.564	84.00 - 135.30	$3s3p^2 - 3p^2$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Z	504, 678

SILICON III (Si^{2+}), $Z = 14$ Ground State $1s^22s^22p^63s^2 \ ^1S_0$ (12 electrons)Ionization Potential $270\,139.3 \text{ cm}^{-1}$; 33.493 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3.04		423.817	0.0 - 235.95	$3s^2 - 3p(^1P^o)4s$	$g^1S - ^1P^o$	0 - 1		504
3.03		426.644	0.0 - 234.39	$1s^2 - 3s6p$	$g^1S - ^1P^o$	0 - 1		504
3.02		437.255	0.0 - 228.70	$3s^2 - 3p(^1P^o)3d$	$g^1S - ^1P^o$	0 - 1		504
3.01		466.129	0.0 - 214.53	$3s^2 - 3s5p$	$g^1S - ^1P^o$	0 - 1		197, 504
6.08	80	510.079	52.72 - 248.77	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1S$	0 - 1		504
6.08		510.414	52.85 - 248.77	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1S$	1 - 1		504
6.08		511.096	53.12 - 248.77	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1S$	2 - 1		504
6.07		511.994	52.85 - 248.17	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	1 - 2		504
6.07		512.219	52.72 - 247.95	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	0 - 1		504
6.07		512.557	52.85 - 247.95	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	1 - 1		504
6.07		512.681	53.12 - 248.17	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	2 - 2		504
6.07		512.772	52.85 - 247.87	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	1 - 0		504
6.07		513.245	53.12 - 247.95	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1P$	2 - 1		504
6.06	10	520.79	52.85 - 244.87	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1D$	1 - 2		504
6.06	20	520.92	53.12 - 245.09	$3s3p - 3p(^1P^o)4p$	$^1P^o - ^1D$	2 - 3		504

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
6.06		521.149	52.85 - 244.74	3s3p - 3p(³ P°)4p	³ P° - ³ D	1 - 1		504
6.06		521.510	53.12 - 244.87	3s3p - 3p(³ P°)4p	³ P° - ³ D	2 - 2		504
6.06		521.861	53.12 - 244.74	3s3p - 3p(³ P°)4p	³ P° - ³ D	2 - 1		504
6.05		533.226	52.72 - 240.26	3s3p - 3s6d	³ P° - ³ D	0 - 1		504
6.05		533.530	52.85 - 240.28	3s3p - 3s6d	³ P° - ³ D	1 - 2		504
6.05		533.592	52.85 - 240.26	3s3p - 3s6d	³ P° - ³ D	1 - 1		504
6.05		534.189	53.12 - 240.31	3s3p - 3s6d	³ P° - ³ D	2 - 3		504
6.05		534.276	53.12 - 240.28	3s3p - 3s6d	³ P° - ³ D	2 - 2		504
6.05		534.339	53.12 - 240.26	3s3p - 3s6d	³ P° - ³ D	2 - 1		504
	315	538.28						127
6.04	20	565.259	52.72 - 229.62	3s3p - 3s6s	³ P° - ³ S	0 - 1		504
6.04	40	565.698	52.85 - 229.62	3s3p - 3s6s	³ P° - ³ S	1 - 1		504
6.04		566.546	53.12 - 229.62	3s3p - 3s6s	³ P° - ³ S	2 - 1		504
3	160	566.613	0.0 - 176.49	3s ² - 3s4p	³ S - ³ P°	0 - 1		197, 504
19		567.878	82.88 - 258.98	3s3p - 3p(³ P°)4p	³ P° - ³ S	1 - 0		504
6.03		573.538	52.72 - 227.8	3s3p - 3s5d	³ P° - ³ D	0 - 1		504
6.03		573.951	52.85 - 227.08	3s3p - 3s5d	³ P° - ³ D	1 - 2		504
6.03		573.961	52.85 - 227.08	3s3p - 3s5d	³ P° - ³ D	1 - 1		504
6.03		574.799	53.12 - 227.09	3s3p - 3s5d	³ P° - ³ D	2 - 3		504
6.03		574.814	53.12 - 227.08	3s3p - 3s5d	³ P° - ³ D	2 - 2		504
6.03		574.824	53.12 - 227.08	3s3p - 3s5d	³ P° - ³ D	2 - 1		504
18		605.873	82.88 - 247.94	3s3p - 3p(³ P°)4p	³ P° - ³ D	1 - 2		504
	293	613.21						127
17		624.997	82.88 - 242.89	3s3p - 3p(³ P°)4p	³ P° - ³ P	1 - 1		504
	188	629.97						127
16		634.255	82.88 - 240.55	3s3p - 3s6d	³ P° - ³ D	1 - 2		504
	133	638.40						127
6.02	80	651.668	52.72 - 206.18	3s3p - 3s5s	³ P° - ³ S	0 - 1		197, 504
6.02	120	652.223	52.85 - 206.18	3s3p - 3s5s	³ P° - ³ S	1 - 1		197, 504
6.02	160	653.332	53.12 - 206.18	3s3p - 3s5s	³ P° - ³ S	2 - 1		197, 504
	111	654.78						127
	175	659.93						127
	338	662.09						127
	346	664.24						127
	152	669.95						127
6.01	40	671.718	52.72 - 201.60	3s3p - 3s4d	³ P° - ³ D	0 - 1		504
6.01	80	672.293	52.85 - 201.60	3s3p - 3s4d	³ P° - ³ D	1 - 2		504
6.01	100	673.477	53.12 - 201.60	3s3p - 3s4d	³ P° - ³ D	2 - 3		504
15	40	678.055	82.88 - 230.36	3s3p - 3s6s	³ P° - ³ S	1 - 0		504
14	40	690.689	82.88 - 227.67	3s3p - 3s5d	³ P° - ³ D	1 - 2		504
	110	707.54						127
13	100	800.066	82.88 - 207.87	3s3p - 3s5s	³ P° - ³ S	1 - 0		504
	141	804.95						127
	141	805.20						127
29		822.004	122.21 - 243.87	3p ² - 3s6f	³ D - ³ F°	2 - 3		504
12	180	823.408	82.88 - 204.33	3s3p - 3s4d	³ P° - ³ D	1 - 2		197, 504
	111	840.74						127
	222	844.39						127
	159	853.11						127
	164	876.16						127
	109	877.92						127
28	10	879.233	122.21 - 235.95	3p ² - 3p(³ P°)4s	³ D - ³ P°	2 - 1		504
27	100	883.398	122.21 - 235.41	3p ² - 3p(³ P°)3d	³ D - ³ F°	2 - 3		504
26		891.479	122.21 - 234.39	3p ² - 3s6p	³ D - ³ P°	2 - 1		504
	206	916.42						127
44	25	936.056	142.94 - 249.77	3s3d - 3s7f	³ D - ³ F°	3 - 4		504
44	2	936.058	142.94 - 249.77	3s3d - 3s7f	³ D - ³ F°	3 - 3		504
44	1	936.060	142.94 - 249.77	3s3d - 3s7f	³ D - ³ F°	3 - 2		504
44	18	936.077	142.95 - 249.77	3s3d - 3s7f	³ D - ³ F°	2 - 3		504
44	2	936.079	142.95 - 249.77	3s3d - 3s7f	³ D - ³ F°	2 - 2		504
44	12	936.100	142.95 - 249.77	3s3d - 3s7f	³ D - ³ F°	1 - 2		504
25	140	939.093	122.21 - 228.70	3p ² - 3p(³ P°)3d	³ D - ³ P°	2 - 1		197, 504
24	180	967.946	122.21 - 225.53	3p ² - 3s5f	³ D - ³ F°	2 - 3		197, 504
	182	972.21						127
6	200	993.519	52.72 - 153.38	3s3p - 3s4s	³ P° - ³ S	0 - 1		197, 504
6	260	994.787	52.85 - 153.38	3s3p - 3s4s	³ P° - ³ S	1 - 1		197, 504
6	320	997.389	53.12 - 153.38	3s3p - 3s4s	³ P° - ³ S	2 - 1		197, 504
43	60	1005.349	142.94 - 242.41	3s3d - 3s6f	³ D - ³ F°	3 - 4		504
43	5	1005.353	142.94 - 242.41	3s3d - 3s6f	³ D - ³ F°	3 - 3		504
43	1	1005.357	142.94 - 242.41	3s3d - 3s6f	³ D - ³ F°	3 - 2		504
43	40	1005.374	142.95 - 242.41	3s3d - 3s6f	³ D - ³ F°	2 - 3		504
43	5	1005.378	142.95 - 242.41	3s3d - 3s6f	³ D - ³ F°	2 - 2		504
43	30	1005.403	142.95 - 242.41	3s3d - 3s6f	³ D - ³ F°	1 - 2		504
33	140	1031.169	129.84 - 226.82	3p ² - 3p(³ P°)4s	³ P° - ³ P°	1 - 2		504
33	60	1032.851	129.71 - 226.53	3p ² - 3p(³ P°)4s	³ P° - ³ P°	0 - 1		504

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
33	160	1033.920	130.10 - 226.82	$3p^2 - 3p(^3P^o)4s$	$^3P - ^3P^o$	2 - 2		504
33	80	1034.287	129.84 - 226.53	$3p^2 - 3p(^3P^o)4s$	$^3P - ^3P^o$	1 - 1		504
33	60	1035.657	129.84 - 226.40	$3p^2 - 3p(^3P^o)4s$	$^3P - ^3P^o$	1 - 0		504
33	140	1037.053	130.10 - 226.53	$3p^2 - 3p(^3P^o)4s$	$^3P - ^3P^o$	2 - 1		504
23	120	1083.210	122.21 - 214.53	$3p^2 - 3s5p$	$^1D - ^1P^o$	2 - 1		504
42		1092.915	142.94 - 234.44	$3s3d - 3s6p$	$^3D - ^3P^o$	3 - 2		504
42		1092.940	142.95 - 234.44	$3s3d - 3s6p$	$^3D - ^3P^o$	2 - 2		504
42		1092.969	142.95 - 234.44	$3s3d - 3s6p$	$^3D - ^3P^o$	1 - 2		504
42		1093.105	142.95 - 234.43	$3s3d - 3s6p$	$^3D - ^3P^o$	2 - 1		504
42		1093.133	142.95 - 234.43	$3s3d - 3s6p$	$^3D - ^3P^o$	1 - 1		504
42		1093.293	142.95 - 234.42	$3s3d - 3s6p$	$^3D - ^3P^o$	1 - 0		504
5	230	1108.368	52.72 - 142.95	$3s3p - 3s3d$	$^3P^o - ^3D$	0 - 1		197, 504
5	320	1109.965	52.85 - 142.95	$3s3p - 3s3d$	$^3P^o - ^3D$	1 - 2		197, 504
5	360	1113.228	53.12 - 142.94	$3s3p - 3s3d$	$^3P^o - ^3D$	2 - 3		197, 504
	226	1133.18						127
	163	1133.25						127
32	120	1140.545	129.71 - 217.39	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	0 - 1		504
32	140	1141.580	129.84 - 217.44	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	1 - 2		504
32	120	1142.282	129.84 - 217.39	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	1 - 1		504
32	160	1144.306	130.10 - 217.19	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	2 - 3		504
32	120	1144.959	130.10 - 217.44	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	2 - 2		504
41	150	1145.122	142.94 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	3 - 4		504
41	13	1145.149	142.94 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	3 - 3		504
41	1	1145.16	142.94 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	3 - 2		504
41	80	1145.177	142.95 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	2 - 3		504
41	10	1145.19	142.95 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	2 - 2		504
41	50	1145.22	142.95 - 230.27	$3s3d - 3s5f$	$^3D - ^3F^o$	1 - 2		504
32		1145.669	130.10 - 217.39	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3D^o$	2 - 1		504
31	120	1154.998	129.71 - 216.29	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	0 - 1		504
31	120	1155.957	129.84 - 216.35	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 0		504
31	80	1156.782	129.84 - 216.29	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 1		504
31	140	1158.102	129.84 - 216.19	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 2		504
31	120	1160.255	130.10 - 216.29	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	2 - 1		504
31	160	1161.579	130.10 - 216.19	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	2 - 2		504
30	80	1172.529	129.71 - 214.99	$3p^2 - 3s5p$	$^3P - ^3P^o$	0 - 1		504
30	100	1174.369	129.84 - 214.99	$3p^2 - 3s5p$	$^3P - ^3P^o$	1 - 1		504
30	120	1174.432	129.84 - 214.99	$3p^2 - 3s5p$	$^3P - ^3P^o$	1 - 2		504
30	160	1178.004	130.10 - 214.99	$3p^2 - 3s5p$	$^3P - ^3P^o$	2 - 2		504
64	60	1182.018	165.77 - 250.37	$3s3d - 3s7f$	$^1D - ^1F^o$	2 - 3		504
40		1192.228	142.94 - 226.82	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	3 - 2		504
40		1192.258	142.95 - 226.82	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	2 - 2		504
40		1192.293	142.95 - 226.82	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	1 - 2		504
40		1196.436	142.95 - 226.53	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	2 - 1		504
40		1196.470	142.95 - 226.53	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	1 - 1		504
40		1198.297	142.95 - 226.40	$3s3d - 3p(^3P^o)4s$	$^3D - ^3P^o$	1 - 0		504
2	600	1206.510	0.0 - 82.88	$3s^2 - 3s3p$	$g^1S - ^1P^o$	0 - 1		504
11	600	1206.533	82.88 - 165.77	$3s3p - 3s3d$	$^1P^o - ^1D$	1 - 2		504
22	180	1207.517	122.21 - 205.33	$3p^2 - 3p(^3P^o)3d$	$^1D - ^1D^o$	2 - 2		504
21	200	1210.456	122.21 - 204.83	$3p^2 - 3s4f$	$^1D - ^1F^o$	2 - 3		504
50	40	1212.011	153.44 - 235.95	$3p^2 - 3p(^3P^o)4s$	$^1S - ^1P^o$	0 - 1		504
74		1212.247	176.49 - 258.98	$3s4p - 3p(^3P^o)4p$	$^1P^o - ^1S$	1 - 0		504
49	140	1235.431	153.44 - 234.39	$3p^2 - 3s6p$	$^1S - ^1P^o$	0 - 1		504
63	120	1280.354	165.77 - 243.87	$3s3d - 3s6f$	$^1D - ^1F^o$	2 - 3		504
4	340	1294.543	52.85 - 130.10	$3s3p - 3p^2$	$^1P^o - ^1P$	1 - 2		197, 504
4	280	1296.726	52.72 - 129.84	$3s3p - 3p^2$	$^1P^o - ^1P$	0 - 1		197, 504
4	300	1298.891	52.85 - 129.84	$3s3p - 3p^2$	$^1P^o - ^1P$	1 - 1		197, 504
4	360	1298.960	53.12 - 130.10	$3s3p - 3p^2$	$^1P^o - ^1P$	2 - 2		504
54		1300.703	159.07 - 235.95	$3s4s - 3p(^3P^o)4s$	$^1S - ^1P^o$	0 - 1		504
4	280	1301.146	52.85 - 129.71	$3s3p - 3p^2$	$^1P^o - ^1P$	1 - 0		197, 504
4	320	1303.320	53.12 - 129.84	$3s3p - 3p^2$	$^1P^o - ^1P$	2 - 1		197, 504
10	260	1312.590	82.88 - 159.07	$3s3p - 3s4s$	$^1P^o - ^1S$	1 - 0		197, 504
53		1327.703	159.07 - 234.39	$3s4s - 3s6p$	$^1S - ^1P^o$	0 - 1		504
48		1328.806	153.44 - 228.70	$3p^2 - 3p(^3P^o)3d$	$^1S - ^1P^o$	0 - 1		504
39	160	1341.465	142.94 - 217.49	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	3 - 3		504
39		1341.496	142.95 - 217.49	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	2 - 3		504
39		1342.351	142.94 - 217.44	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	3 - 2		504
39	140	1342.392	142.95 - 217.44	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	2 - 2		504
39		1342.432	142.95 - 217.44	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	1 - 2		504
39	120	1343.388	142.95 - 217.39	$3s3d - 3p(^3P^o)3d$	$^1D - ^1D^o$	1 - 1		504
68		1359.751	175.23 - 248.77	$3s4p - 3p(^3P^o)4p$	$^1P^o - ^1S$	0 - 1		504
68	20	1360.360	175.26 - 248.77	$3s4p - 3p(^3P^o)4p$	$^1P^o - ^1S$	1 - 1		504
46	160	1361.597	153.38 - 226.82	$3s4s - 3p(^3P^o)4s$	$^1S - ^1P^o$	1 - 2		197, 504
68		1361.719	175.34 - 248.77	$3s4p - 3p(^3P^o)4p$	$^1P^o - ^1S$	2 - 1		504
38	100	1362.366	142.95 - 216.35	$3s3d - 3p(^3P^o)3d$	$^1D - ^1P^o$	1 - 0		504
38	140	1363.459	142.95 - 216.29	$3s3d - 3p(^3P^o)3d$	$^1D - ^1P^o$	2 - 1		504

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
38		1363.504	142.95 - 216.29	3s3d - 3p(³ P°)3d	³ D - ³ P°	1 - 1		504
38	160	1365.253	142.94 - 216.19	3s3d - 3p(³ P°)3d	³ D - ³ P°	3 - 2		504
38		1365.292	142.95 - 216.19	3s3d - 3p(³ P°)3d	³ D - ³ P°	2 - 2		504
38		1365.337	142.95 - 216.19	3s3d - 3p(³ P°)3d	³ D - ³ P°	1 - 2		504
46	140	1367.049	153.38 - 226.53	3s4s - 3p(³ P°)4s	³ S - ³ P°	1 - 1		197, 504
46	100	1369.437	153.38 - 226.40	3s4s - 3p(³ P°)4s	³ S - ³ P°	1 - 0		504
67	60	1371.652	175.26 - 248.17	3s4p - 3p(³ P°)4p	³ P° - ³ P	1 - 2		504
67	100	1373.030	175.34 - 248.17	3s4p - 3p(³ P°)4p	³ P° - ³ P	2 - 2		504
67	40	1375.083	175.23 - 247.95	3s4p - 3p(³ P°)4p	³ P° - ³ P	0 - 1		504
67	40	1375.688	175.26 - 247.95	3s4p - 3p(³ P°)4p	³ P° - ³ P	1 - 1		504
67	60	1377.082	175.34 - 247.95	3s4p - 3p(³ P°)4p	³ P° - ³ P	2 - 1		504
67	40	1377.238	175.26 - 247.87	3s4p - 3p(³ P°)4p	³ P° - ³ P	1 - 0		504
37	25	1387.948	142.95 - 214.99	3s3d - 3s5p	³ D - ³ P°	2 - 1		504
37	10	1387.979	142.95 - 215.00	3s3d - 3s5p	³ D - ³ P°	1 - 0		504
37	8	1387.994	142.95 - 214.99	3s3d - 3s5p	³ D - ³ P°	1 - 1		504
37	50	1388.011	142.94 - 214.99	3s3d - 3s5p	³ D - ³ P°	3 - 2		504
37	8	1388.052	142.95 - 214.99	3s3d - 3s5p	³ D - ³ P°	2 - 2		504
37	1	1388.098	142.95 - 214.99	3s3d - 3s5p	³ D - ³ P°	1 - 2		504
73		1399.615	176.49 - 247.94	3s4p - 3p(³ P°)4p	³ P° - ³ D	1 - 2		504
62	40	1424.775	165.77 - 235.95	3s3d - 3p(³ P°)4s	³ D - ³ P°	2 - 1		504
66	120	1433.690	175.34 - 245.09	3s4p - 3p(³ P°)4p	³ P° - ³ D	2 - 3		504
61	160	1435.776	165.77 - 235.41	3s3d - 3p(³ P°)3d	³ D - ³ F°	2 - 3		197, 504
52	140	1436.166	159.07 - 228.70	3s4s - 3p(³ P°)3d	³ S - ³ P°	0 - 1		197, 504
66	80	1436.724	175.26 - 244.87	3s4p - 3p(³ P°)4p	³ P° - ³ D	1 - 2		504
66	40	1438.228	175.34 - 244.87	3s4p - 3p(³ P°)4p	³ P° - ³ D	2 - 2		504
66	40	1438.702	175.23 - 244.74	3s4p - 3p(³ P°)4p	³ P° - ³ D	0 - 1		504
66	40	1439.391	175.26 - 244.74	3s4p - 3p(³ P°)4p	³ P° - ³ D	1 - 1		504
66		1440.908	175.34 - 244.74	3s4p - 3p(³ P°)4p	³ P° - ³ D	2 - 1		504
3.05	100	1441.732	52.85 - 122.21	3s2p - 3p°	³ P° - ³ D	1 - 2		504
3.05	120	1447.196	53.12 - 122.21	3s3p - 3p°	³ P° - ³ D	2 - 2		504
60	100	1457.253	165.77 - 234.39	3s3d - 3s6p	³ D - ³ P°	2 - 1		504
36	240	1500.241	142.94 - 209.60	3s3d - 3s4f	³ D - ³ F°	3 - 4		197, 504
36		1501.150	142.94 - 209.56	3s3d - 3s4f	³ D - ³ F°	3 - 3		197, 504
36	200	1501.191	142.95 - 209.56	3s3d - 3s4f	³ D - ³ F°	2 - 3		197, 504
36		1501.780	142.94 - 209.53	3s3d - 3s4f	³ D - ³ F°	3 - 2		504
36		1501.827	142.95 - 209.53	3s3d - 3s4f	³ D - ³ F°	2 - 2		197, 504
36	180	1501.870	142.95 - 209.53	3s3d - 3s4f	³ D - ³ F°	1 - 2		504
72	120	1506.060	176.49 - 242.89	3s4p - 3p(³ P°)4p	³ P° - ³ P	1 - 1		504
94	40	1513.533	235.41 - 301.48	3p(³ P°)3d - 3p(³ P°)5f	³ F° - ³ [³ /2]	3 - 3	Q, Z	504
71		1560.974	176.49 - 240.55	3s4p - 3s6d	³ P° - ³ D	1 - 2		504
59	40	1588.950	165.77 - 228.70	3s3d - 3p(³ P°)3d	³ D - ³ P°	2 - 1		504
45		1622.892	153.38 - 215.00	3s4s - 3s5p	³ S - ³ P°	1 - 0		504
45		1622.913	153.38 - 214.99	3s4s - 3s5p	³ S - ³ P°	1 - 1		504
45		1623.055	153.38 - 214.99	3s4s - 3s5p	³ S - ³ P°	1 - 2		504
47	20	1636.990	153.44 - 214.53	3p° - 3s5p	³ S - ³ P°	0 - 1		504
58	140	1673.315	165.77 - 225.53	3s3d - 3s5f	³ D - ³ F°	2 - 3		504
35		1778.715	142.94 - 199.16	3s3d - 3p(³ P°)3d	³ D - ³ F°	3 - 4		504
35		1783.079	142.94 - 199.03	3s3d - 3p(³ P°)3d	³ D - ³ F°	3 - 3		504
35		1783.146	142.95 - 199.03	3s3d - 3p(³ P°)3d	³ D - ³ F°	2 - 3		504
35		1786.371	142.94 - 198.92	3s3d - 3p(³ P°)3d	³ D - ³ F°	3 - 2		504
35		1786.438	142.95 - 198.92	3s3d - 3p(³ P°)3d	³ D - ³ F°	2 - 2		504
35		1786.515	142.95 - 198.92	3s3d - 3p(³ P°)3d	³ D - ³ F°	1 - 2		504
51	60	1801.023	159.07 - 214.53	3s4s - 3s5p	³ S - ³ P°	0 - 1		504
65		1838.466	175.23 - 229.62	3s4p - 3s6s	³ P° - ³ S	0 - 1		504
65		1839.585	175.26 - 229.62	3s4p - 3s6s	³ P° - ³ S	1 - 1		504
65		1842.064	175.34 - 229.62	3s4p - 3s6s	³ P° - ³ S	2 - 1		504
20	180	1842.547	122.21 - 176.49	3p° - 3s4p	³ D - ³ P°	2 - 1		504
70	20	1856.062	176.49 - 230.36	3s4p - 3s6s	³ P° - ³ S	1 - 0		504
1	60	1892.030	0.0 - 52.85	3s° - 3s3p	³ S - ³ P°	0 - 1		504
69		1953.968	176.49 - 227.67	3s4p - 3s5d	³ P° - ³ D	1 - 2		504
83		1979.233	204.33 - 254.86	3s4d - 3s8f	³ D - ³ F°	2 - 3		504

Ground State $1s^2 2s^2 2p^6 3s^2 S_{1/2}$ (11 electrons)Ionization Potential 364 093.1 cm^{-1} ; 45.142 eV

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2.02		327.137	0.0 - 305.68	$2p^6 3s - 2p^6 6p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
2.02		327.181	0.0 - 305.64	$2p^6 3s - 2p^6 6p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
2.01		361.560	0.0 - 276.58	$2p^6 3s - 2p^6 5p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		197, 504
2.01		361.659	0.0 - 276.50	$2p^6 3s - 2p^6 5p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		197, 504
9		412.155	71.29 - 313.91	$2p^6 3p - 2p^6 6d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		504
9		412.939	71.75 - 313.91	$2p^6 3p - 2p^6 6d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		504
8		437.849	71.29 - 299.68	$2p^6 3p - 2p^6 6s$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		504
8		438.734	71.75 - 299.68	$2p^6 3p - 2p^6 6s$	$^4P - ^4S$	$\frac{3}{2} - \frac{5}{2}$		504
7		454.112	71.29 - 291.50	$2p^6 3p - 2p^6 5d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		197, 504
7		455.065	71.75 - 291.50	$2p^6 3p - 2p^6 5d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		197, 504
2	250	457.818	0.0 - 218.43	$2p^6 3s - 2p^6 4p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		157, 504
2	200	458.155	0.0 - 218.27	$2p^6 3s - 2p^6 4p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		197, 504
	148	507.45						127
	43	510.70						127
6	150	515.118	71.29 - 265.42	$2p^6 3p - 2p^6 5s$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		197, 504
6	200	516.348	71.75 - 265.42	$2p^6 3p - 2p^6 5s$	$^4P - ^4S$	$\frac{3}{2} - \frac{5}{2}$		197, 504
	120	536.07						127
	157	547.40						127
5	2	559.533	71.29 - 250.01	$2p^6 3p - 2p^6 4d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		197, 677, 504
5	5	560.980	71.75 - 250.01	$2p^6 3p - 2p^6 4d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		197, 677, 504
	104	587.53						127
	123	595.84	160.37 - 328.20	$2p^6 3d - 2p^6 7f$	$^4D - ^4F$	$\frac{3}{2} - \frac{5}{2}$		127
	111	625.34						127
	120	625.77						127
	152	626.58						127
15	150	645.759	160.37 - 315.23	$2p^6 3d - 2p^6 6f$	$^4D - ^4F$	$\frac{3}{2} - \frac{5}{2}$		504, 767
	246	674.02						127
14	1	688.194	160.37 - 305.68	$2p^6 3d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504, 677
14		688.209	160.38 - 305.68	$2p^6 3d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
14		688.395	160.38 - 305.64	$2p^6 3d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
13	300	749.941	160.37 - 293.72	$2p^6 3d - 2p^6 5f$	$^4D - ^4F$	$\frac{3}{2} - \frac{5}{2}$		197, 504
	101	779.04	193.98 - 322.34	$2p^6 4s - 2p^6 7p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		127
4	500	815.049	71.29 - 193.98	$2p^6 3p - 2p^6 4s$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		197, 504
4	550	818.129	71.75 - 193.98	$2p^6 3p - 2p^6 4s$	$^4P - ^4S$	$\frac{3}{2} - \frac{5}{2}$		197, 504
12	20	860.551	160.37 - 276.58	$2p^6 3d - 2p^6 5p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504, 677
12		860.560	160.38 - 276.58	$2p^6 3d - 2p^6 5p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
12	5	861.118	160.38 - 276.50	$2p^6 3d - 2p^6 5p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504, 677
17		895.228	193.98 - 305.68	$2p^6 4s - 2p^6 6p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
17		895.558	193.98 - 305.64	$2p^6 4s - 2p^6 6p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
	582	899.86						127
	219	915.67						127
	153	929.39						127
	217	936.15						127
21		1045.500	218.27 - 313.91	$2p^6 4p - 2p^6 6d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		504
21		1047.271	218.43 - 313.91	$2p^6 4p - 2p^6 6d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		504
11	550	1066.629	160.37 - 254.13	$2p^6 3d - 2p^6 4f$	$^4D - ^4F$	$\frac{3}{2} - \frac{5}{2}$		197, 504
3	550	1122.486	71.29 - 160.38	$2p^6 3p - 2p^6 3d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		197, 504
3		1128.325	71.75 - 160.38	$2p^6 3p - 2p^6 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		197, 504
3	650	1128.340	71.75 - 160.37	$2p^6 3p - 2p^6 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		197, 504
	128	1146.78						127
16		1210.652	193.98 - 276.58	$2p^6 4s - 2p^6 5p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
16		1211.757	193.98 - 276.50	$2p^6 4s - 2p^6 5p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		504
20		1228.349	218.27 - 299.68	$2p^6 4p - 2p^6 6s$	$^4P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		504
20		1230.795	218.43 - 299.68	$2p^6 4p - 2p^6 6s$	$^4P - ^4S$	$\frac{3}{2} - \frac{5}{2}$		504
19		1365.549	218.27 - 291.50	$2p^6 4p - 2p^6 5d$	$^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		504
19		1368.571	218.43 - 291.50	$2p^6 4p - 2p^6 5d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		504
19		1368.573	218.43 - 291.50	$2p^6 4p - 2p^6 5d$	$^4P - ^4D$	$\frac{3}{2} - \frac{5}{2}$		504
1	1000	1393.755	0.0 - 71.75	$2p^6 3s - 2p^6 3p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		197, 504, 767
1	800	1402.770	0.0 - 71.29	$2p^6 3s - 2p^6 3p$	$^2S - ^4P$	$\frac{1}{2} - \frac{3}{2}$		197, 504, 767
24		1533.220	250.01 - 315.23	$2p^6 4d - 2p^6 6f$	$^4D - ^4F$	$\frac{3}{2} - \frac{5}{2}$		504
28	70	1634.607	254.13 - 315.31	$2p^6 4f - 2p^6 6g$	$^4F - ^4G$	$\frac{1}{2} - \frac{3}{2}$		504
27		1672.612	254.13 - 313.91	$2p^6 4f - 2p^6 6d$	$^4F - ^4D$	$\frac{1}{2} - \frac{3}{2}$		504
10	400	1722.534	160.37 - 218.43	$2p^6 3d - 2p^6 4p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
10	300	1727.577	160.38 - 218.27	$2p^6 3d - 2p^6 4p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
23		1796.162	250.01 - 305.68	$2p^6 4d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
23		1796.166	250.01 - 305.68	$2p^6 4d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504
23		1797.496	250.01 - 305.64	$2p^6 4d - 2p^6 6p$	$^4D - ^4P$	$\frac{3}{2} - \frac{5}{2}$		504

SILICON V (Si^{+}), $Z = 14$
 Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)
 Ionization Potential 1 345 070 cm^{-1} ; 166.77 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	78.611	0.0 - 1272.09	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{1/2}) 6d$	$g^4 S - \frac{1}{2} \frac{1}{2}$	0 - 1		231
	50	78.903	0.0 - 1267.38	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{3/2}) 6d$	$g^4 S - \frac{3}{2} \frac{3}{2}$	0 - 1		231
	100	80.807	0.0 - 1237.52	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{1/2}) 5d$	$g^4 S - \frac{1}{2} \frac{1}{2}$	0 - 1		231
	100	81.113	0.0 - 1232.85	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{3/2}) 5d$	$g^4 S - \frac{3}{2} \frac{3}{2}$	0 - 1		231
	500	85.175	0.0 - 1173.99	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{1/2}) 4d$	$g^4 S - \frac{1}{2} \frac{1}{2}$	0 - 1		231
	300	85.579	0.0 - 1168.62	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{3/2}) 4d$	$g^4 S - \frac{3}{2} \frac{3}{2}$	0 - 1		231
	200	90.447	0.0 - 1105.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{1/2}) 4s$	$g^4 S - \frac{1}{2} \frac{1}{2}$	0 - 1		116
	200	90.850	0.0 - 1100.74	$2s^2 2p^4 - 2s^2 2p^4 (^3P_{3/2}) 4s$	$g^4 S - \frac{3}{2} \frac{3}{2}$	0 - 1		116
	750	96.442	0.0 - 1036.92	$2s^2 2p^4 - 2s^2 2p^4 (^3P^{\circ}) 3d$	$g^4 S - ^1P^{\circ}$	0 - 1		116
	500	97.143	0.0 - 1029.41	$2s^2 2p^4 - 2s^2 2p^4 (^3P^{\circ}) 3d$	$g^4 S - ^3D^{\circ}$	0 - 1		116
	100	98.211	0.0 - 1018.24	$2s^2 2p^4 - 2s^2 2p^4 (^3P^{\circ}) 3d$	$g^4 S - ^1P^{\circ}$	0 - 1		116
	1000	117.853	0.0 - 848.51	$2s^2 2p^4 - 2s^2 2p^4 (^3P^{\circ}) 3s$	$g^4 S - ^1P^{\circ}$	0 - 1		116
	1000	118.961	0.0 - 840.59	$2s^2 2p^4 - 2s^2 2p^4 (^3P^{\circ}) 3s$	$g^4 S - ^3P^{\circ}$	0 - 1		116
	50	255.3	848.51 - 1240.18	$2s^2 2p^4 (^3P^{\circ}) 3s - 2s^2 2p^4 (^3P_{1/2}) 5f$	$^1P^{\circ} - \frac{1}{2} \frac{1}{2}$	1 - 2	Q	931, 375
		400.15	920.86 - 1170.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4d$	$^3D - \frac{1}{2} \frac{1}{2}$	1 - 2	Q	534, 375
		405.54	927.40 - 1173.99	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4d$	$^1P - \frac{1}{2} \frac{1}{2}$	2 - 1	Q	534, 375
		415.15	924.29 - 1165.18	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4d$	$^3D - \frac{3}{2} \frac{3}{2}$	2 - 3	Q	534, 375
	1	460.68	1017.63 - 1234.70	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 5f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	0 - 1		941
	3	461.97	1018.24 - 1234.70	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^1P^{\circ} - \frac{1}{2} \frac{1}{2}$	1 - 1		941
	10	464.05	1019.54 - 1235.03	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	2 - 3		941
	1	467.64	1021.38 - 1235.23	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	4 - 3		941
	25	468.345	1021.38 - 1234.90	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	4 - 5		941
	10	469.71	1022.35 - 1235.24	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 4		941
		470.42	1022.35 - 1234.91	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 4		941
	5	473.95	1024.24 - 1235.23	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	2 - 3		941
	10	474.45	1029.34 - 1240.11	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 5f$	$^3D^{\circ} - \frac{1}{2} \frac{1}{2}$	2 - 3		941
	15	475.63	1029.88 - 1240.12	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 5f$	$^3D^{\circ} - \frac{1}{2} \frac{1}{2}$	3 - 4		941
	15	476.88	1030.41 - 1240.11	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 5f$	$^3D^{\circ} - \frac{1}{2} \frac{1}{2}$	2 - 3		941
	1	477.59	1025.53 - 1234.91	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 4		941
	10	486.22	1029.41 - 1235.08	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3D^{\circ} - \frac{3}{2} \frac{3}{2}$	1 - 2		941
	1	488.73	1030.41 - 1235.03	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3D^{\circ} - \frac{3}{2} \frac{3}{2}$	2 - 3		941
	1	501.68	906.25 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3S - \frac{1}{2} \frac{1}{2}$	1 - 1		116
	1	505.18	1036.92 - 1234.71	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^1P^{\circ} - \frac{3}{2} \frac{3}{2}$	1 - 2		941
	10	514.177	906.25 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3S - \frac{3}{2} \frac{3}{2}$	1 - 1		116
	60	517.82	906.25 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3S - \frac{3}{2} \frac{3}{2}$	1 - 2		116
	5	535.86	918.96 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3D - \frac{1}{2} \frac{1}{2}$	2 - 1		116
	5	541.36	920.86 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3D - \frac{1}{2} \frac{1}{2}$	1 - 1		116
	30	544.719	920.86 - 1104.45	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3D - \frac{1}{2} \frac{1}{2}$	1 - 0		116
	90	550.123	918.96 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3D - \frac{3}{2} \frac{3}{2}$	2 - 1		116
	120	551.131	917.93 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3D - \frac{3}{2} \frac{3}{2}$	3 - 2		116
	20	551.597	924.29 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3D - \frac{1}{2} \frac{1}{2}$	2 - 1		116
	40	555.944	920.86 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3D - \frac{3}{2} \frac{3}{2}$	1 - 1		116
	55	556.670	925.95 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^1P - \frac{1}{2} \frac{1}{2}$	1 - 1		116
	100	560.227	925.95 - 1104.45	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^1P - \frac{1}{2} \frac{1}{2}$	1 - 0		116
	10	561.204	927.40 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^1P - \frac{1}{2} \frac{1}{2}$	2 - 1		116
	50	562.498	927.81 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3P - \frac{1}{2} \frac{1}{2}$	0 - 1		116
	60	564.403	928.41 - 1105.59	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3P - \frac{1}{2} \frac{1}{2}$	1 - 1		116
	50	566.72	924.29 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3D - \frac{3}{2} \frac{3}{2}$	2 - 1		116
	90	568.054	928.41 - 1104.45	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{1/2}) 4s$	$^3P - \frac{1}{2} \frac{1}{2}$	1 - 0		116
	20	571.158	924.29 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3D - \frac{3}{2} \frac{3}{2}$	2 - 2		116
	5	572.110	925.95 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^1P - \frac{3}{2} \frac{3}{2}$	1 - 1		116
	5	576.614	925.95 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^1P - \frac{3}{2} \frac{3}{2}$	1 - 2		116
	1	576.89	927.40 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3P - \frac{3}{2} \frac{3}{2}$	2 - 1		116
	20	578.255	927.81 - 1100.74	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3P - \frac{3}{2} \frac{3}{2}$	0 - 1		116
	50	581.473	927.40 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3P - \frac{3}{2} \frac{3}{2}$	2 - 2		116
	20	584.903	928.41 - 1099.37	$2s^2 2p^4 (^3P^{\circ}) 3p - 2s^2 2p^4 (^3P_{3/2}) 4s$	$^3P - \frac{3}{2} \frac{3}{2}$	1 - 2		116
	50	630.129	1019.54 - 1178.23	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3P^{\circ} - \frac{1}{2} \frac{1}{2}$	2 - 3		941
	90	645.39	1018.24 - 1173.18	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	1 - 2		941
	80	648.052	1018.24 - 1172.55	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	1 - 2		941
	50	648.312	1018.24 - 1172.48	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	1 - 1		941
	5	649.23	1024.24 - 1178.27	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3F^{\circ} - \frac{1}{2} \frac{1}{2}$	2 - 2		941
	60	649.404	1024.24 - 1178.23	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3F^{\circ} - \frac{1}{2} \frac{1}{2}$	2 - 3		941
	10	650.866	1019.54 - 1173.18	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	2 - 2		941
	100	651.104	1019.54 - 1173.12	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 3		941
	60	653.550	1019.54 - 1172.55	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3P^{\circ} - \frac{3}{2} \frac{3}{2}$	2 - 2		941
	40	654.819	1025.53 - 1178.24	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{1/2}) 4f$	$^3F^{\circ} - \frac{1}{2} \frac{1}{2}$	3 - 4		941
	50	657.267	1021.38 - 1173.53	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	4 - 4		941
	400	660.057	1021.38 - 1172.89	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	4 - 5		941
	50	661.509	1022.35 - 1173.52	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 3		941
	250	664.259	1022.35 - 1172.90	$2s^2 2p^4 (^3P^{\circ}) 3d - 2s^2 2p^4 (^3P_{3/2}) 4f$	$^3F^{\circ} - \frac{3}{2} \frac{3}{2}$	3 - 4		941

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	669.888	1024.24 - 1173.52		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	2-3		941
100	671.651	1029.34 - 1178.23		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-3		941
	571.72	1029.41 - 1178.27		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
250	674.007	1029.86 - 1178.24		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	3-4		941
200	675.657	1025.53 - 1173.53		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-4		941
10	676.332	1030.41 - 1178.27		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
150	676.511	1030.41 - 1178.23		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-3		941
40	677.531	1025.53 - 1173.12		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-3		941
40	678.566	1025.53 - 1172.90		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-4		941
1	680.181	1025.53 - 1172.55		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-2		941
50	693.581	1029.34 - 1173.52		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-3		941
10	695.208	1029.34 - 1173.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
60	695.532	1029.41 - 1173.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
50	696.113	1029.88 - 1173.53		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	3-4		941
20	698.096	1029.88 - 1173.12		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	3-3		941
20	698.617	1029.41 - 1172.55		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
5	698.93	1029.41 - 1172.48		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	1-1		941
1	700.46	1030.41 - 1173.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
40	700.733	1030.41 - 1173.12		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-3		941
30	701.095	962.95 - 1105.59		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P_{1/2}) 4s$	${}^3S - \frac{3}{2}[\frac{3}{2}]$	0-1		116
30	703.586	1030.41 - 1172.55		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
60	707.420	1036.92 - 1178.27		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4f$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
20	725.737	962.95 - 1100.74		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P_{3/2}) 4s$	${}^3S - \frac{3}{2}[\frac{3}{2}]$	0-1		116
50	733.855	1036.92 - 1173.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
50	737.301	1036.92 - 1172.55		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4f$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	1-2		941
50	817.257	840.59 - 962.95		$2s^2 2p^4 ({}^3P) 3s - 2s^2 2p^4 ({}^3P) 3p$	${}^3P^\circ - {}^3S$	1-0		116
5	872.25	1019.54 - 1134.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
250	873.832	848.51 - 962.95		$2s^2 2p^4 ({}^3P) 3s - 2s^2 2p^4 ({}^3P) 3p$	${}^3P^\circ - {}^3S$	1-0		116
200	882.735	906.25 - 1019.54		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3S - {}^3P^\circ$	1-2		116
3	888.999	917.93 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	3-2		116
150	892.993	906.25 - 1018.24		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3S - {}^3P^\circ$	1-1		116
60	893.277	917.93 - 1029.88		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	3-3		116
40	897.227	918.96 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-2		116
80	897.856	906.25 - 1017.63		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3S - {}^3P^\circ$	1-0		116
70	901.168	925.55 - 1036.92		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3P^\circ$	1-1		116
	904.48	1019.54 - 1130.10		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
5	905.414	918.96 - 1029.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-1		116
5	905.963	918.96 - 1029.34		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-2		116
30	912.827	920.86 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	1-2		116
30	916.500	927.81 - 1036.92		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3P^\circ$	0-1		116
5	920.305	1025.53 - 1134.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-2		941
	921.31	920.86 - 1029.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	1-1		116
70	921.583	928.41 - 1036.92		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3P^\circ$	1-1		116
10	921.862	920.86 - 1029.34		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	1-2		116
30	925.565	1036.92 - 1144.96		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	1-0		941
100	929.389	917.93 - 1025.53		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	3-3		116
5	937.973	1017.63 - 1124.24		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	0-1		941
70	938.753	1021.38 - 1127.91		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	4-3		941
5	940.61	917.93 - 1024.24		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	3-2		116
80	942.294	924.29 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-2		941
10	943.335	1018.24 - 1124.24		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	1-1		941
10	947.108	924.29 - 1029.88		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-3		941
2	947.359	1022.35 - 1127.91		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-3		941
100	949.842	918.96 - 1024.24		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	2-2		116
20	950.224	1024.24 - 1129.48		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	2-1		941
5	951.94	924.29 - 1029.34		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3D^\circ$	2-2		116
3	953.84	1029.34 - 1134.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
20	955.059	1019.54 - 1124.24		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3P^\circ - \frac{3}{2}[\frac{3}{2}]$	2-1		941
50	956.292	1025.53 - 1130.10		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-2		941
3	957.265	925.95 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	1-2		941
80	957.649	917.93 - 1022.35		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	3-3		116
60	958.709	1029.88 - 1134.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	3-2		941
5	959.33	1024.24 - 1128.48		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
30	961.633	1029.34 - 1133.33		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-1		941
40	963.666	1030.41 - 1134.18		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	2-2		941
10	964.861	1029.41 - 1133.05		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{3/2}) 4p$	${}^3D^\circ - \frac{3}{2}[\frac{3}{2}]$	1-0		941
300	966.607	917.93 - 1021.38		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	3-4		116
250	967.193	918.96 - 1022.35		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	2-3		116
100	967.338	920.86 - 1024.24		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3D - {}^3F^\circ$	1-2		116
	970.720	927.40 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	2-2		116
	975.8	927.40 - 1029.88		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	2-3		938
250	975.825	927.40 - 1029.88		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	2-3		116
5	976.73	1025.53 - 1127.91		$2s^2 2p^4 ({}^3P) 3d - 2s^2 2p^4 ({}^3P_{1/2}) 4p$	${}^3F^\circ - \frac{3}{2}[\frac{3}{2}]$	3-3		941
200	980.310	928.41 - 1030.41		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	1-2		116
70	980.955	927.40 - 1029.34		$2s^2 2p^4 ({}^3P) 3p - 2s^2 2p^4 ({}^3P) 3d$	${}^3P - {}^3D^\circ$	2-2		116

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
80	984.236		927.81 - 1029.41	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3D$	0 - 1		116
250	987.809		924.29 - 1025.53	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^1D - ^1F$	2 - 3		116
	990.083		928.41 - 1029.41	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3D$	1 - 1		116
30	999.28		1029.41 - 1129.48	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_{3/2}) 4p$	$^3D - ^3/2[3/2]$	1 - 1		941
20	1007.295		918.96 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^1D - ^3P$	2 - 1		116
30	1019.084		927.40 - 1025.53	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^1F$	2 - 3		116
20	1019.792		924.29 - 1022.35	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^1D - ^3F$	2 - 3		116
5	1020.09		1029.88 - 1127.91	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_{3/2}) 4p$	$^3D - ^3/2[3/2]$	3 - 3		941
2	1028.06		1036.92 - 1134.19	$2s^2 2p^4 (^3P) 3d - 2s^2 2p^4 (^3P_{3/2}) 4p$	$^3P - ^3/2[3/2]$	1 - 1		941
10	1049.915		924.29 - 1019.54	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^1D - ^3P$	2 - 2		116
70	1064.450		924.29 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^1D - ^3P$	2 - 1		116
40	1068.48		925.95 - 1019.54	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	1 - 2		116
10	1083.54		925.95 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	1 - 1		116
90	1085.318		927.40 - 1019.54	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	2 - 2		116
20	1097.308		928.41 - 1019.54	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	1 - 2		116
30	1100.465		927.40 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	2 - 1		116
60	1105.831		927.81 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	0 - 1		116
150	1106.338		838.02 - 928.41	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	2 - 1		116
	1113.213		928.41 - 1018.24	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	1 - 1		116
200	1118.807		838.02 - 927.40	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	2 - 2		116
70	1120.780		928.41 - 1017.63	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3P - ^3P$	1 - 0		116
80	1137.267		838.02 - 925.95	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	2 - 1		116
80	1138.752		840.59 - 928.41	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 1		116
200	1146.583		840.59 - 927.81	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 0		116
250	1151.963		840.59 - 927.40	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 2		116
400	1159.095		838.02 - 924.29	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	2 - 2		116
100	1171.559		840.59 - 925.95	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 1		116
300	1171.857		843.07 - 928.41	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	0 - 1		116
200	1194.74		840.59 - 924.29	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	1 - 2		116
	1206.612		843.07 - 925.95	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	0 - 1	P	116
	1207.052		838.02 - 920.86	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	2 - 1	P	116
	1235.453		838.02 - 918.96	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	2 - 2	P	116
500	1245.737		840.59 - 920.86	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	1 - 1		116
600	1251.390		838.02 - 917.93	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	2 - 3		116
450	1251.639		848.51 - 928.41	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 1		116
550	1267.638		848.51 - 927.40	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 2		116
600	1276.007		840.59 - 918.96	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	1 - 2		116
400	1285.457		843.07 - 920.86	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	0 - 1		116
450	1291.390		848.51 - 925.95	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3P$	1 - 1		116
500	1319.601		848.51 - 924.29	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	1 - 2		116
100	1351.990		962.95 - 1036.72	$2s^2 2p^4 (^3P) 3p - 2s^2 2p^4 (^3P) 3d$	$^3S - ^3P$	0 - 1		116
70	1419.484		848.51 - 918.96	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^1D$	1 - 2		116
60	1423.36		1164.65 - 1234.90	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	4 - 5		941
60	1434.17		1165.18 - 1234.91	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	3 - 4		941
40	1434.86		1170.43 - 1240.12	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	2 - 3		941
40	1447.95		1166.17 - 1235.23	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	2 - 3		941
50	1455.83		1166.55 - 1235.24	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	3 - 4		941
700	1465.531		838.02 - 906.25	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3S$	2 - 1		116
30	1504.76		1168.62 - 1235.08	$2s^2 2p^4 (^3P_{3/2}) 4d - 2s^2 2p^4 (^3P_{3/2}) 5f$	$^3/2[3/2] - ^3/2[3/2]$	1 - 2		941
400	1522.944		840.59 - 906.25	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3S$	1 - 1		116
200	1582.737		843.07 - 906.25	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3S$	0 - 1		116
30	1595.44		1172.48 - 1235.16	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	1 - 2		941
50	1596.98		1172.55 - 1235.16	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	2 - 3		941
80	1604.25		1172.89 - 1235.22	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	5 - 6		941
60	1604.47		1172.90 - 1235.22	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	4 - 5		941
40	1607.73		1173.12 - 1235.32	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	3 - 4		941
80	1609.11		1178.23 - 1240.37	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	3 - 4		941
80	1609.28		1173.18 - 1235.32	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	2 - 3		941
50	1609.43		1178.24 - 1240.37	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	4 - 5		941
40	1610.29		1178.27 - 1240.37	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	2 - 3		941
40	1616.81		1173.53 - 1235.38	$2s^2 2p^4 (^3P_{3/2}) 4f - 2s^2 2p^4 (^3P_{3/2}) 5g$	$^3/2[3/2] - ^3/2[3/2]$	4 - 4		941
20	1731.868		848.51 - 906.25	$2s^2 2p^4 (^3P) 3s - 2s^2 2p^4 (^3P) 3p$	$^3P - ^3S$	1 - 1		116

SILICON VI (Si^{+}), $Z = 14$ Ground State $1s^2 2s^2 2p^3 \ ^4P_{3/2}$ (9 electrons)Ionization Potential 1 653 900 cm^{-1} ; 205.06 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
20	65.004		0.0 - 1538.37	$2s^2 2p^3 - 2s^2 2p^3(^1D)5d$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		231
10	65.211		5.09 - 1538.37	$2s^2 2p^3 - 2s^2 2p^3(^1D)5d$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		231
20	66.772		0.0 - 1497.63	$2s^2 2p^3 - 2s^2 2p^3(^3P)5d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
10	66.796		0.0 - 1497.1	$2s^2 2p^3 - 2s^2 2p^3(^1S)4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
50	69.204		0.0 - 1445.	$2s^2 2p^3 - 2s^2 2p^3(^1D)4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
250	69.236		0.0 - 1444.34	$2s^2 2p^3 - 2s^2 2p^3(^1D)4d$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		231
50	69.421		5.09 - 1445.59	$2s^2 2p^3 - 2s^2 2p^3(^1D)4d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
100	69.448		5.09 - 1445.03	$2s^2 2p^3 - 2s^2 2p^3(^1D)4d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
250	71.181		0.0 - 1404.87	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
100	71.273		0.0 - 1403.05	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
10	71.304		0.0 - 1402.51	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
50	71.340		0.0 - 1401.74	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
150	71.366		5.09 - 1406.33	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
200	71.384		0.0 - 1400.88	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
50	71.474		0.0 - 1399.11	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
50	71.534		5.09 - 1403.05	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
50	71.561		5.09 - 1402.51	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		231
10	71.644		5.09 - 1400.88	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
10	71.718		5.09 - 1399.45	$2s^2 2p^3 - 2s^2 2p^3(^3P)4d$	$g^1P^o - ^1F$	$\frac{1}{2} - \frac{3}{2}$		231
50	72.896		0.0 - 1371.82	$2s^2 2p^3 - 2s^2 2p^3(^1D)4d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
200	75.193		0.0 - 1329.9	$2s^2 2p^3 - 2s^2 2p^3(^3P)4s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
150	75.398							231
50	75.486		5.09 - 1329.9	$2s^2 2p^3 - 2s^2 2p^3(^3P)4s$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
50	75.587		0.0 - 1322.98	$2s^2 2p^3 - 2s^2 2p^3(^3P)4s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
500	77.429		0.0 - 1291.51	$2s^2 2p^3 - 2s^2 2p^3(^1S)3d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
300	77.718		5.09 - 1291.80	$2s^2 2p^3 - 2s^2 2p^3(^1S)3d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
250	80.395		0.0 - 1243.86	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
500	80.449		0.0 - 1243.02	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
250	80.491		0.0 - 1242.39	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
500	80.501		0.0 - 1242.19	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
600	80.577		0.0 - 1241.06	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
500	80.698		0.0 - 1239.20	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		231
500	80.725		5.09 - 1243.86	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
400	80.821		5.09 - 1242.39	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		231
400	80.908		5.09 - 1241.06	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
350	81.030		5.09 - 1239.20	$2s^2 2p^3 - 2s^2 2p^3(^1D)3d$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		231
200	83.006		0.0 - 1204.74	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
750	83.128		0.0 - 1202.96	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
250	83.258		0.0 - 1201.10	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
50	83.283		0.0 - 1200.72	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
400	83.358		5.09 - 1204.74	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
400	83.526		0.0 - 1197.73	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
400	83.611		5.09 - 1201.10	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
150	83.639		5.09 - 1200.72	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		231
50	83.684		0.0 - 1194.90	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
50	83.729		0.0 - 1194.33	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
300	83.802		0.0 - 1193.22	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
10	83.965		5.09 - 1195.98	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
600	84.082		5.09 - 1194.33	$2s^2 2p^3 - 2s^2 2p^3(^3P)3d$	$g^1P^o - ^1F$	$\frac{1}{2} - \frac{3}{2}$		231
200	91.370		0.0 - 1094.45	$2s^2 2p^3 - 2s^2 2p^3(^1S)3s$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		733
200	91.798		5.09 - 1094.45	$2s^2 2p^3 - 2s^2 2p^3(^1S)3s$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		733
500	96.022		0.0 - 1041.42	$2s^2 2p^3 - 2s^2 2p^3(^1D)3s$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		733
500	96.488		5.09 - 1041.47	$2s^2 2p^3 - 2s^2 2p^3(^1D)3s$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
500	99.0963		0.0 - 1009.12	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		733
750	99.4595		0.0 - 1005.43	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		733
500	99.5991		5.09 - 1009.12	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		733
500	99.9658		5.09 - 1005.43	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
500	100.6403		0.0 - 993.64	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		733
40	100.953		0.0 - 990.52	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		733
10	100.970		5.09 - 995.47	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		733
10	101.159		5.09 - 993.64	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
50	102.846		406.50 - 1378.83	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		231
100	103.163		406.50 - 1375.84	$2s^2 2p^3 - 2s^2 2p^3(^3P)3s$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		231
50	147.8		406.50 - 1083.00	$2s^2 2p^3 - 2s^2 2p^3(^3P)3p$	$^1S - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	Q	931, 375
50	213.4		1069.85 - 1538.37	$2s^2 2p^3(^3P)3p - 2s^2 2p^3(^1D)5d$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Q	931, 375
50	224.1		1092.17 - 1538.37	$2s^2 2p^3(^3P)3p - 2s^2 2p^3(^1D)5d$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Q	931, 375
800	246.004		0.0 - 406.50	$2s^2 2p^3 - 2s^2 2p^3$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		733
700	249.124		5.09 - 406.50	$2s^2 2p^3 - 2s^2 2p^3$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		733
	281.23		1182.78 - 1538.37	$2s^2 2p^3(^1S)3p - 2s^2 2p^3(^1D)5d$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Q	534, 375
50	281.3		1199.55 - 1445.03	$2s^2 2p^3(^3P)3p - 2s^2 2p^3(^1D)4d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	931, 375

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		285.92	147.90 - 1497.63	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1P) 5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	Q	534, 375
		301.25	1071.13 - 1403.05	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 4d$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Q	534, 375
50		331.2	1069.85 - 1371.82	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1D) 4s$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$	Q	534, 931, 375
50		360.3	1124.22 - 1401.74	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1P) 4d$	$^1F - ^1P$	$\frac{1}{2} - \frac{3}{2}$	Q	931, 375
60		442.94						733
20		443.81						733
100		452.17						733
30		457.42						733
200		461.30						733
20		462.29	1182.78 - 1399.11	$2s^2 2p^4 (^1S) 3p - 2s^2 2p^4 (^1P) 4d$	$^1P - ^1F$	$\frac{1}{2} - \frac{3}{2}$	Q	733
100		468.78						733
40		483.68						733
80		489.81						733
		504.95	1093.75 - 1291.80	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1S) 3d$	$^1S - ^1D$	$\frac{3}{2} - \frac{5}{2}$	Q	534, 375
		690.35	1005.43 - 1150.28	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1D) 3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
90		701.89	1005.43 - 1147.90	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1D) 3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
60		708.394	1009.12 - 1150.28	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1D) 3p$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
40		720.547	1009.12 - 1147.90	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1D) 3p$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
20		775.71	1068.81 - 1197.73	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
20		779.19	1068.81 - 1197.15	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
10		782.03	1069.85 - 1197.73	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
5		785.57	1069.85 - 1197.15	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
10		786.343	1068.81 - 1195.98	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
5		792.86	1069.85 - 1195.98	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
30		799.723	1069.85 - 1194.90	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
30		800.926	1071.13 - 1195.98	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
5		807.94	1071.13 - 1194.90	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
20		844.39	1124.22 - 1242.65	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^1F - ^1F$	$\frac{1}{2} - \frac{3}{2}$		733
5		874.99	1078.94 - 1193.22	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
10		884.64	1069.85 - 1182.89	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
60		886.243	1068.81 - 1181.65	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
10		888.050	1078.94 - 1191.54	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{3}{2}$		733
20		888.72	1080.79 - 1193.22	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
50		889.227	1069.85 - 1182.31	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
100		890.041	1068.81 - 1181.17	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
		891.97	1082.22 - 1194.33	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
70		894.490	1069.85 - 1181.65	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
40		894.737	1071.13 - 1182.89	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
40		898.281	1083.00 - 1194.33	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{3}{2}$		733
40		899.427	1071.13 - 1182.31	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
60		900.834	1082.22 - 1193.22	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
200		901.637	1078.94 - 1189.84	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{3}{2}$		733
100		902.209	1080.79 - 1191.54	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
5		906.18	1086.80 - 1197.15	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
30		919.034	1041.47 - 1150.28	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
90		922.063	1124.22 - 1232.67	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^1F - ^1G$	$\frac{1}{2} - \frac{3}{2}$		733
100		924.290	1086.80 - 1194.99	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
50		924.62	1134.50 - 1242.65	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
5		925.03	1134.08 - 1242.19	$2s^2 2p^4 (^1D) 3p - 2s^2 2p^4 (^1D) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
		939.10	1041.42 - 1147.90	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
5		954.70	1086.80 - 1191.54	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
40		961.766	1093.75 - 1197.73	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1S - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
60		968.655	990.52 - 1093.75	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{5}{2}$		733
5		973.57	1078.94 - 1181.65	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
70		978.167	1078.94 - 1181.17	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
30		988.664	1093.75 - 1194.90	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1S - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
50		990.59	1080.79 - 1181.65	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
60		998.884	993.64 - 1093.75	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{5}{2}$		733
5		1001.09	1083.00 - 1182.89	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
5		1006.96	1083.00 - 1182.31	$2s^2 2p^4 (^1P) 3p - 2s^2 2p^4 (^1P) 3d$	$^1D - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
40		1017.48	995.47 - 1093.75	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1S$	$\frac{1}{2} - \frac{3}{2}$		733
50		1074.36	1041.42 - 1134.50	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
5		1074.98	1041.47 - 1134.50	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
30		1079.809	1041.47 - 1134.08	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
40		1108.85	990.52 - 1080.70	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
50		1128.99	993.64 - 1082.22	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
100		1130.983	990.52 - 1078.94	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
50		1142.43	995.47 - 1083.00	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		733
90		1148.630	993.64 - 1080.70	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
70		1152.862	1005.43 - 1092.17	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733
50		1188.829	1005.43 - 1089.55	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{5}{2}$		733
80		1204.05	1009.12 - 1092.17	$2s^2 2p^4 (^1P) 3s - 2s^2 2p^4 (^1P) 3p$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		733
200		1207.68	1041.42 - 1124.22	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
10		1217.65	1041.42 - 1123.54	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1F$	$\frac{3}{2} - \frac{5}{2}$		733
100		1218.50	1041.47 - 1123.54	$2s^2 2p^4 (^1D) 3s - 2s^2 2p^4 (^1D) 3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{5}{2}$		733

Si VI

Si VII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
300	1229.01	1005.43 - 1086.80	1005.43 - 1086.80	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$		733
50	1243.31	1009.12 - 1089.55	1009.12 - 1089.55	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4D^o$	$\frac{1}{2} - \frac{3}{2}$		733
500	1277.20	990.52 - 1068.81	990.52 - 1068.81	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		733
100	1290.49	993.64 - 1071.13	993.64 - 1071.13	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{1}{2}$		733
50	1312.11	993.64 - 1069.85	993.64 - 1069.85	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		733
90	1330.27	993.64 - 1068.81	993.64 - 1068.81	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$		733
80	1344.40	995.47 - 1069.85	995.47 - 1069.85	$2s^2 2p^4(^4P) 3s - 2s^2 2p^4(^4P) 3p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{3}{2}$		733

SILICON VII (Si^{++}), $Z = 14$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 1 988 400 cm^{-1} ; 246.53 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	54.462	0.0 - 1836.14	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})5d$	$g^3P - ^3P^{\circ}$	2 - 2			231
50	54.522	0.0 - 1834.12	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})5d$	$g^3P - ^3D^{\circ}$	2 - 3			233, 231
50	56.528	0.0 - 1769.04	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})5d$	$g^3P - ^3D^{\circ}$	2 - 3			231
50	56.645	4.03 - 1769.04	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})5d$	$g^3P - ^3D^{\circ}$	1 - 2		Q	231, 375
50	57.325	0.0 - 1744.44	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4d$	$g^3P - ^3D^{\circ}$	2 - 3			231
50	57.434	0.0 - 1741.13	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4d$	$g^3P - ^3P^{\circ}$	2 - 2			231
50	57.589	4.03 - 1741.13	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4d$	$g^3P - ^3P^{\circ}$	1 - 2			231, 487
50	58.388	0.0 - 1712.68	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$g^3P - ^3S^{\circ}$	2 - 1			231
100	58.445	0.0 - 1711.01	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$g^3P - ^3P^{\circ}$	2 - 2			231
10	58.526	4.03 - 1712.68	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$g^3P - ^3S^{\circ}$	1 - 1			231
100	58.580	0.0 - 1707.07	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$g^3P - ^3D^{\circ}$	2 - 3			231
50	58.719	4.03 - 1707.07	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$g^3P - ^3D^{\circ}$	1 - 2			231
50	58.782	46.55 + X - 1747.75 + X	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4d$	$^1D - ^1F^{\circ}$	2 - 3			231
50	59.884	0.0 - 1669.9	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4s$	$g^3P - ^3P^{\circ}$	2 - 2			231
100	59.966	46.55 + X - 1714.16 + X	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$^1D - ^1F^{\circ}$	2 - 3			231, 375
100	60.221	46.55 + X - 1707.1 + X	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$^1D - ^1P^{\circ}$	2 - 1			231
100	60.837	0.0 - 1643.74	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})4d$	$g^3P - ^3D^{\circ}$	2 - 3			231
100	60.989	4.03 - 1643.74	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})4d$	$g^3P - ^3D^{\circ}$	1 - 2			231
50	61.306	0.0 - 1631.16	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4s$	$g^3P - ^3D^{\circ}$	2 - 3			231
50	62.154	99.33 + X - 1707.1 + X	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4d$	$^1S - ^1P^{\circ}$	0 - 1		Q	231, 375
50	62.940	46.55 + X - 1635.37 + X	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})4s$	$^1D - ^1D^{\circ}$	2 - 2			231
50	65.595	363.17 - 1887.68	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})4s$	$^1P^{\circ} - ^1P^{\circ}$	2 - 2			231, 233
10	68.026	0.0 - 1470.05	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 2			231
250	68.148	0.0 - 1467.39	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 3			231
50	68.190	0.0 - 1466.49	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3F^{\circ}$	2 - 2			231, 375
50	68.212	4.03 - 1470.05	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3D^{\circ}$	1 - 2			231
50	68.270	5.57 - 1470.04 + X	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^1P^{\circ}$	0 - 1		Q	231, 375
50	68.340	0.0 - 1463.27	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3F^{\circ}$	2 - 3		Q	231, 375
100	68.408	0.0 - 1461.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	2 - 2			231
10	68.456	0.0 - 1460.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	2 - 1			231
50	68.593	4.03 - 1461.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 2			231
50	68.642	4.03 - 1460.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 1			231
50	68.669	4.03 - 1460.29	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 0			231
100	68.715	5.57 - 1460.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$g^3P - ^3P^{\circ}$	0 - 1			231
150	69.385	0.0 - 1441.23	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3S^{\circ}$	2 - 1			231
100	69.580	4.03 - 1441.23	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3S^{\circ}$	1 - 1			231
100	69.602	0.0 - 1436.75	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3P^{\circ}$	2 - 1			231
200	69.663	0.0 - 1435.46	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3P^{\circ}$	2 - 2			231
200	69.790	4.03 - 1437.09	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 0			231
100	69.861	4.03 - 1435.46	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 2			231
100	69.872	5.57 - 1436.75	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3P^{\circ}$	0 - 1			231
250	70.027	0.0 - 1428.02	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 3			231
250	70.072	46.55 + X - 1473.65 + X	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$^1D - ^1F^{\circ}$	2 - 3			231
20	70.123	0.0 - 1426.05	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3F^{\circ}$	2 - 3			231
200	70.222	4.03 - 1428.09	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3D^{\circ}$	1 - 2			231
200	70.250	46.55 + X - 1470.04 + X	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$^1D - ^1P^{\circ}$	2 - 1			231
50	70.323	4.03 - 1426.05	$2s^2 2p^4 - 2s^2 2p^3(^4D^{\circ})3d$	$g^3P - ^3F^{\circ}$	1 - 2			231
50	70.427	46.55 + X - 1466.46 + X	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$^1D - ^1D^{\circ}$	2 - 2			231
100	70.594	46.55 + X - 1463.27	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$^1D - ^1F^{\circ}$	2 - 3		Q	231, 375
50	70.730	46.55 + X - 1460.86	$2s^2 2p^4 - 2s^2 2p^3(^4P^{\circ})3d$	$^1D - ^1P^{\circ}$	2 - 1			231

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
200	71.384		46.55 + X - 1447.42 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3d$	$^1D - ^1F$	2 - 3	Q	231
200	71.900		46.55 + X - 1436.75	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3d$	$^1D - ^3P$	2 - 1		231, 375
200	71.955		46.55 + X - 1436.31 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3d$	$^1D - ^1D$	2 - 2		231, 233
300	72.324		46.55 + X - 1425.23 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3d$	$^1D - ^1P$	2 - 1		231
500	73.123		0.0 - 1367.56	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3d$	$g^4F - ^3D$	2 - 3		231
250	73.350		4.03 - 1367.55	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3d$	$g^4P - ^3D$	1 - 1		231
200	73.433		5.57 - 1367.36	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3d$	$g^4P - ^3D$	0 - 1		231
200	75.193		99.33 + X - 1429.23 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3d$	$^1S - ^1P$	0 - 1		231, 233
250	79.236		0.0 - 1262.04	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$g^4P - ^3P$	2 - 2		231
50	79.262		0.0 - 1261.61	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$g^4P - ^3P$	2 - 1		231
100	79.491		4.03 - 1262.04	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$g^4P - ^3P$	1 - 2		231
100	79.523		4.03 - 1261.61	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$g^4P - ^3P$	1 - 1		231
100	79.615		5.57 - 1261.61	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$g^4P - ^3P$	0 - 1		231
50	81.449		363.17 - 1590.93	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$^3P - ^3D$	2 - 3		233
250	81.558		46.55 + X - 1272.72 + X	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$^1D - ^1P$	2 - 1		231
600	81.620		0.0 - 1225.15	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$g^4P - ^3D$	2 - 3		231
500	81.895		4.03 - 1225.15	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$g^4P - ^3D$	1 - 2		231
150	81.998		5.57 - 1225.15	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$g^4P - ^3D$	0 - 1		231
600	84.082		46.55 + X - 1235.87 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$^1D - ^1D$	2 - 2		231
100	85.219		99.33 + X - 1272.72 + X	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$^1S - ^1P$	0 - 1		231
500	85.289		0.0 - 1172.47	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3s$	$g^4P - ^3S$	2 - 1		231
500	85.584		4.03 - 1172.47	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3s$	$g^4P - ^3S$	1 - 1		231
100	85.698		5.57 - 1172.47	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3s$	$g^4P - ^3S$	0 - 1		231
	86.88		0.0 - 1151.	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3s$	$g^4P - ^3S$	2 - 2	P	680
	87.19		4.03 - 1151.	$2s^2 2p^4 - 2s^2 2p^3(^1S) 3s$	$g^4P - ^3S$	1 - 2	P	680
150	88.008		363.17 - 1499.43	$2s^2 2p^4 - 2s^2 2p^3(^1P) 3s$	$^3P - ^3P$	2 - 2		231, 233
50	163.4		849.01 + X - 1460.86	$2p^4 - 2s^2 2p^3(^1P) 3d$	$^1S - ^3P$	0 - 1	Q	931, 375
	170.13		849.01 + X - 1436.75	$2p^4 - 2s^2 2p^3(^1D) 3d$	$^1S - ^3P$	0 - 1	Q	534, 375
50	172.39		849.01 + X - 1429.23 + X	$2p^4 - 2s^2 2p^3(^1D) 3d$	$^1S - ^3P$	0 - 1	Q	534, 931, 375
50	217.6		1428.02 - 1887.68	$2s^2 2p^3(^1D) 3d - 2s^2 2p^3(^1P) 4s$	$^1D - ^3P$	3 - 2	Q	931, 375
350	217.826		46.55 + X - 505.63 + X	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1P$	2 - 1	P	197, 231
	246.12		99.33 + X - 505.63 + X	$2s^2 2p^4 - 2s^2 2p^3$	$^1S - ^1P$	0 - 1		248
200	272.641		0.0 - 366.78	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	2 - 1		197, 231
200	274.175		4.03 - 368.76	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	1 - 0		197, 231
250	275.352		0.0 - 363.17	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	2 - 2		197, 231
200	275.665		4.03 - 366.78	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	1 - 1		197, 231
200	276.839		5.57 - 366.78	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	0 - 1		197, 231
200	278.445		4.03 - 363.17	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^3P$	1 - 2		197, 231
	291.22		565.63 + X - 849.01 + X	$2s^2 2p^4 - 2p^4$	$^1P - ^1S$	1 - 0		868
	1006.60		0.0 - 99.34 + X	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^1S$	2 - 0	F, P	375
	1049.16		4.03 - 99.34 + X	$2s^2 2p^4 - 2s^2 2p^3$	$g^4P - ^1S$	1 - 0	F, P	375
	1894.83		46.57 + X - 99.34 + X	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1S$	2 - 0	F, P	375

SILICON VIII (Si^{7+}), Z = 14Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 2 445 300 cm^{-1} ; 303.18 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	49.987		0.0 - 2000.52	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4d$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
50	50.019		0.0 - 1999.24	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4d$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
50	50.524		69.41 + X - 2048.68 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 4d$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
20	51.718		69.41 + X - 2002.98 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4d$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		231
20	51.819		69.17 + X - 1998.93 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4d$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		231
20	52.554		105.88 + X - 2008.71 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		231
10	53.770		69.41 + X - 1929.19 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P) 4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		231
150	58.885		0.0 - 1698.23	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3p$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
100	60.673		105.88 + X - 1754.08 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		231, 680
100	60.989		0.0 - 1639.64	$2s^2 2p^3 - 2s^2 2p^2(^3P) 3d$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
100	61.019		0.0 - 1638.83	$2s^2 2p^3 - 2s^2 2p^2(^3P) 3d$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
200	61.070		0.0 - 1637.47	$2s^2 2p^3 - 2s^2 2p^2(^3P) 3d$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		231
50	61.175		0.0 - 1634.66	$2s^2 2p^3 - 2s^2 2p^2(^3P) 3d$	$g^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		231
100	61.223		0.0 - 1633.37	$2s^2 2p^3 - 2s^2 2p^2(^3P) 3d$	$g^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		231
50	61.395		69.41 + X - 1698.14 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		231

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	61.446	69.17 + X - 1696.56 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
	100	61.798	69.41 + X - 1687.56 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	100	61.852	69.17 + X - 1685.93 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231, 233
	150	61.895	69.17 + X - 1684.78 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
	150	61.914	69.41 + X - 1684.56 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{1}{2}$		231
	50	62.586	105.88 + X - 1703.70 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		231
	100	62.808	105.88 + X - 1698.14 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	150	62.849	69.41 + X - 1660.46 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	50	62.884	69.17 + X - 1659.29 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	150	63.229	105.88 + X - 1687.56 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	50	63.266	105.35 + X - 1685.93 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
	150	63.732	69.41 + X - 1638.49 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{1}{2}$		231
	50	63.879	0.0 - 1565.27 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3s$	$g^4S^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Q	231, 375
	150	63.903	69.17 + X - 1634.01 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		231
	100	64.221	69.41 + X - 1624.90 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	150	64.327	105.88 + X - 1660.46 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	50	64.355	105.35 + X - 1659.29 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		231
	50	65.833	105.88 + X - 1624.90 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	150	67.157	312.67 - 1801.71	$2s 2p^4 - 2s 2p^3(^1S^{\circ}) 3d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		231
	100	67.318	316.26 - 1801.71	$2s 2p^4 - 2s 2p^3(^1S^{\circ}) 3d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		231
	150	67.408	318.16 - 1801.71	$2s 2p^4 - 2s 2p^3(^1S^{\circ}) 3d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		231
	50	68.497	105.35 + X - 1565.27 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3s$	$^1P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$		231, 680
	50	68.522	105.88 + X - 1565.27 + X	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3s$	$^1P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$		231, 680
	100	68.853	0.0 - 1453.90 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	231, 375
	150	69.632	0.0 - 1436.12	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	200	69.790	0.0 - 1432.87	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	50	69.905	0.0 - 1430.51	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
	100	70.458	69.41 + X - 1488.71 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3s$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	100	70.473	69.17 + X - 1488.12 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3s$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	200	72.228	69.41 + X - 1453.90 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	300	72.324	105.88 + X - 1488.71 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3s$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	200	72.420	69.17 + X - 1449.95 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
	100	74.186	105.88 + X - 1453.90 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	20	74.371	105.35 + X - 1449.95 + X	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
	50	75.986	312.67 - 1628.66	$2s 2p^4 - 2s 2p^3(^1S^{\circ}) 3s$	$^1P - ^1S^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		231
	20	76.198	316.26 - 1628.66	$2s 2p^4 - 2s 2p^3(^1S^{\circ}) 3s$	$^1P - ^1S^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		231
	100	214.756	69.17 + X - 534.79 + X	$2s^2 2p^3 - 2s 2p^4$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
	20	216.800	69.17 + X - 530.42 + X	$2s^2 2p^3 - 2s 2p^4$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	100	216.918	69.41 + X - 530.42 + X	$2s^2 2p^3 - 2s 2p^4$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	10	232.864	105.35 + X - 534.79 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{1}{2}$		231
	10	233.159	105.88 + X - 534.79 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		231
	10	235.221	105.35 + X - 530.42 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1P$	$\frac{1}{2} - \frac{3}{2}$		231
	20	235.563	105.88 + X - 530.42 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
		250.60	105.35 + X - 504.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P	248
		250.97	105.88 + X - 504.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P	248
		252.79	430.36 + X - 825.91 + X	$2s 2p^4 - 2p^5$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		246
		256.53	430.36 + X - 820.19 + X	$2s 2p^4 - 2p^5$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		248
	200	276.839	69.17 + X - 430.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	200	277.054	69.41 + X - 430.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231
	20	307.65	105.35 + X - 430.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		693
	50	308.26	105.88 + X - 430.36 + X	$2s^2 2p^3 - 2s 2p^4$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		774
	50	314.31	0.0 - 318.16	$2s^2 2p^3 - 2s 2p^4$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{1}{2}$		774
	100	316.202	0.0 - 316.26	$2s^2 2p^3 - 2s 2p^4$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	100	319.829	0.0 - 312.67	$2s^2 2p^3 - 2s 2p^4$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		231
	50	334.94						534, 931
		338.43	530.42 + X - 825.91 + X	$2s 2p^4 - 2p^5$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		250
		343.49	534.79 + X - 825.91 + X	$2s 2p^4 - 2p^5$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		250
		345.10	530.42 + X - 820.19 + X	$2s 2p^4 - 2p^5$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		250
		350.38	534.79 + X - 820.19 + X	$2s 2p^4 - 2p^5$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		250
		407.7						534
		944.4	0.0 - 105.88 + X	$2s^2 2p^3 - 2s^2 2p^2$	$g^4S^{\circ} - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
		949.2	0.0 - 105.35 + X	$2s^2 2p^3 - 2s^2 2p^2$	$g^4S^{\circ} - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
0		1440.33	0.0 - 69.41 + X	$2s^2 2p^3 - 2s^2 2p^2$	$g^4S^{\circ} - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	F, P	375, 940
9		1445.78	0.0 - 69.17 + X	$2s^2 2p^3 - 2s^2 2p^2$	$g^4S^{\circ} - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	F, P	375, 940

SILICON IX (Si⁹⁺), Z = 14
Ground State 1s²2s²2p² ³P₀ (6 electrons)
Ionization Potential 2 831 900 cm⁻¹; 351.11 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁶ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
		6.884						839
10	44.215		2.55 - 2264.27	2s ² 2p ² - 2s ² 2p(³ P ^o)4d	g ³ P - ¹ D ^o	1 - 2		231
10	44.249		6.42 - 2266.4	2s ² 2p ² - 2s ² 2p(³ P ^o)4d	g ³ P - ¹ D ^o	2 - 3		231
50	51.113		52.94 + X - 2009.41 + X	2s ² 2p ² - 2s2p(³ D)3p	¹ D - ¹ D ^o	2 - 2		231
100	51.362		52.94 + X - 1999.93 + X	2s ² 2p ² - 2s2p(³ D)3p	¹ D - ¹ F ^o	2 - 3		231
10	52.671		292.21 - 2190.79	2s2p ² - 2s2p(³ P)3d	³ D ^o - ³ F	3 - 4		233
20	52.810		2.55 - 1896.17	2s ² 2p ² - 2s2p(³ P)3p	g ³ P - ³ D ^o	1 - 2		231
50	52.838		6.42 - 1899.04	2s ² 2p ² - 2s2p(³ P)3p	g ³ P - ³ D ^o	2 - 3		231
10	53.992		6.42 - 1858.59	2s ² 2p ² - 2s2p(³ P)3p	g ³ P - ³ S ^o	2 - 1		231
50	54.403		0.0 - 1838.54 + X	2s ² 2p ² - 2s ² p(³ P ^o)3d	g ³ P - ¹ P ^o	0 - 1	Q	231, 375
100	54.841		150.01 + Y - 1973.46 + Y	2s2p ² - 2s2p(³ P)3d	¹ S ^o - ³ P	2 - 1		231
100	54.870		150.01 + Y - 1972.5 + Y	2s2p ² - 2s2p(³ P)3d	¹ S ^o - ³ P	2 - 2		231
100	54.907		150.01 + Y - 1971.27 + Y	2s2p ² - 2s2p(³ P)3d	¹ S ^o - ³ P	2 - 3		231
50	55.094		2.55 - 1817.67	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ P ^o	1 - 0		231
50	55.116		2.55 - 1816.94	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ P ^o	1 - 1		231
50	55.234		6.42 - 1816.94	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ P ^o	2 - 1		231
150	55.272		6.42 - 1815.69	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ P ^o	2 - 2		231
50	55.305		0.0 - 1808.16	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ D ^o	0 - 1		231
50	55.356		2.55 - 1809.08	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ D ^o	1 - 2		231
100	55.401		6.42 - 1811.48	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	g ³ P - ³ D ^o	2 - 3		231
50	55.511		292.21 - 2093.65	2s2p ² - 2s2p(³ D)3d	¹ D ^o - ¹ D	3 - 3		231, 233
150	55.781		292.21 - 2084.94	2s2p ² - 2s2p(³ D)3d	¹ D ^o - ³ F	3 - 4		231, 233
150	56.027		52.94 + X - 1837.81 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	¹ D - ¹ F ^o	2 - 3		231
50	57.157		344.08 - 2093.65	2s2p ² - 2s2p(³ D)3d	³ P ^o - ¹ D	2 - 3		231, 233
50	57.434		52.94 + X - 1794.09 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	¹ D - ¹ D ^o	2 - 2		231
50	57.589		52.94 + X - 1789.4 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	¹ D - ¹ F ^o	2 - 3		233
100	57.778		107.83 + X - 1838.54 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3d	¹ S ^o - ¹ P ^o	0 - 1		231
50	58.150		292.21 - 2011.69	2s2p ² - 2s2p(³ P)3d	¹ D ^o - ¹ D	3 - 3	Q	231, 375
50	58.906		292.21 - 1989.83	2s2p ² - 2s2p(³ P)3d	¹ D ^o - ³ F	3 - 4		231
100	59.004		292.36 - 1987.16	2s2p ² - 2s2p(³ P)3d	¹ D ^o - ³ F	2 - 3		231
50	59.077		292.44 - 1985.15	2s2p ² - 2s2p(³ P)3d	¹ D ^o - ³ F	1 - 2		231
100	59.966		344.08 - 2011.69	2s2p ² - 2s2p(³ P)3d	³ P ^o - ¹ D	2 - 3		231, 233
20	60.459		440.41 + X - 2093.65	2s2p ² - 2s2p(³ D)3d	¹ D ^o - ¹ D	2 - 3	Q	231, 375
100	60.989		150.01 + Y - 1789.65 + Y	2s2p ² - 2s2p(³ P)3s	¹ S ^o - ³ P	2 - 3		231
50	61.109		150.01 + Y - 1786.43 + Y	2s2p ² - 2s2p(³ P)3s	¹ S ^o - ³ P	2 - 2		231
50	61.190		150.01 + Y - 1784.26 + Y	2s2p ² - 2s2p(³ P)3s	¹ S ^o - ³ P	2 - 1		231
50	61.355		344.08 - 1973.94	2s2p ² - 2s2p(³ P)3d	³ P ^o - ³ P	2 - 2		231
50	61.502		2.55 - 1628.55	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	g ³ P - ³ P ^o	1 - 2		231
100	61.546		292.21 - 1917.08	2s2p ² - 2s2p(³ D)3s	¹ D ^o - ¹ D	3 - 3		231, 233
50	61.600		0.0 - 1623.38	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	g ³ P - ³ P ^o	0 - 1		231
100	61.649		6.42 - 1628.55	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	g ³ P - ³ P ^o	2 - 2		231
100	61.852		6.42 - 1623.38	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	g ³ P - ³ P ^o	2 - 1		233
20	62.454		492.82 + X - 2093.65	2s2p ² - 2s2p(³ D)3d	¹ P ^o - ¹ D	1 - 2	Q	231, 375
50	62.974		52.94 + X - 1640.92 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	¹ D - ¹ P ^o	2 - 1		231
20	63.478		52.94 + X - 1678.55	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	¹ D - ¹ P ^o	2 - 2	Q	231, 375
100	63.586		344.08 - 1917.08	2s2p ² - 2s2p(³ D)3s	³ P ^o - ¹ D	2 - 3	Q	231, 375
10	65.236		107.83 + X - 1640.92 + X	2s ² 2p ² - 2s ² 2p(³ P ^o)3s	¹ S ^o - ¹ P ^o	0 - 1		231
100	66.912		292.36 - 1786.43 + Y	2s2p ² - 2s2p(³ P)3s	¹ D ^o - ³ P	2 - 2	Q	231, 375
50	67.574		492.82 + X - 1973.94	2s2p ² - 2s2p(³ P)3d	¹ P ^o - ³ P	1 - 2	Q	231, 375
50	209.8		1789.65 + Y - 2266.4	2s2p ² (³ P)3s - 2s ² 2p(³ P ^o)4d	¹ P - ¹ D ^o	3 - 3	Q	931, 375
80	223.72		0.0 - 446.98	2s ² 2p ² - 2s2p ²	g ³ P - ³ S ^o	0 - 1		774
800	225.033		2.55 - 446.98	2s ² 2p ² - 2s2p ²	g ³ P - ³ S ^o	1 - 1		774
800	227.007		6.42 - 446.98	2s ² 2p ² - 2s2p ²	g ³ P - ³ S ^o	2 - 1		774
227.30			52.94 + X - 492.82 + X	2s ² 2p ² - 2s2p ²	¹ D - ¹ P ^o	2 - 1		248
50	257.255		292.44 - 681.14	2s2p ² - 2p ⁴	¹ D ^o - ³ P	1 - 0		93
20	258.073		52.94 + X - 440.41 + X	2s ² 2p ² - 2s2p ²	¹ D - ¹ D ^o	2 - 2		856
258.36			292.36 - 679.42	2s2p ² - 2p ⁴	¹ D ^o - ³ P	2 - 1		248
259.75			107.83 + X - 492.82 + X	2s ² 2p ² - 2s2p ²	¹ S - ¹ P ^o	0 - 1		248
261.41			292.21 - 674.75	2s2p ² - 2p ⁴	¹ D ^o - ³ P	3 - 2		248
20	290.53		0.0 - 344.08	2s ² 2p ² - 2s2p ²	g ³ P - ³ P ^o	0 - 1		774
80	292.83		2.55 - 344.08	2s ² 2p ² - 2s2p ²	g ³ P - ³ P ^o	1 - 2		774
150	296.19		6.42 - 344.08	2s ² 2p ² - 2s2p ²	g ³ P - ³ P ^o	2 - 2		774
298.20			344.08 - 679.42	2s2p ² - 2p ⁴	¹ P ^o - ³ P	1 - 1	P	250
302.42			344.08 - 674.75	2s2p ² - 2p ⁴	¹ P ^o - ³ P	2 - 2	P	250
305.85			492.82 + X - 819.78 + X	2s2p ² - 2p ⁴	¹ P ^o - ³ S	1 - 0		244
341.95			0.0 - 292.44	2s ² 2p ² - 2s2p ²	g ³ P - ³ D ^o	0 - 1	P	250
20	345.06		2.55 - 292.36	2s ² 2p ² - 2s2p ²	g ³ P - ³ D ^o	1 - 2		774
50	349.90		6.42 - 292.21	2s ² 2p ² - 2s2p ²	g ³ P - ³ D ^o	2 - 3		774
358.29			440.41 + X - 719.51 + X	2s2p ² - 2p ⁴	¹ D ^o - ¹ D	2 - 2		248
50	360.9		1987.16 - 2264.27	2s2p ² (³ P)3d - 2s ² 2p(³ P ^o)4d	¹ F - ¹ D ^o	3 - 2	Q	931, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		427.06	446.98 - 681.14	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 0	P	250
		430.22	446.98 - 679.42	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 1	P	250
		439.04	446.98 - 674.75	$2s2p^2 - 2p^4$	$^1S^o - ^3P$	1 - 2	P	250
		441.13	$492.82 + X - 719.51 + X$	$2s2p^2 - 2p^4$	$^1P^o - ^1D$	1 - 2	P	250
		678.2	$2.55 - 150.01 + Y$	$2s^22p^2 - 2s2p^3$	$g^3P - ^1S^o$	1 - 2	P	680
		696.4	$6.42 - 150.01 + Y$	$2s^22p^2 - 2s2p^3$	$g^3P - ^1S^o$	2 - 2	P	680
	4	949.9	$2.55 - 107.83 + X$	$2s^22p^2 - 2s^22p^3$	$g^3P - ^1S$	1 - 0	F, P	375, 843
		986.1	$6.42 - 107.83 + X$	$2s^22p^2 - 2s^22p^3$	$g^3P - ^1S$	2 - 0	F, P	375
		1821.9	$52.94 + X - 107.83 + X$	$2s^22p^2 - 2s^22p^3$	$^1D - ^1S$	2 - 0	F, P	375
		1889.0	$0.0 - 52.94 + X$	$2s^22p^2 - 2s^22p^3$	$g^3P - ^1D$	0 - 2	F, P	375
	7	1984.68	$2.55 - 52.94 + X$	$2s^22p^2 - 2s^22p^3$	$g^3P - ^1D$	1 - 2	F, P	375, 442

SILICON X (Si^{14}), $Z = 14$ Ground State $1s^22s^22p^2\ ^3P_{1/2}$ (5 electrons)Ionization Potential $3\ 237\ 300 \text{ cm}^{-1}$; 401.38 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	13	6.846	6.98 - 14607.	$1s^22s^22p - 1s2s^22p^2$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	839, 736
	5	34.040	6.98 - 2944.7	$2s^22p - 2s2p(^3P^o)5p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	5	34.238	6.98 - 2927.7	$2s^22p - 2s^26d$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	10	35.310	287.83 - 3116.4	$2s2p^2 - 2s2p(^3P^o)5d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	10	35.353	287.83 - 3116.4	$2s2p^2 - 2s2p(^3P^o)5d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		833
	5	35.656	$164.5 + X - 2969.1 + X$	$2s2p^2 - 2s2p(^3P^o)5d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	20	35.709	$168.09 + X - 2968.1 + X$	$2s2p^2 - 2s2p(^3P^o)5d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	40	35.838	$168.09 + X - 2958.4 + X$	$2s2p^2 - 2p^2(^3P)4p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	20	35.932	6.98 - 2790.	$2s^22p - 2s^25d$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	20	37.159	0.0 - 2691.1	$2s^22p - 2s2p(^3P^o)4p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	20	37.206	6.98 - 2695.3	$2s^22p - 2s2p(^3P^o)4p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	10	37.248	6.98 - 2691.1	$2s^22p - 2s2p(^3P^o)4p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	60	38.830	287.83 - 2863.2	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	40	39.175	$164.5 + X - 2717.1 + X$	$2s2p^2 - 2s2p(^3P^o)4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	50	39.203	$164.5 + X - 2715.1 + X$	$2s2p^2 - 2s2p(^3P^o)4d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	50	39.264	$164.5 + X - 2711.4 + X$	$2s2p^2 - 2s2p(^3P^o)4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	80	39.305	$168.09 + X - 2712.4 + X$	$2s2p^2 - 2s2p(^3P^o)4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	50	39.443	0.0 - 2535.3	$2s^22p - 2s^24d$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	70	39.552	6.98 - 2535.3	$2s^22p - 2s^24d$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	10	40.407	6.98 - 2481.8	$2s^22p - 2s^24s$	$g^2P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$		833
	5	40.503	394.06 - 2863.2	$2s2p^2 - 2s2p(^3P^o)4d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	30	41.023	287.83 - 2725.5	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		833
	30	41.086	287.83 - 2721.8	$2s2p^2 - 2s2p(^3P^o)4d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		833
	20	44.521	0.0 - 2246.3	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$		833
	30	44.655	6.98 - 2246.3	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$		833
	20	44.719	0.0 - 2236.2	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	30	44.830	6.98 - 2237.6	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	30	44.855	6.98 - 2236.4	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	60	44.979	$168.09 + X - 2391.4 + X$	$2s2p^2 - 2p^2(^3P)3p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		833
	5	45.606	$168.09 + X - 2360.9 + X$	$2s2p^2 - 2p^2(^3P)3p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	60	45.684	$168.09 + X - 2357.1 + X$	$2s2p^2 - 2p^2(^3P)3p$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	30	46.563	287.83 - 2435.4	$2s2p^2 - 2p^2(^1D)3p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	20	46.875	0.0 - 2132.5	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$		833
	50	47.043	6.98 - 2132.5	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1S$	$\frac{3}{2} - \frac{3}{2}$		833
	50	47.489	0.0 - 2105.8	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		833
	50	47.545	6.98 - 2110.26	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		231, 233
	20	48.381	0.0 - 2066.6	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	40	48.440	0.0 - 2064.6	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	10	48.553	6.98 - 2066.6	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		231, 233
	20	48.596	6.98 - 2064.6	$2s^22p - 2s2p(^3P^o)3p$	$g^2P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		833
	10	49.182	287.83 - 2321.1	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	50	49.441	287.83 - 2311.36	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		833
	100	49.701	287.83 - 2299.86	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{3}{2}$		231, 233
	60	49.984	$162.06 + X - 2163.5 + X$	$2s2p^2 - 2s2p(^3P^o)3d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833
	90	50.018	$164.5 + X - 2163.5 + X$	$2s2p^2 - 2s2p(^3P^o)3d$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		833

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
70	50.124	168.09 + X - 2163.5 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ P°	$\frac{3}{2} - \frac{3}{2}$			833
50	50.154	168.09 + X - 2161.95 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ P°	$\frac{3}{2} - \frac{3}{2}$			231
70	50.254	162.06 + X - 2151.95 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	$\frac{1}{2} - \frac{3}{2}$			833
50	50.305	164.5 + X - 2152.37 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	$\frac{3}{2} - \frac{3}{2}$			231
50	50.333	168.09 + X - 2154.86 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	$\frac{3}{2} - \frac{3}{2}$			231
10	50.390	168.09 + X - 2152.37 + X	2s2p ² - 2s2p(² P°)3d	⁴ P - ⁴ D°	$\frac{3}{2} - \frac{3}{2}$			833
50	50.524	0.0 - 1979.26	2s ² 2p - 2s ² 3d	² P° - ² D	$\frac{1}{2} - \frac{3}{2}$			231, 233
100	50.691	6.98 - 1979.73	2s ² 2p - 2s ² 3d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$			231, 233
10	51.635	510.31 + X - 2446.86 + X	2p ² - 2p ² (² P)3d	⁴ S° - ⁴ P	$\frac{3}{2} - \frac{3}{2}$			233
20	51.676	510.31 + X - 2445.32 + X	2p ² - 2p ² (² P)3d	⁴ S° - ⁴ P	$\frac{3}{2} - \frac{3}{2}$			231, 233
	51.73	6.98 - 1940.	2s ² 2p - 2s ² 3p	² P° - ² P°	$\frac{3}{2} - \frac{3}{2}$		F, P	375
50	52.070	390.06 - 2310.23	2s2p ² - 2s2p(¹ P°)3d	² P - ² D°	$\frac{1}{2} - \frac{3}{2}$			231, 233
100	52.155	394.06 - 2311.36	2s2p ² - 2s2p(¹ P°)3d	² P - ² D°	$\frac{3}{2} - \frac{3}{2}$			231, 233
100	52.485	287.83 - 2193.14	2s2p ² - 2s2p(² P°)3d	² D - ² F°	$\frac{3}{2} - \frac{3}{2}$			231, 233
50	52.611	287.83 - 2188.57	2s2p ² - 2s2p(² P°)3d	² D - ² F°	$\frac{3}{2} - \frac{3}{2}$			231, 233
10	53.463	287.83 - 2158.29	2s2p ² - 2s2p(¹ P°)3s	² D - ² P°	$\frac{3}{2} - \frac{1}{2}$			233
50	53.573	287.83 - 2154.44	2s2p ² - 2s2p(² P°)3d	² D - ² D°	$\frac{3}{2} - \frac{3}{2}$			231, 233
50	53.595	287.83 - 2153.68	2s2p ² - 2s2p(² P°)3d	² D - ² D°	$\frac{3}{2} - \frac{3}{2}$			231, 233
50	54.462	164.5 + X - 2000.57 + X	2s2p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{3}{2} - \frac{3}{2}$			231
50	54.522	162.06 + X - 1996.18 + X	2s2p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{1}{2} - \frac{3}{2}$			231, 233
50	54.571	168.09 + X - 2000.57 + X	2s ² p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{3}{2} - \frac{3}{2}$			231
50	54.599	367.65 - 2199.19	2s2p ² - 2s2p(² P°)3d	² S - ² P°	$\frac{1}{2} - \frac{3}{2}$			231, 233
10	54.664	164.5 + X - 1993.86 + X	2s2p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{3}{2} - \frac{1}{2}$			231
10	54.702	168.09 + X - 1996.18 + X	2s2p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{3}{2} - \frac{3}{2}$			231
100	55.096	6.98 - 1822.	2s ² 2p - 2s ² 3s	² P° - ² S	$\frac{3}{2} - \frac{1}{2}$			833
50	56.680	394.06 - 2158.29	2s2p ² - 2s2p(¹ P°)3s	² P - ² P°	$\frac{3}{2} - \frac{3}{2}$			231, 233
50	56.804	394.06 - 2154.44	2s2p ² - 2s2p(² P°)3d	² P - ² D°	$\frac{3}{2} - \frac{3}{2}$			231, 233
20	57.209	287.83 - 2035.81	2s2p ² - 2s2p(² P°)3s	² D - ² P°	$\frac{3}{2} - \frac{3}{2}$			231, 233
80	57.365	287.83 - 2031.05	2s2p ² - 2s2p(² P°)3s	² D - ² P°	$\frac{3}{2} - \frac{1}{2}$			833
20	60.151	574.36 - 2236.4	2p ² - 2s2p(¹ P°)3p	² D° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	231, 375
100	62.251	394.06 - 2000.57 + X	2s2p ² - 2s2p(² P°)3s	² P - ² P°	$\frac{3}{2} - \frac{3}{2}$		Q	231, 375
50	64.772	394.06 - 1938.4	2s2p ² - 2s ² 3p	² P - ² P°	$\frac{3}{2} - \frac{1}{2}$		Q	231, 375
100	66.726	510.31 + X - 2009.5	2p ² - 2s ² 3d	⁴ S° - ⁴ D	$\frac{3}{2} - \frac{3}{2}$		Q	231, 375
20	66.977	574.36 - 2066.6	2p ² - 2s2p(² P°)3p	² D° - ² P	$\frac{3}{2} - \frac{3}{2}$		Q	231, 375
	101.64	2132.5 - 3116.4	2s2p(² P°)3p - 2s2p(¹ P°)5d	² S - ² D°	$\frac{1}{2} - \frac{3}{2}$		Q	534, 375
50	113.1	1979.26 - 2863.2	2s ² 3d - 2s2p(¹ P°)4d	² D - ² F°	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
20	114.9	2246.3 - 3116.4	2s2p(¹ P°)3p - 2s ² (¹ P°)5d	² S - ² D°	$\frac{1}{2} - \frac{3}{2}$		Q	931, 375
20	126.0	1996.18 + X - 2790.	2s2p(² P°)3s - 2s ² 5d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	129.4	2154.86 + X - 2927.7	2s2p(² P°)3d - 2s ² 6d	² D° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
	132.03	2105.8 - 2863.2	2s2p(² P°)3p - 2s2p(¹ P°)4d	² D - ² F°	$\frac{3}{2} - \frac{3}{2}$			534
	136.86	2132.5 - 2863.2	2s2p(² P°)3p - 2s2p(¹ P°)4d	² S - ² D°	$\frac{1}{2} - \frac{3}{2}$			534
	143.03	1996.18 + X - 2655.3	2s2p(² P°)3s - 2s2p(² P°)4p	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	534, 375
50	149.4	2446.86 + X - 3116.4	2p ² (² P°)3d - 2s2p(¹ P°)5d	² P - ² D°	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	159.3	2299.86 - 2927.7	2s2p(¹ P°)3d - 2s ² 6d	² F° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	159.6	2163.5 + X - 2790.	2s2p(² P°)3d - 2s ² 5d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
20	162.0	2310.23 - 2927.7	2s2p(¹ P°)3d - 2s ² 6d	² D° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
	163.40							534
	163.67							534
	164.42							534
	164.69							534
50	164.9	2321.1 - 2927.7	2s2p(¹ P°)3d - 2s ² 6d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	168.0	1940. - 2535.3	2s ² 3p - 2s ² 4d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	176.4	2360.9 + X - 2927.7	2p ² (² P°)3p - 2s ² 6d	² P° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	185.6	2152.37 + X - 2691.1	2s2p(² P°)3d - 2s2p(² P°)4p	² D° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
20	203.0	2435. + Z - 2927.7	2p ² (¹ D°)3p - 2s ² 6d	² D° - ² D	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	207.1	164.5 + X - 647.40	2s2p ² - 2p ²	⁴ P - ⁴ P°	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	211.1	2237.6 - 2711.4 + X	2s2p(¹ P°)3p - 2s ² p(² P°)4d	² P - ² D°	$\frac{3}{2} - \frac{3}{2}$		Q	931, 375
50	220.8	1993.86 + X - 2446.86 + X	2s2p(¹ P°)3s - 2p ² (¹ P°)3d	² P° - ² P	$\frac{1}{2} - \frac{3}{2}$		Q	931, 375
20	233.6	2105.8 - 2533.8	2s2p(² P°)3p - 2s ² 4p	² D - ² P°	$\frac{3}{2} - \frac{1}{2}$		Q	931, 375
70	253.772	0.0 - 394.06	2s ² 2p - 2s2p ²	² P° - ² P	$\frac{1}{2} - \frac{3}{2}$			833
300	256.37	0.0 - 390.06	2s ² 2p - 2s2p ²	² P° - ² P	$\frac{1}{2} - \frac{1}{2}$			463
10	256.569							833
120	258.347	6.98 - 394.06	2s ² 2p - 2s2p ²	² P° - ² P	$\frac{3}{2} - \frac{3}{2}$			833
50	261.045	6.98 - 390.06	2s ² 2p - 2s2p ²	² P° - ² P	$\frac{3}{2} - \frac{1}{2}$			856
40	271.995	0.0 - 367.65	2s ² 2p - 2s2p ²	² P° - ² S	$\frac{1}{2} - \frac{1}{2}$			833
50	277.261	6.98 - 367.65	2s ² 2p - 2s2p ²	² P° - ² S	$\frac{3}{2} - \frac{1}{2}$			833
	278.107	287.83 - 647.40	2s2p ² - 2p ²	² D - ² P°	$\frac{3}{2} - \frac{3}{2}$			534, 250
100	278.61	287.83 - 646.75	2s2p ² - 2p ²	² D - ² P°	$\frac{3}{2} - \frac{1}{2}$			250, 931
50	287.16	162.06 + X - 510.31 + X	2s2p ² - 2p ²	² P - ² S°	$\frac{1}{2} - \frac{3}{2}$			250, 931
100	289.186	164.5 + X - 510.31 + X	2s2p ² - 2p ²	² P - ² S°	$\frac{3}{2} - \frac{3}{2}$			833
60	292.220	168.09 + X - 510.31 + X	2s2p ² - 2p ²	² P - ² S°	$\frac{3}{2} - \frac{3}{2}$			833
40	347.417	0.0 - 287.83	2s ² 2p - 2s2p ²	² P° - ² D	$\frac{1}{2} - \frac{3}{2}$			856
200	347.644	287.83 - 575.48	2s2p ² - 2p ²	² D - ² D°	$\frac{3}{2} - \frac{3}{2}$			534, 931
15	347.646	287.83 - 575.48	2s2p ² - 2p ²	² D - ² D°	$\frac{3}{2} - \frac{3}{2}$			534, 931
15	347.693	287.83 - 575.44	2s2p ² - 2p ²	² D - ² D°	$\frac{3}{2} - \frac{3}{2}$			534, 931

Si X

Si XI

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100 40 50	347.695	287.83 - 575.44		2s2p ² - 2p ³	¹ D - ³ D'	$\frac{3}{2} - \frac{3}{2}$		534, 931
	356.051	6.98 - 287.83		2s ² 2p - 2s2p ²	³ P' - ³ D	$\frac{3}{2} - \frac{3}{2}$		856
	357.47	367.65 - 647.40		2s2p ² - 2p ³	³ S - ³ P'	$\frac{1}{2} - \frac{3}{2}$		534, 931
	358.30	367.65 - 646.75		2s2p ² - 2p ³	³ S - ³ P'	$\frac{1}{2} - \frac{1}{2}$		534, 250
	388.59	390.06 - 647.40		2s2p ² - 2p ³	¹ P - ³ P'	$\frac{1}{2} - \frac{3}{2}$		534, 250
	389.57	390.06 - 646.75		2s2p ² - 2p ³	¹ P - ³ P'	$\frac{1}{2} - \frac{1}{2}$		534, 250
	394.71	394.06 - 647.40		2s2p ² - 2p ³	¹ P - ³ P'	$\frac{3}{2} - \frac{3}{2}$		534, 250
	395.73	394.06 - 646.75		2s2p ² - 2p ³	¹ P - ³ P'	$\frac{3}{2} - \frac{1}{2}$		534, 250
	481.273	367.65 - 575.44		2s2p ² - 2p ³	³ S - ³ D'	$\frac{1}{2} - \frac{3}{2}$		534
	539.44	390.06 - 575.44		2s2p ² - 2p ³	¹ P - ³ D'	$\frac{1}{2} - \frac{3}{2}$		534, 250
	551.20	394.06 - 575.48		2s2p ² - 2p ³	¹ P - ³ D'	$\frac{3}{2} - \frac{3}{2}$		534, 250
	551.32	394.06 - 575.44		2s2p ² - 2p ³	¹ P - ³ D'	$\frac{3}{2} - \frac{3}{2}$		534, 250

SILICON XI (Si¹⁰⁺), Z = 14Ground State 1s²2s² 1S₀ (4 electrons)Ionization Potential 3 839 800 cm⁻¹; 476.08 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5	30.126	176.81 + X - 3496.16 + X	2s2p - 2p5p	$^3P' - ^3P$	2 - 2		832
	5	30.322	176.81 + X - 3474.74 + X	2s2p - 2s6d	$^3P' - ^3D$	2 - 3		832
	10	30.368	0.0 - 3292.94	2s ² - 2s5p	$g^1S - ^1P'$	0 - 1		832
	10	31.924	171.56 + X - 3303.89 + X	2s2p - 2s5d	$^3P' - ^3D$	1 - 2		832
	20	31.980	176.81 + X - 3303.89 + X	2s2p - 2s5d	$^3P' - ^3D$	2 - 3		832
	10	32.735	450.47 + X - 3505.3 + H	2p ² - 2p5d	$^3P - ^3P'$	2 - 2		832
	10	33.153	493.4 + Z - 3509.72 + Y	2p ² - 2p5d	$^1D - ^1F'$	2 - 3		832
	20	33.222	176.81 + X - 3186.86 + X	2s2p - 2p4p	$^3P' - ^3P$	2 - 2		832
	20	33.298	176.81 + X - 3179.99 + X	2s2p - 2p4p	$^3P' - ^3D$	2 - 3		832
	20	33.515	0.0 - 2983.74	2s ² - 2s4p	$g^1S - ^1P'$	0 - 1		832
	10	33.573	329.69 - 3307.98	2s2p - 2s5d	$^1P' - ^1D$	1 - 2		832
	20	34.910	329.69 - 3193.91	2s2p - 2p4p	$^1P' - ^1D$	1 - 2		832
	10	35.353	169.14 + X - 2997.84 + X	2s2p - 2s4d	$^3P' - ^3D$	0 - 1		832
	60	35.383	171.56 + X - 2997.84 + X	2s2p - 2s4d	$^3P' - ^3D$	1 - 2		832
	100	35.446	176.81 + X - 2997.84 + X	2s2p - 2s4d	$^3P' - ^3D$	2 - 3		832
	10	36.238	445.91 + X - 3204.46 + V	2p ² - 2p4d	$^3P - ^3P'$	1 - 2		832
	80	36.311	450.47 + X - 3204.46 + V	2p ² - 2p4d	$^3P - ^3P'$	2 - 2		832
	80	36.335	450.47 + X - 3202.64 + V	2p ² - 2p4d	$^3P - ^3D'$	2 - 3		832
	70	36.772	493.4 + Z - 3212.86 + Y	2p ² - 2p4d	$^1D - ^1F'$	2 - 3		832
	10	37.060	493.4 + Z - 3191.73 + Y	2p ² - 2p4d	$^1D - ^1D'$	2 - 2		832
	50	37.340	329.69 - 3007.49	2s2p - 2s4d	$^1P' - ^1D$	1 - 2		832
	20	38.336	608.80 + W - 3217.31 + W	2p ² - 2p4d	$^1S - ^1P'$	0 - 1		832
	40	42.730	171.56 + X - 2511.84 + X	2s2p - 2p3p	$^3P' - ^3P$	1 - 2		832
	10	42.773	171.56 + X - 2509.52 + X	2s2p - 2p3p	$^3P' - ^3P$	1 - 1		832
	70	42.826	176.81 + X - 2511.84 + X	2s2p - 2p3p	$^3P' - ^3P$	2 - 2		832
	30	42.866	176.81 + X - 2509.52 + X	2s2p - 2p3p	$^3P' - ^3P$	2 - 1		832
	10	42.910	169.14 + X - 2499.82 + X	2s2p - 2p3p	$^3P' - ^3S$	0 - 1		832
	20	42.950	171.56 + X - 2499.82 + X	2s2p - 2p3p	$^3P' - ^3S$	1 - 1		832
	20	43.046	176.81 + X - 2499.82 + X	2s2p - 2p3p	$^3P' - ^3S$	2 - 1		832
	10	43.1	171.56 + X - 2481.75 + X	2s2p - 2p3p	$^3P' - ^3D$	1 - 2		231
	10	43.329	171.56 + X - 2479.48 + X	2s2p - 2p3p	$^3P' - ^3D$	1 - 1		832
	10	43.385	176.81 + X - 2481.75 + X	2s2p - 2p3p	$^3P' - ^3D$	2 - 2		832
	10	43.763	0.0 - 2285.04	2s ² - 2s3p	$g^1S - ^1P'$	0 - 1		231
	10	45.398	329.69 - 2532.14	2s2p - 2p3p	$^1P' - ^1D$	1 - 2		231
	10	46.264	169.14 + X - 2330.65 + X	2s2p - 2s3d	$^3P' - ^3D$	0 - 1		231
	50	46.300	171.56 + X - 2331.16 + X	2s2p - 2s3d	$^3P' - ^3D$	1 - 2		231
	100	46.401	176.81 + X - 2331.94 + X	2s2p - 2s3d	$^3P' - ^3D$	2 - 3		231
	40	46.662	329.69 - 2472.47	2s2p - 2p3p	$^1P' - ^1P$	1 - 1		832
	20	47.293	443.02 + X - 2557.50 + X	2p ² - 2p3d	$^3P - ^3P'$	0 - 1		832
	50	47.350	445.91 + X - 2557.83 + X	2p ² - 2p3d	$^3P - ^3P'$	1 - 2		832
	10	47.385	445.91 + X - 2556.28 + X	2p ² - 2p3d	$^3P - ^3P'$	1 - 0		832
	10	47.453	450.47 + X - 2557.83 + X	2p ² - 2p3d	$^3P - ^3P'$	2 - 2		832
	50	47.489	450.47 + X - 2557.50 + X	2p ² - 2p3d	$^3P - ^3P'$	2 - 1		231
	50	47.607	445.91 + X - 2546.82 + V	2p ² - 2p3d	$^3P - ^3D'$	1 - 2		231
	50	47.653	450.47 + X - 2548.97 + X	2p ² - 2p3d	$^3P - ^3D'$	2 - 3		231

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5	47.702	450.47 + X - 2546.82 + V	2p ² - 2p3d	¹ P - ³ D ^o	2 - 2		832
	20	47.735	493.4 + Z - 2588.3 + Y	2p ² - 2p3d	¹ D - ¹ P ^o	2 - 1		832
	50	47.899	493.4 + Z - 2581.13	2p ² - 2p3d	¹ D - ¹ F ^o	2 - 3		231
	20	48.991	169.14 + X - 2210.22 + X	2s2p - 2s3s	³ P ^o - ³ S	0 - 1		832
	30	49.052	171.56 + X - 2210.22 + X	2s2p - 2s3s	¹ P ^o - ³ S	1 - 1		832
	30	49.181	176.81 + X - 2210.22 + X	2s2p - 2s3s	¹ P ^o - ³ S	2 - 1		832
	50	49.222	329.69 - 2361.31	2s2p - 2s3d	¹ P ^o - ¹ D	1 - 2		231
	10	49.265	493.4 + Z - 2523.24	2p ² - 2p3d	¹ D - ¹ D ^o	2 - 2		231
	100	50.524	450.47 + X - 2429.73 + V	2p ² - 2p3s	¹ P - ¹ P ^o	2 - 2		832
	40	50.617	493.4 + Z - 2469.02 + Y	2p ² - 2p3s	¹ D - ¹ P ^o	2 - 1		832
	100	52.296	329.69 - 2241.59	2s2p - 2s3s	¹ P ^o - ¹ S	1 - 0		832
	50	107.8	2546.82 - V - 3474.74 + X	2p3d - 2s6d	¹ D ^o - ¹ D	2 - 3	Q	931, 375
	20	111.9	2581.13 - 3474.74 + X	2p3d - 2s6d	¹ F ^o - ¹ D	3 - 3	Q	931, 375
	20	119.8	2469.02 + Y - 3303.89 + X	2p3s - 2s5d	¹ P ^o - ¹ D	1 - 2	Q	931, 375
	50	121.9	2472.47 - 3292.94	2p3p - 2s5p	¹ P - ¹ P ^o	1 - 1	Q	931, 375
	20	127.6	2509.52 + X - 3292.94	2p3p - 2s5p	¹ P - ¹ P ^o	1 - 1	Q	931, 375
	20	128.0	2511.84 + X - 3292.94	2p3p - 2s5p	¹ P - ¹ P ^o	2 - 1	Q	931, 375
		129.28	2210.22 + X - 2983.74	2s3s - 2s4p	³ S - ¹ P ^o	1 - 1		534
		132.08	2429.73 + V - 3186.86 + X	2p3s - 2p4p	¹ P ^o - ¹ P	2 - 2		534
		133.29	2429.73 + V - 3179.99 + X	2p3s - 2p4p	¹ P ^o - ¹ D	2 - 3		534
		134.47	2472.47 - 3216.14 + W	2p3p - 2p4d	¹ P - ¹ P ^o	1 - 1		534
		134.74	2241.59 - 2983.74	2s3s - 2s4p	³ S - ¹ P ^o	0 - 1		534
	50	138.72	2481.75 + X - 3202.64 + V	2p3p - 2p4d	¹ D - ¹ D ^o	2 - 3		534, 931
		139.03	2472.47 - 3191.73 + Y	2p3p - 2p4d	¹ P - ¹ D ^o	1 - 2		534
	50	141.5	2509.52 + X - 3216.14 + W	2p3p - 2p4d	¹ P - ¹ P ^o	1 - 1	Q	931, 375
		143.90	2509.52 + X - 3204.46 + V	2p3p - 2p4d	¹ P - ¹ P ^o	1 - 2		534
	50	144.76	2511.84 + X - 3202.64 + V	2p3p - 2p4d	¹ P - ¹ D ^o	2 - 3		534, 931
	100	146.2	2532.14 - 3216.14 + W	2p3p - 2p4d	¹ D - ¹ P ^o	2 - 1	Q	931, 375
	50	147.1	2511.84 + X - 3191.73 + Y	2p3p - 2p4d	¹ P - ¹ D ^o	2 - 2	Q	931, 375
	100	147.60	2331.94 + X - 3009.45 + X	2s3d - 2s4f	¹ D - ¹ F ^o	3 - 4		244, 931
	50	148.6	2523.24 - 3195.9	2p3d - 2p4p	¹ D ^o - ¹ P	2 - 1	Q	931, 375
	20	158.47	2548.97 + X - 3179.99 + X	2p3d - 2p4p	¹ D ^o - ¹ D	3 - 3	P	534, 931
	50	160.6	2557.50 + X - 3179.99 + X	2p3d - 2p4p	¹ P ^o - ¹ D	1 - 2	Q	931, 375
	20	161.3	2361.31 - 2981.2	2s3d - 2s4p	¹ D - ¹ P ^o	2 - 1	Q	931, 375
		165.12	2588.3 + Y - 3193.91	2p3d - 2p4p	¹ P ^o - ¹ D	1 - 2		534
	50	169.0	2588.3 + Y - 3179.99 + X	2p3d - 2p4p	¹ P ^o - ¹ D	1 - 2	Q	931, 375
	50	173.10	2429.73 + V - 3007.49	2p3s - 2s4d	¹ P ^o - ¹ D	2 - 2	Q	534, 931, 375
		194.28	2469.02 + Y - 2983.74	2p3s - 2s4p	¹ P ^o - ¹ P ^o	1 - 1	F, Q	534
		197.1	2997.84 + X - 3505.3 + H	2s4d - 2p5d	¹ D - ¹ P ^o	3 - 2	Q	534, 375
	20	206.5	2523.24 - 3007.49	2p3d - 2s4d	¹ D ^o - ¹ D	2 - 2	Q	931, 375
	50	207.7	2499.82 + X - 2981.2	2p3p - 2s4p	³ S - ¹ P ^o	1 - 1	Q	931, 375
	50	211.9	2511.84 + X - 2983.74	2p3p - 2s4p	¹ P - ¹ P ^o	2 - 1	Q	931, 375
	50	216.4	2545.37 + X - 3007.49	2p3d - 2s4d	¹ D ^o - ¹ D	1 - 2	Q	931, 375
	50	289.0	2210.22 + X - 2556.28 + X	2s3s - 2p3d	³ S - ¹ P ^o	1 - 0	Q	931, 375
	60	303.318	0.0 - 329.69	2s ² - 2s2p	g ¹ S - ¹ P ^o	0 - 1		856
		358.29	329.69 - 608.80 + W	2s2p - 2p ²	¹ P ^o - ¹ S	1 - 0		250
	100	358.54	171.56 + X - 450.47 + X	2s2p - 2p ²	¹ P ^o - ¹ P	1 - 2	P	250, 931
	50	361.31	169.14 + X - 445.91 + X	2s2p - 2p ²	¹ P ^o - ¹ P	0 - 1	P	250, 931
	50	364.50	171.56 + X - 445.91 + X	2s2p - 2p ²	¹ P ^o - ¹ P	1 - 1		250, 931
	100	365.42	176.81 + X - 450.47 + X	2s2p - 2p ²	¹ P ^o - ¹ P	2 - 2		250, 931
	50	368.38	171.56 + X - 443.02 + X	2s2p - 2p ²	¹ P ^o - ¹ P	1 - 0	P	250, 931
	100	371.61	176.81 + X - 445.91 + X	2s2p - 2p ²	¹ P ^o - ¹ P	2 - 1	P	250, 931
		508.32	2285.04 - 2481.75 + X	2s3p - 2p3p	¹ P ^o - ¹ D	1 - 2	Q	534, 375
	I	580.85	0.0 - 172.16	2s ² - 2s2p	g ¹ S - ¹ P ^o	0 - 1		856
		610.87	329.69 - 493.4 + Z	2s2p - 2p ²	¹ P ^o - ¹ D	1 - 2	P	250

SILICON XII (Si¹¹⁺), Z = 14Ground State 1s²2s ³S_{1/2} (3 electrons)Ionization Potential 4 222 400 cm⁻¹; 523.52 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		5.680	2464.53 - 20070.5	1s ² 3d - 1s3p3d	¹ D - ¹ P ^o	$\frac{3}{2}$ - $\frac{3}{2}$	Z	731
		5.768	0.0 - 17337.0	1s ² 2s - 1s(2s3p(¹ P ^o))	g ³ S - ³ P ^o	$\frac{1}{2}$ - $\frac{3}{2}$	Z	283
		5.7931	200.24 - 17455.57	1s ² 2p - 1s2p(³ P ^o)3p	¹ P ^o - ¹ P	$\frac{3}{2}$ - $\frac{3}{2}$	Z	643
		5.8031	192.06 - 17417.92	1s ² 2p - 1s2p(¹ P ^o)3p	¹ P ^o - ¹ S	$\frac{1}{2}$ - $\frac{1}{2}$	Z	643
	6	5.808	200.24 - 17417.92	1s ² 2p - 1s2p(¹ P ^o)3p	¹ P ^o - ¹ S	$\frac{3}{2}$ - $\frac{1}{2}$	Z	283, 809

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		5.8125	192.06 - 17394.24	$1s^2 2p - 1s 2p(^3P^o) 3p$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.816	200.24 - 17394.24	$1s^2 2p - 1s 2p(^3P^o) 3p$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$	Z	839
		6.6617	2444.39 - 17455.57	$1s^2 3p - 1s 2p(^3P^o) 3p$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		6.678	192.06 - 15168.10	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		6.681	200.24 - 15168.10	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
66		6.688	0.0 - 14950.0	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629, 809
		6.689	0.0 - 14948.0	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
20		6.718	0.0 - 14885.0	$1s^2 2s - 1s(2s 2p(^3P^o))$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629, 809
12		6.720	0.0 - 14881.0	$1s^2 2s - 1s(2s 2p(^3P^o))$	$g^3S - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629, 809
		6.724	192.06 - 15065.76	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		6.727	200.24 - 15065.76	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		6.731	200.24 - 15057.37	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		6.738	192.06 - 15033.10	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		6.742	200.24 - 15032.68	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		6.779	0.0 - 14742.74	$1s^2 2s - 1s(2s 2p(^3P^o))$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		6.781	192.06 - 14938.99	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		6.782	192.06 - 14938.68	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		6.784	200.24 - 14938.99	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		6.785	200.24 - 14938.68	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
7		6.787	0.0 - 14742.74	$1s^2 2s - 1s(2s 2p(^3P^o))$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629, 809
1		25.655	0.0 - 3897.9	$1s^2 2s - 1s^2 7p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		234
		26.03	200.24 - 4042	$1s^2 2p - 1s^2 9d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		776
3		26.460	0.0 - 3779.3	$1s^2 2s - 1s^2 6p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		234
		26.98	192.06 - 3899.2	$1s^2 2p - 1s^2 7d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
1		27.035	200.24 - 3899.2	$1s^2 2p - 1s^2 7d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		234
3		27.850	192.06 - 3782.6	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
10		27.909	200.24 - 3783.4	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		234
10		29.439	192.06 - 3588.8	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
20		29.509	200.24 - 3589.1	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		234
1		29.574	192.06 - 3573.5	$1s^2 2p - 1s^2 5s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		234
3		29.645	200.24 - 3573.5	$1s^2 2p - 1s^2 5s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		234
60		31.015	0.0 - 3224.2	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		234
35		32.888	192.06 - 3232.5	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
90		32.972	200.24 - 3233.2	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		234
200		40.911	0.0 - 2444.39	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		234
200		40.951	0.0 - 2442	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		234
200		44.021	192.06 - 2463.54	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		234
250		44.165	200.24 - 2464.53	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$		234
10		45.519	192.06 - 2388.85	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		234
20		45.692	200.24 - 2388.85	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		234
		87.36	2444.39 - 3589.1	$1s^2 3p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	534
		88.60	2444.39 - 3573.5	$1s^2 3p - 1s^2 5s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		534
		88.84	2464.53 - 3590	$1s^2 3d - 1s^2 5f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		776
		119.71	2388.85 - 3224.2	$1s^2 3s - 1s^2 4p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	534
		126.50	2442 - 3232.5	$1s^2 3p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	244
50		126.7	2444.39 - 3233.2	$1s^2 3p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{1}{2}$	P	244, 931
50		129.89	2463.54 - 3233.5	$1s^2 3d - 1s^2 4f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$		534, 931
20		130.02	2464.53 - 3233.5	$1s^2 3d - 1s^2 4f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{1}{2}$		534, 931
		131.46	2463.54 - 3224.2	$1s^2 3d - 1s^2 4p$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		534
50		131.64	2464.53 - 3224.2	$1s^2 3d - 1s^2 4p$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		534, 931
		148.15	3224.2 - 3899.2	$1s^2 4p - 1s^2 7d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		534
50		178.8	3224.2 - 3783.4	$1s^2 4p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	931, 375
20		335.7	17120 - 17417.92	$1s(2s 3p(^3P^o)) - 1s 2p(^3P^o) 3p$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Q, ZZ	931, 375
33		499.40	0.0 - 200.24	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		730, 856
17		520.67	0.0 - 192.06	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		730, 856

SILICON XIII (Si^{12+}), Z = 14Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 19 661 546 cm^{-1} ; 2437.74 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		5.223	0.0 - 19146	$1s^2 - 1s 6p$	$g^1S - ^1P^o$	0 - 1	P	728
5		5.2850	0.0 - 18920.17	$1s^2 - 1s 5p$	$g^1S - ^1P^o$	0 - 1		643, 809
13		5.4045	0.0 - 18503.48	$1s^2 - 1s 4p$	$g^1S - ^1P^o$	0 - 1		643, 809
25		5.6805	0.0 - 17604.17	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1	P	918, 809
		5.688	0.0 - 17579.31	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1	P	728

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	6.1973		15042.79 - 31178.9	1s2p - 2p ²	¹ P° - ¹ S	1 - 0	P, Z	626, 809
1	6.224		14959.50 - 31026.5	1s2s - 2s2p	¹ S - ¹ P°	0 - 1	Z	839, 809
	6.244		14836.70 - 30851.7	1s2s - 2s2p	³ S - ³ P°	1 - 2	Z	626
	6.2517		14959.40 - 30955.0	1s2p - 2p ²	³ P° - ³ P	2 - 2	P, Z	626
1	6.2664		15042.79 - 31000.9	1s2p - 2p ²	¹ P° - ¹ D	1 - 2	Z	643, 809
227	6.6477		0.0 - 15042.79	1s ² - 1s2p	² S° - ¹ P°	0 - 1	P	918, 809
3	6.6879		0.0 - 14952.29	1s ² - 1s2p	² S° - ³ P°	0 - 1	P	918, 856
	6.740		0.0 - 14836.70	1s ² - 1s2s	² S° - ³ S	0 - 1	F, P	375
	36.43		14836.70 - 17581.44	1s2s - 1s3p	³ S - ³ P°	1 - 2	P	375
	37.81		14959.50 - 17604.17	1s2s - 1s3p	¹ S - ¹ P°	0 - 1	P	375
	64.67		17600.20 + R - 19146.51 + R	1s3d - 1s6f	¹ D° - ¹ F°	3 - 4	P	87
	64.71		17625.00 + K - 19170.24 + K	1s3d - 1s6f	¹ D° - ¹ F°	2 - 3	P	87
	75.78		17600.20 + R - 18919.81 + R	1s3d - 1s5f	³ D° - ³ F°	3 - 4	P	87
	75.84		17625.00 + K - 18943.56 + K	1s3d - 1s5f	¹ D° - ¹ F°	2 - 3	P	87
	105.630		17547.48 - 18494.18	1s3s - 1s4p	³ S - ³ P°	1 - 2	P	375
	108.28		17579.91 - 18503.48	1s3s - 1s4p	¹ S - ¹ P°	0 - 1	P	375
	110.82		17600.20 + R - 18502.56 + R	1s3d - 1s4f	¹ D° - ¹ F°	3 - 4	P	87
100	110.957		17625.00 + K - 18526.31 + K	1s3d - 1s4f	¹ D° - ¹ F°	2 - 3	Q	231, 375
	815.00		14836.70 - 14959.40	1s2s - 1s2p	³ S - ³ P°	1 - 2	P	375
	1200.62		14959.50 - 15042.79	1s2s - 1s2p	¹ S - ¹ P°	0 - 1	P	375

SILICON XIV (Si¹³⁺), Z = 14Ground State 1s ²S_{1/2} (1 electron)Ionization Potential 21 560 601 cm⁻¹; 2673.20 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	4.685		0.0 - 21345.42	1s - 10p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	4.696		0.0 - 21294.94	1s - 9p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	4.712		0.0 - 21224.36	1s - 8p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	4.735		0.0 - 21121.40	1s - 7p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	4.770		0.0 - 20962.76	1s - 6p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	4.831		0.0 - 20699.65	1s - 5p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
3	4.947		0.0 - 20215.25	1s - 4p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309, 809
20	5.217		0.0 - 19168.74	1s - 3p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309, 375
10	5.218		0.0 - 19164.54	1s - 3p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{1}{2}$	P	309, 375
65	6.180		0.0 - 16180.08	1s - 2p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309, 375
35	6.186		0.0 - 16165.93	1s - 2p	² S° - ¹ P°	$\frac{1}{2}$ - $\frac{1}{2}$	P	309, 375
	19.309		16166.47 - 21345.42	2s - 10p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	19.360		16180.08 - 21345.46	2p - 10d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	19.499		16166.47 - 21294.94	2s - 9p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	19.557		16180.08 - 21294.99	2p - 9d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	19.771		16166.47 - 21224.36	2s - 8p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	19.824		16180.08 - 21224.43	2p - 8d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	20.182		16166.47 - 21121.40	2s - 7p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	20.237		16180.08 - 21121.51	2p - 7d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	20.849		16166.47 - 20962.76	2s - 6p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	20.908		16180.08 - 20962.94	2p - 6d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	22.060		16166.47 - 20699.65	2s - 5p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	22.125		16180.08 - 20699.95	2p - 5d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	24.699		16166.47 - 20215.25	2s - 4p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	24.778		16180.08 - 20215.83	2p - 4d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	33.308		16166.47 - 19168.74	2s - 3p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	33.444		16180.08 - 19170.12	2p - 3d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	45.856		19164.70 - 21345.42	3s - 10p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	45.941		19168.74 - 21345.46	3p - 10d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	45.969		19170.12 - 21345.48	3d - 10f	¹ D° - ¹ F°	$\frac{5}{2}$ - $\frac{7}{2}$	P	309
	46.943		19164.70 - 21294.94	3s - 9p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	47.031		19168.74 - 21294.99	3p - 9d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	47.061		19170.12 - 21295.02	3d - 9f	¹ D° - ¹ F°	$\frac{5}{2}$ - $\frac{7}{2}$	P	309
	48.552		19164.70 - 21224.36	3s - 8p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	48.645		19168.74 - 21224.43	3p - 8d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	48.677		19170.12 - 21224.47	3d - 8f	¹ D° - ¹ F°	$\frac{5}{2}$ - $\frac{7}{2}$	P	309
	51.106		19164.70 - 21121.40	3s - 7p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309
	51.209		19168.74 - 21121.51	3p - 7d	¹ P° - ¹ D	$\frac{3}{2}$ - $\frac{7}{2}$	P	309
	51.244		19170.12 - 21121.57	3d - 7f	¹ D° - ¹ F°	$\frac{5}{2}$ - $\frac{7}{2}$	P	309
	55.615		19164.70 - 20962.76	3s - 6p	² S - ¹ P°	$\frac{1}{2}$ - $\frac{3}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		55.735	19168.74 - 20962.94	3p - 6d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		55.776	19170.12 - 20963.02	3d - 6f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		65.149	19164.70 - 20699.65	3s - 5p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		65.308	19168.74 - 20699.95	3p - 5d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		65.360	19170.12 - 20700.10	3d - 5f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		88.349	20213.55 - 21345.42	4s - 10p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		88.479	20215.25 - 21345.46	4p - 10d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		88.523	20215.83 - 21345.48	4d - 10f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		92.473	20213.55 - 21294.94	4s - 9p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		92.615	20215.25 - 21294.99	4p - 9d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		92.663	20215.83 - 21295.02	4d - 9f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		95.188	19164.70 - 20215.25	3s - 4p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		95.502	19168.74 - 20215.83	3p - 4d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		95.602	19170.12 - 20216.13	3d - 4f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		98.931	20213.55 - 21224.36	4s - 8p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		99.090	20215.25 - 21224.43	4p - 8d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		99.144	20215.83 - 21224.47	4d - 8f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		110.150	20213.55 - 21121.40	4s - 7p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		110.343	20215.25 - 21121.51	4p - 7d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		110.408	20215.83 - 21121.57	4d - 7f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		133.473	20213.55 - 20962.76	4s - 6p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		133.746	20215.25 - 20962.94	4p - 6d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		133.835	20215.83 - 20963.02	4d - 6f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		154.644	20698.78 - 21345.42	5s - 10p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		154.844	20699.65 - 21345.46	5p - 10d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		154.911	20699.95 - 21345.48	5d - 10f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		167.740	20698.78 - 21294.94	5s - 9p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		167.970	20699.65 - 21294.99	5p - 9d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		168.048	20699.95 - 21295.02	5d - 9f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		190.266	20698.78 - 21224.36	5s - 8p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		190.555	20699.65 - 21224.43	5p - 8d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		190.650	20699.95 - 21224.47	5d - 8f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		205.719	20213.55 - 20699.65	4s - 5p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		206.314	20215.25 - 20699.95	4p - 5d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		206.499	20215.83 - 20700.10	4d - 5f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		236.616	20698.78 - 21121.40	5s - 7p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		237.044	20699.65 - 21121.51	5p - 7d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		237.181	20699.95 - 21121.57	5d - 7f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309
		378.808	20698.78 - 20962.76	5s - 6p	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		379.812	20699.65 - 20962.94	5p - 6d	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		380.118	20699.95 - 20963.02	5d - 6f	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$	P	309

PHOSPHORUS I (F), Z = 15
Ground State $1s^2 2s^2 2p^6 3s^2 3p^3 \ ^4S_{3/2}$ (15 electrons)
Ionization Potential 84 580 cm^{-1} ; 10.49 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	1241.49	0.0 - 80.55	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1242.02	0.0 - 80.52	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1243.37	0.0 - 80.43	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1245.19	0.0 - 80.31	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	2	1247.31	0.0 - 80.17	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	1	1248.20	0.0 - 80.11	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	1	1248.61	0.0 - 80.09	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1253.74	0.0 - 79.76	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1278.57	0.0 - 78.21	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1282.96	0.0 - 77.94	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1283.89	0.0 - 77.89	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1284.80	0.0 - 77.83	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	2	1285.84	0.0 - 77.77	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1286.44	0.0 - 77.73	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1372.03	0.0 - 72.88	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1373.49	0.0 - 72.81	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1374.73	0.0 - 72.74	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1377.06	0.0 - 72.62	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1377.93	0.0 - 72.57	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	75	1379.40	0.0 - 72.49	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	75	1381.47	0.0 - 72.39	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1381.65	0.0 - 72.38	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5s$	$g^4S^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	24	1411.31	11.38 - 82.23	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 3d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	2	1411.75	11.36 - 82.20	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 3d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1420.08	11.38 - 81.80	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1425.29	11.36 - 81.52	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	1	1427.77	11.38 - 81.42	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 8s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	1	1428.05	11.38 - 81.40	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	12	1429.77	11.36 - 81.30	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	150	1430.13	11.38 - 81.30	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1430.73	0.0 - 69.89	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 3d$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	1	1431.50	11.38 - 81.23	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1440.24	11.38 - 80.81	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1442.76	11.36 - 80.67	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1445.66	11.38 - 80.55	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	12	1446.01	11.36 - 80.52	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1446.33	11.38 - 80.52	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 7s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1447.50	11.38 - 80.46	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1450.38	11.36 - 80.31	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1453.01	11.36 - 80.18	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1467.58	11.38 - 79.52	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1469.71	11.36 - 79.40	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1473.65	11.36 - 79.22	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1476.11	11.38 - 79.12	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 5d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1488.01	11.38 - 78.58	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	150	1491.36	11.38 - 78.43	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 3d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	120	1492.99	11.36 - 78.34	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 3d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1493.34	11.38 - 78.34	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 3d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	24	1499.51	11.36 - 78.05	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1501.81	11.36 - 77.95	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	24	1502.17	11.38 - 77.95	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1503.12	11.36 - 77.89	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1503.48	11.38 - 77.89	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	36	1504.37	11.36 - 77.83	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1504.72	11.38 - 77.83	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	2	1505.64	11.36 - 77.77	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	21	1506.63	11.36 - 77.73	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	16	1506.98	11.38 - 77.73	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1508.74	11.38 - 77.66	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 6s$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$	F	496
	6	1515.10						496
	12	1530.58	11.38 - 76.71	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1534.73	0.0 - 65.16	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4s$	$g^4S^* - ^4D$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1541.69						496
	45	1543.26	11.38 - 76.17	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1545.95	11.36 - 76.05	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1546.32	11.38 - 76.05	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	180	1548.43	11.38 - 75.96	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	105	1551.04	11.36 - 75.83	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1551.42	11.38 - 75.83	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4F$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1554.84	11.36 - 75.68	$3s^2 3p^2 - 3s^2 3p^2 (^4P) 4d$	$^4D^* - ^4P$	$\frac{3}{2} - \frac{5}{2}$		496

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
2	6	1555.25	11.38 - 75.68	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1D^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	2	1556.18						496
	9	1575.18	18.75 - 82.23	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1575.47	18.72 - 82.20	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	24	1583.73	18.75 - 81.89	$3s^2 3p^2 - 3s^2 3p^2(^1P)6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1586.25	18.72 - 81.76	$3s^2 3p^2 - 3s^2 3p^2(^1P)6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	2	1586.88	18.75 - 81.76	$3s^2 3p^2 - 3s^2 3p^2(^1P)6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	6	1595.08	18.72 - 81.42	$3s^2 3p^2 - 3s^2 3p^2(^1P)8s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	1	1595.72	18.75 - 81.42	$3s^2 3p^2 - 3s^2 3p^2(^1P)8s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1596.06	18.75 - 81.40	$3s^2 3p^2 - 3s^2 3p^2(^1P)6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1597.97	18.72 - 81.30	$3s^2 3p^2 - 3s^2 3p^2(^1P)6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	3	1598.76						496
	15	1599.25	18.72 - 81.25	$3s^2 3p^2 - 3s^2 3p^2(^1P)8s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	30	1611.29	18.75 - 80.81	$3s^2 3p^2 - 3s^2 3p^2(^1P)7s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1614.19	18.72 - 80.67	$3s^2 3p^2 - 3s^2 3p^2(^1P)7s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	3	1614.67						496
	9	1614.87	18.75 - 80.67	$3s^2 3p^2 - 3s^2 3p^2(^1P)7s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	36	1615.79	11.36 - 73.25	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	120	1616.20	11.38 - 73.25	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1618.11	18.75 - 80.55	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	36	1618.93	18.75 - 80.52	$3s^2 3p^2 - 3s^2 3p^2(^1P)7s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1621.33	18.75 - 80.43	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1622.08						496
	75	1623.83	11.36 - 72.94	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1623.99	18.72 - 80.30	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	2	1624.43	18.75 - 80.31	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1624.67	18.75 - 80.30	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1625.40	11.36 - 72.88	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	75	1625.80	11.38 - 72.88	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1627.86	11.38 - 72.81	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1629.17	11.36 - 72.74	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1629.59	11.38 - 72.74	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	2	1633.69	11.36 - 72.57	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	21	1634.10	11.38 - 72.57	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1635.79	11.36 - 72.49	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1636.20	11.38 - 72.49	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1638.68	11.36 - 72.39	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1638.89	11.36 - 72.38	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	24	1639.09	11.38 - 72.39	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1652.97	18.72 - 79.22	$3s^2 3p^2 - 3s^2 3p^2(^1P)5d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	24	1653.68	18.75 - 79.22	$3s^2 3p^2 - 3s^2 3p^2(^1P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	210	1671.07	11.36 - 71.20	$3s^2 3p^2 - 3s^2 3p^2$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	105	1671.49	11.38 - 71.20	$3s^2 3p^2 - 3s^2 3p^2$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	540	1671.68	0.0 - 59.82	$3s^2 3p^2 - 3s^2 3p^2$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	105	1672.05	11.36 - 71.17	$3s^2 3p^2 - 3s^2 3p^2$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	270	1672.48	11.38 - 71.17	$3s^2 3p^2 - 3s^2 3p^2$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1673.94						496
	2	690	0.0 - 59.72	$3s^2 3p^2 - 3s^2 3p^2$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	2	900	0.0 - 59.53	$3s^2 3p^2 - 3s^2 3p^2$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	6	360	11.38 - 70.69	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{5}{2}$		45
	9	1688.64	18.72 - 77.94	$3s^2 3p^2 - 3s^2 3p^2(^1P)6s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	105	1689.25	18.75 - 77.95	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1690.17	18.72 - 77.89	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	9	1690.90	18.75 - 77.89	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1691.75	18.72 - 77.83	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	15	1692.48	18.75 - 77.83	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	300	1694.06	11.36 - 70.39	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{5}{2}$		496
	6	120	1694.50	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1695.35	18.75 - 77.73	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	180	1706.41	11.38 - 69.98	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	120	1707.57	11.36 - 69.92	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1708.03	11.38 - 69.92	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	12	1708.45	11.36 - 69.89	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	3	1708.90	11.38 - 69.89	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1718.55	18.72 - 76.91	$3s^2 3p^2 - 3s^2 3p^2(^1S)4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$		496
	30	1719.00	0.0 - 58.17	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	90	1719.31	18.75 - 76.91	$3s^2 3p^2 - 3s^2 3p^2(^1S)4s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		496
	15	1727.85	0.0 - 57.88	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	90	1754.40	11.38 - 68.38	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{5}{2}$		496
	9	1755.86	18.72 - 75.68	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	9	1756.65	18.75 - 75.68	$3s^2 3p^2 - 3s^2 3p^2(^1P)4d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1757.47	11.36 - 68.26	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	60	1757.95	11.36 - 68.25	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{5}{2}$		496
	30	1759.91	11.36 - 68.18	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496
	45	1760.40	11.38 - 68.18	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		496

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	30	1761.67	11.36 - 68.13	$3s^2 3p^2 - 3s 3p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		496
	60	1768.45	11.36 - 67.91	$3s^2 3p^2 - 3s 3p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	45	1768.94	11.38 - 67.91	$3s^2 3p^2 - 3s 3p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	750	1774.95	0.0 - 56.34	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	496
	600	1782.83	0.0 - 56.09	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	496
	540	1787.65	0.0 - 55.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	496
	30	1833.98	18.72 - 73.25	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	60	1834.83	18.75 - 73.25	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	60	1844.33	18.72 - 72.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		496
	30	1845.19	18.75 - 72.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		496
5	300	1847.19	18.75 - 72.88	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	3	1849.05						496
	9	1849.52						496
	105	1849.84	18.75 - 72.81	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	240	1851.22	18.72 - 72.74	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	120	1852.09	18.75 - 72.74	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	1	1855.48	18.72 - 72.62	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		496
	45	1857.04	18.72 - 72.57	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		496
	450	1858.91	11.36 - 65.16	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	450	1859.43	11.38 - 65.16	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
5	45	1860.63	18.75 - 72.49	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	3	1863.78	18.72 - 72.38	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		496
	105	1864.37	18.75 - 72.39	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		496
	3	1864.64	18.75 - 72.38	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		496
	90	1905.48	18.72 - 71.20	$3s^2 3p^2 - 3s 3p^4$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	60	1906.40	18.75 - 71.20	$3s^2 3p^2 - 3s 3p^4$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	120	1907.66	18.75 - 71.17	$3s^2 3p^2 - 3s 3p^4$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	12	1954.01	18.75 - 69.92	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	21	1954.20	18.72 - 69.89	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		496
	21	1955.16	18.75 - 69.89	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		496
	21	1955.79	18.72 - 69.85	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		496

PHOSPHORUS II (P^{+}), $Z = 15$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$ (14 electrons)Ionization Potential 159 100 cm^{-1} ; 19.73 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	5	782.59	0.16 - 127.95	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1D^o$	1 - 2		496
	1	782.72	0.16 - 127.93	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1P^o$	1 - 1		496
	1	782.90	0.16 - 127.90	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1P^o$	1 - 0		496
	5	783.71	0.0 - 127.60	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1D^o$	0 - 1		496
	1	784.46	0.47 - 127.95	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1D^o$	2 - 2		496
	5	784.81	0.47 - 127.89	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1D^o$	2 - 3		496
	5	786.18	0.16 - 127.37	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1P^o$	1 - 2		496
	5	786.52						496
	1	801.35	0.16 - 124.95	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1F^o$	1 - 2		496
	1	802.20	0.47 - 125.13	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^3P - ^1F^o$	2 - 3		496
5	50	808.25	0.16 - 123.77	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	1 - 2		496
	30	810.00	0.0 - 123.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	0 - 1		496
	100	810.24	0.47 - 123.89	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	2 - 2		496
	20	811.10	0.16 - 123.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	1 - 1		496
	30	811.85	0.16 - 123.35	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	1 - 0		496
	40	813.10	0.47 - 123.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^3P - ^1P^o$	2 - 1		496
	5	813.768	8.88 - 131.76	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1P^o$	2 - 1		496, 594
	30	824.66	8.88 - 130.14	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1F^o$	2 - 3		496
	1	840.04						496
	20	841.21	8.88 - 127.76	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1D^o$	2 - 2		496
5	20	844.01	8.88 - 127.37	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1P^o$	2 - 2		496
	10	861.61	8.88 - 124.95	$3s^2 3p^2 - 3s^2 3p(^3P^o)4d$	$^1D - ^1F^o$	2 - 2		496
	100	865.44	8.88 - 124.43	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1D - ^1P^o$	2 - 1		496
	5	872.84	8.88 - 123.46	$3s^2 3p^2 - 3s^2 3p(^3P^o)5s$	$^1D - ^1P^o$	2 - 1		496
	5	906.89						496

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	906.987	0.0 - 110.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 S$	0 - 1		496, 594
	40	907.56	21.58 - 131.76	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4d$	$^1 S - ^1 P$	0 - 1		496
	1	908.38	0.16 - 110.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 S$	1 - 1		496
	5	910.88	0.47 - 110.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 S$	2 - 1		496
	10	913.59	8.88 - 118.34	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^1 P$	2 - 1		496
	10	927.771	45.70 - 153.48	$3s 3p^2 - 3s 3p^2(^2P) 3d$	$^1 S - ^1 P$	2 - 1		496, 594
	10	928.550	45.70 - 153.39	$3s 3p^2 - 3s 3p^2(^2P) 3d$	$^1 S - ^1 P$	2 - 2		496, 594
	10	929.642	45.70 - 153.27	$3s 3p^2 - 3s 3p^2(^2P) 3d$	$^1 S - ^1 P$	2 - 3		496, 594
	1	961.04	0.0 - 104.05	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 D^o$	0 - 1		496
	5	962.13	0.16 - 104.10	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 P^o$	1 - 2		496
	5	962.57	0.16 - 104.05	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 D^o$	1 - 1		496
	1	963.59	0.16 - 103.94	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 P^o$	1 - 0		496
	5	963.81	0.0 - 103.76	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 P^o$	0 - 1		496
	10	964.09	8.88 - 112.61	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^1 D^o$	2 - 2		496
	10	964.95	0.47 - 104.10	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 P^o$	2 - 2		496
	20	965.43	0.47 - 104.05	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 D^o$	2 - 3		496
	10	966.52	0.16 - 103.63	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 D^o$	1 - 2		496
	1	968.17	0.47 - 103.76	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 P^o$	2 - 1		496
	5	969.38	0.47 - 103.63	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 D^o$	2 - 2		496
	5	972.24	21.58 - 124.43	$3s^2 3p^2 - 3s^2 3p(^2P^o) 5s$	$^1 S - ^1 P$	0 - 1		496
	30	972.807	0.0 - 102.80	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^1 P^o$	0 - 1		496, 594
	5	974.36	0.16 - 102.80	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^1 P^o$	1 - 1		496
	1	977.258	0.47 - 102.80	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^1 P^o$	2 - 1		496, 594
	100	1015.47	8.88 - 107.36	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 D - ^1 F$	2 - 3		496
	100	1033.41	21.58 - 118.34	$3s^2 3p^2 - 3s 3p^3$	$^1 S - ^1 P$	0 - 1		496
	150	1064.80	8.88 - 102.80	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 D - ^1 P$	2 - 1		496
	10	1124.945	0.0 - 88.89	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^1 P^o$	0 - 1		496, 594
	10	1130.925	0.47 - 88.89	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^1 P^o$	2 - 1		496, 594
	5	1141.00	0.16 - 87.81	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 F$	1 - 2		496
	20	1142.88	0.47 - 87.97	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 F$	2 - 3		496
	1	1143.71						496
	1	1145.01	0.47 - 87.81	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^2 F$	2 - 2		496
3	70	1149.96	0.16 - 87.13	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	1 - 2		496
3	50	1152.81	0.0 - 86.74	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	0 - 1		496
3	120	1153.99	0.47 - 87.13	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	2 - 2		496
3	40	1155.00	0.16 - 86.74	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	1 - 1		496
3	50	1156.96	0.16 - 86.60	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	1 - 0		496
3	80	1159.08	0.47 - 86.74	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$g^2 P - ^2 P^o$	2 - 1		496
	50	1231.18	21.58 - 102.80	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 S - ^1 P$	0 - 1		496
	200	1249.82	8.88 - 88.89	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$^1 D - ^1 P$	2 - 1		496
	30	1264.47	8.88 - 87.97	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 D - ^2 F$	2 - 3		496
	5	1267.06	8.88 - 87.81	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 D - ^2 F$	2 - 2		496
	5	1278.094	8.88 - 87.13	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$^1 D - ^2 P^o$	2 - 2		496
	5	1284.31	8.88 - 86.74	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$^1 D - ^2 P^o$	2 - 1		496
	30	1289.57	0.16 - 77.71	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^1 D^o$	1 - 2		496
	150	1294.64	0.47 - 77.71	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$g^2 P - ^1 D^o$	2 - 2		496
2	200	1301.87	0.0 - 76.81	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	0 - 1		496
2	200	1304.47	0.16 - 76.82	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	1 - 0		496
2	150	1304.68	0.16 - 76.81	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	1 - 1		496
2	350	1305.48	0.16 - 76.76	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	1 - 2		496
2	250	1309.87	0.47 - 76.81	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	2 - 1		496
2	600	1310.70	0.47 - 76.76	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 P^o$	2 - 2		496
	300	1452.89	8.88 - 77.71	$3s^2 3p^2 - 3s^2 3p(^2P^o) 3d$	$^1 D - ^1 D^o$	2 - 2		496
	10	1473.129	8.88 - 76.76	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^1 P$	2 - 2		496
	250	1485.49	21.58 - 88.89	$3s^2 3p^2 - 3s^2 3p(^2P^o) 4s$	$^1 S - ^1 P$	0 - 1		496
	10	1489.834	65.25 - 132.37	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - D(\frac{3}{2})$	1 - 1		496
	10	1494.990	65.27 - 132.16	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - D(\frac{3}{2})$	2 - 2		496
	5	1496.44	65.31 - 132.13	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - D(\frac{3}{2})$	3 - 3		496
	30	1506.44	65.31 - 131.69	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - G(\frac{3}{2})$	3 - 4		496
	10	1506.975	65.27 - 131.63	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - G(\frac{3}{2})$	2 - 3		496
	5	1512.87	65.25 - 131.35	$3s 3p^2 - 3s^2 3p(^2P^o) 5p$	$^1 D^o - ^1 D$	1 - 2		496
	300	1521.62	65.11 - 131.03	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - F(\frac{3}{2})$	3 - 4		496
	4	1522.11	65.25 - 130.95	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - F(\frac{3}{2})$	1 - 2		496
	10	1522.392	65.31 - 130.99	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - F(\frac{3}{2})$	3 - 3		496
	5	1522.59	65.27 - 130.95	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - F(\frac{3}{2})$	2 - 2		496
	10	1523.44	65.27 - 130.91	$3s 3p^2 - 3s^2 3p(^2P^o) 4f$	$^1 D^o - F(\frac{3}{2})$	2 - 3		496
	1	1525.58	65.25 - 130.80	$3s 3p^2 - 3s^2 3p(^2P^o) 5p$	$^1 D^o - ^2 S$	1 - 1		496
1	700	1532.51	0.0 - 65.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 D^o$	0 - 1		496
1	1000	1535.90	0.16 - 65.27	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 D^o$	1 - 2		496
1	700	1536.39	0.16 - 65.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 D^o$	1 - 1		496
1	1000	1542.29	0.47 - 65.31	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 D^o$	2 - 3		496
1	400	1543.09	65.25 - 130.06	$3s 3p^2 - 3s^2 3p(^2P^o) 5p$	$^2 D^o - ^2 P$	1 - 0		496
1	150	1543.61	0.47 - 65.25	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^2 D^o$	2 - 1		496
	5	1552.51	65.25 - 129.67	$3s 3p^2 - 3s^2 3p(^2P^o) 5p$	$^1 D^o - ^1 D$	1 - 2		496
	1	1552.94	65.27 - 129.67	$3s 3p^2 - 3s^2 3p(^2P^o) 5p$	$^1 D^o - ^1 D$	2 - 2		496

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	1553.392							496
10	1553.82		65.31 - 129.67	$3s3p^2 - 3s^23p(^3P^o)5p$	$^3D^o - ^3D$	3 - 2		496
1	1734.88		45.70 - 103.34	$3s3p^2 - 3s^23p(^3P^o)4p$	$^3S^o - ^3D$	2 - 2		496
30	1772.30		8.88 - 65.31	$3s^23p^2 - 3s3p^2$	$^1D - ^3D^o$	2 - 3		496
10	1797.54		76.76 - 132.40	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	2 - 2		496
5	1798.37		76.76 - 132.37	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	2 - 1		496
50	1799.10		76.81 - 132.40	$3s3p^2 - 3s^23p(^3F^o)4f$	$^3P^o - D[3/2]$	1 - 2		496
20	1799.91		76.81 - 132.37	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	1 - 1		496
20	1800.27		76.82 - 132.37	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	0 - 1		496
30	1805.11		76.76 - 132.16	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	2 - 2		496
150	1806.12		76.76 - 132.13	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	2 - 3		496
50	1806.67		76.81 - 132.16	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - D[3/2]$	1 - 2		496
30	1828.63		77.71 - 132.40	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - D[3/2]$	2 - 2		496
10	1836.47		77.71 - 132.16	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - D[3/2]$	2 - 2		496
20	1837.51		77.71 - 132.13	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - D[3/2]$	2 - 3		496
5	1844.06		76.76 - 130.99	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - F[3/2]$	2 - 3		496
20	1842.78		76.76 - 130.91	$3s3p^2 - 3s^23p(^3P^o)4f$	$^3P^o - F[3/2]$	2 - 3		496
20	1850.61		76.76 - 130.80	$3s3p^2 - 3s^23p(^3P^o)5p$	$^3P^o - ^3S$	2 - 1		496
20	1852.27		76.81 - 130.80	$3s3p^2 - 3s^23p(^3P^o)5p$	$^3P^o - ^3S$	1 - 1		496
10	1852.65		76.82 - 130.80	$3s3p^2 - 3s^23p(^3P^o)5p$	$^3P^o - ^3S$	0 - 1		496
150	1854.59		77.71 - 131.63	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - G[3/2]$	2 - 3		496
150	1864.22		77.71 - 131.35	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)5p$	$^1D^o - ^1D$	2 - 2		496
1	1872.36		76.76 - 130.17	$3s3p^2 - 3s^23p(^3P^o)5p$	$^3P^o - ^3P$	2 - 1		496
100	1876.79		77.71 - 130.99	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - F[3/2]$	2 - 3		496
250	1879.62		77.71 - 130.91	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)4f$	$^1D^o - F[3/2]$	2 - 3		496
5	1928.30		77.71 - 129.57	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)5p$	$^1D^o - ^3D$	2 - 1		496
50	1945.54		77.71 - 129.11	$3s^23p(^3P^o)3d - 3s^23p(^3P^o)5p$	$^1D^o - ^3P$	2 - 1		496

PHOSPHORUS III (P^{2+}), $Z = 15$ Ground State $1s^22s^22p^63s^23p^2P_{1/2}^o$ (13 electrons)Ionization Potential $243\,607 \text{ cm}^{-1}$; 30.204 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	395.723		0.0 - 252.70	$3s^23p - 3s3p(^3P^o)5p$	$g^3P^o - ^3P$	$1/2 - 3/2$	Z	936
25	396.059		0.0 - 252.49	$3s^23p - 3s3p(^3P^o)5p$	$g^3P^o - ^3P$	$1/2 - 1/2$	Z	936
40	396.605		0.56 - 252.70	$3s^23p - 3s3p(^3P^o)5p$	$g^3P^o - ^3P$	$3/2 - 3/2$	Z	936
4	396.940		0.56 - 252.49	$3s^23p - 3s3p(^3P^o)5p$	$g^3P^o - ^3P$	$3/2 - 1/2$	Z	936
4	439.509		0.0 - 227.53	$3s^23p - 3s^29s$	$g^3P^o - ^3S$	$1/2 - 1/2$		936
10	440.590		0.56 - 227.53	$3s^23p - 3s^29s$	$g^3P^o - ^3S$	$3/2 - 1/2$		936
10	449.462		0.0 - 222.49	$3s^23p - 3s^28s$	$g^3P^o - ^3S$	$1/2 - 1/2$		936
25	450.596		0.56 - 222.49	$3s^23p - 3s^28s$	$g^3P^o - ^3S$	$3/2 - 1/2$		936
40	456.844		0.0 - 218.84	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3S$	$1/2 - 1/2$		936
60	458.016		0.56 - 218.89	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3S$	$3/2 - 1/2$		936
25	466.038		0.0 - 214.58	$3s^23p - 3s^27s$	$g^3P^o - ^3S$	$1/2 - 1/2$		936
60	467.255		0.56 - 214.58	$3s^23p - 3s^27s$	$g^3P^o - ^3S$	$3/2 - 1/2$		936
60	468.039		0.56 - 214.22	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3D$	$3/2 - 3/2$		936
25	468.516		0.56 - 214.00	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3D$	$3/2 - 3/2$		936
60	470.232		0.0 - 212.66	$3s^23p - 3s^26d$	$g^3P^o - ^3D$	$1/2 - 3/2$		936
90	471.146		0.56 - 212.80	$3s^23p - 3s^26d$	$g^3P^o - ^3D$	$3/2 - 3/2$		936
25	471.467		0.56 - 212.66	$3s^23p - 3s^26d$	$g^3P^o - ^3D$	$3/2 - 3/2$		936
1	474.433		0.56 - 211.34	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3S$	$3/2 - 3/2$		936
1	477.596		0.56 - 209.94	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3P$	$3/2 - 1/2$		936
25	482.971		0.0 - 207.05	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3P$	$1/2 - 3/2$		936
60	483.210		0.0 - 206.95	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3P$	$1/2 - 1/2$		936
25	484.139		0.0 - 206.55	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3D$	$1/2 - 1/2$		936
90	484.278		0.56 - 207.05	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3P$	$3/2 - 3/2$		936
40	484.518		0.56 - 206.95	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3P$	$3/2 - 1/2$		936
40	485.009		0.56 - 206.74	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3D$	$3/2 - 3/2$		936
60	485.453		0.56 - 206.55	$3s^23p - 3s3p(^3P^o)4p$	$g^3P^o - ^3D$	$3/2 - 1/2$		936
90	496.795		0.0 - 201.29	$3s^23p - 3s^26s$	$g^3P^o - ^3S$	$1/2 - 1/2$		936
120	498.180		0.56 - 201.29	$3s^23p - 3s^26s$	$g^3P^o - ^3S$	$3/2 - 1/2$		936
40	502.123		0.0 - 199.15	$3s^23p - 3s^25d$	$g^3P^o - ^3D$	$1/2 - 3/2$		936
60	503.538		0.56 - 199.15	$3s^23p - 3s^25d$	$g^3P^o - ^3D$	$3/2 - 1/2$		936

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	40	534.416	57.13 - 244.25	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	10	534.960	56.92 - 243.85	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	936
	90	535.349	57.45 - 244.25	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	40	535.560	57.13 - 243.85	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	25	536.169	57.13 - 242.63	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	Z	936
	40	536.491	57.45 - 243.85	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	4	542.980	56.92 - 241.09	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		936
	1	543.300	56.92 - 240.98	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	10	543.584	57.13 - 241.09	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	4	543.909	57.13 - 240.98	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	544.492	57.13 - 240.78	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	544.887	57.45 - 240.98	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	545.464	57.45 - 240.78	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	25	549.995	56.92 - 238.74	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	25	550.157	56.92 - 238.69	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		936
	40	550.343	57.13 - 238.83	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	550.614	57.13 - 238.74	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	550.770	57.13 - 238.69	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	40	550.944	57.45 - 238.96	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	10	551.337	57.45 - 238.83	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	1	551.607	57.45 - 238.74	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	1	551.741	56.92 - 238.17	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1F^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	1	552.045	57.13 - 238.26	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	552.573	57.45 - 238.43	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1F^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	1	553.089	57.45 - 238.26	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	120	568.038	0.0 - 176.04	$3s^23p - 3s^25s$	$g^2P^{\circ} - ^2S$	$\frac{1}{2} - \frac{1}{2}$		936
	200	569.853	0.56 - 176.04	$3s^23p - 3s^25s$	$g^2P^{\circ} - ^2S$	$\frac{3}{2} - \frac{1}{2}$		936
	1	574.869	74.95 - 248.90	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	1	575.217	74.92 - 248.77	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$	Z	936
	120	579.944	0.0 - 172.43	$3s^23p - 3s^24d$	$g^2P^{\circ} - ^1D$	$\frac{1}{2} - \frac{3}{2}$		936
	200	581.831	0.56 - 172.43	$3s^23p - 3s^24d$	$g^2P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		936
	25	600.757	74.95 - 241.40	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	601.094	74.92 - 241.28	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	1	601.212	74.95 - 241.28	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	1	672.496	100.20 - 248.90	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$	Z	936
	1	673.104	100.20 - 248.77	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1S - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$	Z	936
	1	676.132	74.92 - 222.82	$3s3p^2 - 3s3p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	40	676.264	74.95 - 222.82	$3s3p^2 - 3s3p(^1P^{\circ})4s$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	688.420	74.92 - 220.18	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	40	688.549	74.95 - 220.18	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	689.986	74.92 - 219.85	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	40	690.125	74.95 - 219.85	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	25	690.650	74.92 - 219.71	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	690.787	74.95 - 219.71	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	708.812	100.20 - 241.28	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1S - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	4	715.677	109.04 - 248.77	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$	Z	936
	60	716.739	74.92 - 214.43	$3s3p^2 - 3s^26f$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	25	716.912	109.41 - 248.90	$3s3p^2 - 3s3p(^2P^{\circ})5s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$	Z	936
	60	739.673	74.92 - 210.11	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	25	739.853	74.95 - 210.11	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	90	740.178	74.95 - 210.05	$3s3p^2 - 3s3p(^1P^{\circ})3d$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	60	756.171	109.04 - 241.28	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	90	757.629	109.41 - 241.40	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	757.878	109.04 - 240.98	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	10	758.333	109.41 - 241.28	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	759.200	74.92 - 206.63	$3s3p^2 - 3p^2$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	1	759.318	74.92 - 206.61	$3s3p^2 - 3p^2$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	759.473	74.95 - 206.61	$3s3p^2 - 3p^2$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	761.200	109.41 - 240.78	$3s3p^2 - 3s3p(^2P^{\circ})4d$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	25	762.757	74.92 - 206.02	$3s3p^2 - 3s^26p$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	1	762.952	74.92 - 206.00	$3s3p^2 - 3s^26p$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	40	763.031	74.95 - 206.00	$3s3p^2 - 3s^26p$	$^1D - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	90	781.742	57.13 - 185.05	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	782.358	56.92 - 184.74	$3s3p^2 - 3s^25p$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		936
	25	782.886	57.13 - 184.86	$3s3p^2 - 3s^25p$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	60	782.972	56.92 - 184.64	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		936
	10	783.575	57.45 - 185.07	$3s3p^2 - 3p^2$	$^1P - ^1D^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	150	783.746	57.45 - 185.05	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	784.119	56.92 - 184.45	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{1}{2} - \frac{1}{2}$		936
	25	784.227	57.13 - 184.64	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	4	784.913	57.45 - 184.86	$3s3p^2 - 3s^25p$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	60	785.373	57.13 - 184.45	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{1}{2}$		936
	60	786.252	57.45 - 184.64	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^1P - ^1P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	90	795.835	74.92 - 200.57	$3s3p^2 - 3s^25f$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936
	10	796.020	74.95 - 200.57	$3s3p^2 - 3s^25f$	$^1D - ^1F^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		936

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	120	796.223	74.95 - 200.54	$3s3p^2 - 3s^25f$	$^1D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		936
	25	803.093	116.89 - 241.40	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	803.813	116.87 - 241.28	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	1	805.056	116.87 - 241.09	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	1	805.765	116.97 - 240.98	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	807.107	116.89 - 240.78	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	25	815.559	100.20 - 222.82	$3s3p^2 - 3s3p(^3P)4s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	10	815.736	100.20 - 222.79	$3s3p^2 - 3s3p(^3P)4s$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	1	820.552	116.87 - 238.74	$3s^23d - 3s3p(^3P)4d$	$^1D - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	4	833.492	100.20 - 220.18	$3s3p^2 - 3s3p(^3P)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	1	833.668	100.20 - 220.15	$3s3p^2 - 3s3p(^3P)3d$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	200	844.646	56.92 - 175.31	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		936
	150	845.038	56.92 - 175.26	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$		936
	250	845.664	57.13 - 175.38	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		936
	200	846.108	57.13 - 175.31	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	120	846.496	57.13 - 175.26	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		936
	300	847.669	57.45 - 175.43	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	200	848.016	57.45 - 175.38	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	120	848.465	57.45 - 175.31	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	150	848.639	0.0 - 117.84	$3s^23p - 3s^24s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		936
	250	852.686	0.56 - 117.84	$3s^23p - 3s^24s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		936
	60	853.355	56.92 - 174.11	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	90	854.232	56.92 - 173.99	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	90	854.845	57.13 - 174.11	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	350	855.624	0.0 - 116.87	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		936
4	10	855.722	57.13 - 173.99	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	856.717	74.92 - 191.64	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	40	856.934	74.95 - 191.64	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	120	856.981	57.13 - 173.81	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	90	858.135	57.45 - 173.99	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	25	859.362	74.92 - 191.28	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	200	859.406	57.45 - 173.81	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	500	859.652	0.56 - 116.89	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	250	859.729	0.56 - 116.87	$3s^23p - 3s^23d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	150	879.264	74.95 - 188.68	$3s3p^2 - 3s3p(^3P)3d$	$^1D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		936
	25	881.813	109.41 - 222.82	$3s3p^2 - 3s3p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	882.028	109.41 - 222.79	$3s3p^2 - 3s3p(^3P)4s$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	90	882.626	74.92 - 188.22	$3s3p^2 - 3s3p(^3P)3d$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		936
	40	882.848	74.95 - 188.22	$3s3p^2 - 3s3p(^3P)3d$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		936
	1	883.467	56.92 - 170.11	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	1	885.073	57.13 - 170.11	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	899.767	109.04 - 220.18	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	60	899.963	109.04 - 220.15	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	120	902.822	109.41 - 220.18	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	40	903.022	109.41 - 220.15	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	90	903.575	109.04 - 219.71	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		936
	120	905.517	109.41 - 219.85	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	25	906.660	109.41 - 219.71	$3s3p^2 - 3s3p(^3P)3d$	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		936
	90	907.590	74.92 - 185.10	$3s3p^2 - 3p^1$	$^1D - ^1D$	$\frac{1}{2} - \frac{3}{2}$		936
	120	907.809	74.92 - 185.07	$3s3p^2 - 3p^1$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		936
3	120	908.032	74.95 - 185.07	$3s3p^2 - 3p^1$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	908.266	74.95 - 185.05	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	4	909.581	74.92 - 184.86	$3s3p^2 - 3s^25p$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	90	909.818	74.95 - 184.86	$3s3p^2 - 3s^25p$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	60	910.548	74.92 - 184.74	$3s3p^2 - 3s^25p$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	1	911.379	74.92 - 184.64	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	40	911.629	74.95 - 184.64	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	10	912.936	74.92 - 184.45	$3s3p^2 - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	300	913.971	0.0 - 109.41	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	300	917.120	0.0 - 109.04	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	350	918.665	0.56 - 109.41	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	250	921.849	0.56 - 109.04	$3s^23p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	40	939.576	100.20 - 206.63	$3s3p^2 - 3p^1$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	60	939.730	100.20 - 206.61	$3s3p^2 - 3p^1$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	10	944.076	116.89 - 222.82	$3s^23d - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	944.178	116.87 - 222.79	$3s^23d - 3s3p(^3P)4s$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936
	40	945.000	100.20 - 206.02	$3s3p^2 - 3s^26p$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	60	945.151	100.20 - 206.00	$3s3p^2 - 3s^26p$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	25	952.559	117.84 - 222.82	$3s^24s - 3s3p(^3P)4s$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		936
	10	952.822	117.84 - 222.79	$3s^24s - 3s3p(^3P)4s$	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$		936
	60	963.962	74.92 - 178.66	$3s3p^2 - 3s^24f$	$^1D - ^3F$	$\frac{3}{2} - \frac{3}{2}$		936
	90	964.224	74.95 - 178.66	$3s3p^2 - 3s^24f$	$^1D - ^3F$	$\frac{3}{2} - \frac{1}{2}$		936
	25	968.034	116.87 - 220.18	$3s^23d - 3s3p(^3P)3d$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	90	968.175	116.89 - 220.18	$3s^23d - 3s3p(^3P)3d$	$^1D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		936
	40	968.262	116.87 - 220.15	$3s^23d - 3s3p(^3P)3d$	$^1D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		936

Multiplet	Rel. Int.	λ_{vac} (m. Å)	Level (m. eV)	Configurations	Term	J - J	Notes	References
10	671.137	116.87 - 219.85	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			936
60	671.236	116.89 - 219.85	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	672.476	116.87 - 219.71	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			936
25	672.645	116.89 - 219.71	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$			936
20	672.821	56.92 - 159.72	$3s 3p^2 - 3p^3$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{3}{2}$			936
90	674.761	57.13 - 159.72	$3s 3p^2 - 3p^3$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{3}{2}$			936
4	677.121	117.84 - 220.18	$3s^2 4s - 3s 3p(^1P^o) 3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
1	677.154	117.84 - 220.15	$3s^2 4s - 3s 3p(^1P^o) 3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
120	677.686	57.45 - 159.72	$3s 3p^2 - 3p^3$	$^4P - ^4S^o$	$\frac{3}{2} - \frac{3}{2}$			936
1	678.442	56.92 - 159.12	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^4P - ^4F^o$	$\frac{1}{2} - \frac{3}{2}$			936
4	679.312	57.13 - 159.24	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{3}{2}$			936
4	680.692	57.45 - 159.40	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{3}{2}$			936
1	682.452	57.45 - 159.24	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{3}{2}$			936
1	685.232	74.95 - 175.43	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	695.705	74.95 - 175.38	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$			936
1	696.332	74.95 - 175.31	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$			936
200	697.999	0.0 - 100.20	$3s^2 3p - 3s 3p^2$	$g^2P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$			936
250	1003.598	0.56 - 100.20	$3s^2 3p - 3s 3p^2$	$g^2P^o - ^2S$	$\frac{3}{2} - \frac{1}{2}$			936
25	1024.656	109.04 - 206.63	$3s 3p^2 - 3p^3$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$			936
4	1024.844	109.04 - 206.61	$3s 3p^2 - 3p^3$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$			936
4	1025.140	116.89 - 214.43	$3s^2 3d - 3s^2 6f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{7}{2}$			936
4	1028.603	109.41 - 206.63	$3s 3p^2 - 3p^3$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{1}{2}$			936
40	1028.797	109.41 - 206.61	$3s 3p^2 - 3p^3$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$			936
10	1031.107	109.04 - 206.02	$3s 3p^2 - 3s^2 6p$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$			936
1	1031.295	109.04 - 206.00	$3s 3p^2 - 3s^2 6p$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$			936
4	1035.102	109.41 - 206.12	$3s 3p^2 - 3s^2 6p$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{1}{2}$			936
25	1035.284	109.41 - 206.00	$3s 3p^2 - 3s^2 6p$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$			936
4	1044.663	159.41 - 255.10	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{7}{2} - \frac{9}{2}$	Z		936
1	1045.385	159.41 - 254.91	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
25	1045.152	159.41 - 254.72	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
40	1046.333	159.24 - 254.91	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
60	1046.734	159.41 - 254.94	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{7}{2} - \frac{7}{2}$	Z		936
90	1047.243	159.61 - 255.10	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{9}{2} - \frac{9}{2}$	Z		936
4	1048.120	159.40 - 254.91	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{7}{2} - \frac{3}{2}$	Z		936
1	1049.083	159.61 - 254.94	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4F^o - ^4F$	$\frac{9}{2} - \frac{7}{2}$	Z		936
90	1049.825	74.92 - 170.17	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$			936
120	1050.491	73.92 - 170.11	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	1050.810	74.95 - 170.11	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	1072.533	116.87 - 210.11	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
10	1072.661	116.89 - 210.11	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
60	1073.383	116.89 - 210.05	$3s^2 3d - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{7}{2}$			936
40	1093.606	100.20 - 191.64	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
25	1097.916	100.20 - 191.28	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$			936
4	1122.118	116.89 - 206.00	$3s^2 3d - 3s^2 6p$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$			936
10	1133.975	117.84 - 206.02	$3s^2 4s - 3s^2 6p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$			936
25	1134.201	117.84 - 206.00	$3s^2 4s - 3s^2 6p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
25	1181.224	100.20 - 184.86	$3s 3p^2 - 3s^2 5p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
10	1182.868	100.20 - 184.74	$3s 3p^2 - 3s^2 5p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$			936
1	1184.043	56.92 - 141.38	$3s 3p^2 - 3s^2 4p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$			936
1	1185.015	57.13 - 141.51	$3s 3p^2 - 3s^2 4p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$			936
10	1186.304	74.95 - 159.24	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
25	1187.542	74.92 - 159.12	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
1	1187.934	74.95 - 159.12	$3s 3p^2 - 3s 3p(^1P^o) 3d$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	1194.792	116.87 - 200.57	$3s^2 3d - 3s^2 5f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{3}{2}$			936
25	1194.945	116.89 - 200.57	$3s^2 3d - 3s^2 5f$	$^3D - ^3F^o$	$\frac{1}{2} - \frac{3}{2}$			936
60	1195.410	116.89 - 200.54	$3s^2 3d - 3s^2 5f$	$^3D - ^3F^o$	$\frac{3}{2} - \frac{7}{2}$			936
40	1210.601	109.04 - 191.64	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$			936
60	1215.886	109.04 - 191.28	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$			936
120	1216.127	109.41 - 191.64	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$			936
40	1221.471	109.41 - 191.28	$3s 3p^2 - 3s 3p(^1P^o) 4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$			936
1	1237.252	173.99 - 254.81	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
60	1255.116	175.43 - 255.10	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
40	1256.926	175.38 - 254.94	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{7}{2}$	Z		936
4	1257.702	175.43 - 254.94	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{7}{2} - \frac{7}{2}$	Z		936
40	1257.917	175.31 - 254.81	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
25	1258.457	175.26 - 254.72	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$	Z		936
10	1258.904	175.38 - 254.81	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
4	1259.311	175.31 - 254.72	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
1	1259.685	175.43 - 254.81	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{1}{2} - \frac{3}{2}$	Z		936
1	1260.322	175.38 - 254.72	$3s 3p(^1P^o) 3d - 3s 3p(^1P^o) 4f$	$^4D^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Z		936
1	1290.074	141.38 - 218.89	$3s^2 4p - 3s 3p(^1P^o) 4p$	$^2P^o - ^2S$	$\frac{1}{2} - \frac{1}{2}$			936
4	1292.348	141.51 - 218.89	$3s^2 4p - 3s 3p(^1P^o) 4p$	$^2P^o - ^2S$	$\frac{3}{2} - \frac{1}{2}$			936
60	1314.728	109.04 - 185.10	$3s 3p^2 - 3p^3$	$^2P - ^2D^o$	$\frac{1}{2} - \frac{3}{2}$			936
25	1318.901	109.04 - 184.86	$3s 3p^2 - 3s^2 5p$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$			936
25	1320.941	109.04 - 184.74	$3s 3p^2 - 3s^2 5p$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$			936

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	25	1321.259	109.41 - 185.10	$3s3p^2 - 3p^2$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	90	1321.681	109.41 - 185.07	$3s3p^2 - 3p^2$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1322.188	109.41 - 185.05	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^2P - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1322.707	109.04 - 184.64	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^2F - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	40	1325.465	109.41 - 184.86	$3s3p^2 - 3s^25p$	$^2P - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	25	1327.531	109.41 - 184.74	$3s3p^2 - 3s^25p$	$^2P - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	10	1329.318	109.41 - 184.64	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^2P - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	4	1332.600	109.41 - 184.45	$3s3p^2 - 3s3p(^2P^{\circ})4s$	$^2P - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	500	1334.808	0.0 - 74.92	$3s^23p - 3s3p^2$	$g^2P^{\circ} - ^2D$	$\frac{1}{2} - \frac{3}{2}$		936
	40	1337.500	116.87 - 191.64	$3s^23d - 3s3p(^2P^{\circ})4s$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
1	120	1337.702	116.89 - 191.64	$3s^23d - 3s3p(^2P^{\circ})4s$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	70	1343.81	173.81 - 248.23	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P. Z	597
	90	1343.957	116.87 - 191.28	$3s^23d - 3s3p(^2P^{\circ})4s$	$^2D - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	650	1344.327	0.56 - 74.95	$3s^23p - 3s3p^2$	$g^2P^{\circ} - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1344.845	0.56 - 74.92	$3s^23p - 3s3p^2$	$g^2P^{\circ} - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	200	1346.93	173.99 - 248.23	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P. Z	597
	10	1347.46	173.99 - 248.20	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P. Z	597
	10	1348.45	174.11 - 248.27	$3s^2p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$	Z	597
	200	1349.12	174.11 - 248.23	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2P - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P. Z	597
	25	1354.923	117.84 - 191.64	$3s^24s - 3s3p(^2P^{\circ})4s$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
7	10	1361.548	117.84 - 191.28	$3s^24s - 3s3p(^2P^{\circ})4s$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	4	1366.114	141.38 - 214.58	$3s^24p - 3s^27s$	$^2P - ^2S$	$\frac{1}{2} - \frac{1}{2}$		936
	10	1368.668	141.51 - 214.58	$3s^24p - 3s^27s$	$^2P - ^2S$	$\frac{3}{2} - \frac{1}{2}$		936
	10	1370.45	175.26 - 248.23	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2D - ^2D$	$\frac{1}{2} - \frac{3}{2}$	P. Z	597
	100	1372.02	175.31 - 248.20	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P. Z	597
	300	1372.65	175.38 - 248.23	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P. Z	597
	100	1374.70	175.43 - 248.17	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4f$	$^2D - ^2D$	$\frac{1}{2} - \frac{1}{2}$	P. Z	597
	1	1375.091	176.04 - 248.77	$3s^25s - 3s3p(^2P^{\circ})5s$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$	Z	936
	4	1375.453	141.51 - 214.22	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	40	1379.911	74.92 - 147.39	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
7	250	1380.463	74.95 - 147.39	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	150	1381.089	74.92 - 147.32	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	90	1381.644	74.95 - 147.32	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	40	1392.924	116.89 - 188.68	$3s^23d - 3s3p(^2P^{\circ})3d$	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$		936
	25	1401.725	116.87 - 188.22	$3s^23d - 3s3p(^2P^{\circ})3d$	$^2D - ^2F$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1401.946	116.89 - 188.22	$3s^23d - 3s3p(^2P^{\circ})3d$	$^2D - ^2F$	$\frac{3}{2} - \frac{3}{2}$		936
	25	1429.184	100.20 - 170.17	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	40	1430.410	100.20 - 170.11	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	1	1460.906	159.61 - 228.06	$3s3p(^2P^{\circ})3d - 3s^28g$	$^2F - ^2G$	$\frac{3}{2} - \frac{3}{2}$		936
	4	1465.766	116.87 - 185.10	$3s^23d - 3p^2$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
6	1	1466.286	116.87 - 185.07	$3s^23d - 3p^2$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	1466.536	116.89 - 185.07	$3s^23d - 3p^2$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	1471.198	116.89 - 184.86	$3s^23d - 3s^25p$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	4	1473.492	116.87 - 184.74	$3s^23d - 3s^25p$	$^2D - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	1	1475.939	116.89 - 184.64	$3s^23d - 3s3p(^2P^{\circ})4s$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	40	1492.048	117.84 - 184.86	$3s^24s - 3s^25p$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	25	1494.667	117.84 - 184.74	$3s^24s - 3s^25p$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	25	1496.295	147.39 - 214.22	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4p$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	1496.932	117.84 - 184.64	$3s^24s - 3s3p(^2P^{\circ})4s$	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	10	1499.855	147.32 - 214.00	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4p$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
6	1	1501.093	117.84 - 184.45	$3s^24s - 3s3p(^2P^{\circ})4s$	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	90	1501.575	74.92 - 141.51	$3s3p^2 - 3s^24p$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	350	1502.228	74.95 - 141.51	$3s3p^2 - 3s^24p$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	250	1504.663	74.92 - 141.38	$3s3p^2 - 3s^24p$	$^2D - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	25	1522.607	141.38 - 207.05	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	10	1525.010	141.38 - 206.95	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	25	1525.795	141.51 - 207.05	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1528.194	141.51 - 206.95	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	25	1528.654	147.39 - 212.80	$3s3p(^2P^{\circ})3d - 3s^26d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	10	1530.492	147.32 - 212.66	$3s3p(^2P^{\circ})3d - 3s^26d$	$^2D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
6	10	1533.063	141.51 - 206.74	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		936
	1	1534.291	141.38 - 206.55	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2D$	$\frac{1}{2} - \frac{1}{2}$		936
	4	1537.527	141.51 - 206.55	$3s^24p - 3s3p(^2P^{\circ})4p$	$^2P - ^2D$	$\frac{3}{2} - \frac{1}{2}$		936
	1	1570.215	159.61 - 223.30	$3s3p(^2P^{\circ})3d - 3s^27g$	$^2F - ^2G$	$\frac{3}{2} - \frac{3}{2}$		936
	150	1618.632	116.87 - 178.66	$3s^23d - 3s^24f$	$^2D - ^2F$	$\frac{3}{2} - \frac{3}{2}$		936
	200	1618.907	116.89 - 178.66	$3s^23d - 3s^24f$	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$		936
	60	1635.766	109.04 - 170.17	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2P - ^2P$	$\frac{1}{2} - \frac{1}{2}$		936
	40	1637.379	109.04 - 170.11	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2P - ^2P$	$\frac{1}{2} - \frac{3}{2}$		936
	25	1645.886	109.41 - 170.17	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2P - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936
	90	1647.513	109.41 - 170.11	$3s3p^2 - 3s3p(^2P^{\circ})3d$	$^2P - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
6	4	1669.044	141.38 - 201.29	$3s^24p - 3s^26s$	$^2P - ^2S$	$\frac{1}{2} - \frac{1}{2}$		936
	25	1672.850	141.51 - 201.29	$3s^24p - 3s^26s$	$^2P - ^2S$	$\frac{3}{2} - \frac{1}{2}$		936
	25	1674.184	147.32 - 207.05	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4p$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	90	1675.924	147.39 - 207.05	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4p$	$^2D - ^2P$	$\frac{3}{2} - \frac{3}{2}$		936
	60	1677.083	147.32 - 206.95	$3s3p(^2P^{\circ})3d - 3s3p(^2P^{\circ})4p$	$^2D - ^2P$	$\frac{3}{2} - \frac{1}{2}$		936

P III

P IV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	1678.12							597
10	1682.944		147.32 - 206.74	$3s3p(^3P^o)3d - 3s3p(^3P^o)4p$	$^3D^o - ^3D$	$^3_2 - ^3_2$		936
60	1684.705		147.39 - 206.74	$3s3p(^3P^o)3d - 3s3p(^3P^o)4p$	$^3D^o - ^3D$	$^3_2 - ^3_2$		936
60	1688.311		147.32 - 206.55	$3s3p(^3P^o)3d - 3s3p(^3P^o)4p$	$^3D^o - ^3D$	$^3_2 - ^1_2$		936
100	1693.03							597
100	1696.92							597
10	1730.758		141.38 - 199.15	$3s^2 4p - 3s^2 5d$	$^3P^o - ^3D$	$^1_2 - ^3_2$		936
40	1734.867		141.51 - 199.15	$3s^2 4p - 3s^2 5d$	$^3P^o - ^3D$	$^3_2 - ^3_2$		936
40	1756.798		0.0 - 56.92	$3s^2 3p - 3s3p^2$	$g^3P^o - ^4P$	$^1_2 - ^1_2$		936
60	1757.626		0.56 - 57.45	$3s^2 3p - 3s3p^2$	$g^3P^o - ^4P$	$^3_2 - ^3_2$		936
25	1767.818		0.56 - 57.13	$3s^2 3p - 3s3p^2$	$g^3P^o - ^4P$	$^3_2 - ^3_2$		936
25	1774.226		0.56 - 56.92	$3s^2 3p - 3s3p^2$	$g^3P^o - ^4P$	$^3_2 - ^1_2$		936
1	1876.302		116.87 - 170.17	$3s^2 3d - 3s3p(^3P^o)3d$	$^3D - ^3P^o$	$^3_2 - ^1_2$		936
4	1878.828		116.89 - 170.11	$3s^2 3d - 3s3p(^3P^o)3d$	$^3D - ^3P^o$	$^3_2 - ^3_2$		936
4	1910.780		117.84 - 170.17	$3s^2 4s - 3s3p(^3P^o)3d$	$^3S - ^3P^o$	$^1_2 - ^1_2$		936
10	1912.974		117.84 - 170.11	$3s^2 4s - 3s3p(^3P^o)3d$	$^3S - ^3P^o$	$^1_2 - ^3_2$		936

PHOSPHORUS IV (P^{3+}), Z = 15Ground State $1s^2 2s^2 2p^6 3s^2 \ ^1S_0$ (12 electrons)Ionization Potential 414 922.8 cm^{-1} ; 51.444 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	256.453		0.0 - 389.94	$3s^2 - 3s9p$	$g^1S - ^1P^o$	0 - 1		937
10	261.477		0.0 - 382.45	$3s^2 - 3s8p$	$g^1S - ^1P^o$	0 - 1		937
40	269.117		0.0 - 371.59	$3s^2 - 3s7p$	$g^1S - ^1P^o$	0 - 1		937
90	282.301		0.0 - 354.23	$3s^2 - 3s6p$	$g^1S - ^1P^o$	0 - 1		937
1	299.258		68.15 - 402.31	$3s3p - 3s12d$	$^3P^o - ^3D$	1 - 2		937
1	299.672		68.62 - 402.31	$3s3p - 3s12d$	$^3P^o - ^3D$	2 - 3		937
1	301.249		67.92 - 399.87	$3s3p - 3s11d$	$^3P^o - ^3D$	0 - 1		937
4	301.460		68.15 - 399.87	$3s3p - 3s11d$	$^3P^o - ^3D$	1 - 2		937
4	301.880		68.62 - 399.87	$3s3p - 3s11d$	$^3P^o - ^3D$	2 - 3		937
4	304.364		68.15 - 396.70	$3s3p - 3s10d$	$^3P^o - ^3D$	1 - 2		937
4	304.805		68.62 - 396.70	$3s3p - 3s10d$	$^3P^o - ^3D$	2 - 3		937
90	304.996		0.0 - 327.87	$3s^2 - 3p4s$	$g^1S - ^1P^o$	0 - 1		937
1	307.203		68.15 - 393.66	$3s3p - 3s10s$	$^3P^o - ^3S$	1 - 1		937
4	307.648		68.62 - 393.66	$3s3p - 3s10s$	$^3P^o - ^3S$	2 - 1		937
4	308.402		67.92 - 392.17	$3s3p - 3s9d$	$^3P^o - ^3D$	0 - 1		937
10	308.615		68.15 - 392.17	$3s3p - 3s9d$	$^3P^o - ^3D$	1 - 2		937
25	309.060		68.62 - 392.17	$3s3p - 3s9d$	$^3P^o - ^3D$	2 - 3		937
4	312.566		68.15 - 388.08	$3s3p - 3s9s$	$^3P^o - ^3S$	1 - 1		937
10	313.024		68.62 - 388.08	$3s3p - 3s9s$	$^3P^o - ^3S$	2 - 1		937
10	314.300		67.92 - 386.08	$3s3p - 3s8d$	$^3P^o - ^3D$	0 - 1		937
60	314.512		0.0 - 317.96	$3s^2 - 3p4s$	$g^1S - ^1P^o$	0 - 1		937
25	314.991		68.62 - 386.08	$3s3p - 3s8d$	$^3P^o - ^3D$	2 - 3		937
150	315.570		0.0 - 316.89	$3s^2 - 3s5p$	$g^1S - ^1P^o$	0 - 1		937
4	320.462		67.92 - 379.97	$3s3p - 3s8s$	$^3P^o - ^3S$	0 - 1		937
10	320.701		68.15 - 379.97	$3s3p - 3s8s$	$^3P^o - ^3S$	1 - 1		937
10	321.172		68.62 - 379.97	$3s3p - 3s8s$	$^3P^o - ^3S$	2 - 1		937
1	322.544		105.19 - 415.22	$3s3p - 3p3p$	$^3P^o - ^3P$	1 - 1	Z	937
10	323.502		67.92 - 377.04	$3s3p - 3s7d$	$^3P^o - ^3D$	0 - 1		937
25	323.734		68.15 - 377.04	$3s3p - 3s7d$	$^3P^o - ^3D$	1 - 2		937
40	324.221		68.62 - 377.05	$3s3p - 3s7d$	$^3P^o - ^3D$	2 - 3		937
10	325.651		0.0 - 307.08	$3s^2 - 3p3d$	$g^1S - ^1P^o$	0 - 1		937
25	333.758		67.92 - 367.54	$3s3p - 3s7s$	$^3P^o - ^3S$	0 - 1		937
40	334.013		68.15 - 367.54	$3s3p - 3s7s$	$^3P^o - ^3S$	1 - 1		937
60	334.538		68.62 - 367.54	$3s3p - 3s7s$	$^3P^o - ^3S$	2 - 1		937
25	338.841		67.92 - 363.04	$3s3p - 3s6d$	$^3P^o - ^3D$	0 - 1		937
60	339.101		68.15 - 363.04	$3s3p - 3s6d$	$^3P^o - ^3D$	1 - 2		937
90	339.633		68.62 - 363.05	$3s3p - 3s6d$	$^3P^o - ^3D$	2 - 3		937
4	346.490		105.19 - 393.80	$3s3p - 3s10s$	$^3P^o - ^3S$	1 - 0		937
1	351.808		68.15 - 352.39	$3s3p - 3p4p$	$^3P^o - ^3D$	1 - 2		937
10	353.236		105.19 - 388.29	$3s3p - 3s9s$	$^3P^o - ^3S$	1 - 0		937

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	356.364	105.19 - 385.80	3s3p - 3s8d	$^1P^o - ^1D$	1-2		937
	60	357.708	68.15 - 347.70	3s3p - 3p4p	$^1P^o - ^1P$	1-2		937
	60	357.837	67.92 - 347.37	3s3p - 3p4p	$^1P^o - ^1P$	0-1		937
	60	358.132	68.15 - 347.37	3s3p - 3p4p	$^1P^o - ^1P$	1-1		937
	150	358.328	68.62 - 347.70	3s3p - 3p4p	$^1P^o - ^1P$	2-2		937
	90	358.736	68.62 - 347.37	3s3p - 3p4p	$^1P^o - ^1P$	2-1		937
	60	358.999	67.92 - 346.47	3s3p - 3s6s	$^1P^o - ^1S$	0-1		937
	120	359.293	68.15 - 346.47	3s3p - 3s6s	$^1P^o - ^1S$	1-1		937
	150	359.899	68.62 - 346.47	3s3p - 3s6s	$^1P^o - ^1S$	2-1		937
	120	361.514	68.15 - 344.76	3s3p - 3p4p	$^1P^o - ^1D$	1-2		937
	150	361.629	68.62 - 345.14	3s3p - 3p4p	$^1P^o - ^1D$	2-3		937
	40	361.802	68.15 - 344.54	3s3p - 3p4p	$^1P^o - ^1D$	1-1		937
	60	362.133	68.62 - 344.76	3s3p - 3p4p	$^1P^o - ^1D$	2-2		937
	4	362.412	68.62 - 344.54	3s3p - 3p4p	$^1P^o - ^1D$	2-1		937
	10	363.467	105.19 - 380.32	3s3p - 3s8s	$^1P^o - ^1S$	1-0		937
	4	363.933	105.19 - 379.97	3s3p - 3s8s	$^1P^o - ^1S$	1-1		937
	25	367.660	105.19 - 377.18	3s3p - 3s7d	$^1P^o - ^1D$	1-2		937
	120	371.299	67.92 - 337.25	3s3p - 3s5d	$^1P^o - ^1D$	0-1		937
	150	371.504	68.15 - 337.32	3s3p - 3s5d	$^1P^o - ^1D$	1-2		937
	60	371.611	68.15 - 337.25	3s3p - 3s5d	$^1P^o - ^1D$	1-1		937
	200	372.001	68.62 - 337.43	3s3p - 3s5d	$^1P^o - ^1D$	2-3		937
	60	372.150	68.62 - 337.32	3s3p - 3s5d	$^1P^o - ^1D$	2-2		937
	10	372.256	68.62 - 337.25	3s3p - 3s5d	$^1P^o - ^1D$	2-1		937
	60	380.152	105.19 - 368.24	3s3p - 3s7s	$^1P^o - ^1S$	1-0		937
	90	386.752	105.19 - 363.75	3s3p - 3s6d	$^1P^o - ^1D$	1-2		937
	500	388.318	0.0 - 257.52	3s ² - 3s4p	$g^1S - ^1P^o$	0-1		937
	90	389.698	0.0 - 256.61	3s ² - 3s4p	$g^1S - ^1P^o$	0-1		937
	60	392.901	105.19 - 359.71	3s3p - 3p4p	$^1P^o - ^1S$	1-0		937
	150	404.535	105.19 - 352.39	3s3p - 3p4p	$^1P^o - ^1D$	1-2		937
	40	409.827	105.19 - 349.20	3s3p - 3p4p	$^1P^o - ^1S$	1-1		937
	90	412.521	105.19 - 347.60	3s3p - 3s6s	$^1P^o - ^1S$	1-0		937
	120	414.604	67.92 - 309.11	3s3p - 3s5s	$^1P^o - ^1S$	0-1		937
	200	414.999	68.15 - 309.11	3s3p - 3s5s	$^1P^o - ^1S$	1-1		937
	250	415.805	68.62 - 309.11	3s3p - 3s5s	$^1P^o - ^1S$	2-1		937
	4	417.828	158.14 - 397.47	3p ² - 3s10f	$^1D - ^1F^o$	2-3		937
	200	424.235	105.19 - 340.91	3s3p - 3p4p	$^1P^o - ^1P$	1-1		927
	10	424.983	158.14 - 393.44	3p ² - 3s9f	$^1D - ^1F^o$	2-3		937
	10	429.475	105.19 - 338.04	3s3p - 3s5d	$^1P^o - ^1D$	1-2		937
	4	433.838	158.14 - 388.64	3p ² - 3p4d	$^1D - ^1P^o$	2-1		937
	10	434.817	158.14 - 388.12	3p ² - 3s8f	$^1D - ^1F^o$	2-3		937
	1	438.906	158.14 - 385.98	3p ² - 3p4d	$^1D - ^1F^o$	2-3		937
	200	443.803	67.92 - 293.24	3s3p - 3s4d	$^1P^o - ^1D$	0-1		937
	1	444.245	68.15 - 293.25	3s3p - 3s4d	$^1P^o - ^1D$	1-2		937
	300	445.158	68.62 - 293.26	3s3p - 3s4d	$^1P^o - ^1D$	2-3		937
	4	445.810	158.14 - 382.45	3p ² - 3s8p	$^1D - ^1P^o$	2-1		937
	1	446.121	165.65 - 389.81	3p ² - 3s9p	$^1P - ^1P^o$	2-2		937
	1	448.466	165.65 - 388.64	3p ² - 3p4d	$^1P - ^1P^o$	2-1		937
	10	450.448	158.14 - 380.15	3p ² - 3p4d	$^1D - ^1D^o$	2-2		937
	40	453.707	158.14 - 378.55	3p ² - 3s7f	$^1D - ^1F^o$	2-3		937
	4	455.466	165.65 - 385.21	3p ² - 3p4d	$^1P - ^1P^o$	2-2		937
	1	461.834	165.19 - 381.72	3p ² - 3s8p	$^1P - ^1P^o$	1-2		937
	1	462.050	165.19 - 381.61	3p ² - 3p4d	$^1P - ^1D^o$	1-1		937
	10	462.185	165.65 - 382.01	3p ² - 3p4d	$^1P - ^1D^o$	2-3		937
	4	462.625	165.65 - 381.81	3p ² - 3p4d	$^1P - ^1D^o$	2-2		937
	4	462.827	165.65 - 381.72	3p ² - 3s8p	$^1P - ^1P^o$	2-2		937
	10	463.060	165.65 - 381.61	3p ² - 3p4d	$^1P - ^1D^o$	2-1		937
	40	463.843	165.65 - 38.25	3p ² - 3p4d	$^1P - ^1F^o$	2-2		937
	25	468.502	158.14 - 371.59	3p ² - 3s7p	$^1D - ^1P^o$	2-1		937
	4	468.953	189.40 - 402.64	3s3d - 3s12f	$^1D - ^1F^o$	3-4		937
	80	472.96						597
	10	474.159	189.40 - 400.30	3s3d - 3s11f	$^1D - ^1F^o$	3-4		937
	60	480.756	158.14 - 366.15	3p ² - 3s6f	$^1D - ^1F^o$	2-3		937
	40	481.177	189.40 - 397.22	3s3d - 3s10f	$^1D - ^1F^o$	3-4		937
	1	484.757	165.19 - 371.47	3p ² - 3s7p	$^1P - ^1P^o$	1-1		937
	120	485.453	105.19 - 311.18	3s3p - 3s5s	$^1P^o - ^1S$	1-0		937
	1	485.854	165.65 - 371.48	3p ² - 3s7p	$^1P - ^1P^o$	2-2		937
	90	491.008	189.40 - 393.06	3s3d - 3s9f	$^1D - ^1F^o$	3-4		937
	4	498.968	189.40 - 389.81	3s3d - 3s9p	$^1D - ^1P^o$	3-2		937
	60	505.387	189.40 - 387.27	3s3d - 3s8f	$^1D - ^1F^o$	3-4		937
	25	509.964	158.14 - 354.23	3p ² - 3s6p	$^1D - ^1P^o$	2-1		937
	40	519.171	189.40 - 382.01	3s3d - 3p4d	$^1D - ^1D^o$	3-3		937
	40	519.718	189.40 - 381.81	3s3d - 3p4d	$^1D - ^1D^o$	2-2		937
	1	519.930	189.40 - 381.73	3s3d - 3p4d	$^1D - ^1F^o$	3-4		937
	4	519.973	189.40 - 381.72	3s3d - 3s8p	$^1D - ^1P^o$	3-2		937
	40	520.246	189.40 - 381.61	3s3d - 3p4d	$^1D - ^1D^o$	1-1		937

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	1	520.751	189.40 - 381.43	3s3d - 3p4d	$^3D - ^3F$	2 - 3		937
	4	521.246	189.40 - 381.25	3s3d - 3p4d	$^3D - ^3F$	1 - 2		937
	10	522.02						597
	90	525.932	105.19 - 295.33	3s3p - 3s4d	$^1P - ^1D$	1 - 2		937
	60	528.672	189.40 - 378.55	3s3d - 3s7f	$^3D - ^3F$	3 - 3		937
	150	528.834	189.40 - 378.49	3s3d - 3s7f	$^3D - ^3F$	3 - 4		937
	4	530.534	165.19 - 353.67	3p ² - 3s6p	$^3P - ^3P$	1 - 1		937
	4	531.758	165.65 - 353.71	3p ² - 3s6p	$^3P - ^3P$	2 - 2		937
	1	532.312	194.59 - 382.45	3p ² - 3s8p	$^1S - ^1P$	0 - 1		937
	90	533.297	158.14 - 345.66	3p ² - 3s5f	$^3D - ^3F$	2 - 3		937
	25	549.221	189.40 - 371.48	3s3d - 3s ⁺ p	$^3D - ^3P$	3 - 2		937
	4	552.045	219.15 - 400.30	3s3d - 3s11f	$^3D - ^3F$	2 - 3		937
	10	560.799	219.15 - 397.47	3s3d - 3s10f	$^3D - ^3F$	2 - 3		937
	250	568.038	189.40 - 365.45	3s3d - 3s6f	$^3D - ^3F$	3 - 4		937
	10	573.760	219.15 - 393.44	3s3d - 3s9f	$^3D - ^3F$	2 - 3		937
	200	589.161	158.14 - 327.87	3p ² - 3p4s	$^1D - ^1P$	2 - 1		937
	10	591.816	219.15 - 388.12	3s3d - 3s8f	$^3D - ^3F$	2 - 3		937
	1	602.945	68.15 - 234.00	3s3p - 3s4s	$^3P - ^1S$	1 - 0		937
	40	608.613	189.40 - 353.71	3s3d - 3s6p	$^3D - ^3P$	3 - 2		937
	40	608.741	189.40 - 353.67	3s3d - 3s6p	$^3D - ^3P$	2 - 1		937
	1	624.129	158.14 - 318.36	3p ² - 3p4s	$^1D - ^1P$	2 - 2		937
	40	625.724	158.14 - 317.96	3p ² - 3p4s	$^1D - ^1P$	2 - 1		937
	120	627.374	219.15 - 378.55	3s3d - 3s7f	$^3D - ^3F$	2 - 3		937
	350	629.008	67.92 - 226.90	3s3p - 3s4s	$^3P - ^1S$	0 - 1		937
	400	629.914	68.15 - 226.90	3s3p - 3s4s	$^3P - ^1S$	1 - 1		937
	500	631.779	68.62 - 226.90	3s3p - 3s4s	$^3P - ^1S$	2 - 1		937
	60	634.928	164.94 - 322.44	3p ² - 3s5p	$^3P - ^3P$	0 - 1		937
	90	635.501	165.19 - 322.54	3p ² - 3s5p	$^3P - ^3P$	1 - 2		937
	90	635.915	165.19 - 322.44	3p ² - 3s5p	$^3P - ^3P$	1 - 1		937
	60	636.124	165.19 - 322.39	3p ² - 3s5p	$^3P - ^3P$	1 - 0		937
	120	637.398	165.65 - 322.54	3p ² - 3s5p	$^3P - ^3P$	2 - 2		937
	90	637.817	165.65 - 322.44	3p ² - 3s5p	$^3P - ^3P$	2 - 1		937
	200	639.869	158.14 - 314.42	3p ² - 3p3d	$^3D - ^3F$	2 - 3		937
	350	648.482	189.40 - 343.60	3s3d - 3s5f	$^3D - ^3F$	3 - 4		937
	20	649.69						597
	120	652.836	165.19 - 318.36	3p ² - 3p4s	$^3P - ^3P$	1 - 2		937
	90	653.528	164.94 - 317.96	3p ² - 3p4s	$^3P - ^3P$	0 - 1		937
	90	654.569	165.19 - 317.96	3p ² - 3p4s	$^3P - ^3P$	1 - 1		937
	150	654.839	165.65 - 318.36	3p ² - 3p4s	$^3P - ^3P$	2 - 2		937
	120	655.778	165.19 - 317.68	3p ² - 3p4s	$^3P - ^3P$	1 - 0		937
	4	656.029	219.15 - 371.59	3s3d - 3s7p	$^3D - ^3P$	2 - 1		937
	120	656.583	165.65 - 317.96	3p ² - 3p4s	$^3P - ^3P$	2 - 1		937
	25	658.125	164.94 - 316.89	3p ² - 3s5p	$^3P - ^3P$	0 - 1		937
	40	659.185	165.19 - 316.89	3p ² - 3s5p	$^3P - ^3P$	1 - 1		937
	40	661.228	165.65 - 316.89	3p ² - 3s5p	$^3P - ^3P$	2 - 1		937
	60	662.219	68.15 - 219.15	3s3p - 3s3d	$^3P - ^1D$	1 - 2		937
	25	664.277	68.62 - 219.15	3s3p - 3s3d	$^3P - ^1D$	2 - 2		937
	90	671.400	158.14 - 307.08	3p ² - 3p3d	$^3D - ^3P$	2 - 1		937
	1	674.724	267.02 - 415.22	3p3d - 3p5p	$^3D - ^1P$	2 - 1		937
	120	680.306	219.15 - 366.15	3s3d - 3s6f	$^3D - ^3F$	2 - 3		937
	10	683.571	219.15 - 365.45	3s3d - 3s6f	$^3D - ^3F$	2 - 3		937
	25	726.811	234.00 - 371.59	3s4s - 3s7p	$^1S - ^1P$	0 - 1		937
	120	750.284	194.59 - 327.87	3p ² - 3p4s	$^3P - ^3P$	0 - 1		937
	1	750.775	262.01 - 395.20	3p3d - 3p(3P ²)4f	$^3F - F[3/2]$	2 - 3		937
	90	751.069	189.40 - 322.54	3s3d - 3s5p	$^3D - ^3P$	3 - 2		937
	90	751.651	189.40 - 322.44	3s3d - 3s5p	$^3D - ^3P$	2 - 1		937
	60	751.944	189.40 - 322.39	3s3d - 3s5p	$^3D - ^3P$	1 - 0		937
	1	753.646	262.57 - 395.25	3p3d - 3p(3P ²)4f	$^3F - F[7/2]$	4 - 4		937
	300	756.510	158.14 - 290.33	3p ² - 3s4f	$^3D - ^3F$	2 - 3		937
	10	765.958	257.52 - 388.08	3s4p - 3s9s	$^3P - ^1S$	1 - 1		937
	10	772.382	256.61 - 386.08	3s4p - 3s8d	$^3P - ^1D$	1 - 2		937
	300	776.353	105.19 - 234.00	3s3p - 3s4s	$^3P - ^1S$	1 - 0		937
	1	785.590	262.01 - 389.30	3p3d - 3d ²	$^3F - ^1D$	2 - 2		937
	10	788.580	226.90 - 353.71	3s4s - 3s6p	$^1S - ^1P$	1 - 2		937
	4	788.797	226.90 - 353.67	3s4s - 3s6p	$^1S - ^1P$	1 - 1		937
	150	790.508	219.15 - 345.66	3s3d - 3s5f	$^3D - ^3F$	2 - 3		937
	25	790.844	68.15 - 194.59	3s3p - 3p ²	$^3P - ^1S$	1 - 0		937
	60	798.803	158.14 - 283.33	3p ² - 3p3d	$^3D - ^3D$	2 - 3		937
	25	799.326	158.14 - 283.25	3p ² - 3p3d	$^3D - ^3D$	2 - 2		937
	25	810.595	194.59 - 317.96	3p ² - 3p4s	$^3S - ^3P$	0 - 1		937
	1	814.386	257.52 - 380.32	3s4p - 3s8s	$^3P - ^1S$	1 - 0		937
	60	817.684	194.59 - 316.89	3p ² - 3s5p	$^3S - ^3P$	0 - 1		937
	60	817.786	267.02 - 389.30	3p3d - 3d ²	$^3D - ^1D$	2 - 2		937
3	650	823.179	67.92 - 189.40	3s3p - 3s3d	$^3P - ^1D$	0 - 1		937
3	700	824.730	68.15 - 189.40	3s3p - 3s3d	$^3P - ^1D$	1 - 2		937

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3	800	827.932	68.62 - 189.40	3s3p - 3s3d	$^1P^o - ^1D^o$	2 - 3		937
	10	842.689	262.01 - 380.67	3p3d - 3d ²	$^1F^o - ^1F^o$	2 - 3		937
	90	842.867	262.01 - 380.65	3p3d - 3d ²	$^1F^o - ^1F^o$	2 - 2		937
	10	844.148	262.25 - 380.71	3p3d - 3d ²	$^1F^o - ^1F^o$	3 - 4		937
	120	844.420	262.25 - 380.67	3p3d - 3d ²	$^1F^o - ^1F^o$	3 - 3		937
		844.646	262.25 - 380.65	3p3d - 3d ²	$^1F^o - ^1F^o$	3 - 2		937
	150	845.969	164.94 - 283.15	3p ² - 3p3d	$^1P - ^1D^o$	0 - 1		937
	200	846.415	262.57 - 380.71	3p3d - 3d ²	$^1F^o - ^1F^o$	4 - 4		937
	25	846.701	262.57 - 380.67	3p3d - 3d ²	$^1F^o - ^1F^o$	4 - 3		937
	250	847.019	165.19 - 283.25	3p ² - 3p3d	$^1P - ^1D^o$	1 - 2		937
		847.669	165.19 - 283.15	3p ² - 3p3d	$^1P - ^1D^o$	1 - 1		937
	350	849.799	165.65 - 283.33	3p ² - 3p3d	$^1P - ^1D^o$	2 - 3		937
	200	850.392	165.65 - 283.25	3p ² - 3p3d	$^1P - ^1D^o$	2 - 2		937
	90	851.091	165.65 - 283.15	3p ² - 3p3d	$^1P - ^1D^o$	2 - 1		937
	120	860.479	165.19 - 281.40	3p ² - 3p3d	$^1P - ^1P^o$	1 - 0		937
	90	861.531	165.19 - 281.26	3p ² - 3p3d	$^1P - ^1P^o$	1 - 1		937
	150	863.300	165.19 - 281.02	3p ² - 3p3d	$^1P - ^1P^o$	1 - 2		937
	90	865.026	165.65 - 281.26	3p ² - 3p3d	$^1P - ^1P^o$	2 - 1		937
	150	866.807	165.65 - 281.02	3p ² - 3p3d	$^1P - ^1P^o$	2 - 2		937
	60	868.336	281.02 - 396.18	3p3d - 3d ²	$^1P^o - ^1P$	2 - 2		937
	25	870.148	281.26 - 396.18	3p3d - 3d ²	$^1P^o - ^1P$	1 - 1		937
	200	875.087	189.40 - 303.67	3s3d - 3s4f	$^1D^o - ^1F^o$	3 - 4		937
	120	875.143	189.40 - 303.67	3s3d - 3s4f	$^1D^o - ^1F^o$	2 - 3		937
	90	875.175	189.40 - 303.66	3s3d - 3s4f	$^1D^o - ^1F^o$	1 - 2		937
	700	877.476	105.19 - 219.15	3s3p - 3s3d	$^1P^o - ^1D$	1 - 2		937
	1	880.022	267.02 - 380.65	3p3d - 3d ²	$^1D^o - ^1F$	2 - 2		937
	25	884.724	283.15 - 396.18	3p3d - 3d ²	$^1D^o - ^1P$	1 - 0		937
	40	885.468	283.25 - 396.18	3p3d - 3d ²	$^1D^o - ^1P$	2 - 1		937
	60	886.101	283.35 - 396.18	3p3d - 3d ²	$^1D^o - ^1P$	3 - 2		937
	120	888.957	194.59 - 307.08	3p ² - 3p3d	$^1S - ^1P^o$	0 - 1		937
	40	892.460	283.15 - 395.20	3p3d - 3p($^1P^o$)4f	$^1D^o - F[\frac{7}{2}]$	1 - 2		937
	90	892.804	283.25 - 395.25	3p3d - 3p($^1P^o$)4f	$^1D^o - F[\frac{7}{2}]$	2 - 3		937
	40	893.235	283.25 - 395.20	3p3d - 3p($^1P^o$)4f	$^1D^o - F[\frac{7}{2}]$	2 - 3		937
	120	893.451	283.33 - 395.25	3p3d - 3p($^1P^o$)4f	$^1D^o - F[\frac{7}{2}]$	3 - 4		937
	1	901.521	256.61 - 367.54	3s4p - 3s7s	$^1P^o - ^1S$	1 - 1		937
		902.722	256.76 - 367.54	3s4p - 3s7s	$^1P^o - ^1S$	2 - 1		937
	1	903.191	257.52 - 368.24	3s4p - 3s7s	$^1P^o - ^1S$	1 - 0		937
	200	918.497	158.14 - 267.02	3p ² - 3p3d	$^1D - ^1D^o$	2 - 2		937
		919.799	219.15 - 327.87	3s3d - 3p4s	$^1D - ^1P^o$	2 - 1		937
	1	925.719	307.08 - 415.22	3p3d - 3p5p	$^1P^o - ^1P$	1 - 1		937
1	1	941.363	257.52 - 363.75	3s4p - 3s6d	$^1P^o - ^1D$	1 - 2		937
	1000	950.655	0.0 - 105.19	3s ² - 3s3p	$^1S - ^1P^o$	0 - 1		937
	10	967.741	262.25 - 365.58	3p3d - 3s6g	$^1F^o - ^1G$	3 - 4		937
	4	970.694	262.57 - 365.59	3p3d - 3s6g	$^1F^o - ^1G$	4 - 5		937
	25	978.614	257.52 - 359.71	3s4p - 3p4p	$^1P^o - ^1S$	1 - 0		937
	1	986.569	165.65 - 267.02	3p ² - 3p3d	$^1P - ^1D^o$	2 - 2		937
	1	1001.811	293.24 - 393.06	3s4d - 3s9f	$^1D - ^1F^o$	1 - 2		937
	1	1001.875	293.25 - 393.06	3s4d - 3s9f	$^1D - ^1F^o$	2 - 3		937
	1	1001.950	293.26 - 393.06	3s4d - 3s9f	$^1D - ^1F^o$	3 - 4		937
	120	1006.229	158.14 - 257.52	3p ² - 3s4p	$^1D - ^1P^o$	2 - 1		937
2	25	1010.417	290.33 - 389.30	3s4f - 3d ²	$^1F^o - ^1D$	3 - 2		937
	1	1012.108	219.15 - 317.96	3s3d - 3p4s	$^1D - ^1P^o$	2 - 1		937
	4	1016.931	316.89 - 415.22	3s5p - 3p5p	$^1P^o - ^1P$	1 - 1		937
	40	1023.182	219.15 - 316.89	3s3d - 3s5p	$^1D - ^1P^o$	2 - 1		937
	570	1025.563	68.15 - 165.65	3s3p - 3p ²	$^1P^o - ^1P$	1 - 2		937
	4	1025.678	283.15 - 360.65	3p3d - 3d ²	$^1D^o - ^1F$	1 - 2		937
	10	1026.418	283.25 - 380.67	3p3d - 3d ²	$^1D^o - ^1F$	2 - 3		937
	10	1026.874	283.33 - 380.71	3p3d - 3d ²	$^1D^o - ^1F$	3 - 4		937
	500	1028.096	67.92 - 165.19	3s3p - 3p ²	$^1P^o - ^1P$	0 - 1		937
	570	1030.517	68.67 - 165.65	3s3p - 3p ²	$^1P^o - ^1P$	2 - 2		937
2	500	1033.111	68.15 - 164.94	3s3p - 3p ²	$^1P^o - ^1P$	1 - 0		937
	500	1035.517	68.62 - 165.19	3s3p - 3p ²	$^1P^o - ^1P$	2 - 1		937
	4	1045.550	226.90 - 322.54	3s4s - 3s5p	$^1S - ^1P^o$	1 - 2		937
	1	1048.277	293.25 - 388.64	3s4d - 3p4d	$^1D - ^1P^o$	2 - 1		937
	200	1049.647	219.15 - 314.42	3s3d - 3p3d	$^1D - ^1F^o$	2 - 3		937
	60	1054.114	257.52 - 352.39	3s4p - 3p4p	$^1P^o - ^1D$	1 - 2		937
	1	1063.677	293.26 - 387.27	3s4d - 3s8f	$^1D - ^1F^o$	3 - 4		937
	120	1064.612	189.40 - 283.33	3s3d - 3p3d	$^1D - ^1D^o$	3 - 3		937
	25	1065.237	234.00 - 327.87	3s4s - 3p4s	$^1S - ^1P^o$	0 - 1		937
	90	1065.544	189.40 - 283.25	3s3d - 3p3d	$^1D - ^1D^o$	2 - 2		937
2	40	1066.652	189.40 - 283.15	3s3d - 3p3d	$^1D - ^1D^o$	1 - 1		937
	1	1071.656	295.33 - 388.64	3s4d - 3p4d	$^1D - ^1P^o$	2 - 1		937
	4	1077.640	295.33 - 388.12	3s4d - 3s8f	$^1D - ^1F^o$	2 - 3		937
	1	1079.416	256.55 - 349.20	3s4p - 3p4p	$^1P^o - ^1S$	0 - 1		937
	10	1080.096	256.61 - 349.20	3s4p - 3p4p	$^1P^o - ^1S$	1 - 1		937
2	500	1083.111	68.15 - 164.94	3s3p - 3p ²	$^1P^o - ^1P$	1 - 0		937
	500	1085.517	68.62 - 165.19	3s3p - 3p ²	$^1P^o - ^1P$	2 - 1		937
	4	1095.550	226.90 - 322.54	3s4s - 3s5p	$^1S - ^1P^o$	1 - 2		937
	1	1098.277	293.25 - 388.64	3s4d - 3p4d	$^1D - ^1P^o$	2 - 1		937
	200	1099.647	219.15 - 314.42	3s3d - 3p3d	$^1D - ^1F^o$	2 - 3		937
	60	1054.114	257.52 - 352.39	3s4p - 3p4p	$^1P^o - ^1D$	1 - 2		937
	1	1063.677	293.26 - 387.27	3s4d - 3s8f	$^1D - ^1F^o$	3 - 4		937
	120	1064.612	189.40 - 283.33	3s3d - 3p3d	$^1D - ^1D^o$	3 - 3		937
	25	1065.237	234.00 - 327.87	3s4s - 3p4s	$^1S - ^1P^o$	0 - 1		937
	90	1065.544	189.40 - 283.25	3s3d - 3p3d	$^1D - ^1D^o$	2 - 2		937

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	1081.835	256.76 - 349.20	3s4p - 3p4p	$^1P^o - ^1S$	2 - 1			937
1	1083.375	293.24 - 385.55	3s4d - 3p4d	$^1D - ^1P^o$	1 - 0			937
4	1084.874	293.25 - 385.42	3s4d - 3p4d	$^1D - ^1P^o$	2 - 1			937
120	1086.944	189.40 - 281.40	3s3d - 3p3d	$^1D - ^1P^o$	1 - 0			937
10	1087.537	293.26 - 385.21	3s4d - 3p4d	$^1D - ^1P^o$	3 - 2			937
150	1088.614	189.40 - 281.26	3s3d - 3p3d	$^1D - ^1P^o$	2 - 1			937
200	1091.442	189.40 - 281.02	3s3d - 3p3d	$^1D - ^1P^o$	3 - 2			937
25	1091.874	303.67 - 395.25	3s4f - 3p($^2P^o$; z)4f	$^1F^o - F[\frac{7}{2}]$	3 - 4			937
10	1092.428	303.66 - 395.20	3s4f - 3p($^2P^o$; z)4f	$^1F^o - F[\frac{5}{2}]$	2 - 3			937
120	1093.324	226.90 - 318.36	3s4s - 3p4s	$^1S - ^1P^o$	1 - 2			937
40	1097.790	256.61 - 347.70	3s4p - 3p4p	$^1P^o - ^1P$	1 - 2			937
120	1098.186	226.90 - 317.96	3s4s - 3p4s	$^1S - ^1P^o$	1 - 1			937
90	1099.581	256.76 - 347.70	3s4p - 3p4p	$^1P^o - ^1P$	2 - 2			937
40	1101.070	256.55 - 347.37	3s4p - 3p4p	$^1P^o - ^1P$	0 - 1			937
60	1101.599	226.90 - 317.68	3s4s - 3p4s	$^1S - ^1P^o$	1 - 0			937
40	1101.784	256.61 - 347.37	3s4p - 3p4p	$^1P^o - ^1P$	1 - 1			937
10	1103.129	295.32 - 385.98	3s4d - 3p4d	$^1D - ^1F^o$	2 - 3			937
60	1103.590	256.76 - 347.37	3s4p - 3p4p	$^1P^o - ^1P$	2 - 1			937
40	1104.108	256.61 - 347.18	3s4p - 3p4p	$^1P^o - ^1P$	1 - 0			937
10	1110.126	257.52 - 347.60	3s4p - 3s6s	$^1P^o - ^1S$	1 - 0			937
120	1111.167	68.15 - 158.14	3s3p - 3p 2	$^1P^o - ^1D$	1 - 2			937
4	1112.121	256.55 - 346.47	3s4p - 3s6s	$^1P^o - ^1S$	0 - 1			937
10	1112.842	256.61 - 346.47	3s4p - 3s6s	$^1P^o - ^1S$	1 - 1			937
40	1114.685	256.76 - 346.47	3s4p - 3s6s	$^1P^o - ^1S$	2 - 1			937
120	1116.985	68.62 - 158.14	3s3p - 3p 2	$^1P^o - ^1D$	2 - 2			937
570	1118.551	105.19 - 194.59	3s3p - 3p 2	$^1P^o - ^1S$	1 - 0			937
40	1122.376	307.08 - 396.18	3p3d - 3d 3	$^1P^o - ^1P$	1 - 1			937
40	1126.658	293.26 - 382.01	3s4d - 3p4d	$^1D - ^1D^o$	3 - 3			937
25	1129.154	293.25 - 381.81	3s4d - 3p4d	$^1D - ^1D^o$	2 - 2			937
120	1131.488	256.76 - 345.14	3s4p - 3p4p	$^1P^o - ^1D$	2 - 3			937
90	1134.481	256.61 - 344.76	3s4p - 3p4p	$^1P^o - ^1D$	1 - 2			937
40	1136.396	256.76 - 344.76	3s4p - 3p4p	$^1P^o - ^1D$	2 - 2			937
60	1136.528	256.55 - 344.54	3s4p - 3p4p	$^1P^o - ^1D$	0 - 1			937
120	1137.281	219.15 - 307.08	3s3d - 3p3d	$^1D - ^1P^o$	2 - 1			937
10	1139.222	256.76 - 344.54	3s4p - 3p4p	$^1P^o - ^1D$	2 - 1			937
1	1146.331	257.52 - 344.76	3s4p - 3p4p	$^1P^o - ^1D$	1 - 2			937
4	1149.190	257.52 - 344.54	3s4p - 3p4p	$^1P^o - ^1D$	1 - 1			937
40	1161.87							597
60	1171.316	267.02 - 352.39	3p3d - 3p4p	$^1D^o - ^1D$	2 - 2			937
4	1172.996	293.24 - 378.49	3s4d - 3s7f	$^1D - ^1F^o$	1 - 2			937
4	1173.094	293.25 - 378.49	3s4d - 3s7f	$^1D - ^1F^o$	2 - 3			937
4	1173.189	293.26 - 378.49	3s4d - 3s7f	$^1D - ^1F^o$	3 - 4			937
90	1179.022	295.33 - 380.15	3s4d - 3p4d	$^1D - ^1D^o$	2 - 2			937
10	1186.295	256.61 - 340.91	3s4p - 3p4p	$^1P^o - ^1P$	1 - 1			937
25	1187.542	105.19 - 189.40	3s3p - 3s3d	$^1P^o - ^1D$	1 - 2			937
40	1191.055	234.00 - 317.96	3s4s - 3p4s	$^1S - ^1P^o$	0 - 1			937
40	1197.82							597
150	1199.243	257.52 - 340.91	3s4p - 3p4p	$^1P^o - ^1P$	1 - 1			937
10	1201.642	295.33 - 378.55	3s4d - 3s7f	$^1D - ^1F^o$	2 - 3			937
40	1203.41							597
40	1204.30							597
200	1206.422	234.00 - 316.89	3s4s - 3s5p	$^1S - ^1P^o$	0 - 1			937
40	1208.419	262.01 - 344.76	3p3d - 3p4p	$^1F^o - ^1D$	2 - 2			937
120	1211.052	262.57 - 345.14	3p3d - 3p4p	$^1F^o - ^1D$	4 - 3			937
60	1211.612	262.01 - 344.54	3p3d - 3p4p	$^1F^o - ^1D$	2 - 1			937
90	1211.984	262.25 - 344.76	3p3d - 3p4p	$^1F^o - ^1D$	3 - 2			937
40	1219.495	262.01 - 344.01	3p3d - 3s5g	$^1F^o - ^1G$	2 - 3			937
40	1223.098	262.25 - 344.01	3p3d - 3s5g	$^1F^o - ^1G$	3 - 4			937
60	1227.839	262.57 - 344.01	3p3d - 3s5g	$^1F^o - ^1G$	4 - 5			937
10	1237.165	314.42 - 395.25	3p3d - 3p($^2P^o$; z)4f	$^1F^o - F[\frac{7}{2}]$	3 - 4			937
90	1238.958	256.61 - 337.32	3s4p - 3s5d	$^1P^o - ^1D$	1 - 2			937
60	1239.276	256.55 - 337.25	3s4p - 3s5d	$^1P^o - ^1D$	0 - 1			937
120	1239.587	256.76 - 337.43	3s4p - 3s5d	$^1P^o - ^1D$	2 - 3			937
40	1240.181	256.61 - 337.25	3s4p - 3s5d	$^1P^o - ^1D$	1 - 1			937
40	1241.246	256.76 - 337.32	3s4p - 3s5d	$^1P^o - ^1D$	2 - 2			937
60	1242.050	257.52 - 338.04	3s4p - 3s5d	$^1P^o - ^1D$	1 - 2			937
1	1242.456	256.76 - 337.25	3s4p - 3s5d	$^1P^o - ^1D$	2 - 1			937
1	1253.099	257.52 - 337.32	3s4p - 3s5d	$^1P^o - ^1D$	1 - 2			937
10	1278.33	293.26 - 371.48	3s4d - 3s7p	$^1D - ^1P^o$	3 - 2			937
10	1278.38	293.25 - 371.47	3s4d - 3s7p	$^1D - ^1P^o$	2 - 1			937
40	1298.022	303.67 - 380.71	3s4f - 3d 3	$^1F^o - ^1F$	4 - 4			937
40	1298.573	303.67 - 380.67	3s4f - 3d 3	$^1F^o - ^1F$	3 - 3			937
25	1298.931	303.66 - 380.65	3s4f - 3d 3	$^1F^o - ^1F$	2 - 2			937
1	1311.349	295.33 - 371.59	3s4d - 3s7p	$^1D - ^1P^o$	2 - 1			937
25	1327.670	262.01 - 337.32	3p3d - 3s5d	$^1F^o - ^1D$	2 - 2			937

Multiplet	Ref. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	1328.826	290.33 - 365.58	3s4f - 3s6g	$^1F - ^3G$	3 - 4		937
	120	1329.070	262.01 - 337.25	3p3d - 3s5d	$^1F - ^1D$	2 - 1		937
	25	1330.075	262.25 - 337.43	3p3d - 3s5d	$^3F - ^1D$	3 - 3		937
	90	1331.981	262.25 - 337.32	3p3d - 3s5d	$^3F - ^1D$	3 - 2		937
	200	1335.705	303.67 - 378.53	3s ^{4f} - 3s7g	$^1F - ^3G$	3 - 4		937
	1	1346.945	311.18 - 385.42	3s5s - 3p4d	$^1S - ^1P$	0 - 1		937
	4	1348.479	322.54 - 396.70	3s5p - 3s10d	$^1P - ^1D$	2 - 3		937
	120	1353.303	267.02 - 340.91	3p3d - 3p4p	$^1D - ^1P$	2 - 1		937
	1	1361.956	290.33 - 363.75	3s4f - 3s6d	$^1F - ^1D$	3 - 2		937
	500	1366.695	189.40 - 262.57	3s3d - 3p3d	$^1D - ^1F$	3 - 4		937
	40	1368.265	234.00 - 307.08	3s4s - 3p3d	$^1S - ^1P$	0 - 1		937
	400	1372.674	189.40 - 262.25	3s3d - 3p3d	$^1D - ^1F$	2 - 3		937
	350	1377.282	189.40 - 262.01	3s3d - 3p3d	$^1D - ^1F$	1 - 2		937
	200	1385.048	293.25 - 365.45	3s4d - 3s6f	$^1D - ^1F$	2 - 3		937
	40	1385.192	293.26 - 365.45	3s4d - 3s6f	$^1D - ^1F$	3 - 4		937
	150	1405.013	219.15 - 290.33	3s3d - 3s4f	$^1D - ^1F$	2 - 3		937
	10	1408.055	267.02 - 338.04	3p3d - 3s5d	$^1D - ^1D$	2 - 2		937
	25	1412.076	295.33 - 366.15	3s4d - 3s6f	$^1D - ^1F$	2 - 3		937
	1	1426.180	295.33 - 365.45	3s4d - 3s6f	$^1D - ^1F$	2 - 3		937
	1	1436.114	322.54 - 392.17	3s5p - 3s9d	$^1P - ^1D$	2 - 3		937
	90	1466.787	281.02 - 349.20	3p3d - 3p4p	$^1P - ^1S$	2 - 1		937
	150	1467.427	0.0 - 68.15	3s ² - 3s3p	$^1S - ^1P$	0 - 1		937
	90	1467.898	189.40 - 257.52	3s3d - 3s4p	$^1D - ^1P$	2 - 1		937
	60	1471.926	281.26 - 349.20	3p3d - 3p4p	$^1P - ^1S$	1 - 1		937
	40	1475.013	281.40 - 349.20	3p3d - 3p4p	$^1P - ^1S$	0 - 1		937
	500	1484.507	189.40 - 256.76	3s3d - 3s4p	$^1D - ^1P$	3 - 2		937
	400	1487.788	189.40 - 256.61	3s3d - 3s4p	$^1D - ^1P$	2 - 1		937
	300	1489.098	189.40 - 256.55	3s3d - 3s4p	$^1D - ^1P$	1 - 0		937
	90	1499.602	281.02 - 347.70	3p3d - 3p4p	$^1P - ^1P$	2 - 2		937
	10	1504.970	281.26 - 347.70	3p3d - 3p4p	$^1P - ^1P$	1 - 2		937
	60	1507.067	281.02 - 347.37	3p3d - 3p4p	$^1P - ^1P$	2 - 1		937
	25	1515.751	281.40 - 347.37	3p3d - 3p4p	$^1P - ^1P$	0 - 1		937
	4	1516.316	283.25 - 349.20	3p3d - 3p4p	$^1D - ^1S$	2 - 1		937
	40	1516.879	281.26 - 347.18	3p3d - 3p4p	$^1P - ^1P$	1 - 0		937
	40	1527.836	281.02 - 346.47	3p3d - 3s6s	$^1P - ^1S$	2 - 1		937
	10	1533.401	281.26 - 346.47	3p3d - 3s6s	$^1P - ^1S$	1 - 1		937
	10	1551.420	283.25 - 347.70	3p3d - 3p4p	$^1D - ^1P$	2 - 2		937
	90	1553.401	283.33 - 347.70	3p3d - 3p4p	$^1D - ^1P$	3 - 2		937
	60	1557.054	283.15 - 347.37	3p3d - 3p4p	$^1D - ^1P$	1 - 1		937
	90	1559.407	283.25 - 347.37	3p3d - 3p4p	$^1D - ^1P$	2 - 1		937
	60	1561.700	283.15 - 347.18	3p3d - 3p4p	$^1D - ^1P$	1 - 0		937
	90	1589.042	194.59 - 257.52	3p ² - 3s4p	$^1S - ^1P$	0 - 1		937
	4	1593.466	314.42 - 377.18	3p3d - 3s7d	$^1F - ^1D$	3 - 2		937
	40	1611.300	290.33 - 352.39	3s4f - 3p4p	$^1F - ^1D$	3 - 2		937
	150	1615.078	303.67 - 365.58	3s4f - 3s6g	$^1F - ^3G$	3 - 4		937
	150	1615.162	303.67 - 365.59	3s4f - 3s6g	$^1F - ^3G$	4 - 5		937
	1	1615.382	303.67 - 365.58	3s4f - 3s6g	$^1F - ^3G$	4 - 3		937
	4	1615.681	283.25 - 345.14	3p3d - 3p4p	$^1D - ^1D$	2 - 3		937
	4	1617.833	283.33 - 345.14	3p3d - 3p4p	$^1D - ^1D$	3 - 3		937
	1	1623.155	283.15 - 344.76	3p3d - 3p4p	$^1D - ^1D$	1 - 2		937
	60	1625.719	283.25 - 344.76	3p3d - 3p4p	$^1D - ^1D$	2 - 2		937
	1	1628.065	327.87 - 389.30	3p4s - 3d ²	$^1P - ^1D$	1 - 2		937
	25	1628.932	283.15 - 344.54	3p3d - 3p4p	$^1D - ^1D$	1 - 1		937
	4	1631.499	283.25 - 344.54	3p3d - 3p4p	$^1D - ^1D$	2 - 1		937
	4	1635.128	307.08 - 368.24	3p3d - 3s7s	$^1P - ^1S$	1 - 0		937
	120	1640.58						597
	40	1653.891	105.19 - 165.65	3s3p - 3p ²	$^1P - ^1P$	1 - 2		937
	25	1654.199	293.26 - 353.71	3s4d - 3s6p	$^1D - ^1P$	3 - 2		937
	25	1654.918	293.25 - 353.67	3s4d - 3s6p	$^1D - ^1P$	2 - 1		937
	4	1655.191	293.24 - 353.66	3s4d - 3s6p	$^1D - ^1P$	1 - 0		937
	10	1673.612	105.19 - 164.94	3s3p - 3p ²	$^1P - ^1P$	1 - 0		937
	40	1691.81						597
	40	1697.612	295.33 - 354.23	3s4d - 3s ^{4p}	$^1D - ^1P$	2 - 1		937
	4	1741.345	322.54 - 379.97	3s5p - 3s8s	$^1P - ^1S$	2 - 1		937
	1	1772.661	281.02 - 337.43	3p3d - 3s5d	$^1P - ^1D$	2 - 3		937
	1	1797.638	337.43 - 393.06	3s5d - 3s9f	$^1D - ^1F$	3 - 4		937
	1	1831.568	322.44 - 377.04	3s5p - 3s7d	$^1P - ^1D$	1 - 2		937
	1	1832.466	256.61 - 311.18	3s4p - 3s5s	$^1P - ^1S$	1 - 0		937
	4	1834.621	322.54 - 377.05	3s5p - 3s7d	$^1P - ^1D$	2 - 3		937
	10	1848.318	283.33 - 337.43	3p3d - 3s5d	$^1D - ^1D$	3 - 3		937
	1	1848.579	283.15 - 337.25	3p3d - 3s5d	$^1D - ^1D$	1 - 1		937
	4	1849.176	283.25 - 337.32	3p3d - 3s5d	$^1D - ^1D$	2 - 2		937
	250	1862.762	290.33 - 344.01	3s4f - 3s5g	$^1F - ^1G$	3 - 4		937
	120	1862.893	290.33 - 344.01	3s4f - 3s5g	$^1F - ^1G$	3 - 4		937
	200	1863.580	257.52 - 311.18	3s4p - 3s5s	$^1P - ^1S$	1 - 0		937

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	650	1888.523	105.19 - 158.14	3s3p - 3p ²	¹ P° - ¹ D	1 - 2		937
	40	1900.244	307.08 - 359.71	3p3d - 3p4p	¹ P° - ¹ S	1 - 0		937
	90	1902.649	256.55 - 309.11	3s4p - 3s5s	¹ P° - ¹ S	0 - 1		937
	150	1904.777	256.61 - 309.11	3s4p - 3s5s	¹ P° - ¹ S	1 - 1		937
	200	1913.183	256.76 - 309.11	3s4p - 3s5s	¹ P° - ¹ S	2 - 1		937
	4	1938.403	257.52 - 309.11	3s4p - 3s5s	¹ P° - ¹ S	1 - 1		937
	120	1985.682	293.24 - 343.60	3s4d - 3s5f	¹ D - ¹ F°	1 - 2		937
	150	1985.851	293.25 - 343.60	3s4d - 3s5f	¹ D - ¹ F°	2 - 3		937
	200	1986.114	293.26 - 343.60	3s4d - 3s5f	¹ D - ¹ F°	3 - 4		937
	150	1987.022	295.33 - 345.66	3s4d - 3s5f	¹ D - ¹ F°	2 - 3		937
	1	1996.443	338.04 - 388.12	3s5d - 3s8f	¹ D - ¹ F°	2 - 3		937

PHOSPHORUS V (P⁴⁺), Z = 15Ground State 1s²2s²2p⁶3s ²S_{1/2} (11 electrons)Ionization Potential 524 462.9 cm⁻¹; 65.026 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	12	209.964	0.0 - 476.26	2p ⁶ 3s - 2p ⁶ 8p	² S° - ¹ P°	1/2 - 3/2		524
	12	217.214	0.0 - 460.39	2p ⁶ 3s - 2p ⁶ 7p	² S° - ¹ P°	1/2 - 3/2		524
	30	229.819	0.0 - 435.12	2p ⁶ 3s - 2p ⁶ 6p	² S° - ¹ P°	1/2 - 3/2		524
	4	252.959	89.45 - 484.77	2p ⁶ 3p - 2p ⁶ 9s	¹ P° - ¹ S	3/2 - 1/2		524
	80	255.587	0.0 - 391.25	2p ⁶ 3s - 2p ⁶ 5p	² S° - ¹ P°	1/2 - 3/2		524
	50	255.674	0.0 - 391.12	2p ⁶ 3s - 2p ⁶ 5p	² S° - ¹ P°	1/2 - 1/2	P	524
		255.681	89.45 - 480.56	2p ⁶ 3p - 2p ⁶ 8d	¹ P° - ¹ D	3/2 - 3/2		524
	12	260.619	89.45 - 473.16	2p ⁶ 3p - 2p ⁶ 8s	¹ P° - ¹ S	3/2 - 1/2		524
	30	264.358	88.65 - 466.94	2p ⁶ 3p - 2p ⁶ 7d	¹ P° - ¹ D	1/2 - 3/2		524
	50	264.911	89.45 - 466.94	2p ⁶ 3p - 2p ⁶ 7d	¹ P° - ¹ D	3/2 - 3/2		524
	12	272.513	88.65 - 455.60	2p ⁶ 3p - 2p ⁶ 7s	¹ P° - ¹ S	1/2 - 1/2		524
	30	273.112	89.45 - 455.60	2p ⁶ 3p - 2p ⁶ 7s	¹ P° - ¹ S	3/2 - 1/2		524
	50	279.965	88.65 - 445.84	2p ⁶ 3p - 2p ⁶ 6d	¹ P° - ¹ D	1/2 - 3/2		524
	80	280.593	89.45 - 445.84	2p ⁶ 3p - 2p ⁶ 6d	¹ P° - ¹ D	3/2 - 3/2		524
	50	295.392	88.65 - 427.19	2p ⁶ 3p - 2p ⁶ 6s	¹ P° - ¹ S	1/2 - 1/2		524
	80	296.085	89.45 - 427.19	2p ⁶ 3p - 2p ⁶ 6s	¹ P° - ¹ S	3/2 - 1/2		524
	110	310.578	88.65 - 410.64	2p ⁶ 3p - 2p ⁶ 5d	¹ P° - ¹ D	1/2 - 3/2		524
	150	311.342	89.45 - 410.64	2p ⁶ 3p - 2p ⁶ 5d	¹ P° - ¹ D	3/2 - 3/2		524
	300	328.470	0.0 - 304.45	2p ⁶ 3s - 2p ⁶ 4p	² S° - ¹ P°	1/2 - 3/2		524
	250	328.775	0.0 - 304.16	2p ⁶ 3s - 2p ⁶ 4p	² S° - ¹ P°	1/2 - 1/2		524
	4	332.02	0.0 - 505.39	2p ⁶ 3d - 2p ⁶ 12f	¹ D - ¹ F°	3/2 - 7/2		524
	12	336.072	204.21 - 501.76	2p ⁶ 3d - 2p ⁶ 11f	¹ D - ¹ F°	3/2 - 7/2		524
	30	341.549	204.21 - 496.99	2p ⁶ 3d - 2p ⁶ 10f	¹ D - ¹ F°	3/2 - 7/2		524
	150	347.234	88.65 - 376.65	2p ⁶ 3p - 2p ⁶ 5s	¹ P° - ¹ S	1/2 - 1/2		524
	200	348.196	89.45 - 376.65	2p ⁶ 3p - 2p ⁶ 5s	¹ P° - ¹ S	3/2 - 1/2		524
	50	349.242	204.21 - 490.54	2p ⁶ 3d - 2p ⁶ 9f	¹ D - ¹ F°	3/2 - 7/2		524
	4	353.763	204.21 - 486.89	2p ⁶ 3d - 2p ⁶ 9p	¹ D - ¹ P°	3/2 - 3/2		524
	80	360.600	204.21 - 481.52	2p ⁶ 3d - 2p ⁶ 8f	¹ D - ¹ F°	3/2 - 7/2		524
	12	367.588	204.21 - 476.26	2p ⁶ 3d - 2p ⁶ 8p	¹ D - ¹ P°	3/2 - 3/2		524
	110	378.561	204.21 - 468.36	2p ⁶ 3d - 2p ⁶ 7f	¹ D - ¹ F°	3/2 - 7/2		524
	250	389.496	88.65 - 345.40	2p ⁶ 3p - 2p ⁶ 4d	¹ P° - ¹ D	1/2 - 3/2		524
	50	390.371	204.21 - 460.39	2p ⁶ 3d - 2p ⁶ 7p	¹ D - ¹ P°	3/2 - 3/2		524
	300	390.699	89.45 - 345.40	2p ⁶ 3p - 2p ⁶ 4d	¹ P° - ¹ D	3/2 - 3/2		524
	150	410.029	204.21 - 448.09	2p ⁶ 3d - 2p ⁶ 6f	¹ D - ¹ F°	3/2 - 7/2		524
	80	433.056	204.21 - 435.12	2p ⁶ 3d - 2p ⁶ 6p	¹ D - ¹ P°	3/2 - 3/2		524
	50	433.173	204.20 - 435.05	2p ⁶ 3d - 2p ⁶ 6p	¹ D - ¹ P°	3/2 - 1/2		524
	1	467.448	272.96 - 486.89	2p ⁶ 4s - 2p ⁶ 9p	¹ S - ¹ P°	1/2 - 3/2		524
	375	475.598	204.21 - 414.47	2p ⁶ 3d - 2p ⁶ 5f	¹ D - ¹ F°	3/2 - 7/2		524
	30	489.695	0.0 - 204.20	2p ⁶ 3s - 2p ⁶ 3d	² S° - ¹ D	1/2 - 3/2	F	524
	12	491.872	272.96 - 476.26	2p ⁶ 4s - 2p ⁶ 8p	¹ S - ¹ P°	1/2 - 3/2		524
	4	491.944	272.96 - 476.23	2p ⁶ 4s - 2p ⁶ 8p	¹ S - ¹ P°	1/2 - 1/2		524
	12	533.541	272.96 - 460.39	2p ⁶ 4s - 2p ⁶ 7p	¹ S - ¹ P°	1/2 - 3/2		524
	4	533.672	272.96 - 460.34	2p ⁶ 4s - 2p ⁶ 7p	¹ S - ¹ P°	1/2 - 1/2		524
	110	534.627	204.21 - 391.25	2p ⁶ 3d - 2p ⁶ 5p	¹ D - ¹ P°	3/2 - 3/2		524
	80	534.986	204.20 - 391.12	2p ⁶ 3d - 2p ⁶ 5p	¹ D - ¹ P°	3/2 - 1/2		524

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	520	542.572	88.65 - 272.96	$2p^3 3p - 2p^4 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	600	544.923	89.45 - 272.96	$2p^3 3p - 2p^4 4s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	1	566.904	304.16 - 480.56	$2p^3 4p - 2p^4 8d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	1	567.810	304.45 - 480.56	$2p^3 4p - 2p^4 8d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	1	591.714	304.16 - 473.16	$2p^3 4p - 2p^4 8s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	4	592.712	304.45 - 473.16	$2p^3 4p - 2p^4 8s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	1	614.352	304.16 - 466.94	$2p^3 4p - 2p^4 7d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	4	615.421	304.45 - 466.94	$2p^3 4p - 2p^4 7d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	12	616.668	272.96 - 435.12	$2p^3 4s - 2p^4 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		524
	12	616.952	272.96 - 435.05	$2p^3 4s - 2p^4 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		524
	1	660.316	304.16 - 455.60	$2p^3 4p - 2p^4 7s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	4	661.566	304.45 - 455.60	$2p^3 4p - 2p^4 7s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	450	673.899	204.21 - 352.59	$2p^3 3d - 2p^4 4f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	12	775.833	304.16 - 445.84	$2p^3 4p - 2p^4 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	30	707.241	304.45 - 445.84	$2p^3 4p - 2p^4 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	1	724.688	352.59 - 490.58	$2p^3 4f - 2p^4 9g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	1	734.65	345.40 - 481.52	$2p^3 4d - 2p^4 8f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	1	764.157	345.40 - 476.26	$2p^3 4d - 2p^4 8p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		524
	1	775.254	352.59 - 481.58	$2p^3 4f - 2p^4 8g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	4	812.843	304.16 - 427.19	$2p^3 4p - 2p^4 6s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	1	813.241	345.40 - 468.36	$2p^3 4d - 2p^4 7f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	12	814.732	304.45 - 427.19	$2p^3 4p - 2p^4 6s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	12	845.370	272.96 - 391.25	$2p^3 4s - 2p^4 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		524
	4	846.299	272.96 - 391.12	$2p^3 4s - 2p^4 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		524
	4	863.095	352.59 - 463.46	$2p^3 4f - 2p^4 7g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	450	865.446	88.65 - 204.20	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	12	869.683	345.40 - 460.79	$2p^3 4d - 2p^4 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		524
	4	869.974	345.40 - 460.34	$2p^3 4d - 2p^4 7p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		524
	600	871.394	89.45 - 204.21	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
		871.446	89.45 - 204.20	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	1	874.568	352.59 - 466.94	$2p^3 4f - 2p^4 7d$	$^1F^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	1	939.20	304.16 - 410.64	$2p^3 4p - 2p^4 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	4	941.692	304.45 - 410.64	$2p^3 4p - 2p^4 5d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	50	973.793	345.40 - 448.09	$2p^3 4d - 2p^4 6f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	250	997.617	204.21 - 304.45	$2p^3 3d - 2p^4 4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		524
	150	1000.381	204.20 - 304.16	$2p^3 3d - 2p^4 4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		524
	30	1045.631	352.59 - 448.23	$2p^3 4f - 2p^4 6g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	50	1114.550	345.40 - 435.12	$2p^3 4d - 2p^4 6p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		524
	12	1115.413	345.40 - 435.05	$2p^3 4d - 2p^4 6p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		524
	900	1117.978	0.0 - 89.45	$2p^3 3s - 2p^4 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		524
	700	1128.007	0.0 - 88.65	$2p^3 3s - 2p^4 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		524
	150	1379.615	304.16 - 376.65	$2p^3 4p - 2p^4 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	250	1385.048	304.45 - 376.65	$2p^3 4p - 2p^4 5s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	4	1410.795	410.64 - 481.52	$2p^3 5d - 2p^4 8f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	375	1447.827	345.40 - 414.47	$2p^3 4d - 2p^4 5f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	1	1550.768	391.12 - 455.60	$2p^3 5p - 2p^4 7s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		524
	4	1554.001	391.25 - 455.60	$2p^3 5p - 2p^4 7s$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		524
	450	1610.499	352.59 - 414.69	$2p^3 4f - 2p^4 5g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	4	1710.065	376.65 - 435.12	$2p^3 5s - 2p^4 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		524
	1	1712.212	376.65 - 435.05	$2p^3 5s - 2p^4 6p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		524
	50	1722.856	352.59 - 410.64	$2p^3 4f - 2p^4 5g$	$^1F^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		524
	12	1732.315	410.64 - 468.36	$2p^3 5d - 2p^4 7f$	$^1D - ^1F^o$	$\frac{3}{2} - \frac{1}{2}$		524
	1	1831.935	391.25 - 445.84	$2p^3 5p - 2p^4 6d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		524
	4	1852.241	414.47 - 468.46	$2p^3 5f - 2p^4 7g$	$^1F^o - ^1G$	$\frac{1}{2} - \frac{3}{2}$		524
	30	1859.330	414.69 - 468.47	$2p^3 5g - 2p^4 7h$	$^1G - ^1H$	$\frac{3}{2} - \frac{11}{2}$		524

PHOSPHORUS VI (P^{5+}), $Z = 15$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential $1\ 777\ 902\ \text{cm}^{-1}$; 220.434 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	61.622	0.0 - 1622.8	$2s^2 2p^6 - 2s^2 2p^5(^1P^o_1) 3d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		249
	50	61.869	0.0 - 1616.32	$2s^2 2p^6 - 2s^2 2p^5(^1P^o_1) 3d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		249
	50	61.970	0.0 - 1613.68	$2s^2 2p^6 - 2s^2 2p^5(^1P^o_1) 3d$	$g^1S - \frac{3}{2}[\frac{1}{2}]^o$	0 - 1		249
	150	65.308	0.0 - 1531.21	$2s^2 2p^6 - 2s^2 2p^5(^1P^o_1) 4d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		249
	350	65.640	0.0 - 1523.46	$2s^2 2p^6 - 2s^2 2p^5(^1P^o_1) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		249

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
350	65.940		0.0 - 1516.53	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)4d$	$g^4S - \frac{7}{2}, \frac{5}{2}$	0 - 1		249
50	69.121		0.0 - 1446.74	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)4s$	$g^4S - \frac{7}{2}, \frac{5}{2}$	0 - 1		249
400	74.951		0.0 - 1334.12	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)3d$	$g^4S - ^1P^o$	0 - 1		249
200	75.648		0.0 - 1321.97	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)3d$	$g^4S - ^1D^o$	0 - 1		249
50	76.534		0.0 - 1306.61	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)3d$	$g^4S - ^1P^o$	0 - 1		249
500	90.647		0.0 - 1103.07	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)3s$	$g^4S - ^1P^o$	0 - 1		249
500	91.471		0.0 - 1093.24	$2s^2 2p^4 - 2s^2 2p^3(^3P^o_2)3s$	$g^4S - ^1P^o$	0 - 1		249
3	436.53	1308.44 - 1537.52		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
1	441.08	1310.84 - 1537.56		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	4 - 3		734
50	447.351	1305.75 - 1529.28		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	0 - 1		734
80	448.850	1306.61 - 1529.40		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
60	448.928	1314.81 - 1537.56		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
20	449.08	1306.61 - 1529.28		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	1 - 1		734
2	450.67	1308.44 - 1530.34		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	2 - 2		734
100	450.900	1308.44 - 1530.22		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
30	452.59	1308.44 - 1529.40		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	2 - 2		734
10	452.835	1316.75 - 1537.58		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
20	454.537	1310.84 - 1530.84		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	4 - 4		734
300	456.430	1310.84 - 1529.93		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	4 - 5		734
60	457.498	1312.25 - 1530.83		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 3		734
100	459.347	1312.25 - 1529.95		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
100	462.926	1314.81 - 1530.83		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
60	463.605	1321.85 - 1537.56		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
30	463.735	1321.97 - 1537.61		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
10	463.981	1314.81 - 1530.34		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	2 - 2		734
200	465.376	1322.70 - 1537.58		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
120	466.864	1323.33 - 1537.52		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
150	467.098	1316.75 - 1530.84		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
70	468.464	1316.75 - 1530.22		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 3		734
60	469.052	1316.75 - 1529.95		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3F^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
150	478.518	1321.85 - 1530.83		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
5	479.648	1321.85 - 1530.34		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 2		734
100	479.910	1321.97 - 1530.34		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
50	480.439	1322.70 - 1530.84		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	3 - 4		734
5	481.878	1322.70 - 1530.22		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	3 - 3		734
4	482.083	1321.97 - 1529.40		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
2	482.355	1321.97 - 1529.28		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	1 - 1		734
40	483.340	1323.33 - 1530.22		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 3		734
4	485.269	1323.33 - 1529.40		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3D^o - \frac{5}{2}, \frac{3}{2}$	2 - 2		734
100	509.619	1334.12 - 1530.34		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
100	512.066	1334.12 - 1529.40		$2s^2 2p^3(^3P^o_2)3d - 2s^2 2p^3(^3P^o_2)4f$	$^3P^o - \frac{5}{2}, \frac{3}{2}$	1 - 2		734
200	609.792	1093.24 - 1242.54		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1S$	1 - 0		734
400	716.98	1103.07 - 1242.54		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1S$	1 - 0		734
100	721.76	1195.57 - 1334.12		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1P^o - ^1P^o$	1 - 1		734
60	728.34	1185.40 - 1322.70		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	3 - 3		734
500	729.568	1171.38 - 1308.44		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1S - ^1P^o$	1 - 2		734
80	731.35	1186.60 - 1323.33		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	2 - 2		734
5	738.71	1186.60 - 1321.97		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	2 - 1		734
400	739.48	1171.38 - 1306.61		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1S - ^1P^o$	1 - 1		734
150	744.21	1171.38 - 1305.75		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1S - ^1P^o$	1 - 0		734
10	745.91	1189.26 - 1323.33		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	1 - 2		734
30	753.564	1189.26 - 1321.97		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	1 - 1		734
70	768.787	1193.25 - 1323.33		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1D^o$	2 - 2		734
100	788.359	1185.40 - 1312.25		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	3 - 3		734
250	791.860	1195.57 - 1321.85		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1P^o - ^1D^o$	1 - 2		734
	795.846	1186.60 - 1312.25		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	2 - 3		734
40	796.52	1189.26 - 1314.81		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	1 - 2		734
40	796.66	1197.80 - 1323.33		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1P^o - ^1D^o$	2 - 2		734
500	797.203	1185.40 - 1310.84		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	3 - 4		734
150	803.989	1198.95 - 1323.33		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1P^o - ^1D^o$	1 - 2		734
20	806.14	1197.80 - 1321.85		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1P^o - ^1D^o$	2 - 2		734
400	809.710	1193.25 - 1316.75		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	2 - 3		734
150	868.135	1193.25 - 1308.44		$2s^2 2p^3(^3P^o_2)3p - 2s^2 2p^3(^3P^o_2)3d$	$^1D^o - ^1F^o$	2 - 2		734
100	916.139	1089.79 - 1198.95		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	2 - 1		734
150	925.852	1089.79 - 1197.80		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	2 - 2		734
30	946.00	1093.24 - 1198.95		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	1 - 1		734
150	955.170	1093.24 - 1197.93		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	1 - 0		734
80	956.359	1093.24 - 1197.80		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	1 - 2		734
200	980.99	1097.01 - 1198.95		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	0 - 1		734
500	999.870	1093.24 - 1193.25		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1D^o$	1 - 2		734
200	1005.35	1089.79 - 1189.26		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1D^o$	2 - 1		734
100	1014.675	1097.01 - 1195.57		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	0 - 1		734
	1033.049	1089.79 - 1186.60		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1D^o$	2 - 2		734
250	1041.404	1093.24 - 1189.26		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1D^o$	1 - 1		734
400	1042.942	1103.07 - 1198.95		$2s^2 2p^3(^3P^o_2)3s - 2s^2 2p^3(^3P^o_2)3p$	$^1P^o - ^1P^o$	1 - 1		734

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	250	1045.944	1089.79 - 1185.40	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3D$	2 - 3		734
	350	1055.542	1103.07 - 1197.80	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^1P^o - ^3P$	1 - 2		734
	600	1071.215	1093.24 - 1186.60	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3D$	1 - 2		734
	150	1081.078	1103.07 - 1195.57	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^1P^o - ^1P$	1 - 1		734
	80	1083.986	1097.01 - 1189.26	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3D$	0 - 1		734
	30	1091.97	1242.54 - 1334.12	$2s^2 2p^3(^4P^o) 3p - 2s^2 2p^3(^4P^o) 3d$	$^1S - ^1P^o$	0 - 1		734
	100	1108.82	1103.07 - 1193.25	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^1P^o - ^1D$	1 - 2		734
	900	1225.770	1089.79 - 1171.38	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3S$	2 - 1		734
	500	1279.814	1093.24 - 1171.38	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3S$	1 - 1		734
		1344.735	1097.01 - 1171.38	$2s^2 2p^3(^4P^o) 3s - 2s^2 2p^3(^4P^o) 3p$	$^3P^o - ^3S$	0 - 1		734

PHOSPHORUS VII (P^{+}), $Z = 15$ Ground State $1s^2 2s^2 2p^5 \ ^2P_{3/2}$ (9 electrons)Ionization Potential 2 123 103 cm^{-1} ; 263.23 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	54.708	0.0 - 1827.89	$2s^2 2p^5 - 2s^2 2p^4(^1D)4d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		249
	100	54.887	7.27 - 1829.19	$2s^2 2p^5 - 2s^2 2p^4(^1D)4d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		249
	50	56.174	0.0 - 1780.19	$2s^2 2p^5 - 2s^2 2p^4(^3P)4d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		249
	10	56.282	7.27 - 1784.03	$2s^2 2p^5 - 2s^2 2p^4(^3P)4d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		249
	120	56.322	0.0 - 1775.51	$2s^2 2p^5 - 2s^2 2p^4(^3P)4d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	35	58.972	0.0 - 1695.72	$2s^2 2p^5 - 2s^2 2p^4(^3P)4s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		249
	15	59.028	7.27 - 1701.38	$2s^2 2p^5 - 2s^2 2p^4(^3P)4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		249
	150	62.245	0.0 - 1606.55	$2s^2 2p^5 - 2s^2 2p^4(^1S)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	50	62.515	7.27 - 1606.88	$2s^2 2p^5 - 2s^2 2p^4(^1S)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		249
	150	64.286	0.0 - 1555.56	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	250	64.361	0.0 - 1553.74	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	150	64.579	0.0 - 1548.48	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		249
	100	64.587	7.27 - 1555.56	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		249
	200	64.635	7.27 - 1554.42	$2s^2 2p^5 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		249
	150	66.432	0.0 - 1505.3	$2s^2 2p^5 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		249
	50	66.488	7.27 - 1511.31	$2s^2 2p^5 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		249
	100	66.576	0.0 - 1502.04	$2s^2 2p^5 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	150	66.691	7.27 - 1506.73	$2s^2 2p^5 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		249
	50	67.989	454.73 - 1925.56	$2s 2p^6 - 2s 2p^5(^3P)3d$	$^3S - 4^o$	$\frac{1}{2} - \frac{3}{2}$		249
	50	68.147	454.73 - 1922.15	$2s 2p^6 - 2s 2p^5(^3P)3d$	$^3S - 3^o$	$\frac{1}{2} - \frac{3}{2}$		249
	100	72.684	0.0 - 1375.81	$2s^2 2p^5 - 2s^2 2p^4(^1S)3s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		249
	100	73.070	7.27 - 1375.81	$2s^2 2p^5 - 2s^2 2p^4(^1S)3s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		249
	450	75.924	0.0 - 1317.11	$2s^2 2p^5 - 2s^2 2p^4(^1D)3s$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	200	76.344	7.27 - 1317.13	$2s^2 2p^5 - 2s^2 2p^4(^1D)3s$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		249
	250	77.969	0.0 - 1282.55	$2s^2 2p^5 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		249
	400	78.285	0.0 - 1277.38	$2s^2 2p^5 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		249
	150	78.414	7.27 - 1282.55	$2s^2 2p^5 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		249
	250	78.734	7.27 - 1277.38	$2s^2 2p^5 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		249
	50	80.507	454.73 - 1696.86	$2s 2p^6 - 2s 2p^5(^3P)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		249
	100	80.813	454.73 - 1692.16	$2s 2p^6 - 2s 2p^5(^3P)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		249
	450	219.91	0.0 - 454.73	$2s^2 2p^5 - 2s 2p^6$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		249
	350	223.48	7.27 - 454.73	$2s^2 2p^5 - 2s 2p^6$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		249

PHOSPHORUS VIII (P^{7+}), $Z = 15$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 e⁻ ~trons)Ionization Potential $2\,495\,600\text{ cm}^{-1}$; -09.42 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
120	55.672		0.0 - 1796.24	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3d$	$g^3P - ^3D^o$	2 - 3		249
70	55.710		5.76 - 1800.77	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3d$	$g^3P - ^3D^o$	1 - 2		249
300	55.876		0.0 - 1789.69	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3d$	$g^3P - ^3P^o$	2 - 2		249
100	55.926		0.0 - 1788.09	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3d$	$g^3P - ^3P^o$	2 - 1		249
450	57.042		0.0 - 1753.09	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$g^3P - ^3D^o$	2 - 3		249
350	57.230		5.76 - 1753.09	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$g^3P - ^3D^o$	1 - 2		249
350	58.018		52.25 + X - 1775.85 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1D - ^1F^o$	2 - 3		249
150	58.506		52.25 + X - 1761.48 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1D - ^1D^o$	2 - 2		249
50	58.776		52.25 + X - 1753.63 + X	$2s^2 2p^4 - 2s^2 2p^3(^3D^o)3d$	$^1D - ^1P^o$	2 - 1		249
350	59.302		0.0 - 1686.28	$2s^2 2p^4 - 2s^2 2p^3(^3S^o)3d$	$g^3P - ^3D^o$	2 - 3		249
250	59.516		5.76 - 1685.98	$2s^2 2p^4 - 2s^2 2p^3(^3S^o)3d$	$g^3P - ^3D^o$	1 - 2		249
80	64.051		0.0 - 1561.26	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	2 - 2		249
20	64.100		0.0 - 1560.07	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	2 - 1		249
100	64.337		5.76 - 1560.07	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	1 - 1		249
300	64.361		5.76 - 1559.5	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$g^3P - ^3P^o$	1 - 0		249
350	65.788		0.0 - 1520.03	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)3s$	$g^3P - ^3D^o$	2 - 3		249
350	66.051		5.76 - 1519.74	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)3s$	$g^3P - ^3D^o$	1 - 2		249
300	67.587		52.25 + X - 1531.82 + X	$2s^2 2p^4 - 2s^2 2p^3(^1D^o)3s$	$^1D - ^1D^o$	2 - 2		249
200	68.384		0.0 - 1462.34	$2s^2 2p^4 - 2s^2 2p^3(^3S^o)3s$	$g^3P - ^3S^o$	2 - 1		249
100	68.385		110.79 + X - 1573.07 + X	$2s^2 2p^4 - 2s^2 2p^3(^3P^o)3s$	$^1S - ^1P^o$	0 - 1		249
100	68.654		5.76 - 1462.34	$2s^2 2p^4 - 2s^2 2p^3(^3S^o)3s$	$g^3P - ^3S^o$	1 - 1		249
850	196.75		52.25 + X - 560.48 + X	$2s^2 2p^4 - 2s^2 2p^3$	$^1P - ^1P^o$	2 - 1		751
200	222.36		110.79 + X - 560.48 + X	$2s^2 2p^4 - 2s^2 2p^3$	$^1S - ^1P^o$	0 - 1		751
500	244.56		0.0 - 408.91	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	2 - 1		751
350	246.32		5.76 - 411.74	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	1 - 0		751
1000	247.65		0.0 - 403.81	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	2 - 2		751
400	248.06		5.76 - 408.91	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	1 - 1		751
400	249.33		7.83 - 408.91	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	0 - 1		751
400	251.23		5.76 - 403.81	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^o$	1 - 2		751
80	261.05		560.48 + X - 943.58 + X	$2s^2 2p^4 - 2p^4$	$^1P - ^1S$	1 - 0		751
	902.6		0.0 - 110.79 + X	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1S$	2 - 0	F, P	375
	952.1		5.76 - 110.79 + X	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1S$	1 - 0	F, P	375
	1708.4		52.25 + X - 110.79 + X	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1S$	2 - 0	F, P	375
	1913.7		0.0 - 52.25 + X	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1D$	2 - 2	F, P	375

PHOSPHORUS IX (P^{6+}), $Z = 15$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential $2\,998\,300\text{ cm}^{-1}$; 371.74 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
150	41.556		76.46 + X - 2482.83 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)4d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		249
350	48.925		0.0 - 2043.95	$2s^2 2p^3 - 2s^2 2p^2(^3S^o)3p$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
200	50.511		0.0 - 1979.75	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
300	50.560		0.0 - 1977.83	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
100	50.626		0.0 - 1975.97	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		249
450	51.156		76.46 + X - 2031.24 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		249
300	51.861		76.46 + X - 2004.67 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		249
100	51.889		75.88 + X - 2003.07 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		249
300	52.160		117.14 + X - 2034.32 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		249
150	52.552		76.46 + X - 1979.32 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^o - ^1F$	$\frac{1}{2} - \frac{1}{2}$		249
150	52.709		75.88 + X - 1973.09 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		249
250	52.980		117.14 + X - 2004.67 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		249
150	54.124		117.14 + X - 1965.34 + X	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
100	55.066		345.44 - 2161.39	$2s^2 2p^3 - 2s^2 2p^2(^3S^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		249
100	55.270		350.42 - 2161.39	$2s^2 2p^3 - 2s^2 2p^2(^3S^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		249
50	55.299		353.03 - 2161.39	$2s^2 2p^3 - 2s^2 2p^2(^3S^o)3d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		249
450	57.083		0.0 - 1751.85	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
350	57.266		0.0 - 1746.25	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		249
150	57.339		0.0 - 1744	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		249
100	57.683		76.46 + X - 1810.05 + X	$2s^2 2p^3 - 2s^2 2p^2(^1D)3s$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		249

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
50	57.711		583.39 + X - 2315.24 + X	$2s2p^4 - 2s2p^3(^4D^o)3d$	$^4P - ^4F^o$	$\frac{3}{2} - \frac{5}{2}$		249
50	61.065		913.36 + X - 2549.79 + X	$2p^4 - 2s^22p^2(^1S)4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		249
50	61.270							249
50	61.320		475.27 + X - 2105.82 + X	$2s2p^4 - 2s2p^3(^4D^o)3s$	$^4D - ^4D^o$	$\frac{3}{2} - \frac{5}{2}$		249
600	194.63		75.88 + X - 589.67 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		751
200	197.04		75.88 + X - 583.39 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		751
900	197.27		76.46 + X - 583.39 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		751
60	208.08		75.88 + X - 556.46 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		751
150	211.16		116.11 + X - 589.67 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		751
300	211.62		117.14 + X - 589.67 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		751
50	214.00		116.11 + X - 583.39 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		751
350	214.47		117.14 + X - 583.39 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		751
200	227.08		116.11 + X - 556.46 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		751
300	227.62		117.14 + X - 556.46 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		751
100	228.24		475.27 + X - 913.36 + X	$2s2p^4 - 2p^4$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		751
200	232.57		475.32 + X - 905.25 + X	$2s2p^4 - 2p^4$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		751
550	250.38		75.88 + X - 475.27 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		751
750	250.73		76.46 + X - 475.32 + X	$2s^22p^3 - 2s2p^4$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		751
40	278.42		116.11 + X - 475.27 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		751
150	279.18		117.14 + X - 475.32 + X	$2s^22p^3 - 2s2p^4$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		751
200	283.26		0.0 - 353.03	$2s^22p^3 - 2s2p^4$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		751
450	285.37		0.0 - 350.42	$2s^22p^3 - 2s2p^4$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		751
10	286.70		556.46 + X - 905.25 + X	$2s2p^4 - 2p^4$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		751
500	289.49		0.0 - 345.44	$2s^22p^3 - 2s2p^4$	$g^4S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		751
60	310.70		583.39 + X - 905.25 + X	$2s2p^4 - 2p^4$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		751
	853.7		0.0 - 117.14 + X	$2s^22p^3 - 2s^22p^2$	$g^4S^o - ^4P^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	861.3		0.0 - 116.11 + X	$2s^22p^3 - 2s^22p^2$	$g^4S^o - ^4P^o$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
	1307.8		0.0 - 76.46 + X	$2s^22p^3 - 2s^22p^2$	$g^4S^o - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1317.9		0.0 - 75.88 + X	$2s^22p^3 - 2s^22p^2$	$g^4S^o - ^4D^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375

PHOSPHORUS X (P^{+}), $Z = 15$ Ground State $1s^22s^22p^3\ ^4P_o$ (6 electrons)Ionization Potential $3\ 423\ 900\ \text{cm}^{-1}$; 424.51 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	$J - J$	Notes	References
50	36.75		9.06 - 2729.58	$2s^22p^3 - 2s^22p^2(^4P^o)4d$	$g^4P - ^4D^o$	2 - 3		249
10	44.336		9.06 - 2262.66	$2s^22p^3 - 2s^22p^2(^4P^o)3p$	$g^4P - ^4D^o$	2 - 3		852
10	44.367		9.06 - 2262.66	$2s^22p^3 - 2s^22p^2(^4P^o)3p$	$g^4P - ^4D^o$	2 - 3		852
75	45.905		166.58 + Y - 2344.97 + Y	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$g^4S^o - ^4P$	2 - 1		249
125	45.931		166.58 + Y - 2343.76 + Y	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$g^4S^o - ^4P$	2 - 2		249
200	45.963		166.58 + Y - 2342.24 + Y	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$g^4S^o - ^4P$	2 - 3		249
	45.992		0.0 - 2173.04	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4P^o$	0 - 1		949
	46.060		3.69 - 2173.99	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4P^o$	1 - 0		949
	46.079		3.69 - 2173.04	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4P^o$	1 - 1		949
	46.199		9.06 - 2173.04	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4P^o$	2 - 1		949
	46.233		9.06 - 2171.63	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4P^o$	2 - 2		949
	46.255		0.0 - 2162.41	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4D^o$	0 - 1		949
450	46.294		3.69 - 2163.5	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4D^o$	1 - 2		249
450	46.334		9.06 - 2166.8	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4D^o$	2 - 3		249
	46.399		9.06 - 2163.5	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4D^o$	2 - 2		949
300	46.636		323.20 - 2467.29	$2s2p^3 - 2s^22p^2(^4D^o)3d$	$^1D^o - ^4F$	2 - 3		249
350	46.769		59.33 + X - 2197.5 + X	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4P^o$	2 - 1		249
	46.777		59.33 + X - 2197.1 + X	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4F^o$	2 - 3		949
	46.887		9.06 - 2141.8	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$g^4P - ^4F^o$	2 - 2		949
	47.341		59.33 + X - 2171.63	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4P^o$	2 - 2		949
100	47.702		380.16 - 2476.1	$2s2p^3 - 2s^22p^2(^4D^o)3d$	$^1P^o - ^1D$	2 - 3		249
50	47.896		59.33 + X - 2147.19 + X	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^1D^o$	2 - 2		249
	48.045		59.33 + X - 2141.8	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4F^o$	2 - 2		949
50	48.113		119.60 + X - 2197.5 + X	$2s^22p^3 - 2s^22p^2(^4P^o)3d$	$^1S - ^1P^o$	0 - 1		852
50	48.986		323.25 - 2364.64	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4F$	3 - 4		852
10	49.076		323.20 - 2360.86	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4F$	2 - 3		852
10	49.145		323.41 - 2358.20	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1D^o - ^4F$	1 - 2		852
50	49.765		380.16 - 2389.60	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1P^o - ^1D$	2 - 3		249
25	49.803		379.93 - 2387.84	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1P^o - ^1D$	1 - 2		249
15	49.865		379.93 - 2385.34	$2s2p^3 - 2s^22p^2(^4P^o)3d$	$^1P^o - ^1D$	0 - 1		249

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	50.671	166.58 + Y - 2139.32 + Y	166.58 + Y - 2139.32 + Y	$2s2p^2 - 2s2p^2(^4P)3s$	$^4S^{\circ} - ^4P$	2 - 3		852
10	50.774	166.58 + Y - 2135.05 + Y	166.58 + Y - 2135.05 + Y	$2s2p^2 - 2s2p^2(^4P)3s$	$^4S^{\circ} - ^4P$	2 - 2		852
10	50.870	166.58 + Y - 2132.45 + Y	166.58 + Y - 2132.45 + Y	$2s2p^2 - 2s2p^2(^4P)3s$	$^4S^{\circ} - ^4P$	2 - 1		852
450	51.155	9.06 - 1963.43	9.06 - 1963.43	$2s^22p^2 - 2s^22p^2(^4P^{\circ})3s$	$g^4P - ^4P^{\circ}$	2 - 2		249
250	52.158	59.33 + X - 1976.58 + X	59.33 + X - 1976.58 + X	$2s^22p^2 - 2s^22p^2(^4P^{\circ})3s$	$^1D - ^1P^{\circ}$	2 - 1		249
200	52.594	380.16 - 2281.	380.16 - 2281.	$2s2p^2 - 2s2p^2(^4D)3s$	$^4P^{\circ} - ^4D$	2 - 3		249
150	56.597	541.63 + X - 2307.97 + X	541.63 + X - 2307.97 + X	$2s2p^2 - 2s2p^2(^4D)3s$	$^4P^{\circ} - ^4D$	1 - 2		249
150	203.83	0.0 - 490.59	0.0 - 490.59	$2s^22p^2 - 2s2p^2$	$g^4P - ^4S^{\circ}$	0 - 1		751
450	205.38	3.69 - 490.59	3.69 - 490.59	$2s^22p^2 - 2s2p^2$	$g^4P - ^4S^{\circ}$	1 - 1		751
300	207.34	59.33 + X - 541.63 + X	59.33 + X - 541.63 + X	$2s^22p^2 - 2s2p^2$	$^1D - ^1P^{\circ}$	2 - 1		751
700	207.67	9.06 - 490.59	9.06 - 490.59	$2s^22p^2 - 2s2p^2$	$g^4P - ^4S^{\circ}$	2 - 1		751
60	233.51	323.41 - 751.64	323.41 - 751.64	$2s2p^2 - 2p^4$	$^1D^{\circ} - ^1P$	1 - 0		751
150	234.84	323.20 - 749.01	323.20 - 749.01	$2s2p^2 - 2p^4$	$^1D^{\circ} - ^1P$	2 - 1		751
80	234.95	323.41 - 749.01	323.41 - 749.01	$2s2p^2 - 2p^4$	$^1D^{\circ} - ^1P$	1 - 1		751
800	235.26	59.33 + X - 484.39 + X	59.33 + X - 484.39 + X	$2s^22p^2 - 2s2p^2$	$^1D - ^1D^{\circ}$	2 - 2		751
100	236.95	119.60 + X - 541.63 + X	119.60 + X - 541.63 + X	$2s^22p^2 - 2s2p^2$	$^1S - ^1P^{\circ}$	0 - 1		751
300	238.45	323.25 - 742.61	323.25 - 742.61	$2s2p^2 - 2p^4$	$^1D^{\circ} - ^1P$	3 - 2		751
80	263.22	0.0 - 379.93	0.0 - 379.93	$2s^22p^2 - 2s2p^2$	$g^4P - ^4P^{\circ}$	0 - 1		751
70	265.62	3.69 - 380.16	3.69 - 380.16	$2s^22p^2 - 2s2p^2$	$g^4P - ^4P^{\circ}$	1 - 2		751
150	265.79	3.69 - 379.93	3.69 - 379.93	$2s^22p^2 - 2s2p^2$	$g^4P - ^4P^{\circ}$	1 - 0		751
300	269.47	9.06 - 380.16	9.06 - 380.16	$2s^22p^2 - 2s2p^2$	$g^4P - ^4P^{\circ}$	2 - 2		751
100	269.64	9.06 - 379.93	9.06 - 379.93	$2s^22p^2 - 2s2p^2$	$g^4P - ^4P^{\circ}$	2 - 1		751
30	271.11	380.16 - 749.01	380.16 - 749.01	$2s2p^2 - 2p^4$	$^4P^{\circ} - ^4P$	2 - 1		751
20	275.74	379.93 - 742.61	379.93 - 742.61	$2s2p^2 - 2p^4$	$^4P^{\circ} - ^4P$	1 - 2		751
40	275.91	380.16 - 742.61	380.16 - 742.61	$2s2p^2 - 2p^4$	$^4P^{\circ} - ^4P$	2 - 2		751
	309.20	0.0 - 323.41	0.0 - 323.41	$2s^22p^2 - 2s2p^2$	$g^4P - ^4D^{\circ}$	0 - 1		238
40	312.77	3.69 - 323.41	3.69 - 323.41	$2s^22p^2 - 2s2p^2$	$g^4P - ^4D^{\circ}$	1 - 1		751
150	312.98	3.69 - 323.20	3.69 - 323.20	$2s^22p^2 - 2s2p^2$	$g^4P - ^4D^{\circ}$	1 - 2		751
250	318.28	9.06 - 323.25	9.06 - 323.25	$2s^22p^2 - 2s2p^2$	$g^4P - ^4D^{\circ}$	2 - 3		751
10	396.77	490.59 - 742.61	490.59 - 742.61	$2s2p^2 - 2p^4$	$^4S^{\circ} - ^4P$	1 - 1		751
	862.7	3.69 - 119.60 + X	3.69 - 119.60 + X	$2s^22p^2 - 2s^22p^2$	$g^4P - ^1S$	1 - 0	F, P	375
	904.6	9.06 - 119.60 + X	9.06 - 119.60 + X	$2s^22p^2 - 2s^22p^2$	$g^4P - ^1S$	2 - 0	F, P	375
	1659.2	59.33 + X - 119.60 + X	59.33 + X - 119.60 + X	$2s^22p^2 - 2s^22p^2$	$^1D - ^1S$	2 - 0	F, P	375
	1685.5	0.0 - 59.33 + X	0.0 - 59.33 + X	$2s^22p^2 - 2s^22p^2$	$g^4P - ^1D$	0 - 2	F, P	375
	1797.1	3.69 - 59.33 + X	3.69 - 59.33 + X	$2s^22p^2 - 2s^22p^2$	$g^4P - ^1D$	1 - 2	F, P	375
	1989.1	9.06 - 59.33 + X	9.06 - 59.33 + X	$2s^22p^2 - 2s^22p^2$	$g^4P - ^1D$	2 - 2	F, P	375

PHOSPHORUS XI (P^{10+}), Z = 15Ground State $1s^22s^22p^2\ ^1P^{\circ}_{1/2}$ (5 electrons)Ionization Potential 3 868 100 cm^{-1} ; 479.59 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	T_{calc}	J - J	Notes	References
10	30.15	9.70 - 3326.4	9.70 - 3326.4	$2s^22p - 2s^2(^1S)5d$	$g^4P^{\circ} - ^4D$	$\frac{3}{2} - \frac{5}{2}$		852
10	32.67	316.91 - 3378.1	316.91 - 3378.1	$2s2p^2 - 2s2p(^1P^{\circ})4d$	$^4D - ^4F^{\circ}$	$\frac{3}{2} - \frac{7}{2}$		852
100	33.04	186.36 + X - 3213. + X	186.36 + X - 3213. + X	$2s2p^2 - 2s2p(^4P^{\circ})4d$	$^4P - ^4D^{\circ}$	$\frac{3}{2} - \frac{7}{2}$		852
100	33.15	0.0 - 3019.	0.0 - 3019.	$2s^22p - 2s^2(^1S)4d$	$g^4P^{\circ} - ^4D$	$\frac{1}{2} - \frac{5}{2}$		852
150	33.24	9.70 - 3019.	9.70 - 3019.	$2s^22p - 2s^2(^1S)4d$	$g^4P^{\circ} - ^4D$	$\frac{3}{2} - \frac{5}{2}$		852
10	34.32	316.91 - 3230.7	316.91 - 3230.7	$2s2p^2 - 2s2p(^4P^{\circ})4d$	$^4D - ^4F^{\circ}$	$\frac{3}{2} - \frac{7}{2}$		852
10	34.37	316.81 - 3226.3	316.81 - 3226.3	$2s2p^2 - 2s2p(^4P^{\circ})4d$	$^4D - ^4F^{\circ}$	$\frac{3}{2} - \frac{5}{2}$		852
10	39.753	0.0 - 2515.36	0.0 - 2515.36	$2s^22p - 2s2p(^4P^{\circ})3p$	$g^4P^{\circ} - ^4S$	$\frac{1}{2} - \frac{5}{2}$		852
10	39.911	9.70 - 2515.36	9.70 - 2515.36	$2s^22p - 2s2p(^4P^{\circ})3p$	$g^4P^{\circ} - ^4S$	$\frac{3}{2} - \frac{5}{2}$		852
50	41.125	9.70 - 2441.3	9.70 - 2441.3	$2s^22p - 2s2p(^4P^{\circ})3p$	$g^4P^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
100	41.998	316.81 - 2697.82	316.81 - 2697.82	$2s2p^2 - 2s2p(^1P^{\circ})3d$	$^4D - ^4F^{\circ}$	$\frac{3}{2} - \frac{5}{2}$		852
10	42.227	181.40 + X - 2549.45 + X	181.40 + X - 2549.45 + X	$2s2p^2 - 2s2p(^4P^{\circ})3d$	$^4P - ^4P^{\circ}$	$\frac{3}{2} - \frac{3}{2}$		852
100	42.351	186.36 + X - 2547.29 + X	186.36 + X - 2547.29 + X	$2s2p^2 - 2s2p(^4P^{\circ})3d$	$^4P - ^4P^{\circ}$	$\frac{3}{2} - \frac{5}{2}$		852
100	42.409	177.90 + X - 2536. + X	177.90 + X - 2536. + X	$2s2p^2 - 2s2p(^4P^{\circ})3d$	$^4P - ^4D^{\circ}$	$\frac{1}{2} - \frac{3}{2}$		852
250	42.471	181.40 + X - 2536. + X	181.40 + X - 2536. + X	$2s2p^2 - 2s2p(^4P^{\circ})3d$	$^4P - ^4D^{\circ}$	$\frac{3}{2} - \frac{5}{2}$		852
350	42.483	186.36 + X - 2540.5 + X	186.36 + X - 2540.5 + X	$2s2p^2 - 2s2p(^4P^{\circ})3d$	$^4P - ^4D^{\circ}$	$\frac{3}{2} - \frac{7}{2}$		852
500	42.599	0.0 - 2347.47	0.0 - 2347.47	$2s^22p - 2s^2(^1S)3d$	$g^4P^{\circ} - ^4D$	$\frac{1}{2} - \frac{3}{2}$		852
800	42.764	9.70 - 2348.13	9.70 - 2348.13	$2s^22p - 2s^2(^1S)3d$	$g^4P^{\circ} - ^4D$	$\frac{3}{2} - \frac{5}{2}$		852
50	43.488	559.70 + X - 2858.97 + X	559.70 + X - 2858.97 + X	$2p^2 - 2p^2(^4P)3d$	$^4S^{\circ} - ^4P$	$\frac{3}{2} - \frac{3}{2}$		249
70	43.529	559.70 + X - 2856.82 + X	559.70 + X - 2856.82 + X	$2p^2 - 2p^2(^4P)3d$	$^4S^{\circ} - ^4P$	$\frac{3}{2} - \frac{5}{2}$		249

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	43.809	426.89 - 2707.51	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		852
	10	43.894	432.16 - 2709.4	$2s2p^2 - 2s2p(^1P^o)3d$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{5}{2}$		852
	350	44.115	316.91 - 2584.	$2s2p^2 - 2s2p(^3P^o)3d$	$^3P - ^3F^o$	$\frac{1}{2} - \frac{3}{2}$		852
	250	44.232	316.81 - 2578.	$2s2p^2 - 2s2p(^3P^o)3d$	$^1D - ^3F^o$	$\frac{3}{2} - \frac{5}{2}$		852
	50	44.987	316.91 - 2540.05	$2s2p^2 - 2s2p(^3P^o)3d$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{5}{2}$		852
	10	45.690	403.34 - 2593.09	$2s2p^2 - 2s2p(^1P^o)3d$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		852
	10	45.747	403.34 - 2589.46	$2s2p^2 - 2s2p(^1P^o)3d$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		852
	400	45.997	0.0 - 2174.06	$2s^22p - 2s^2(^1S)3s$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		249
	450	46.203	9.70 - 2174.06	$2s^22p - 2s^2(^1S)3s$	$g^3P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		249
	100	231.40	0.0 - 432.16	$2s^22p - 2s2p^2$	$g^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		751
	200	234.25	0.0 - 426.89	$2s^22p - 2s2p^2$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		751
	500	236.71	9.70 - 432.16	$2s^22p - 2s2p^2$	$g^1P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		751
	200	239.71	9.70 - 426.89	$2s^22p - 2s2p^2$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		751
	100	247.95	0.0 - 403.34	$2s^22p - 2s2p^2$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$		751
	150	253.90	316.91 - 710.76	$2s2p^2 - 2p^3$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		751
	90	254.04	9.70 - 403.34	$2s^22p - 2s2p^2$	$g^1P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		751
	70	254.54	316.81 - 709.66	$2s2p^2 - 2p^3$	$^3D - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		751
	70	261.92	177.90 + X - 559.70 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{3}{2}$		751
	150	264.34	181.40 + X - 559.70 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{5}{2}$		751
	200	267.85	186.36 + X - 559.70 + X	$2s2p^2 - 2p^3$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{5}{2}$		751
	80	315.65	0.0 - 316.81	$2s^22p - 2s2p^2$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		751
	80	317.20	316.91 - 632.17	$2s2p^2 - 2p^3$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{5}{2}$		751
	30	325.31	403.34 - 710.76	$2s2p^2 - 2p^3$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		751
	150	325.51	9.70 - 316.91	$2s^22p - 2s2p^2$	$g^1P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		751
	10	326.45	403.34 - 709.66	$2s2p^2 - 2p^3$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		751
	20	352.26	426.89 - 710.76	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		751
	20	353.60	426.89 - 709.66	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		751
	20	358.94	432.16 - 710.76	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		751
	20	360.36	432.16 - 709.66	$2s2p^2 - 2p^3$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{5}{2}$		751
		487.43	426.89 - 632.04	$2s2p^2 - 2p^3$	$^1P - ^1D^o$	$\frac{1}{2} - \frac{3}{2}$		250
		499.98	432.16 - 632.17	$2s2p^2 - 2p^3$	$^1P - ^1D^o$	$\frac{3}{2} - \frac{5}{2}$	P	375

PHOSPHORUS XII (P^{11+}), $Z = 15$ Ground State $1s^22s^2\ ^1S_0$ (4 electrons)Ionization Potential 4 520 100 cm^{-1} ; 560.43 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	0	25.788	0.0 - 3878.	$2s^2 - 2s5p$	$g^1S - ^1P^o$	0 - 1		275
	10	27.049	187.94 + X - 3884.9 + X	$2s2p - 2s5d$	$^1P^o - ^1D$	1 - 2		275
	10	27.101	195.09 + X - 3884.9 + X	$2s2p - 2s5d$	$^1P^o - ^1D$	2 - 3		275
	0	27.677	493.52 + X - 4106.5 + X	$2p^2 - 2p5d$	$^1P - ^1D^o$	2 - 3		275
	10	28.017	541.72 - 4110.9	$2p^2 - 2p5d$	$^1D - ^1F^o$	2 - 3		275
	30	28.304	195.09 + X - 3728.1 + X	$2s2p - 2p4p$	$^1P^o - ^1P$	2 - 2		275
	10	28.549	0.0 - 3502.8	$2s^2 - 2s4p$	$g^1S - ^1P^o$	0 - 1		275
	10	29.622	359.38 - 3735.4	$2s2p - 2p4p$	$^1P^o - ^1D$	1 - 2		275
	10	29.970	184.64 + X - 3521.3 + X	$2s2p - 2s4d$	$^1P^o - ^1D$	0 - 1		275
	40	29.996	187.94 + X - 3521.7 + X	$2s2p - 2s4d$	$^1P^o - ^1D$	1 - 2		275
	60	30.060	195.09 + X - 3521.8 + X	$2s2p - 2s4d$	$^1P^o - ^1D$	2 - 3		275
	0	30.667	487.45 + X - 3748.5 + X	$2p^2 - 2p4d$	$^1P - ^1P^o$	1 - 1		275
	40	30.722	493.52 + X - 3748.5 + X	$2p^2 - 2p4d$	$^1P - ^1P^o$	2 - 2		275
	40	30.749	493.52 + X - 3745.7 + X	$2p^2 - 2p4d$	$^1P - ^1D^o$	2 - 3		275
	40	31.090	541.72 - 3758.3	$2p^2 - 2p4d$	$^1D - ^1F^o$	2 - 3		275
	10	31.327	541.72 - 3733.9	$2p^2 - 2p4d$	$^1D - ^1D^o$	2 - 2		275
	30	31.527	359.38 - 3531.2	$2s2p - 2s4d$	$^1P^o - ^1D$	1 - 2		275
	0	32.304	666.1 + Y - 3761.7 + Y	$2p^2 - 2p4d$	$^1S - ^1P^o$	0 - 1		275
	30	36.520	187.94 + X - 2926.4 + X	$2s2p - 2p3p$	$^1P^o - ^1P$	1 - 2		275
	50	36.562	187.94 + X - 2923. + X	$2s2p - 2p3p$	$^1P^o - ^1P$	1 - 1		275
	80	36.613	195.09 + X - 2926.4 + X	$2s2p - 2p3p$	$^1P^o - ^1P$	2 - 2		275
	60	36.655	195.09 + X - 2923. + X	$2s2p - 2p3p$	$^1P^o - ^1P$	2 - 1		275
	40	36.697	187.94 + X - 2913. + X	$2s2p - 2p3p$	$^1P^o - ^1S$	1 - 1		275
	70	36.792	195.09 + X - 2913. + X	$2s2p - 2p3p$	$^1P^o - ^1S$	2 - 1		275
	100	36.975	195.09 + X - 2899.7 + X	$2s2p - 2p3p$	$^1P^o - ^1D$	2 - 3		275

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	37.041	187.94 + X - 2887.6 + X	2s2p - 2p3p	$^3P^o - ^3D$	1 - 1		275
	10	37.074	195.09 + X - 2892.4 + X	2s2p - 2p3p	$^3P^o - ^3D$	2 - 2		275
	150	37.287	0.0 - 2681.9 + Y	2s ² - 2s3p	$g^4S - ^3P^o$	0 - 1		852
	150	37.347	0.0 - 2677.6	2s ² - 2s3p	$g^4S - ^3P^o$	0 - 1		275
		38.629	359.38 - 2948.1	2s2p - 2p3p	$^3P^o - ^3D$	1 - 2	F, P	375
	120	39.310	184.69 + X - 2728.7 + X	2s2p - 2s3d	$^3P^o - ^3D$	0 - 1		275
	300	39.354	187.94 + X - 2728.9 + X	2s2p - 2s3d	$^3P^o - ^3D$	1 - 2		275
	500	39.456	195.09 + X - 2729.5 + X	2s2p - 2s3d	$^3P^o - ^3D$	2 - 3		275
	40	39.664	359.38 - 2880.6	2s2p - 2p3p	$^3P^o - ^3P$	1 - 1		275
	10	40.157	487.45 + X - 2977.8 + X	2p ² - 2p3d	$^3P - ^3P^o$	1 - 1		275
	30	40.171	487.45 + X - 2974.8 + X	2p ² - 2p3d	$^3P - ^3P^o$	1 - 2		275
	200	40.301	495.52 + X - 2974.8 + X	2p ² - 2p3d	$^3P - ^3P^o$	2 - 2		275
	50	40.348	483.44 + X - 2961.8 + X	2p ² - 2p3d	$^3P - ^3D^o$	0 - 1		275
	120	40.388	487.45 + X - 2963.5 + X	2p ² - 2p3d	$^3P - ^3D^o$	1 - 2		275
	150	40.429	493.52 + X - 2967. + X	2p ² - 2p3d	$^3P - ^3D^o$	2 - 3		275
	20	40.478	541.72 - 3012.2	2p ² - 2p3d	$^1D - ^3P^o$	2 - 1		275
	120	40.613	541.72 - 3004.3	2p ² - 2p3d	$^1D - ^3F^o$	2 - 3		275
	50	41.471	184.69 + X - 2596.9 + X	2s2p - 2s3s	$^3P^o - ^3S$	0 - 1		275
	60	41.518	187.94 + X - 2596.9 + X	2s2p - 2s3s	$^3P^o - ^3S$	1 - 1		275
	120	41.634	195.09 + X - 2596.9 + X	2s2p - 2s3s	$^3P^o - ^3S$	2 - 1		275
	50	41.661	359.38 - 2761.2	2s2p - 2s3d	$^3P^o - ^3D$	1 - 2		852
	70	41.700	541.72 - 2939.8	2p ² - 2p3d	$^1D - ^3D^o$	2 - 2		275
	20	42.553	487.45 + X - 2838.3 + X	2p ² - 2p3s	$^3P - ^3P^o$	1 - 2		275
	40	42.647	493.52 + X - 2838.3 + X	2p ² - 2p3s	$^3P - ^3P^o$	2 - 2		275
	20	42.679	487.45 + X - 2830.6 + X	2p ² - 2p3s	$^3P - ^3P^o$	1 - 1		275
	140	42.763	541.72 - 2880.2	2p ² - 2p3s	$^1D - ^3P^o$	2 - 1		275
	20	42.779	493.52 + X - 2830.6 + X	2p ² - 2p3s	$^3P - ^3P^o$	2 - 1		275
	10	44.044	359.38 - 2629.9	2s2p - 2s3s	$^3P^o - ^3S$	1 - 0		275
	350	278.26	0.0 - 359.38	2s ² - 2s2p	$g^4S - ^3P^o$	0 - 1		751
	50	327.25	187.94 + X - 493.52 + X	2s2p - 2p ²	$^3P^o - ^3P$	1 - 2	P	751
	40	330.31	184.69 + X - 487.45 + X	2s2p - 2p ²	$^3P^o - ^3P$	0 - 1		751
	20	333.83	187.94 + X - 487.45 + X	2s2p - 2p ²	$^3P^o - ^3P$	1 - 1		751
	150	335.09	195.09 + X - 493.52 + X	2s2p - 2p ²	$^3P^o - ^3P$	2 - 2	P	751
	20	338.36	187.94 + X - 483.44 + X	2s2p - 2p ²	$^3P^o - ^3P$	1 - 0		751
	50	342.02	195.09 + X - 487.45 + X	2s2p - 2p ²	$^3P^o - ^3P$	2 - 1		751
		548.38	359.38 - 541.72	2s2p - 2p ²	$^3P^o - ^3D$	1 - 2		250

PHOSPHORUS XIII (P^{12+}), $Z = 15$ Ground State $1s^2 2s^2 S_{1/2}$ (3 electrons)Ionization Potential $4\,935\,000 \text{ cm}^{-1}$; 611.9 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.788	0.0 - 20886.	$1s^2 2s - 1s 2s 4p$	$g^4S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	624
		4.807	219.46 - 21022.5	$1s^2 2p - 1s 2p 4p$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	624
		5.0126	0.0 - 19949.7	$1s^2 2s - 1s (2s 3p (^3P^o))$	$g^4S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.0199	219.46 - 20140.2	$1s^2 2p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		5.0203	219.46 - 20138.6	$1s^2 2p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.0395	219.46 - 20062.7	$1s^2 2p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.3802	2849.4 - 21436.1	$1s^2 3p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		5.3859	2849.4 - 21416.4	$1s^2 3p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.7642	2846.1 - 20169.2	$1s^2 3p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Z	624
		5.7702	2849.4 - 20169.2	$1s^2 3p - 1s 2p (^3P^o) 3p$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	624
		5.7870	219.46 - 17499.6	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		5.7919	0.0 - 17265.5	$1s^2 2s - 1s (2s 2p (^3P^o))$	$g^4S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.8169	0.0 - 17191.3	$1s^2 2s - 1s (2s 2p (^3P^o))$	$g^4S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.8230	219.46 - 17392.8	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.8316	208.15 - 17356.2	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.8365	219.46 - 17353.1	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.869	219.46 - 17258.5	$1s^2 2p - 1s 2p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
	50	22.64	219.46 - 4636.2	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
	50	23.08	219.46 - 4552.	$1s^2 2p - 1s^2 7d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		249
		23.75	208.15 - 4419.	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$	P	275

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	23.810	219.46 - 4419.	$1s^2 2p - 1s^2 6d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		275
	20	25.103	208.15 - 4191.8	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		275
	20	25.169	219.46 - 4192.3	$1s^2 2p - 1s^2 5d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		275
	10	26.608	0.0 - 3758.3	$1s^2 2s - 1s^2 4p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		275
	50	28.044	208.15 - 3774.	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		275
	70	28.128	219.46 - 3774.6	$1s^2 2p - 1s^2 4d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		275
	150	28.66	219.46 - 3709.4	$1s^2 2p - 1s^2 4s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		249
	150	35.095	0.0 - 2849.4	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		275
	100	35.136	0.0 - 2846.1	$1s^2 2s - 1s^2 3p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		275
	150	37.561	208.15 - 2870.5	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		275
	200	37.706	219.46 - 2871.5	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		275
	20	37.723	219.46 - 2870.5	$1s^2 2p - 1s^2 3d$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		275
	30	38.754	208.15 - 2788.6	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		275
	50	38.921	219.46 - 2788.6	$1s^2 2p - 1s^2 3s$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		275
	10	455.67	0.0 - 219.46	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		751
		480.42	0.0 - 208.15	$1s^2 2s - 1s^2 2p$	$g^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		730

PHOSPHORUS XIV (P^{13+}), $Z = 15$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 22 720 581 cm^{-1} ; 2817.02 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.485	0.0 - 22297.	$1s^2 - 1s^2 7p$	$g^1S - ^1P^o$	0 - 1		643
		4.520	0.0 - 22124.	$1s^2 - 1s^2 6p$	$g^1S - ^1P^o$	0 - 1		643
		4.5745	0.0 - 21860.55	$1s^2 - 1s^2 5p$	$g^1S - ^1P^o$	0 - 1	P	643
		4.6779	0.0 - 21377.12	$1s^2 - 1s^2 4p$	$g^1S - ^1P^o$	0 - 1	P	643
		4.9180	0.0 - 20333.65	$1s^2 - 1s^2 3p$	$g^1S - ^1P^o$	0 - 1		643
		4.9245	0.0 - 20306.34	$1s^2 - 1s^2 3p$	$g^1S - ^1P^o$	0 - 1		644
		5.4485	17361.24 - 35714.9	$1s^2 2p - 2p^2$	$^1P^o - ^1D$	1 - 2	Z	643
		5.7600	0.0 - 17361.24	$1s^2 - 1s^2 2p$	$g^1S - ^1P^o$	0 - 1	P	446
		5.7931	0.0 - 17261.88	$1s^2 - 1s^2 2p$	$g^1S - ^1P^o$	0 - 1	P	446
		5.836	0.0 - 17136.48	$1s^2 - 1s^2 2s$	$g^1S - ^1S$	0 - 1	F, P	375
		31.52	17136.48 - 20309.23	$1s^2 s - 1s^2 3p$	$^3S - ^3P^o$	1 - 2	P	375
		32.64	17269.49 - 20333.65	$1s^2 s - 1s^2 3p$	$^3S - ^3P^o$	0 - 1	P	375
		55.76	20328.0 + R - 22121.4 + R	$1s^2 d - 1s^2 6f$	$^3D - ^3F^o$	3 - 4	P	87
		55.80	20340.0 + K - 22132.1 + K	$1s^2 d - 1s^2 6f$	$^3D - ^3F^o$	2 - 3	P	87
		65.34	20328.0 + R - 21858.5 + R	$1s^2 d - 1s^2 5f$	$^3D - ^3F^o$	3 - 4	P	87
		65.39	20340.0 + K - 21869.3 + K	$1s^2 d - 1s^2 5f$	$^3D - ^3F^o$	2 - 3	P	87
		91.29	20271.77 - 21367.13	$1s^2 s - 1s^2 4p$	$^3S - ^3P^o$	1 - 2	P	375
		93.44	20306.90 - 21377.12	$1s^2 s - 1s^2 4p$	$^3S - ^3P^o$	0 - 1	P	375
		95.56	20328.0 + R - 21374.5 + R	$1s^2 d - 1s^2 4f$	$^3D - ^3F^o$	3 - 4	P	87
		95.66	20340.0 + K - 21385.4 + K	$1s^2 d - 1s^2 4f$	$^3D - ^3F^o$	2 - 3	P	87
		740.25	17136.48 - 17271.57	$1s^2 s - 1s^2 2p$	$^3S - ^3P^o$	1 - 2	P	375
		1089.92	17269.49 - 17361.24	$1s^2 s - 1s^2 2p$	$^3S - ^3P^o$	0 - 1	P	375

PHOSPHORUS XV (P^{14+}), $Z = 15$ Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential $24\,759\,900\text{ cm}^{-1}$; 3069.86 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.080	0.0 - 24512.87	$1s - 10p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		4.089	0.0 - 24454.91	$1s - 9p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		4.103	0.0 - 24373.88	$1s - 8p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		4.123	0.0 - 24255.67	$1s - 7p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		4.154	0.0 - 24073.54	$1s - 6p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		4.207	0.0 - 23771.45	$1s - 5p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
10		4.308	0.0 - 23215.30	$1s - 4p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
20		4.543	0.0 - 22013.78	$1s - 3p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
10		4.544	0.0 - 22008.25	$1s - 3p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
65		5.381	0.0 - 18582.68	$1s - 2p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
35		5.387	0.0 - 18564.01	$1s - 2p$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
		16.812	18564.69 - 24512.87	$2s - 10p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		16.863	18582.68 - 24512.92	$2p - 10d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		16.977	18564.69 - 24454.91	$2s - 9p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		17.029	18582.68 - 24454.98	$2p - 9d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		17.214	18564.69 - 24373.88	$2s - 8p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		17.267	18582.68 - 24373.97	$2p - 8d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		17.572	18564.69 - 24255.67	$2s - 7p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		17.627	18582.68 - 24255.82	$2p - 7d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		18.153	18564.69 - 24073.54	$2s - 6p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		18.211	18582.68 - 24073.77	$2p - 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		19.206	18564.69 - 23771.45	$2s - 5p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		19.271	18582.68 - 23771.85	$2p - 5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		21.503	18564.69 - 23215.30	$2s - 4p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		21.582	18582.68 - 23216.07	$2p - 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		28.993	18564.69 - 22013.78	$2s - 3p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		29.130	18582.68 - 22015.60	$2p - 3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		39.929	22008.45 - 24512.87	$3s - 10p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		40.014	22013.78 - 24512.92	$3p - 10d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		40.043	22015.60 - 24512.94	$3d - 10f$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		40.875	22008.45 - 24454.91	$3s - 9p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		40.964	22013.78 - 24454.98	$3p - 9d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		40.994	22015.60 - 24455.01	$3d - 9f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		42.276	22008.45 - 24373.88	$3s - 8p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		42.369	22013.78 - 24373.97	$3p - 8d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		42.401	22015.60 - 24374.02	$3d - 8f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		44.499	22008.45 - 24255.67	$3s - 7p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		44.602	22013.78 - 24255.82	$3p - 7d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		44.637	22015.60 - 24255.89	$3d - 7f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		48.424	22008.45 - 24073.54	$3s - 6p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		48.544	22013.78 - 24073.77	$3p - 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		48.584	22015.60 - 24073.88	$3d - 6f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		56.721	22008.45 - 23771.45	$3s - 5p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		56.881	22013.78 - 23771.85	$3p - 5d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		56.933	22015.60 - 23772.05	$3d - 5f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		76.934	23213.06 - 24512.87	$4s - 10p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		77.064	23215.30 - 24512.92	$4p - 10d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		77.109	23216.07 - 24512.94	$4d - 10f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		80.525	23213.06 - 24454.91	$4s - 9p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		80.666	23215.30 - 24454.98	$4p - 9d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		80.714	23216.07 - 24455.01	$4d - 9f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		82.860	22008.45 - 23215.30	$3s - 4p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		83.174	22013.78 - 23216.07	$3p - 4d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		83.274	22015.60 - 23216.46	$3d - 4f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		86.146	23213.06 - 24373.88	$4s - 8p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		86.306	23215.30 - 24373.97	$4p - 8d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		86.360	23216.07 - 24374.02	$4d - 8f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		95.912	23213.06 - 24255.67	$4s - 7p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		96.106	23215.30 - 24255.82	$4p - 7d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		96.171	23216.07 - 24255.89	$4d - 7f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		116.214	23213.06 - 24073.54	$4s - 6p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		116.487	23215.30 - 24073.77	$4p - 6d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		116.576	23216.07 - 24073.88	$4d - 6f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		134.668	23770.30 - 24512.87	$5s - 10p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		134.868	23771.45 - 24512.92	$5p - 10d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		134.935	23771.85 - 24512.94	$5d - 10f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		146.069	23770.30 - 24454.91	$5s - 9p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		146.301	23771.45 - 24454.98	$5p - 9d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		146.378	23771.85 - 24455.01	$5d - 9f$	$^1D - ^1F$	$\frac{3}{2} - \frac{1}{2}$	P	309
		165.680	23770.30 - 24373.88	$5s - 8p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		165.970	23771.45 - 24373.97	5p - 8d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		166.065	23771.85 - 24374.02	5d - 8f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		179.084	23213.06 - 23771.45	4s - 5p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		179.680	23215.30 - 23771.85	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		179.845	23216.07 - 23772.05	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		206.028	23770.30 - 24255.67	5s - 7p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		206.456	23771.45 - 24255.82	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		206.594	23771.85 - 24255.89	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		329.775	23770.30 - 24073.54	5s - 6p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		330.781	23771.45 - 24073.77	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		331.088	23771.85 - 24073.88	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		5.113						624
103		626.53						123
10		962						107
100		1133						107
50		1171						107
100		1216						107
50		1290						107
10		1318						107
50		1362						107
50		1367						107
50		1370						107
500		1502						107
10		1512						107
50		1520						107
10		1527						107
50		1560						107
100		1572						107
10		1638						107
10		1657						107
10		1680						107
10		1764						107
10		1772						107
10		1869						107
10		1925						107
10		1943						107
10		1955						107
10		1964						107

SULFUR I (S^+), Z = 16Ground State $1s^2 2s^2 2p^6 3s^2 3p^4 \ ^3P_2$ (16 electrons)Ionization Potential $83\,558.0 \text{ cm}^{-1}$; 10.360 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		941.0	0.0 - 106.27	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)8d$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		946.3	0.0 - 105.67	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)7f$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		952.2	0.0 - 105.02	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)8s$	$g^3P - ^3P^o$	2 - 2	A, Z	841
		954.7	0.0 - 104.74	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)6d$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		965.0	0.0 - 103.63	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)7s$	$g^3P - ^3P^o$	2 - 2	A, Z	841
		969.5	0.0 - 103.15	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5d$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		989.9	0.0 - 101.02	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)6s$	$g^3P - ^3P^o$	2 - 2	A, Z	841
		1000.4	0.0 - 99.96	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)4d$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		1049.82	0.0 - 95.25	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5s$	$g^3P - ^3P^o$	2 - 2	A, Z	841
		1050.30	0.0 - 95.21	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5s$	$g^3P - ^3P^o$	2 - 1	A, Z	841
		1054.17	0.40 - 95.25	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5s$	$g^3P - ^3P^o$	1 - 2	A, Z	841
		1054.81	0.40 - 95.20	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5s$	$g^3P - ^3P^o$	1 - 0	A, Z	841
		1056.67	0.57 - 95.21	$3s^2 3p^4 - 3s^2 3p^3(^3P^o)5s$	$g^3P - ^3P^o$	0 - 1	A, Z	841
		1065	0.0 - 93.90	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)5d$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		1092.62	0.0 - 91.52	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	2 - 2	A, Z	841
		1092.99	0.0 - 91.49	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	2 - 1	A, Z	841
		1094.3	0.0 - 91.38	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)6s$	$g^3P - ^3D^o$	2 - 3	A, Z	841
		1095.59	0.0 - 91.28	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3D^o$	2 - 2	A, Z	841
		1096.6	0.0 - 91.19	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3S^o$	2 - 1	A, Z	841
		1097.31	0.40 - 91.52	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	1 - 2	A, Z	841
		1097.74	0.40 - 91.49	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	1 - 1	A, Z	841
		1097.96	0.40 - 91.47	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	1 - 0	A, Z	841
		1099.1	0.40 - 91.38	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)6s$	$g^3P - ^3D^o$	1 - 2	A, Z	841
		1099.87	0.57 - 91.49	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)4d$	$g^3P - ^3P^o$	0 - 1	A, Z	841
		1101.2	0.57 - 91.38	$3s^2 3p^4 - 3s^2 3p^3(^3D^o)6s$	$g^3P - ^3D^o$	0 - 1	A, Z	841

Wavelength	Ref. Int.	$\lambda_{\text{vac}} (\text{in } \text{\AA})$	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1103.60			0.57 - 91.19	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 4d$	$g^{\circ}P - {}^{\circ}S^{\circ}$	0 - 1	A, Z	841
1105.			0.0 - 90.50	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 4d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A, Z	841
1132.88			9.24 - 97.51	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 11d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1134.98			9.24 - 97.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 12s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1135.37			9.24 - 97.32	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 10d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1138.35			9.24 - 97.08	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 11s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1138.79			9.24 - 97.05	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 9d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1143.07			9.24 - 96.72	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 10s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1143.66			9.24 - 96.68	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 8d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1149.99			9.24 - 96.20	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 9s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1150.82			9.24 - 96.13	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 7d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1154.27			9.24 - 95.87	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P^{\circ}) 3d$	${}^{\circ}D - {}^{\circ}P^{\circ}$	2 - 1	A, Z	841
1155.99			0.0 - 86.51	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	2 - 2	A, Z	841
1156.26			0.0 - 86.49	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	2 - 1	A, Z	841
1157.40			9.24 - 95.64	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P^{\circ}) 5s$	${}^{\circ}D - {}^{\circ}P^{\circ}$	2 - 1	A, Z	841
1160.78			9.24 - 95.39	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 8s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1161.35			0.40 - 86.51	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	1 - 2	A, Z	841
1161.57			0.40 - 86.49	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	1 - 1	A, Z	841
1161.72			0.40 - 86.48	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	1 - 0	A, Z	841
1161.97			9.24 - 95.30	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 6d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1163.98			0.57 - 86.49	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}P^{\circ}$	0 - 1	A, Z	841
1167.3			0.0 - 85.67	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 5s$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1168.04			0.0 - 85.62	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1170.5			0.0 - 85.43	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A, Z	841
1172.7			0.40 - 85.67	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 5s$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A, Z	841
50 1175.28			0.57 - 85.66	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 5s$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A, Z	841, 107
1176.0			0.40 - 85.43	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}S^{\circ}$	1 - 1	A, Z	841
1179.30			9.24 - 94.04	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 7s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1181.59			9.24 - 93.87	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 5d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1195.			0.0 - 83.68	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 3d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A, Z	841
500 1202.04			0.0 - 83.19	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 18d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1202.61			0.0 - 83.15	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 17d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1203.44			0.0 - 83.10	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 16d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1204.35			0.0 - 83.03	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 15d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841, 599
1205.59			0.0 - 82.95	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 14d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1206.13			0.0 - 82.91	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 15s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	841
1207.04			0.0 - 82.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 13d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1207.76			0.0 - 82.80	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 14s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	841
1208.86			0.0 - 82.72	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1209.87			0.0 - 82.65	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 13s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	841
1210.18			0.40 - 83.03	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 15d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	841
1211.22			0.0 - 82.56	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	841
1211.38			0.40 - 82.95	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 14d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	841
1212.66			0.0 - 82.46	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	841
1212.82			0.40 - 82.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 13d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	841
1213.99			0.57 - 82.95	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 14d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	841
1214.295			0.0 - 82.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 2	A	379
7 1214.318			0.0 - 82.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	379
1214.66			0.40 - 82.72	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	841
1214.98			9.24 - 91.54	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 6s$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1215.45			0.57 - 82.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 13d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	841
1216.45			0.0 - 82.21	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	841
1217.05			0.40 - 82.56	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	841
1217.27			0.57 - 82.72	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	841
1218.30			0.57 - 82.65	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 13s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	0 - 1	A	841
1218.51			0.40 - 82.46	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	1 - 1	A	841
1218.571			0.0 - 82.06	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 2	A	379
10 1218.595			0.0 - 82.06	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	379
1218.95			9.24 - 91.28	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D^{\circ}) 4d$	${}^{\circ}D - {}^{\circ}D^{\circ}$	2 - 2	A, Z	841
1219.67			0.57 - 82.56	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	841
5 1220.162			0.40 - 82.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	379
1221.13			0.57 - 82.46	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 12s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	0 - 1	A	841
6 1221.753			0.0 - 81.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	379
1222.33			0.40 - 82.21	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	1 - 1	A	841
1 1222.799			0.57 - 82.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	379
1 1224.424			0.40 - 82.07	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 1	A	379
7 1224.479			0.40 - 82.06	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	379
7 1224.544			0.0 - 81.66	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 8d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	2 - 3	A	379
1224.99			0.57 - 82.21	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 11s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	0 - 1	A	841
4 1227.069			0.57 - 82.07	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	379
5 1227.692			0.40 - 81.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	1 - 1	A	379
10 1229.608			0.0 - 81.33	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 9s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	2 - 1	A	379
2 1230.374			0.57 - 81.85	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 10s$	$g^{\circ}P - {}^{\circ}S^{\circ}$	0 - 1	A	379
4 1230.473			0.40 - 81.67	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 8d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	1 - 2	A	379
1 1233.132			0.57 - 81.67	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S^{\circ}) 8d$	$g^{\circ}P - {}^{\circ}D^{\circ}$	0 - 1	A	379

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
9	3	1233.922	0.40 - 81.44	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	1 - 1	A	379
	7	1235.624	0.40 - 81.33	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 9s$	$g^4 P - ^4 S^o$	1 - 1		379
	4	1236.632	0.57 - 81.44	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	0 - 1		379
	5	1238.340	0.57 - 81.33	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 9s$	$g^4 P - ^4 S^o$	0 - 1		379
		1239.33	0.40 - 81.08	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 7d$	$g^4 P - ^1 D^o$	1 - 2		841
	30	1241.905	0.0 - 80.52	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 8s$	$g^4 P - ^4 S^o$	2 - 1		379
	45	1247.160	0.0 - 80.18	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6d$	$g^4 P - ^1 D^o$	2 - 3		379
	22	1248.045	0.40 - 80.52	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 8s$	$g^4 P - ^4 S^o$	1 - 1		379
	12	1250.814	0.57 - 80.52	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 8s$	$g^4 P - ^4 S^o$	0 - 1		379
	20	1253.297	0.40 - 80.19	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6d$	$g^4 P - ^1 D^o$	1 - 1		379
	40	1253.325	0.40 - 80.18	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6d$	$g^4 P - ^1 D^o$	1 - 2	A, Z	379
	22	1256.093	0.57 - 80.19	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6d$	$g^4 P - ^1 D^o$	0 - 1		379
	70	1262.8596	0.0 - 79.19	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 7s$	$g^4 P - ^4 S^o$	2 - 1		379
	50	1269.2086	0.40 - 79.19	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 7s$	$g^4 P - ^4 S^o$	1 - 1		379
	100	1270.7821	0.0 - 78.69	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5d$	$g^4 P - ^1 D^o$	2 - 3		379
	30	1272.0749	0.57 - 79.19	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 7s$	$g^4 P - ^4 S^o$	0 - 1		379
	40	1277.199	0.40 - 78.69	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5d$	$g^4 P - ^1 D^o$	1 - 1		379
	90	1277.216	0.40 - 78.69	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5d$	$g^4 P - ^1 D^o$	1 - 2		379
	50	1280.0991	0.57 - 78.69	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5d$	$g^4 P - ^1 D^o$	0 - 1		379
	110	1295.6526	0.0 - 77.18	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	2 - 2		379
9	70	1296.1738	0.0 - 77.15	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	2 - 1	A, Z	379
		1300.91	9.24 - 86.11	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 5s$	$^1 D - ^1 D^o$	2 - 2		841
	100	1302.3370	0.40 - 77.18	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	1 - 2		379
	80	1302.8633	0.40 - 77.15	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	1 - 1		379
	80	1303.1105	0.40 - 77.14	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	1 - 0		379
	85	1303.4295	0.0 - 76.72	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6s$	$g^4 P - ^4 S^o$	2 - 1	A, Z	379
	95	1305.8834	0.57 - 77.15	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$g^4 P - ^1 P^o$	0 - 1		379
		1308.2	9.24 - 85.68	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 5s$	$^1 D - ^1 D^o$	2 - 3		841
		1309.3	9.24 - 85.62	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 3d$	$^1 D - ^1 D^o$	2 - 2		841
	100	1310.1940	0.40 - 76.72	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6s$	$g^4 P - ^4 S^o$	1 - 1		379
	60	1313.2493	0.57 - 76.72	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 6s$	$g^4 P - ^4 S^o$	0 - 1	A, Z	379
	160	1316.5423	0.0 - 75.96	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	2 - 3		379
	120	1316.6183	0.0 - 75.95	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	2 - 2		379
	180	1323.5153	0.40 - 75.95	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	1 - 2		379
	45	1323.5220	0.40 - 75.95	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	1 - 1		379
	160	1326.6432	0.57 - 75.95	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	0 - 1	A, Z	379
	2	1333.792	0.0 - 74.97	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$g^4 P - ^1 D^o$	2 - 3		379
		1356.97	22.18 - 95.87	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 3d$	$^1 S - ^1 P^o$	0 - 1		841
		1361.28	22.18 - 95.64	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 5s$	$^1 S - ^1 P^o$	0 - 1		841
	7	650	1381.5521	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	2 - 1		379
7	1	1385.041	9.24 - 81.44	$3s^2 3p^4 - 3s 3p^5$	$^1 D - ^1 P^o$	2 - 1	A, Z	379
	550	1385.5100	0.40 - 72.57	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	1 - 0		379
	950	1388.4347	0.0 - 72.02	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	2 - 2		379
	450	1389.1538	0.40 - 72.38	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	1 - 1		379
	650	1392.5878	0.57 - 72.38	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	0 - 1		379
	1000	1396.1122	0.40 - 72.02	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^1 P^o$	1 - 2	A, Z	379
	6	100	1401.5136	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5s$	$g^4 P - ^4 S^o$	2 - 1		379
	125	1409.3369	0.40 - 71.35	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5s$	$g^4 P - ^4 S^o$	1 - 1		379
	6	100	1412.8726	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5s$	$g^4 P - ^4 S^o$	0 - 1		379
	2	1414.365	0.0 - 70.70	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 5s$	$g^4 P - ^4 S^o$	2 - 2		379
	5	300	1425.0301	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	2 - 3	A, Z	379
	5	90	1425.1882	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	2 - 2		379
	5	65	1425.2190	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	2 - 1		379
	5	225	1433.2800	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	1 - 2		379
	5	100	1433.3105	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	1 - 1		379
	5	125	1436.9675	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	0 - 1	A, Z	375
	30	1444.2967	0.0 - 69.24	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	2 - 2		379
	125	1448.2290	9.24 - 78.29	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$^1 D - ^1 P^o$	2 - 1		379
	12	25	1471.832	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$^1 D - ^1 P^o$	2 - 2		379
	12	4	1472.503	$3s^2 3p^4 - 3s^2 3p^2 (^4P) 4s$	$^1 D - ^1 P^o$	2 - 1		379
4	225	147.972	0.0 - 67.89	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	2 - 3	A, Z	379
	120	147.919	0.0 - 67.89	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	2 - 2		379
	3	350	1473.995	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	2 - 3		379
	3	125	1474.380	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	2 - 2		379
	3	60	1474.572	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	2 - 1		379
	170	1481.665	0.40 - 67.89	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	1 - 2	A, Z	379
	100	1481.712	0.40 - 67.88	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	1 - 1		379
	280	1483.039	0.40 - 67.83	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	1 - 2		379
	125	1483.233	0.40 - 67.82	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	1 - 1		379
	150	1485.622	0.57 - 67.88	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 3d$	$g^4 P - ^1 D^o$	0 - 1		379
	200	1487.150	0.57 - 67.82	$3s^2 3p^4 - 3s^2 3p^2 (^4D) 4s$	$g^4 P - ^1 D^o$	0 - 1	A, Z	379
	2	1492.550	9.24 - 75.96	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$^1 D - ^1 D^o$	2 - 3		379
	1	1498.942	9.24 - 75.95	$3s^2 3p^4 - 3s^2 3p^2 (^4S) 4d$	$^1 D - ^1 D^o$	2 - 2		379
	1	1583.683	9.24 - 72.38	$3s^2 3p^4 - 3s 3p^5$	$^1 D - ^1 P^o$	2 - 1		379
	4	1592.736	9.24 - 72.02	$3s^2 3p^4 - 3s 3p^5$	$^1 D - ^1 P^o$	2 - 2		379

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
11	7	1641.085	9.24 - 70.17	$3s^2 3p^4 - 3s^2 3p^3(^4S) 3d$	$^1D - ^1D'$	2 - 3		379
	10	1641.296	9.24 - 70.17	$3s^2 3p^4 - 3s^2 3p^3(^4S) 3d$	$^1D - ^1D'$	2 - 2		379
	300	1666.6875	9.24 - 69.24	$3s^2 3p^4 - 3s^2 3p^3(^4D) 4s$	$^1D - ^1D'$	2 - 2		379
	450	1687.5305	22.18 - 81.44	$3s^2 3p^4 - 3s^2 3p^3$	$^1S - ^1P'$	0 - 1		379
	5	1704.986	9.24 - 67.89	$3s^2 3p^4 - 3s^2 3p^3(^4S) 3d$	$^1D - ^1D'$	2 - 3		379
10	3	1705.115	9.24 - 67.88	$3s^2 3p^4 - 3s^2 3p^3(^4S) 3d$	$^1D - ^1D'$	2 - 1		379
	10	1706.360	9.24 - 67.84	$3s^2 3p^4 - 3s^2 3p^3(^4D) 4s$	$^1D - ^1D'$	2 - 3		379
	8	1707.132	9.24 - 67.82	$3s^2 3p^4 - 3s^2 3p^3(^4D) 4s$	$^1D - ^1D'$	2 - 1		379
13	50	1782.2626	22.18 - 78.29	$3s^2 3p^4 - 3s^2 3p^3(^4P) 4s$	$^1S - ^1P'$	0 - 1		379
	10	1787.						107
2	550	1807.3108	0.0 - 55.33	$3s^2 3p^4 - 3s^2 3p^3(^4S) 4s$	$g^4P - ^4S'$	2 - 1		379
2	300	1820.3426	0.40 - 55.33	$3s^2 3p^4 - 3s^2 3p^3(^4S) 4s$	$g^4P - ^4S'$	1 - 1		379
2	450	1826.2451	0.57 - 55.33	$3s^2 3p^4 - 3s^2 3p^3(^4S) 4s$	$g^4P - ^4S'$	0 - 1		379
1	550	1900.2863	0.0 - 52.62	$3s^2 3p^4 - 3s^2 3p^3(^4S) 4s$	$g^4P - ^4S'$	2 - 2		379
1	350	1914.6982	0.40 - 52.62	$3s^2 3p^4 - 3s^2 3p^3(^4S) 4s$	$g^4P - ^4S'$	1 - 2		379
	8	1991.9369	22.18 - 72.38	$3s^2 3p^4 - 3s^2 3p^3$	$^1S - ^1P'$	0 - 1		379

SULFUR II (S^{1+}), $Z = 16$
 Ground State $1s^2 2s^2 2p^6 3s^2 3p^3 \ ^4S_{3/2}$ (15 electrons)
 Ionization Potential $188\,200 \text{ cm}^{-1}$; 23.33 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	210	500.36						123
	98	527.88						123
	50	581.13						123
	75	608.17						123
	328	634.81						123
	253	636.65						123
	50	640.41	0.0 - 156.15	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{1}{2}$		322
	50	640.93	0.0 - 156.03	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322
	100	641.81	0.0 - 155.82	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{5}{2}$		322
	152	647.50						123
	207	669.13	14.88 - 164.34	$3s^2 3p^3 - 3s^2 3p^2(^4D) 4d$	$^4D' - ^4G$	$\frac{3}{2} - \frac{1}{2}$		123
	186	669.77	14.88 - 164.18	$3s^2 3p^3 - 3s^2 3p^2(^4D) 4d$	$^4D' - ^4F$	$\frac{3}{2} - \frac{3}{2}$	Q	123, 375
	130	686.20						123
	50	694.71	14.88 - 158.83	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$^4D' - ^4D$	$\frac{3}{2} - \frac{3}{2}$		322
	50	705.62	14.88 - 156.60	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$^4D' - ^4F$	$\frac{3}{2} - \frac{1}{2}$		322
	50	707.86	14.85 - 156.12	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$^4D' - ^4F$	$\frac{3}{2} - \frac{3}{2}$		322
	224	721.64						123
	128	727.71	14.88 - 152.30	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4d$	$^4D' - ^4F$	$\frac{3}{2} - \frac{1}{2}$	Q	123, 375
	244	765.62						123
	50	798.92	14.85 - 140.02	$3s^2 3p^3 -$	$^4D' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322
2	50	799.14	14.88 - 140.02	$3s^2 3p^3 -$	$^4D' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322
	50	800.04	14.85 - 139.85	$3s^2 3p^3 -$	$^4D' - ^4P$	$\frac{3}{2} - \frac{1}{2}$		322
	327	808.70						123
	216	840.75						123
	200	843.82	14.85 - 133.36	$3s^2 3p^3 -$	$^4D' - I$	$\frac{3}{2} - \frac{1}{2}$		322
	50	865.87	24.52 - 140.02	$3s^2 3p^3 -$	$^4P' - ^4P$	$\frac{1}{2} - \frac{3}{2}$		322
	100	866.23	24.57 - 140.02	$3s^2 3p^3 -$	$^4P' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322
	100	867.15	24.52 - 139.85	$3s^2 3p^3 -$	$^4P' - ^4P$	$\frac{1}{2} - \frac{1}{2}$		322
	100	867.50	24.57 - 139.85	$3s^2 3p^3 -$	$^4P' - ^4P$	$\frac{3}{2} - \frac{1}{2}$		322
	300	906.87	0.0 - 110.27	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4s$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322, 488
	121	909.15						123
	300	910.49	0.0 - 109.83	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4s$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322, 488
	300	912.74	0.0 - 109.56	$3s^2 3p^3 - 3s^2 3p^2(^4P) 4s$	$g^4S' - ^4P$	$\frac{3}{2} - \frac{1}{2}$		322, 488
	185	915.27						123
	300	918.82	24.52 - 133.36	$3s^2 3p^3 -$	$^4P' - I$	$\frac{1}{2} - \frac{1}{2}$		322
	100	919.24	24.57 - 133.36	$3s^2 3p^3 -$	$^4P' - I$	$\frac{3}{2} - \frac{1}{2}$		322
	300	937.41	14.85 - 121.53	$3s^2 3p^3 - 3s^2 3p^2(^4D) 4s$	$^4D' - ^4D$	$\frac{3}{2} - \frac{3}{2}$		322, 488
	300	937.69	14.88 - 121.53	$3s^2 3p^3 - 3s^2 3p^2(^4D) 4s$	$^4D' - ^4D$	$\frac{3}{2} - \frac{3}{2}$		322, 488
6	100	957.88	14.85 - 119.24	$3s^2 3p^3 - 3s^2 3p^2(^4P) 3d$	$^4D' - ^4D$	$\frac{3}{2} - \frac{3}{2}$	Q	322
	50	968.37	14.88 - 118.15	$3s^2 3p^3 - 3s^2 3p^2(^4P) 3d$	$^4D' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		322

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	142	991.73						123
	200	996.00	14.88 - 115.29	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		322, 488
5	200	1000.48	14.85 - 114.80	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		322, 488
5	65	1000.75	14.88 - 114.80	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	270	1006.15	14.88 - 114.28	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	35	1006.95	14.85 - 114.16	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
4	50	1014.09	14.85 - 113.46	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322
4	200	1014.42	14.88 - 113.46	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
4	200	1019.53	14.85 - 112.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
9	100	1030.87	24.52 - 121.53	$3s^2 3p^2 - 3s^2 3p^2(^3D)4s$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		322, 488
9	100	1031.34	24.57 - 121.53	$3s^2 3p^2 - 3s^2 3p^2(^3D)4s$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{1}{2}$		322, 488
	65	1045.74	14.88 - 110.51	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	35	1047.56	14.85 - 110.31	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	35	1047.86	14.88 - 110.31	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	35	1048.43	14.88 - 110.27	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	35	1049.06	14.85 - 110.18	$3s^2 3p^2 - 3s^2 3p^2(^3P)3d$	$^3D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		599, 375
	35	1053.21	14.88 - 109.83	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	Q	599, 375
	51	1071.04						123
	50	1071.83						123
3	200	1096.57	14.85 - 106.04	$3s^2 3p^2 - 3s 3p^4$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
	220	1098.91						123
3	300	1102.32	14.88 - 105.60	$3s^2 3p^2 - 3s 3p^4$	$^3D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
8	100	1124.39	24.52 - 113.46	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
8	100	1125.00	24.57 - 113.46	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
8	200	1131.05	24.52 - 112.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
8	200	1131.65	24.57 - 112.94	$3s^2 3p^2 - 3s^2 3p^2(^3P)4s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
7	100	1226.70	24.52 - 106.04	$3s^2 3p^2 - 3s 3p^4$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
7	100	1227.45	24.57 - 106.04	$3s^2 3p^2 - 3s 3p^4$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
7	50	1233.36	24.52 - 105.60	$3s^2 3p^2 - 3s 3p^4$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
7	300	1234.14	24.57 - 105.60	$3s^2 3p^2 - 3s 3p^4$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
1	300	1250.50	0.0 - 79.97	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
1	500	1253.79	0.0 - 79.76	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
1	500	1259.53	0.0 - 79.39	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^4P$	$\frac{1}{2} - \frac{1}{2}$		322, 488
	10	1813.						107
	300	1936.71	79.39 - 131.03	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{1}{2}$		285
	300	1950.45	79.76 - 131.03	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{1}{2}$		285
	300	1958.45	79.97 - 131.03	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4S^o$	$\frac{1}{2} - \frac{1}{2}$		285
	400	1970.86	79.39 - 130.13	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		285
	200	1981.64	79.39 - 129.86	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		285
	200	1985.07	79.76 - 130.13	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		285
	200	1998.80	79.76 - 129.79	$3s 3p^4 - 3s^2 3p^2(^3P)4p$	$^4P - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		285

SULFUR III (S^{2+}), $Z = 16$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$ (14 electrons)Ionization Potential $280\,900 \text{ cm}^{-1}$; 34.83 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	484.58	0.30 - 206.67	$3s^2 3p^2 - 3s^2 3p^2(^3P)4d$	$g^4P - ^4D^o$	1 - 2		323
	50	485.22	0.83 - 206.91	$3s^2 3p^2 - 3s^2 3p^2(^3P)4d$	$g^4P - ^4D^o$	2 - 3		323
	300	499.98	11.32 - 211.33	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^4D - ^4P^o$	2 - 1		598
	111	517.39						123
	62	524.56						123
	135	534.70						123
	167	539.83						123
	200	543.03	27.16 - 211.33	$3s^2 3p^2 - 3s^2 3p^2(^3P)5s$	$^4S - ^4P^o$	0 - 1		598
	121	545.99						123
	126	547.28						123
	210	580.17						123
	101	585.03						123
	198	596.53						123
	196	623.57						123
	177	637.99						123

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	217	644.92						123
	244	645.59						123
	271	670.80						123
	268	675.95						123
7	200	677.75	0.0 - 147.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3D^o$	0 - 1		323, 488
7	200	678.46	0.30 - 147.69	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3D^o$	1 - 2		323, 488
7	200	679.11	0.30 - 147.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3D^o$	1 - 1		323, 488
7	200	680.69	0.83 - 147.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3D^o$	2 - 3		323, 488
7	200	680.95	0.83 - 147.69	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3D^o$	2 - 2		323, 488
6	100	681.50	0.0 - 146.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^o P - ^3P^o$	0 - 1		323, 488
6	50	683.07	0.30 - 146.70	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^o P - ^3P^o$	1 - 0		323, 488
6	100	683.47	0.83 - 147.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^o P - ^3P^o$	2 - 2		323, 488
6	50	685.35	0.83 - 146.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^o P - ^3P^o$	2 - 1		323, 488
	167	687.59						123
5	200	698.73	0.0 - 143.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3P^o$	0 - 1		323, 488
5	300	700.15	0.30 - 143.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3P^o$	1 - 2		323, 488
5	300	700.29	0.30 - 143.10	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3P^o$	1 - 0		323, 488
5		702.78	0.83 - 143.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3P^o$	2 - 2		488
5		702.82	0.83 - 143.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^o P - ^3P^o$	2 - 1		488
	193	705.54						123
	387	710.98						123
	197	711.55						123
4	300	724.29	0.0 - 138.06	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3S^o$	0 - 1		323, 488
4	3	725.86	0.30 - 138.06	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3S^o$	1 - 1		323, 488
4	300	726.69	0.83 - 138.06	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3S^o$	2 - 1		323, 488
12	400	729.53	11.32 - 148.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1D - ^1P^o$	2 - 1		598
3	300	730.78	0.0 - 136.84	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^1P^o$	0 - 1		598
3	500	732.38	0.30 - 136.84	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^1P^o$	1 - 1		598
	50	732.98	11.32 - 147.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$^1D - ^3D^o$	2 - 3		598
	50	733.34	11.32 - 147.69	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$^1D - ^3D^o$	2 - 2		598
	100	734.05	11.32 - 147.55	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$^1D - ^3D^o$	2 - 1		598
3	400	735.25	0.83 - 136.84	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^1P^o$	2 - 1		598
11	200	736.25	11.32 - 147.15	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1D - ^3P^o$	2 - 2		598
11	400	738.47	11.32 - 146.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1D - ^3P^o$	2 - 1		598
	228	741.01						123
	232	774.40						123
10	400	788.98	11.32 - 138.06	$3s^2 3p^2 - 3s 3p^2$	$^1D - ^3S^o$	2 - 1		598
9	400	796.69	11.32 - 136.84	$3s^2 3p^2 - 3s 3p^2$	$^1D - ^1P^o$	2 - 1		598
14	400	824.88	27.16 - 148.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1S - ^1P^o$	0 - 1		598
	240	826.97						123
13	400	836.31	27.16 - 146.74	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1S - ^3P^o$	0 - 1		598
	127	842.27						123
	125	846.12						123
	248	894.46						123
	20	911.77	27.16 - 136.84	$3s^2 3p^2 - 3s 3p^2$	$^1S - ^1P^o$	0 - 1		598
	212	978.56						123
	224	979.85						123
	252	982.00						123
	114	986.60						123
	112	1009.03						123
	180	1011.91						123
2	300	1012.49	0.0 - 98.77	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3P^o$	0 - 1		323, 488
2	200	1015.51	0.30 - 98.77	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3P^o$	1 - 1		323, 488
2	100	1015.76	0.30 - 98.74	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3P^o$	1 - 2		323, 488
	253	1016.85						123
2	100	1021.10	0.83 - 98.77	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3P^o$	2 - 1		323, 488
2	200	1021.32	0.83 - 98.74	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3P^o$	2 - 2		323, 488
8	800	1077.13	11.32 - 104.16	$3s^2 3p^2 - 3s 3p^2$	$^1D - ^1D^o$	2 - 2		598
	135	1113.15						123
	110	1117.65						123
	200	1122.42	84.10 - 173.19	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	3 - 2		323
	50	1126.55	84.02 - 172.79	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	1 - 1	P	323
	100	1126.85	84.05 - 172.79	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	2 - 1		323
	95	1136.60						123
	200	1155.41	84.10 - 170.65	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3D$	3 - 3	P	323
	100	1162.52	84.05 - 170.07	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3D$	2 - 2		323
	50	1166.13	84.02 - 169.77	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3D$	1 - 1		323
1	200	1190.17	0.0 - 84.02	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	0 - 1		323, 488
1	400	1194.02	0.30 - 84.05	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	1 - 2		323, 488
1	300	1194.40	0.30 - 84.02	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	1 - 1		323, 488
1	400	1200.97	0.83 - 84.10	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	2 - 3		323, 488
1	200	1201.71	0.83 - 84.05	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	2 - 2		323, 488
1	50	1202.10	0.83 - 84.02	$3s^2 3p^2 - 3s 3p^2$	$g^o P - ^3D^o$	2 - 1		323, 488
	50	1328.12	98.74 - 174.04	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3S$	2 - 1		323
	50	1328.52	98.77 - 174.04	$3s 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3S$	1 - 1		323

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	1343.25	98.74 - 173.19	$3s3p^2 - 3s^23p(^2P^o)4p$	$^2P^o - ^2P$	2 - 2	P	323
	50	1343.61	98.77 - 173.19	$3s3p^2 - 3s^23p(^2P^o)4p$	$^2P^o - ^2P$	1 - 2		323
	10	1351.	98.77 - 172.79	$3s3p^2 - 3s^23p(^2P^o)4p$	$^2P^o - ^2P$	1 - 1		107, 375
	50	1390.67	98.74 - 170.65	$3s3p^2 - 3s^23p(^2P^o)4p$	$^2P^o - ^2D$	2 - 3		323
	20	1683.49	0.83 - 60.23 + B	$3s^23p^2 - 3s3p^2$	$g^2P - ^4S^o$	2 - 2		89

SULFUR IV (S^{+4}), $Z = 16$ Ground State $1s^22s^22p^63s^23p^2P_{1/2}^o$ (13 electrons)Ionization Potential $381\,541.4 \text{ cm}^{-1}$; 47.305 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
5	200	519.30	71.52 + X - 264.08 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$	P	41
	200	520.11	71.19 + X - 263.45 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$		41
	300	520.83	72.07 + X - 264.08 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
	100	521.03	71.52 + X - 263.45 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
	200	521.99	71.52 + X - 263.10 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
	200	522.54	72.07 + X - 263.45 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
	68	527.20						123
	200	551.17	0.0 - 181.44	$3s^2(^1S)3p - 3s^2(^1S)4s$	$g^2P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$		485, 488
	119	564.00						123
	55	565.81						123
	270	568.21						123
	88	571.92						123
	97	576.65						123
	105	585.62						123
	106	587.48						123
	25	589.60						123
	104	599.41						123
	322	611.07						123
	370	611.72						123
	164	614.06						123
	151	625.70						123
	226	628.03						123
8	300	652.52	71.19 + X - 224.43 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{1}{2} - \frac{3}{2}$	P	41
8	300	653.00	71.19 + X - 224.33 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{1}{2} - \frac{3}{2}$		41
8	400	653.56	71.52 + X - 224.53 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
8	300	653.98	71.52 + X - 224.43 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
8	100	654.42	71.52 + X - 224.33 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
8	400	655.55	72.07 + X - 224.61 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
8	200	655.89	72.07 + X - 224.53 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
8	100	656.30	72.07 + X - 224.43 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2D^o$	$\frac{3}{2} - \frac{3}{2}$		41
4	500	657.34	0.0 - 152.13	$3s^2(^1S)3p - 3s^2(^1S)3d$	$g^2P^o - ^2D$	$\frac{1}{2} - \frac{3}{2}$		485, 488
7	300	660.94	71.19 + X - 222.48 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2P^o$	$\frac{1}{2} - \frac{3}{2}$		41
4	600	661.42	0.95 - 152.14	$3s^2(^1S)3p - 3s^2(^1S)3d$	$g^2P^o - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	485, 498
7	300	663.70	71.52 + X - 222.19 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
7	300	664.82	72.07 + X - 222.48 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
7	400	666.11	72.07 + X - 222.19 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^2P - ^2P^o$	$\frac{3}{2} - \frac{3}{2}$		41
	171	672.70						123
		675.5						750
	186	688.89						123
	103	692.25						123
	182	708.78						123
	119	720.85						123
	207	725.00						123
3	160	744.907	0.0 - 134.24	$3s^2(^1S)3p - 3s3p^2$	$g^2P^o - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	726
3	220	748.400	0.0 - 133.62	$3s^2(^1S)3p - 3s3p^2$	$g^2P^o - ^2P$	$\frac{1}{2} - \frac{3}{2}$		726
	141	749.24						123
3	285	750.225	0.95 - 134.24	$3s^2(^1S)3p - 3s3p^2$	$g^2P^o - ^2P$	$\frac{3}{2} - \frac{3}{2}$		726
3	160	753.764	0.95 - 133.62	$3s^2(^1S)3p - 3s3p^2$	$g^2P^o - ^2P$	$\frac{3}{2} - \frac{3}{2}$		726
	233	758.35						123
	141	759.34						123
	255	760.62						123
	213	791.62						123
	217	797.17						123
6	300	798.28	71.19 + X - 196.45 + X	$3s3p^2 - 3p^2$	$^2P - ^2S^o$	$\frac{1}{2} - \frac{3}{2}$	P	41
6	400	800.47	71.52 + X - 196.45 + X	$3s3p^2 - 3p^2$	$^2P - ^2S^o$	$\frac{3}{2} - \frac{3}{2}$		41

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
6	400	803.99	72.07 + X - 196.45 + X	$3s3p^2 - 3p^2$	$^1P - ^4S$	$\frac{1}{2} - \frac{3}{2}$		41
2	160	809.668	0.0 - 123.51	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		726
2	220	815.952	0.95 - 123.51	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4S$	$\frac{3}{2} - \frac{1}{2}$		726
	400	836.34	94.15 - 213.72	$3s3p^2 - 3s^2(^1S)4p$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		38
	400	837.48	94.10 - 213.51	$3s3p^2 - 3s^2(^1S)4p$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		38
	300	852.76	94.10 - 211.37	$3s3p^2 - 3p^2$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		38
	300	853.10	94.15 - 211.37	$3s3p^2 - 3p^2$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		38
	191	879.73						123
	204	887.90						123
	292	890.68						123
	91	893.41						123
	286	897.81						123
	212	924.08						123
	100	928.06						123
	104	930.16						123
1	360	1062.671	0.0 - 94.10	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		726
1	450	1072.990	0.95 - 94.15	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		726
1	70	1073.520	0.95 - 94.10	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$		726
	10	1088.83	94.15 - 185.99	$3s3p^2 - 3p^2$	$^3D - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	90, 107
	177	1099.53						123
	107	1108.01						123
	200	1108.48	123.51 - 213.72	$3s3p^2 - 3s^2(^1S)4p$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		485, 375
	200	1111.08	123.51 - 213.51	$3s3p^2 - 3s^2(^1S)4p$	$^3S - ^3P$	$\frac{3}{2} - \frac{1}{2}$		485, 375
	166	1122.13						123
	116	1128.68						123
	100	1138.12	123.51 - 211.37	$3s3p^2 - 3p^2$	$^3S - ^3P$	$\frac{1}{2} - \frac{3}{2}$		38
	107	1172.58						123
	88	1222.18						123
	100	1286.17	133.62 - 211.37	$3s3p^2 - 3p^2$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		38
	200	1296.61	134.24 - 211.37	$3s3p^2 - 3p^2$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		38
		1398.13	0.0 - 71.52 + X	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		375
	70	1404.77	0.0 - 71.19 + X	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		213
	30	1406.06	0.95 - 72.07 + X	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		442, 213
	10	1416.93	0.95 - 71.52 + X	$3s^2(^1S)3p - 3s3p^2$	$g^3P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		442, 213
	0	1423.89	0.95 - 71.19 + X	$3s^2(^1S)3p - 3s3p^2$	$^3P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		442
	50	1623.62	152.13 - 213.72	$3s^2(^1S)3d - 3s^2(^1S)4p$	$^3D - ^3P$	$\frac{3}{2} - \frac{3}{2}$		485
	200	1624.00	152.14 - 213.72	$3s^2(^1S)3d - 3s^2(^1S)4p$	$^3D - ^3P$	$\frac{1}{2} - \frac{3}{2}$		485
	200	1629.20	152.13 - 213.51	$3s^2(^1S)3d - 3s^2(^1S)4p$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		485
	50	1688.	152.13 - 211.37	$3s^2(^1S)3d - 3p^2$	$^3D - ^3P$	$\frac{3}{2} - \frac{1}{2}$		107, 375
	150	1696.69	196.45 + X - 255.39	$3p^2 - 3s^2(^1S)4d$	$^3S - ^3D$	$\frac{3}{2} - \frac{1}{2}$		89, 375
	50	1739.03	213.51 - 271.01	$3s^2(^1S)4p - 3s^2(^1S)5s$	$^3P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		485
	100	1745.42	213.72 - 271.01	$3s^2(^1S)4p - 3s^2(^1S)5s$	$^3P - ^3S$	$\frac{3}{2} - \frac{1}{2}$		485
	10	1908.	133.62 - 186.03	$3s3p^2 - 3p^2$	$^3P - ^3D$	$\frac{1}{2} - \frac{3}{2}$		90, 107
	1932.	134.24 - 185.99	$3s3p^2 - 3p^2$	$^3P - ^3D$	$^3P - ^3D$	$\frac{3}{2} - \frac{1}{2}$		90

SU: UP. V (S^{++}), Z = 16Ground State $1s^2s^22p^63s^2^1S_0$ (12 electrons)Ionization Potential [586 200] cm^{-1} ; [72.68] eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
4	100	437.48	82.67 + E - 311.25 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P - ^3S$	0 - 1	P	41
4	100	438.19	83.04 + E - 311.25 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P - ^3S$	1 - 1		41
4	100	439.65	83.80 + E - 311.25 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P - ^3S$	2 - 1		41
	165	577.55						123
3	300	658.26	82.67 + E - 234.59 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P - ^3D$	0 - 1		41
3	400	659.85	83.04 + E - 234.59 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P - ^3D$	1 - 2		41
3	500	663.16	83.80 + E - 234.59 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P - ^3D$	2 - 3		41
	424	674.41						123
	100	676.21	199.60 + E - 347.49 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	0 - 1		41
	100	677.34	200.02 + E - 347.65 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	1 - 2		41
	200	678.08	200.02 + E - 347.49 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	1 - 1		41
	300	680.33	200.79 + E - 347.77 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	2 - 3		41
	500	680.94	200.79 + E - 347.65 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	2 - 2		41
	300	681.68	200.79 + E - 347.49 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3D$	2 - 1		41
	100	686.15	199.60 + E - 345.75 + E	$3p^2 - 3p(^3P)3d$	$^3P - ^3P$	0 - 1		41

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	100	686.93	200.02 + E - 345.59 + E	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 0		41
	50	688.04	200.02 + E - 345.35 + E	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 1		41
	100	689.84	200.07 + E - 344.98 + E	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	1 - 2		41
	100	691.74	200.79 + E - 345.35 + E	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	2 - 1		41
	200	693.52	200.79 + E - 344.98 + E	$3p^2 - 3p(^3P^o)3d$	$^3P - ^3P^o$	2 - 2		41
	315	696.612	127.15 - 270.70	$3s(^3S)3p - 3s(^3S)3d$	$^1P^o - ^1D$	1 - 2		220, 123
	277	716.83						123
		742.2						750
	800	786.48	0.0 - 127.15	$3s^2 - 3s(^3S)3p$	$g^1S - ^1P^o$	0 - 1		41
	110	790.36						123
	164	828.46						123
	600	849.24	83.04 + E - 200.79 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	1 - 2		41
	2	500	82.67 + E - 200.02 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	0 - 1		41
	2	700	83.80 + E - 200.79 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	2 - 2		41
	2	500	83.04 + E - 199.60 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	1 - 0		41
	2	500	83.80 + E - 200.02 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	2 - 1		41
		873.0						750
	200	883.59	234.59 + E - 347.77 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3D^o$	3 - 3		41
	200	884.46	234.59 + E - 347.65 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3D^o$	2 - 2		41
	100	885.77	234.59 + E - 347.49 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3D^o$	1 - 1		41
2	89	888.93						123
	200	900.93	234.59 + E - 345.59 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3P^o$	1 - 0		41
	100	902.80	234.59 + E - 345.35 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3P^o$	2 - 1		41
	200	905.92	234.59 + E - 344.98 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3P^o$	3 - 2		41
	10	1053.						107
		1122.0	234.59 + E - 323.72 + E	$3s(^3S)3d - 3p(^3P^o)3d$	$^3D - ^3F^o$	3 - 4		750
	64	1133.93						123
	18	1199.18						442
	4	1204.30	0.0 - 83.04 + E	$3s^2 - 3s(^3S)3p$	$g^1S - ^1P^o$	0 - 1		856
		1501.799	127.15 - 193.74	$3s(^3S)3p - 3p^2$	$^1P^o - ^1D$	1 - 2		220

SULFUR VI (S^{+}), $Z = 16$ Ground State $1s^2 2s^2 2p^6 3s^2 S_{1/2}$ (11 electrons)Ionization Potential $710\,195 \text{ cm}^{-1}$; 88.054 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	20	171.33	0.0 - 583.68	$2p^6 3s - 2p^6 6p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		598
	20	191.48	0.0 - 522.25	$2p^6 3s - 2p^6 5p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		598
	50	191.56	0.0 - 522.03	$2p^6 3s - 2p^6 5p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		598
	20	192.27	107.14 - 627.23	$2p^6 3p - 2p^6 7d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		598
	50	204.19	107.14 - 596.88	$2p^6 3p - 2p^6 6d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		598
	20	214.28	107.14 - 573.82	$2p^6 3p - 2p^6 6s$	$^3P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		598
	200	227.20	105.87 - 546.02	$2p^6 3p - 2p^6 5d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		598
	200	227.84	107.14 - 546.03	$2p^6 3p - 2p^6 5d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		598
	400	248.99	0.0 - 401.62	$2p^6 3s - 2p^6 4p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		598
	400	249.27	0.0 - 401.16	$2p^6 3s - 2p^6 4p$	$g^4S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		598
3	200	251.91	107.14 - 504.11	$2p^6 3p - 2p^6 5s$	$^3P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		598
	50	261.81	247.45 - 629.40	$2p^6 3d - 2p^6 7f$	$^1D - ^3F^o$	$\frac{5}{2} - \frac{7}{2}$		598
	300	283.50	247.45 - 600.17	$2p^6 3d - 2p^6 6f$	$^1D - ^3F^o$	$\frac{5}{2} - \frac{7}{2}$		598
	200	289.09	105.87 - 451.79	$2p^6 3p - 2p^6 4d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		598
	300	290.13	107.14 - 451.81	$2p^6 3p - 2p^6 4d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		598
	600	328.51	247.45 - 551.85	$2p^6 3d - 2p^6 5f$	$^1D - ^3F^o$	$\frac{5}{2} - \frac{7}{2}$		598
	600	388.94	105.87 - 362.98	$2p^6 3p - 2p^6 4s$	$^3P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		598
	800	390.86	107.14 - 362.98	$2p^6 3p - 2p^6 4s$	$^3P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$		598
	1000	464.68	247.45 - 462.65	$2p^6 3d - 2p^6 4f$	$^1D - ^3F^o$	$\frac{5}{2} - \frac{7}{2}$		598
	10	627.9	362.98 - 522.25	$2p^6 4s - 2p^6 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		750, 107
4	100	648.63	247.45 - 401.62	$2p^6 3d - 2p^6 4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		598
	100	650.43	247.42 - 401.16	$2p^6 3d - 2p^6 4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		598
		672.2						750
		692.5	401.62 - 546.03	$2p^6 4p - 2p^6 5d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		750
	600	706.48	105.87 - 247.42	$2p^6 3p - 2p^6 3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		598
	400	712.58	107.14 - 247.45	$2p^6 3p - 2p^6 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		598
	300	712.84	107.14 - 247.42	$2p^6 3p - 2p^6 3d$	$^3P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		598
		725.8	462.65 - 600.43	$2p^6 4f - 2p^6 6g$	$^3F^o - ^1G$	$\frac{7}{2} - \frac{9}{2}$		750
	140	742.16						123
	176	803.20						123

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
I I	126	805.15						123
	400	933.38	0.0 - 107.14	$2p^4 3s - 2p^4 3p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		598
	500	944.52	0.0 - 105.87	$2p^4 3s - 2p^4 3p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		598
		999.6	451.81 - 551.85	$2p^4 4d - 2p^4 5f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{5}{2}$	P	750
	100	1117.91	462.65 - 552.11	$2p^4 4f - 2p^4 5g$	$^4 F^o - ^4 G$	$\frac{1}{2} - \frac{5}{2}$		52, 107
		1286.8	551.85 - 629.56	$2p^4 5f - 2p^4 7g$	$^4 F^o - ^4 G$	$\frac{1}{2} - \frac{5}{2}$	P	90
		1289.3	552.11 - 629.67	$2p^4 5g - 2p^4 7h$	$^4 G - ^4 H^o$	$\frac{3}{2} - \frac{11}{2}$	P	90
	100	1336.1	522.03 - 596.88	$2p^4 5p - 2p^4 6d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$	P	107
	10	1847.1	546.03 - 600.17	$2p^4 5d - 2p^4 6f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{5}{2}$	P	107
	10	1930.8	522.03 - 573.82	$2p^4 5p - 2p^4 6s$	$^4 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$	P	107
	50	1992.5	401.62 - 451.81	$2p^4 4p - 2p^4 4d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$	P	107

SULFUR VII (S^{6+}), $Z = 16$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential $2\ 265\ 900 \text{ cm}^{-1}$; 280.94 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	46.212	0.0 - 2163.94	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)7d$	$g^4 S - \frac{1}{2}[\frac{7}{2}]^o$	0 - 1		233
	50	47.098	0.0 - 2123.23	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)6d$	$g^4 S - \frac{1}{2}[\frac{5}{2}]^o$	0 - 1		233
	50	47.307	0.0 - 2113.85	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)6d$	$g^4 S - \frac{3}{2}[\frac{5}{2}]^o$	0 - 1		233
	150	48.647	0.0 - 2055.63	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)5d$	$g^4 S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		233
	100	48.874	0.0 - 2046.08	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)5d$	$g^4 S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		233
	120	49.990	0.0 - 2000.4	$2s^2 2p^4 - 2s^2 2p^3(^4S)3p$	$g^4 S - ^4 P^o$	0 - 1	Q	233, 375
	70	50.027	0.0 - 1998.92	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)5s$	$g^4 S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		233
	350	51.807	0.0 - 1930.24	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)4d$	$g^4 S - \frac{1}{2}[\frac{5}{2}]^o$	0 - 1		233
	200	52.097	0.0 - 1919.5	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)4d$	$g^4 S - \frac{3}{2}[\frac{5}{2}]^o$	0 - 1		233
	100	54.652	0.0 - 1829.76	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)4s$	$g^4 S - \frac{1}{2}[\frac{1}{2}]^o$	0 - 1		233
	100	54.938	0.0 - 1820.23	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)4s$	$g^4 S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		233
	1000	60.161	0.0 - 1662.21	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)3d$	$g^4 S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		233
	750	60.804	0.0 - 1644.63	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)3d$	$g^4 S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		233
	200	61.547	0.0 - 1624.77	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)3d$	$g^4 S - \frac{5}{2}[\frac{3}{2}]^o$	0 - 1		233
	1000	72.029	0.0 - 1388.33	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)3s$	$g^4 S - \frac{1}{2}[\frac{1}{2}]^o$	0 - 1		233
	1000	72.663	0.0 - 1376.22	$2s^2 2p^4 - 2s^2 2p^3(^4P^o)3s$	$g^4 S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		233
		769.8						750
		781.3						750
		887.7						750
		924.2						750

SULFUR VIII (S^{7+}), $Z = 16$ Ground State $1s^2 2s^2 2p^3 \ ^4P_{3/2}^o$ (9 electrons)Ionization Potential $2\ 647\ 400 \text{ cm}^{-1}$; 328.24 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	20	44.350	0.0 - 2254.79	$2s^2 2p^4 - 2s^2 2p^3(^4D)4d$	$g^4 P^o - ^4 F$	$\frac{3}{2} - \frac{5}{2}$		233
	100	44.374	0.0 - 2253.57	$2s^2 2p^4 - 2s^2 2p^3(^4D)4d$	$g^4 P^o - ^4 S$	$\frac{3}{2} - \frac{1}{2}$		233
	50	44.547	10.11 - 2253.57	$2s^2 2p^4 - 2s^2 2p^3(^4D)4d$	$g^4 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$	Q	233, 375
	50	45.279	0.0 - 2208.53	$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		233
	50	45.290	0.0 - 2207.77	$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{3}{2}$		233
	20	45.370	0.0 - 2204.1	$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		233
	20	45.456	0.0 - 2199.83	$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{3}{2}$		233
	20	45.508	10.11 - 2207.77	$2s^2 2p^4 - 2s^2 2p^3(^4P)4d$	$g^4 P^o - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		233
	10	47.566	0.0 - 2102.34	$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^4 P^o - ^4 P$	$\frac{3}{2} - \frac{3}{2}$		233
	10	47.594	10.11 - 2111.24	$2s^2 2p^4 - 2s^2 2p^3(^4P)4s$	$g^4 P^o - ^4 P$	$\frac{1}{2} - \frac{1}{2}$		233

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	47.793	10.11 - 2102.34	$2s^2 2p^4 - 2s^2 2p^4(^3P)4s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		233
	100	51.227	0.0 - 1952.1	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	70	51.470	10.11 - 1953.01	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
	20	52.681	0.0 - 1898.22	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	20	52.702	0.0 - 1897.46	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	300	52.756	0.0 - 1895.52	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	300	52.789	0.0 - 1894.33	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	100	52.854	0.0 - 1892.	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	350	52.958	0.0 - 1888.46	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		233
	70	52.985	10.11 - 1897.46	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	50	53.073	10.11 - 1894.33	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	30	53.239	10.11 - 1888.46	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^3P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$		233
	500	54.118	0.0 - 1847.81	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	100	54.266	0.0 - 1842.77	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	20	54.370	0.0 - 1839.25	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	100	54.385	0.0 - 1838.74	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	150	54.424	10.11 - 1847.55	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	20	54.501	0.0 - 1834.83	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	50	54.566	10.11 - 1842.77	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
	50	54.604	0.0 - 1831.37	$2s^2 2p^4 - 2s^2 2p^4(^3P)3d$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	70	59.236	0.0 - 1688.17	$2s^2 2p^4 - 2s^2 2p^4(^1S)3s$	$g^3P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		233
	20	59.593	10.11 - 1688.17	$2s^2 2p^4 - 2s^2 2p^4(^1S)3s$	$g^3P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$		233
	500	61.600	0.0 - 1623.38	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^3P^o - ^1D$	$\frac{3}{2} - \frac{5}{2}$		233
	250	61.978	10.11 - 1623.61	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^3P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		233
	50	63.026	0.0 - 1586.65	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	500	63.304	0.0 - 1579.7	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	100	63.431	10.11 - 1586.65	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	50	63.711	10.11 - 1579.7	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	250	63.886	0.0 - 1565.25	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	50	64.120	0.0 - 1559.58	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{3}{2} - \frac{5}{2}$		233
	100	64.137	10.11 - 1569.29	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	20	64.305	10.11 - 1565.25	$2s^2 2p^4 - 2s^2 2p^4(^3P)3s$	$g^3P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$		233
	20	64.874	503.65 - 2045.04	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		233
	50	65.149	503.65 - 2038.53	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		233
	50	198.550	0.0 - 503.65	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P^o - ^1S$	$\frac{3}{2} - \frac{5}{2}$		598
	50	202.605	10.11 - 503.65	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P^o - ^1S$	$\frac{1}{2} - \frac{3}{2}$		598

SULFUR IX (S^{+}), $Z = 16$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 3 057 700 cm^{-1} ; 379.11 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	150	39.383	0.0 - 2539.2	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)4d$	$g^3P - ^3P^o$	2 - 2		853
	200	39.516	0.0 - 2530.6	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)4d$	$g^3P - ^3D^o$	2 - 3		853
	250	46.373	0.0 - 2156.43	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3D^o$	2 - 3		853
	150	46.413	0.0 - 2154.6	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3D^o$	2 - 2		853
	20	46.514	7.97 - 2158.9	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3D^o$	1 - 1		947
	150	46.549	10.63 - 2158.9	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3D^o$	0 - 1		853
	250	46.585	0.0 - 2146.61	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3P^o$	2 - 2		853
	150	46.624	0.0 - 2144.82	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3P^o$	2 - 1		853
	50	46.713	0.0 - 2142.3	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3F^o$	2 - 2	Q	233, 375
	50	46.760	7.97 - 2146.61	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3P^o$	1 - 2		853
	100	46.799	7.97 - 2144.82	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3P^o$	1 - 1		853
	100	46.843	7.97 - 2142.8	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$g^3P - ^3P^o$	1 - 0		853
	50	46.906	58.29 + E - 2190.2 + F	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$^1D - ^3P^o$	2 - 1		853
	250	47.047	0.0 - 2125.31	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3S^o$	2 - 1		853
	200	47.188	0.0 - 2119.18	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3P^o$	2 - 1		853
	300	47.249	0.0 - 2116.45	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3P^o$	2 - 2		853
	50	47.360	7.97 - 2119.4	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3P^o$	1 - 0		853
	450	47.433	0.0 - 2108.19	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3D^o$	2 - 3		853
	250	47.518	58.29 + E - 2162.8 + E	$2s^2 2p^4 - 2s^2 2p^4(^3P^o)3d$	$^1D - ^3D^o$	2 - 2		853
	200	47.616	7.97 - 2108.1	$2s^2 2p^4 - 2s^2 2p^4(^3D^o)3d$	$g^3P - ^3D^o$	1 - 2		853

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	47.740	10.63 - 2105.3	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3d$	$g^4P - ^3D^\circ$	0 - 1		853
	400	48.160	58.29 + E - 2134.7 + E	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3d$	$^1D - ^1F^\circ$	2 - 3		853
	40	48.291						947
	200	48.367	122.68 + E - 2190.2 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^\circ) 3d$	$^1S - ^1P^\circ$	0 - 1		853
	250	48.564	58.29 + E - 2117.4 + E	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3d$	$^1D - ^1D^\circ$	2 - 2		853
	100	48.766	58.29 + E - 2108.9 + E	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3d$	$^1D - ^1P^\circ$	2 - 1		853
	300	49.119	0.0 - 2035.87	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3d$	$g^3P - ^3D^\circ$	2 - 3		853
	250	49.328	7.97 - 2035.22	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3d$	$g^3P - ^3D^\circ$	1 - 2		853
	150	49.390	10.63 - 2035.3	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3d$	$g^3P - ^3D^\circ$	0 - 1		853
	300	52.859	0.0 - 1891.8	$2s^2 2p^4 - 2s^2 2p^3(^3P^\circ) 3s$	$g^3P - ^3P^\circ$	2 - 2		853
	450	54.175	0.0 - 1845.77	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3s$	$g^3P - ^3D^\circ$	2 - 3		853
	200	54.431	7.97 - 1846.34	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3s$	$g^3P - ^3D^\circ$	1 - 2		853
	50	54.516	10.63 - 1844.95	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3s$	$g^3P - ^3D^\circ$	0 - 1		853
	250	55.540	58.29 + E - 1858.79 + E	$2s^2 2p^4 - 2s^2 2p^3(^4D^\circ) 3s$	$^1D - ^1D^\circ$	2 - 2		853
	200	56.081	0.0 - 1783.15	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3s$	$g^3P - ^3S^\circ$	2 - 1		853
	150	56.125	122.68 + E - 1904.42 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^\circ) 3s$	$^1S - ^1P^\circ$	0 - 1		853
	150	56.332	7.97 - 1783.15	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3s$	$g^3P - ^3S^\circ$	1 - 1		853
	50	56.418	10.63 - 1783.15	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3s$	$g^3P - ^3S^\circ$	0 - 1		853
		56.89	0.0 - 1757.80	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3s$	$g^3P - ^3S^\circ$	2 - 2	P	680
		57.15	7.97 - 1757.80	$2s^2 2p^4 - 2s^2 2p^3(^4S^\circ) 3s$	$g^3P - ^3S^\circ$	1 - 2	P	680
	450	179.27	58.29 + E - 616.11 + E	$2s^2 2p^4 - 2s 2p^4$	$^1D - ^1P^\circ$	2 - 1	P	160, 372
	250	202.66	122.68 + E - 616.11 + E	$2s^2 2p^4 - 2s 2p^4$	$^1S - ^1P^\circ$	0 - 1	P	160, 372
	100	221.27	0.0 - 451.93	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	2 - 1	P	160, 372
	100	223.28	7.97 - 455.83	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	1 - 0	P	160, 372
	450	224.77	0.0 - 444.90	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	2 - 2	P	160, 372
	50	225.25	7.97 - 451.93	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	1 - 1	P	160, 372
	100	226.60	10.63 - 451.93	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	0 - 1	P	160, 372
	100	228.87	7.97 - 444.90	$2s^2 2p^4 - 2s 2p^4$	$g^3P - ^3P^\circ$	1 - 2	P	160, 372
		236.34	616.11 + E - 1039.13 + E	$2s 2p^4 - 2p^4$	$^1P^\circ - ^1S$	1 - 0		868
		815.14	0.0 - 122.68 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1S$	2 - 0	F, P	375
		871.79	7.97 - 122.68 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1S$	1 - 0	F, P	375
		1553.18	58.29 + E - 122.68 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1S$	2 - 0	F, P	375
2		1715.45	0.0 - 58.29 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1D$	2 - 2	F	940
		1987.12	7.97 - 58.29 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^3P - ^1D$	1 - 2	F, P	375

SULFUR X (S⁺), Z = 16Ground State 1s²2s²2p³ ⁴S_{3/2} (7 electrons)Ionization Potential 3 606 100 cm⁻¹; 447.10 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	34.31	0.0 - 2914.6	$2s^2 2p^3 - 2s^2 2p^2(^3P)4d$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	50	41.357	0.0 - 2417.97	$2s^2 2p^3 - 2s2p^3(^3S^\circ)3p$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	250	42.485	0.0 - 2353.8	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		852
	350	42.495	0.0 - 2353.2	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	500	42.543	0.0 - 2350.6	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	50	42.698	83.59 + E - 2425.59 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
		42.937	83.59 + E - 2412.88 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		680
	600	43.002	83.59 + E - 2409.03 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^\circ - ^4F$	$\frac{3}{2} - \frac{1}{2}$		852
	100	43.782	128.81 + E - 2412.88 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^3P^\circ - ^3D$	$\frac{3}{2} - \frac{3}{2}$		852
	50	43.854	126.98 + E - 2407.28 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^3P^\circ - ^3D$	$\frac{1}{2} - \frac{3}{2}$		852
		43.984						680
	350	44.094	83.59 + E - 2351.44 + E	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^\circ - ^4F$	$\frac{3}{2} - \frac{1}{2}$		852
	150	44.237	82.44 + E - 2342.98 + E	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^1D^\circ - ^4F$	$\frac{3}{2} - \frac{3}{2}$		852
	500	44.367	126.98 + E - 2380.92 + E	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^3P^\circ - ^3D$	$\frac{1}{2} - \frac{3}{2}$		852
	500	44.406	128.81 + E - 2380.79 + E	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^3P^\circ - ^3D$	$\frac{3}{2} - \frac{3}{2}$		852
	10	45.406	128.81 + E - 2331.19 + E	$2s^2 2p^3 - 2s^2 2p^2(^3P)3d$	$^3P^\circ - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	500	45.997	378.45 - 2552.50	$2s2p^4 - 2s2p^3(^3S^\circ)3d$	$^3P - ^4D^\circ$	$\frac{3}{2} - \frac{1}{2}$		852
	350	46.298	385.32 - 2545.24	$2s2p^4 - 2s2p^3(^3S^\circ)3d$	$^3P - ^4D^\circ$	$\frac{3}{2} - \frac{3}{2}$		852
	100	46.430	388.87 - 2542.65	$2s2p^4 - 2s2p^3(^3S^\circ)3d$	$^3P - ^4D^\circ$	$\frac{1}{2} - \frac{3}{2}$		852
		47.190	126.98 + E - 2246.10 + E	$2s^2 2p^3 - 2s^2 2p^2(^1S)3s$	$^3P^\circ - ^1S$	$\frac{1}{2} - \frac{1}{2}$		680
		47.229	128.81 + E - 2246.10 + E	$2s^2 2p^3 - 2s^2 2p^2(^1S)3s$	$^3P^\circ - ^1S$	$\frac{3}{2} - \frac{1}{2}$		680
	500	47.655	0.0 - 2098.46	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	350	47.791	0.0 - 2092.36	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	47.905	0.0 - 2087.46	$2s^2 2p^3 - 2s^2 2p^2(^3P)3s$	$g^4S^\circ - ^4P$	$\frac{3}{2} - \frac{1}{2}$		852
		48.116	82.44 + E - 2160.75 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3s$	$^1D^\circ - ^4D$	$\frac{3}{2} - \frac{3}{2}$		680

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	48.157		83.59 + E - 2160.10 + E	$2s^2 2p^2 - 2s^2 2p^2(^1D)3s$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Q	852
	49.102		83.59 + E - 2120.12 + E	$2s^2 2p^2 - 2s^2 2p^2(^3P)3s$	$^1D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		853
	49.166		126.98 + E - 2160.75 + E	$2s^2 2p^2 - 2s^2 2p^2(^1D)3s$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		680
	49.211		128.81 + E - 2160.75 + E	$2s^2 2p^2 - 2s^2 2p^2(^1D)3s$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		853
	49.255		128.81 + E - 2160.10 + E	$2s^2 2p^2 - 2s^2 2p^2(^1D)3s$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		853
50	50.166		126.98 + E - 2120.12 + E	$2s^2 2p^2 - 2s^2 2p^2(^3P)3s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	853
	50.219		128.81 + E - 2120.12 + E	$2s^2 2p^2 - 2s^2 2p^2(^3P)3s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		852
10	50.332		126.98 + E - 2113.80 + E	$2s^2 2p^2 - 2s^2 2p^2(^3P)3s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		852
	50.397		128.81 + E - 2113.80 + E	$2s^2 2p^2 - 2s^2 2p^2(^3P)3s$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		853
250	177.55		82.44 + E - 645.66 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
150	180.36		82.44 + E - 636.86 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	161, 249
350	180.72		83.59 + E - 636.86 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
150	189.99		82.44 + E - 608.84 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		561
50	192.80		126.98 + E - 645.66 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		249
150	193.49		128.81 + E - 645.66 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
100	196.14		126.98 + E - 636.86 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	249
200	196.83		128.81 + E - 636.86 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
200	207.53		126.98 + E - 608.84 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		161, 249
200	208.33		128.81 + E - 608.84 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		161, 249
	212.60		520.82 + E - 991.19 + E	$2s 2p^2 - 2p^2$	$^1D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		248
40	228.167		82.44 + E - 520.69 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	P	856
350	228.70		83.59 + E - 520.82 + E	$2s^2 2p^2 - 2s 2p^2$	$^1D^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		161, 249
	254.00		126.98 + E - 520.69 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		161
20	255.08		128.81 + E - 520.82 + E	$2s^2 2p^2 - 2s 2p^2$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		161, 372
100	257.16		0.0 - 388.87	$2s^2 2p^2 - 2s 2p^2$	$g^4S^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
150	259.52		0.0 - 385.32	$2s^2 2p^2 - 2s 2p^2$	$g^4S^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	161, 249
200	264.24		0.0 - 378.45	$2s^2 2p^2 - 2s 2p^2$	$g^4S^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		161, 249
	521.1		2120.12 + E - 2312.04 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	538.7		2113.80 + E - 2299.44 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	558.9		2120.12 + E - 2299.04 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	645.4		2092.36 - 2247.3	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$	P	680
	658.2		2160.10 + E - 2312.04 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	661.0		2160.75 + E - 2312.04 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	671.5		2098.46 - 2247.3	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^3S^o$	$\frac{1}{2} - \frac{1}{2}$		680
	673.2		2232.24 + E - 2380.79 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		680
	681.3		2234.14 + E - 2380.92 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	P	680
	687.8		2160.75 + E - 2306.14 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	719.7		2160.10 + E - 2299.04 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	721.0		2160.75 + E - 2299.44 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	759.9		2264.64 + E - 2396.24 + E	$2s^2 2p^2(^1D)3p - 2s^2 2p^2(^1D)3d$	$^3F^o - ^3G$	$\frac{1}{2} - \frac{1}{2}$		680
	761.0		2205.4 - 2336.8	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	P	680
	766.3		2266.74 + E - 2397.24 + E	$2s^2 2p^2(^1D)3p - 2s^2 2p^2(^1D)3d$	$^3F^o - ^3G$	$\frac{1}{2} - \frac{1}{2}$		680
	769.2		2209.4 - 2339.4	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		680
	776.33		0.0 - 128.81 + E	$2s^2 2p^2 - 2s^2 2p^2$	$g^4S^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		375
	778.2		2222.94 + E - 2351.44 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		680
	778.8		2193.1 - 2321.5	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	680
	779.8		2214.74 + E - 2342.98 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		680
	783.7		2197.2 - 2324.8	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$		680
	787.51		0.0 - 126.98 + E	$2s^2 2p^2 - 2s^2 2p^2$	$g^4S^o - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		375
	790.5		2366.94 + E - 2493.44 + E	$2s^2 2p^2(^3S)3p - 2s^2 2p^2(^3S)3d$	$^3P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		680
	791.1		2202.9 - 2329.3	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D^o - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	680
	833.3		2246.94 + E - 2366.94 + E	$2s^2 2p^2(^3S)3s - 2s^2 2p^2(^3S)3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	835.4		2246.94 + E - 2366.64 + E	$2s^2 2p^2(^3S)3s - 2s^2 2p^2(^3S)3p$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	901.4		2098.46 - 2209.4	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	903.0		2092.36 - 2203.1	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		680
	937.7		2160.10 + E - 2266.74 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^3F^o$	$\frac{1}{2} - \frac{1}{2}$	P	680
	953.8		2092.36 - 2197.2	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	957.5		2098.46 - 2202.9	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	992.7		2092.36 - 2193.1	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
	1012.8		2098.46 - 2197.2	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^3P - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		680
1	1196.26		0.0 - 83.59 + E	$2s^2 2p^2 - 2s^2 2p^2$	$g^4S^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$	F	940
3	1213.00		0.0 - 82.44 + E	$2s^2 2p^2 - 2s^2 2p^2$	$g^4S^o - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		940

SULFUR XI (S^{10+}), $Z = 16$ Ground State $1s^2 2s^2 2p^2 \ ^3P_0$ (6 electrons)Ionization Potential 4 071 400 cm^{-1} ; 504.79 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	31.04		12.38 - 3233.98	$2s^2 2p^2 - 2s^2 2p^4 d$	$g^3 P - ^3 D^0$	2 - 3		852
10	37.773		12.38 - 2659.77	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3p$	$g^3 P - ^3 D^0$	2 - 3		852
100	38.996		185.38 + K - 2749.75 + K	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3d$	$^3 S^0 - ^3 P$	2 - 2		852
	39.225		0.0 - 2562.1	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	0 - 1	P	949
100	39.049		185.38 + K - 2746.26 + K	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3d$	$^3 S^0 - ^3 P$	2 - 3		852
	39.089		5.19 - 2563.5	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	1 - 0	P	949
100	39.11		5.19 - 2562.1	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	1 - 1		852
	39.131		5.19 - 2560.8	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	1 - 2	P	949
	39.214		12.38 - 2562.1	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	2 - 1	P	949
150	39.24		12.38 - 2560.8	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 P^0$	2 - 2		852
500	39.300		5.19 - 2549.72	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 D^0$	1 - 2		852
800	39.323		12.38 - 2555.42	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 D^0$	2 - 3		852
	39.336		5.19 - 2547.12	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 D^0$	1 - 1	P	949
	39.408		12.38 - 2549.72	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 D^0$	2 - 2	P	949
	39.555		5.19 - 2532.25 + E	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 D^0$	1 - 2		949
50	39.572		355.32 - 2882.36	$2s^2 2p^2 - 2s^2 2p^4 (^3D) 3d$	$^3 D^0 - ^3 F$	3 - 4		852
800	39.648		67.13 + E - 2589.33 + E	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 D^0 - ^3 F$	2 - 3		852
	39.728		12.38 - 2529.50	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 F$	2 - 3	P	949
	39.782		12.38 - 2526.08	$2s^2 2p^2 - 2s^2 2p^4 3d$	$g^3 P - ^3 F$	2 - 2	P	949
	40.103		67.13 + E - 2560.8	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 D^0 - ^3 P^0$	2 - 2	P	949
	40.277		67.13 + E - 2549.72	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 D^0 - ^3 D^0$	2 - 2	P	949
100	40.566		67.13 + E - 2532.25 + E	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 D^0 - ^3 D^0$	2 - 2		852
	40.580		67.13 + E - 2529.50	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 D^0 - ^3 F$	2 - 3	P	949
50	40.707		132.96 + E - 2589.51 + E	$2s^2 2p^2 - 2s^2 2p^4 3d$	$^3 S^0 - ^3 P^0$	0 - 1		852
50	41.386		355.32 - 2771.6	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3d$	$^3 D^0 - ^3 F$	3 - 4		852
10	41.474		355.04 - 2766.19	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3d$	$^3 D^0 - ^3 F$	2 - 3		852
10	41.543		355.36 - 2762.5	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3d$	$^3 D^0 - ^3 F$	1 - 2		852
10	42.751		185.38 + K - 2524.5 + K	$2s^2 2p^2 - 2s^2 2p^4 (^3P) 3s$	$^3 S^0 - ^3 P$	2 - 3		852
150	43.123		12.38 - 2331.32	$2s^2 2p^2 - 2s^2 2p^4 3s$	$g^3 P - ^3 P^0$	2 - 2		852
100	43.900		67.13 + E - 2345.03 + E	$2s^2 2p^2 - 2s^2 2p^4 3s$	$^3 D^0 - ^3 P^0$	2 - 1		852
300	54.108		811.69 - 2659.77	$2p^2 - 2s^2 2p^4 (^3P) 3p$	$^3 P - ^3 D^0$	2 - 3	Q	853, 375
200	186.85		0.0 - 535.2	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S^0$	0 - 1		561
225	188.68		5.19 - 535.2	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S^0$	1 - 1		561
250	190.37		67.13 + E - 592.48 + E	$2s^2 2p^2 - 2s^2 2p^4$	$^3 D^0 - ^3 P^0$	2 - 1		561
250	191.26		12.38 - 535.2	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S^0$	2 - 1		561
125	213.55		355.36 - 823.61	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 P$	1 - 0		561
125	214.85		355.04 - 820.5	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 P$	2 - 1		561
100	214.98		355.36 - 820.5	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 P$	1 - 1		561
250	215.95		67.13 + E - 530.22 + E	$2s^2 2p^2 - 2s^2 2p^4$	$^3 D^0 - ^3 D^0$	2 - 2		561
200	217.63		132.96 + E - 592.48 + E	$2s^2 2p^2 - 2s^2 2p^4$	$^3 S^0 - ^3 P^0$	0 - 1		561
125	218.99		355.04 - 811.69	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 P$	2 - 2		561
200	219.13		355.32 - 811.69	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 P$	3 - 2		561
150	239.81		0.0 - 416.99	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 P^0$	0 - 1		561
125	242.57		5.19 - 417.42	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 P^0$	1 - 2		561
175	242.82		5.19 - 416.99	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 P^0$	1 - 1		561
75	245.94		416.99 - 823.61	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 P$	1 - 0		561
200	246.90		12.38 - 417.42	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 P^0$	2 - 2		561
250	247.12		12.38 - 416.99	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 P^0$	2 - 1		561
75	247.83		416.99 - 820.5	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 P$	1 - 1		561
75	248.09		417.42 - 820.5	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 P$	2 - 1		561
25	252.93		592.48 + E - 987.84 + E	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 S$	1 - 0		561
50	253.36		416.99 - 811.69	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 P$	1 - 2		561
150	253.62		417.42 - 811.69	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 P$	2 - 2		561
175	281.40		0.0 - 355.36	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D^0$	0 - 1		561
250	285.58		5.19 - 355.36	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D^0$	1 - 1		561
200	285.83		5.19 - 355.04	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D^0$	1 - 2		561
200	291.59		12.38 - 355.32	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D^0$	2 - 3		561
0	291.83		12.38 - 355.04	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D^0$	2 - 2		561
200	295.63		530.22 + E - 868.49 + E	$2s^2 2p^2 - 2p^4$	$^3 D^0 - ^3 D$	2 - 2		561
0	350.50		535.2 - 820.5	$2s^2 2p^2 - 2p^4$	$^3 S^0 - ^3 P$	1 - 1		561
0	362.34		592.48 + E - 868.49 + E	$2s^2 2p^2 - 2p^4$	$^3 P^0 - ^3 D$	1 - 2		561
	555.0		5.19 - 185.38 + K	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S^0$	1 - 2	P	680
	578.0		12.38 - 185.38 + K	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S^0$	2 - 2	P	680
	782.68		5.19 - 132.96 + E	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S$	1 - 0	F, P	375
	829.32		12.38 - 132.96 + E	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 S$	2 - 0	F, P	375
	1489.65		0.0 - 67.13 + E	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D$	0 - 2	F, P	375
	1519.16		67.13 + E - 132.96 + E	$2s^2 2p^2 - 2s^2 2p^4$	$^3 D^0 - ^3 S$	2 - 0	F, P	375
0	1614.47		5.19 - 67.13 + E	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D$	1 - 2	F	940, 442
3	1826.32		12.38 - 67.13 + E	$2s^2 2p^2 - 2s^2 2p^4$	$g^3 P - ^3 D$	2 - 2	F, P	940, 442

SULFUR XII (S^{11+}), $Z = 16$ Ground State $1s^2 2s^2 2p^3 P_{1/2}^o$ (5 electrons)Ionization Potential 4 554 300 cm^{-1} ; 564.67 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.490						839
		5.18	13.1 - 19310.	$1s^2 2s^2 2p - 1s 2s^2 2p^2$	$g^2 P^o - ^2 P$	$\frac{3}{2} - \frac{3}{2}$	Z	839
10	25.65	13.1 - 3911.8		$2s^2 2p - 2s^2 5d$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
10	26.89	13.1 - 3732.		$2s^2 2p - 2s 2p(^1 P^o) 4p$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
10	27.89	346.99 - 3932.5		$2s 2p^2 - 2s 2p(^1 P^o) 4d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
50	28.18	205.63 + S - 3754.23 + S		$2s 2p^2 - 2s 2p(^1 P^o) 4d$	$^1 P - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		852
50	28.22	0.0 - 3543.6		$2s^2 2p - 2s^2 4d$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
100	28.33	13.1 - 3542.9		$2s^2 2p - 2s^2 4d$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
100	29.20	346.99 - 3771.6		$2s 2p^2 - 2s 2p(^1 P^o) 4d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
50	29.24	346.68 - 3766.7		$2s 2p^2 - 2s 2p(^1 P^o) 4d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
50	32.926	13.1 - 3050.25		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
10	34.132	0.0 - 2929.8		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 S$	$\frac{3}{2} - \frac{3}{2}$		852
50	34.533	0.0 - 2895.78		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
100	34.586	13.1 - 2904.56		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
50	35.203	0.0 - 2840.67		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		852
50	35.275	13.1 - 2848.		$2s^2 2p - 2s 2p(^1 P^o) 3p$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		852
100	35.955	346.99 - 3128.24		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
50	36.124	198.87 + S - 2967.11 + S		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 P - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		852
100	36.253	205.63 + S - 2964.02 + S		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 P - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		852
350	36.335	205.63 + S - 2957.8 + S		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 P - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		852
500	36.398	0.0 - 2747.4		$2s^2 2p - 2s^2 3d$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
800	36.563	13.1 - 2748.13		$2s^2 2p - 2s^2 3d$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		852
	37.24	13.13 - 2698.1		$2s^2 2p - 2s^2 3p$	$g^2 P^o - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
10	37.463	471.39 - 3140.69		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 P - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		852
350	37.603	346.99 - 3006.35		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
250	37.714	346.68 - 2998.22		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 D - ^1 F^o$	$\frac{3}{2} - \frac{3}{2}$		852
100	38.32	346.99 - 2956.29		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 D - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		852
10	38.824	439.56 - 3015.29		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 S - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		852
10	38.882	439.56 - 3011.44		$2s 2p^2 - 2s 2p(^1 P^o) 3d$	$^1 S - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		852
20	212.127	0.0 - 471.39		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		856
30	215.165	0.0 - 464.71		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		856
30	218.193	13.1 - 471.39		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		856
30	221.429	13.1 - 464.71		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 P$	$\frac{3}{2} - \frac{3}{2}$		856
30	227.482	0.0 - 439.56		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 S$	$\frac{3}{2} - \frac{3}{2}$		856
75	234.48	13.1 - 439.56		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 S$	$\frac{3}{2} - \frac{3}{2}$		561
175	240.26	194.07 + S - 610.29 + S		$2s 2p^2 - 2p^2$	$^1 P - ^1 S^o$	$\frac{3}{2} - \frac{3}{2}$		561
200	243.06	198.87 + S - 610.29 + S		$2s 2p^2 - 2p^2$	$^1 P - ^1 S^o$	$\frac{3}{2} - \frac{3}{2}$		561
250	247.12	205.63 + S - 610.29 + S		$2s 2p^2 - 2p^2$	$^1 P - ^1 S^o$	$\frac{3}{2} - \frac{3}{2}$		561
20	288.45	0.0 - 346.68		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		561, 856
175	299.50	13.1 - 346.99		$2s^2 2p - 2s 2p^2$	$g^2 P^o - ^1 D$	$\frac{3}{2} - \frac{3}{2}$		561
	323.18	471.39 - 780.81		$2s 2p^2 - 2p^2$	$^1 P - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		250
	328.39	464.71 - 769.23		$2s 2p^2 - 2p^2$	$^1 P - ^1 P^o$	$\frac{3}{2} - \frac{3}{2}$		250
	444.16	464.71 - 689.85		$2s 2p^2 - 2p^2$	$^1 P - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		250
	456.55	471.39 - 690.42		$2s 2p^2 - 2p^2$	$^1 P - ^1 D^o$	$\frac{3}{2} - \frac{3}{2}$		250

SULFUR XIII (S^{12+}), $Z = 16$ Ground State $1s^2 2s^2 ^1 S_0$ (4 electrons)Ionization Potential 5 255 900 cm^{-1} ; 651.65 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.454	0.0 - 22452.	$1s^2 2s^2 - 1s 2s^2 3p$	$g^1 S - ^1 P^o$	0 - 1	Z	839
		5.137	0.0 - 19467.	$1s^2 2s^2 - 1s 2s^2 2p$	$g^1 S - ^1 P^o$	0 - 1	Z	839
10	23.24	213.22 + X - 4514.32 + X		$2s 2p - 2s 5d$	$^1 P^o - ^1 D$	2 - 3		852
250	23.70	536.94 + X - 4756.35 + X		$2p^2 - 2p 5d$	$^1 P^o - ^1 D^o$	2 - 3		249
10	24.59	0.0 - 4066.7		$2s^2 - 2s 4p$	$g^1 S - ^1 P^o$	0 - 1		852
10	25.76	203.48 + X - 4085.42 + X		$2s 2p - 2s 4d$	$^1 P^o - ^1 D$	1 - 2		852
50	25.83	213.22 + X - 4085.42 + X		$2s 2p - 2s 4d$	$^1 P^o - ^1 D$	2 - 3		852
10	26.35	536.94 + X - 4332.02 + X		$2p^2 - 2p 4d$	$^1 P^o - ^1 D^o$	2 - 3		852
	30.08	0.0 - 3324.79		$2s^2 - 2p 3s$	$g^1 S - ^1 P^o$	0 - 1		374
50	31.649	213.22 + X - 3372.82 + X		$2s 2p - 2p 3p$	$^1 P^o - ^1 P$	2 - 2		280

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	31.72	203.48 + X - 3355.02 + X	203.48 + X - 3355.02 + X	2s2p - 2p3p	$^2P^\circ - ^2S$	1 - 1		852
0	31.829	213.22 + X - 3355.02 + X	213.22 + X - 3355.02 + X	2s2p - 2p3p	$^2P^\circ - ^2S$	2 - 1		280
50	31.934	213.22 + X - 3344.64 + X	213.22 + X - 3344.64 + X	2s2p - 2p3p	$^2P^\circ - ^2D$	2 - 3		280
100	32.191	0.0 - 3106.46	0.0 - 3106.46	2s ² - 2s3p	$g^4S - ^2P^\circ$	0 - 1		852
100	32.276	0.0 - 3102.15	0.0 - 3102.15	2s ² - 2s3p	$g^4S - ^2P^\circ$	0 - 1		280
100	33.252	389.66 - 3396.96	389.66 - 3396.96	2s2p - 2p3p	$^2P^\circ - ^2D$	1 - 2		280
50	33.796	199.26 + X - 3158.10 + X	199.26 + X - 3158.10 + X	2s2p - 2s3d	$^2P^\circ - ^2D$	0 - 1		280
100	33.843	203.48 + X - 3158.28 + X	203.48 + X - 3158.28 + X	2s2p - 2s3d	$^2P^\circ - ^2D$	1 - 2		280
150	33.945	213.22 + X - 3159.22 + X	213.22 + X - 3159.22 + X	2s2p - 2s3d	$^2P^\circ - ^2D$	2 - 3		280
0	34.118	389.66 - 3320.63	389.66 - 3320.63	2s2p - 2p3p	$^2P^\circ - ^2P$	1 - 1		280
0	34.633	523.30 + X - 3410.72 + X	523.30 + X - 3410.72 + X	2p ² - 2p3d	$^2P^\circ - ^2D^\circ$	0 - 1		280
100	34.678	528.84 + X - 3412.54 + X	528.84 + X - 3412.54 + X	2p ² - 2p3d	$^2P^\circ - ^2D^\circ$	1 - 2		280
150	34.712	536.94 + X - 3417.74 + X	536.94 + X - 3417.74 + X	2p ² - 2p3d	$^2P^\circ - ^2D^\circ$	2 - 3		280
0	34.771	589.49 - 3465.39	589.49 - 3465.39	2p ² - 2p3d	$^2D^\circ - ^2P^\circ$	2 - 1		280
150	34.854	589.49 - 3458.49	589.49 - 3458.49	2p ² - 2p3d	$^2D^\circ - ^2F^\circ$	2 - 3		280
10	35.614	203.48 + X - 3011.62 + X	203.48 + X - 3011.62 + X	2s2p - 2s3s	$^2P^\circ - ^2S$	1 - 1		852
100	35.665	389.66 - 3193.56	389.66 - 3193.56	2s2p - 2s3d	$^2P^\circ - ^2D$	1 - 2		280
50	35.751	589.49 - 3386.59	589.49 - 3386.59	2p ² - 2p3d	$^2D^\circ - ^2D^\circ$	2 - 2		280
150	36.393	528.84 + X - 3276.74 + X	528.84 + X - 3276.74 + X	2p ² - 2p3s	$^2P^\circ - ^2P^\circ$	1 - 2		280
0	36.499	536.94 + X - 3276.74 + X	536.94 + X - 3276.74 + X	2p ² - 2p3s	$^2P^\circ - ^2P^\circ$	2 - 2		280
150	36.559	589.49 - 3324.79	589.49 - 3324.79	2p ² - 2p3s	$^2D^\circ - ^2P^\circ$	2 - 1		280
0	36.642	536.94 + X - 3266.04 + X	536.94 + X - 3266.04 + X	2p ² - 2p3s	$^2P^\circ - ^2P^\circ$	2 - 1		280
150	37.600	389.66 - 3049.26	389.66 - 3049.26	2s2p - 2s3s	$^2P^\circ - ^2S$	1 - 0		280
	39.8	589.49 - 3102.15	589.49 - 3102.15	2p ² - 2s3p	$^2D^\circ - ^2P^\circ$	2 - 1	P	374
250	256.66	0.0 - 389.66	0.0 - 389.66	2s ² - 2s2p	$g^4S - ^2P^\circ$	0 - 1		561
75	299.85	203.48 + X - 536.94 + X	203.48 + X - 536.94 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	1 - 2		561
50	303.37	199.20 + X - 528.84 + X	199.20 + X - 528.84 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	0 - 1		561
50	307.36	203.48 + X - 528.84 + X	203.48 + X - 528.84 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	1 - 1		561
125	308.91	213.22 + X - 536.94 + X	213.22 + X - 536.94 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	2 - 2		561
25	312.68	203.48 + X - 523.30 + X	203.48 + X - 523.30 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	1 - 0		561
50	316.84	213.22 + X - 528.84 + X	213.22 + X - 528.84 + X	2s2p - 2p ²	$^2P^\circ - ^2P$	2 - 1		561
	491.44	0.0 - 203.48 + X	0.0 - 203.48 + X	2s ² - 2s2p	$g^4S - ^2P^\circ$	0 - 1		443
	500.42	389.66 - 589.49	389.66 - 589.49	2s2p - 2p ²	$^2P^\circ - ^2D$	1 - 2		250
	518.05	3193.56 - 3386.59	3193.56 - 3386.59	2s3d - 2p3d	$^2D^\circ - ^2D^\circ$	2 - 2	P	374

SULFUR XIV (S^{14+}), Z = 16Ground State $1s^2 2s^2 \ ^2S_{1/2}$ (3 electrons)Ionization Potential 5 703 600 cm^{-1} ; 707.16 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.1924	239.46 - 24092.2	$1s^2 2p - 1s2p4p$	$^1P^\circ - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	624
		4.3705	239.46 - 23120.1	$1s^2 2p - 1s2p(^1P^\circ)3p$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		4.3765	0.0 - 22849.3	$1s^2 2s - 1s2s3p$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{3}{2}$	Z	624
		4.3822	239.46 - 23059.0	$1s^2 2p - 1s2p(^3P^\circ)3p$	$^1P^\circ - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		4.386	224.33 - 23023.2	$1s^2 2p - 1s2p(^1P^\circ)3p$	$^1P^\circ - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	283
		4.3891	239.46 - 23023.2	$1s^2 2p - 1s2p(^3P^\circ)3p$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		4.395	224.33 - 22960.0	$1s^2 2p - 1s2p(^3P^\circ)3p$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	283
		4.4013	239.46 - 22960.0	$1s^2 2p - 1s2p(^3P^\circ)3p$	$^1P^\circ - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.0415	3287. - 23122.4	$1s^2 3p - 1s2p(^1P^\circ)3p$	$^1P^\circ - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		5.0468	3287. - 23101.5	$1s^2 3p - 1s2p(^1P^\circ)3p$	$^1P^\circ - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
		5.0565	3282.64 - 23059.0	$1s^2 3p - 1s2p(^3P^\circ)3p$	$^1P^\circ - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		5.0607	239.46 - 19998.6	$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1S$	$\frac{3}{2} - \frac{1}{2}$	Z	643
		5.0648	0.0 - 19743.3	$1s^2 2s - 1s(2s2p(^1P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{3}{2}$	Z	643
		5.066	0.0 - 19743.3	$1s^2 2s - 1s(2s2p(^1P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{3}{2}$	P, Z	283
		5.067	0.0 - 19739.4	$1s^2 2s - 1s(2s2p(^1P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
7	5.0861	0.0 - 19669.6		$1s^2 2s - 1s(2s2p(^3P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{3}{2}$	Z	643, 809
	5.087	0.0 - 19661.8		$1s^2 2s - 1s(2s2p(^3P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
	5.0903	239.46 - 19882.0		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Z	643
	5.0964	224.33 - 19840.0		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	643
	5.1010	239.46 - 19840.0		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	643
	5.122	0.0 - 19523.6		$1s^2 2s - 1s(2s2p(^3P^\circ))$	$g^4S - ^1P^\circ$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
	5.127	224.33 - 19732.7		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
1	5.128	239.46 - 19740.2		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629, 809
	5.130	239.46 - 19732.7		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
1	5.132	239.46 - 19725.0		$1s^2 2p - 1s2p^2$	$^1P^\circ - ^1P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629, 809

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		21.72	224.33 - 4828.4	$1s^2 2p - 1s^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		280
50		21.79	239.46 - 4828.8	$1s^2 2p - 1s^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		249
150		23.04	0.0 - 4341.8	$1s^2 2s - 1s^2 4p$	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		249
100		24.26	239.46 - 4361.5	$1s^2 2p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		249
150		24.43	239.46 - 4332.8	$1s^2 2p - 1s^2 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		249
100		30.423	0.0 - 3287.	$1s^2 2s - 1s^2 3p$	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		280, 852
50		30.463	0.0 - 3282.64	$1s^2 2s - 1s^2 3p$	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		280, 852
250		32.430	224.33 - 3307.84	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		280, 852
800		32.554	239.46 - 3311.07	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		280, 852
10		33.259	224.33 - 3231.10	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		852
50		33.426	239.46 - 3231.10	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		852
300		417.61	0.0 - 239.46	$1s^2 2s - 1s^2 2p$	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$	P	730
300		445.77	0.0 - 224.33	$1s^2 2s - 1s^2 2p$	$g^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$	P	730

SULFUR XV (S^{1+}), $Z = 16$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential $26\,002\,430 \text{ cm}^{-1}$; 3323.92 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		3.949	0.0 - 25322.9	$1s^2 - 1s6p$	$g^1S - ^1P^o$	0 - 1		643
		3.998	0.0 - 25014.92	$1s^2 - 1s5p$	$g^1S - ^1P^o$	0 - 1		643
		4.0883	0.0 - 24459.76	$1s^2 - 1s4p$	$g^1S - ^1P^o$	0 - 1	P	643
		4.2990	0.0 - 23261.17	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1	P	643, 856
		4.3045	0.0 - 23231.48	$1s^2 - 1s3p$	$g^1S - ^1P^o$	0 - 1	P	644
3		5.0385	0.0 - 19847.25	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1	P	643, 856
1		5.0662	0.0 - 19738.53	$1s^2 - 1s2p$	$g^1S - ^1P^o$	0 - 1	P	643, 856
2		5.101	0.0 - 19603.07	$1s^2 - 1s2s$	$g^1S - ^1S$	0 - 1	F, P	375, 856
		27.53	19603.07 - 23235.34	$1s2s - 1s3p$	$^2S - ^2P^o$	1 - 2	P	375
		28.45	19746.39 - 23261.37	$1s2s - 1s3p$	$^1S - ^1P^o$	0 - 1	P	375
		48.58	23259.50 + R - 25317.96 + R	$1s3d - 1s6f$	$^1D - ^1F^o$	3 - 4	P	87
		48.61	23261.80 + K - 25318.99 + K	$1s3d - 1s6f$	$^1D - ^1F^o$	2 - 3	P	87
		56.92	23259.50 + R - 25016.35 + R	$1s3d - 1s5f$	$^1D - ^1F^o$	3 - 4	P	87
		56.96	23261.80 + K - 25017.42 + K	$1s3d - 1s5f$	$^1D - ^1F^o$	2 - 3	P	87
		79.68	23194.10 - 24449.12	$1s3s - 1s4p$	$^2S - ^2P^o$	1 - 2	P	375
		81.44	23231.94 - 24459.76	$1s3s - 1s4p$	$^1S - ^1P^o$	0 - 1	P	375
		83.25	23259.50 + R - 24460.70 + R	$1s3d - 1s4f$	$^1D - ^1F^o$	3 - 4	P	87
		83.33	23261.80 + K - 24461.80 + K	$1s3d - 1s4f$	$^1D - ^1F^o$	2 - 3	P	87
		673.85	19603.07 - 19751.47	$1s2s - 1s2p$	$^2S - ^2P^o$	1 - 2	P	375
		991.47	19746.39 - 19847.25	$1s2s - 1s2p$	$^1S - ^1P^o$	0 - 1	P	375

SULFUR XVI (S^{1+}), $Z = 16$ Ground State $1s \ ^2S_{1/2}$ (1 electron)Ionization Potential $28\,182\,460 \text{ cm}^{-1}$; 3494.21 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		3.584	0.0 - 27901.53	$1s - 10p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
		3.593	0.0 - 27835.63	$1s - 9p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
		3.604	0.0 - 27743.50	$1s - 8p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
		3.622	0.0 - 27609.11	$1s - 7p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
		3.649	0.0 - 27402.05	$1s - 6p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
		3.696	0.0 - 27057.70	$1s - 5p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
10		3.784	0.0 - 26424.82	$1s - 4p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
20		3.991	0.0 - 25057.55	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
10		3.992	0.0 - 25050.38	$1s - 3p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
65		4.727	0.0 - 21153.43	$1s - 2p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 856

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
35	4.733		0.0 - 21129.24	1s - 2p	$^2S - ^2P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 856
	14.768		21130.10 - 27901.53	2s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	14.819		21153.43 - 27901.53	2p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	14.913		21130.10 - 27835.63	2s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	14.965		21153.43 - 27835.63	2p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	15.121		21130.10 - 27743.50	2s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	15.174		21153.43 - 27743.50	2p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	15.434		21130.10 - 27609.11	2s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	15.490		21153.43 - 27609.11	2p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	15.944		21130.10 - 27402.05	2s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	16.004		21153.43 - 27402.05	2p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	16.870		21130.10 - 27057.70	2s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	16.935		21153.43 - 27058.21	2p - 5d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	18.887		21130.10 - 26424.82	2s - 4p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	18.967		21153.43 - 26425.82	2p - 4d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	25.462		21130.10 - 25057.55	2s - 3p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	25.598		21153.43 - 25059.92	2p - 3d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	35.077		25050.64 - 27901.53	3s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	35.162		25057.55 - 27901.53	3p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	35.191		25059.92 - 27901.53	3d - 10f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	35.907		25050.64 - 27835.63	3s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	35.996		25057.55 - 27835.63	3p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	36.027		25059.92 - 27835.63	3d - 9f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	37.135		25050.64 - 27743.50	3s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	37.231		25057.55 - 27743.50	3p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	37.264		25059.92 - 27743.50	3d - 8f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	39.086		25050.64 - 27609.11	3s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	39.192		25057.55 - 27609.11	3p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	39.228		25059.92 - 27609.11	3d - 7f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	42.528		25050.64 - 27402.05	3s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	42.653		25057.55 - 27402.05	3p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	42.696		25059.92 - 27402.05	3d - 6f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	49.824		25050.64 - 27057.70	3s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	49.984		25057.55 - 27058.21	3p - 5d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	50.036		25059.92 - 27058.46	3d - 5f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	67.585		26421.91 - 27901.53	4s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	67.718		26424.82 - 27901.53	4p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	67.764		26425.82 - 27901.53	4d - 10f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	70.735		26421.91 - 27835.63	4s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	70.882		26424.82 - 27835.63	4p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	70.932		26425.82 - 27835.63	4d - 9f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	72.770		25050.64 - 26424.82	3s - 4p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	73.085		25057.55 - 26425.82	3p - 4d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	73.185		25059.92 - 26426.32	3d - 4f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	75.667		26421.91 - 27743.50	4s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	75.834		26424.82 - 27743.50	4p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	75.891		26425.82 - 27743.50	4d - 8f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	84.232		26421.91 - 27609.11	4s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	84.439		26424.82 - 27609.11	4p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	84.510		26425.82 - 27609.11	4d - 7f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	102.027		26421.91 - 27402.05	4s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	102.331		26424.82 - 27402.05	4p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	102.436		26425.82 - 27402.05	4d - 6f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	118.298		27056.21 - 27901.53	5s - 10p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	118.507		27057.70 - 27901.53	5p - 10d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	118.579		27058.21 - 27901.53	5d - 10f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	128.300		27056.21 - 27835.63	5s - 9p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	128.546		27057.70 - 27835.63	5p - 9d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	128.631		27058.21 - 27835.63	5d - 9f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	145.499		27056.21 - 27743.50	5s - 8p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	145.816		27057.70 - 27743.50	5p - 8d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	145.924		27058.21 - 27743.50	5d - 8f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	157.285		26421.91 - 27057.70	4s - 5p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	157.882		26424.82 - 27058.21	4p - 5d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	158.067		26425.82 - 27058.46	4d - 5f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	180.864		27056.21 - 27609.11	5s - 7p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	181.353		27057.70 - 27609.11	5p - 7d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	181.521		27058.21 - 27609.11	5d - 7f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309
	289.151		27056.21 - 27402.05	5s - 6p	$^2S - ^2P$	$\frac{1}{2} - \frac{3}{2}$	P	309
	290.404		27057.70 - 27402.05	5p - 6d	$^2P - ^2D$	$\frac{3}{2} - \frac{3}{2}$	P	309
	290.835		27058.21 - 27402.05	5d - 6f	$^2D - ^2F$	$\frac{3}{2} - \frac{1}{2}$	P	309

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	200	34.31						250
	200	34.66						250
	40	35.33						250
	1	39.559						179
	10	47.990						179

CHLORINE I (Cl^{*+}), Z = 17Ground State $1s^2 2s^2 2p^6 3s^2 3p^4 \ ^3P_{3/2}$ (17 electrons)Ionization Potential $104\,591.0 \text{ cm}^{-1}$; 12.968 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	969.917	0.0 - 103.10	$3s^2 3p^4 - 3s^2 3p^4(^1D)5s$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		611
	1	976.452	0.0 - 102.41	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)8s$	$g^3P^o - 0[0]$	$\frac{3}{2} - \frac{1}{2}$		611
	13	978.2844	0.88 - 103.10	$3s^2 3p^4 - 3s^2 3p^4(^1D)5s$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		611
	1	979.963	0.0 - 102.05	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)7d$	$g^3P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	980.5061	0.0 - 101.99	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)6d$	$g^3P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	980.9191	0.0 - 101.95	$3s^2 3p^4 - 3s^2 3p^4(^1D)3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		611
	2	981.879	0.0 - 101.85	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	2	982.285	0.0 - 101.80	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	7	984.2864	0.0 - 101.60	$3s^2 3p^4 - 3s^2 3p^4(^1S)4s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		611
	8	984.3230	0.0 - 101.59	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[1]$	$\frac{3}{2} - \frac{1}{2}$		611
	2	984.939	0.88 - 102.41	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)8s$	$g^3P^o - 0[0]$	$\frac{1}{2} - \frac{1}{2}$		611
	1	987.599	0.88 - 102.14	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)8s$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{1}{2}$		611
	2	987.885	0.88 - 102.11	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)8s$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{3}{2}$		611
	1	987.916	0.0 - 101.22	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	2	988.410	0.0 - 101.17	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	5	988.9436	0.88 - 102.00	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)6d$	$g^3P^o - 0[2]$	$\frac{1}{2} - \frac{3}{2}$		611
	2	989.484	0.88 - 101.95	$3s^2 3p^4 - 3s^2 3p^4(^1D)3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		611
	4	989.6543	0.0 - 101.05	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	1	989.713	0.0 - 101.04	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)7s$	$g^3P^o - 0[0]$	$\frac{3}{2} - \frac{1}{2}$		611
	5	990.4591	0.88 - 101.85	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[2]$	$\frac{1}{2} - \frac{3}{2}$		611
	2	990.629	0.0 - 100.95	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[1]$	$\frac{3}{2} - \frac{1}{2}$		611
	2	991.640	0.88 - 101.73	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{3}{2}$		611
	1	992.679	0.0 - 100.74	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)7s$	$g^3P^o - 1[1]$	$\frac{3}{2} - \frac{1}{2}$		611
	8	992.9098	0.88 - 101.60	$3s^2 3p^4 - 3s^2 3p^4(^1S)4s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		611
	5	992.9470	0.88 - 101.59	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6d$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{1}{2}$		611
	2	993.007	0.0 - 100.70	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)7s$	$g^3P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	994.1414	0.0 - 100.59	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)5d$	$g^3P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	994.9965	0.0 - 100.50	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	996.5402	0.0 - 100.35	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	996.5591	0.88 - 101.23	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[0]$	$\frac{1}{2} - \frac{1}{2}$		611
	4	997.1064	0.88 - 101.17	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[1]$	$\frac{1}{2} - \frac{3}{2}$		611
	4	997.5099	0.0 - 100.25	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	997.5375	0.0 - 100.25	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	2	998.294	0.0 - 100.17	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	9	998.3723	0.88 - 101.05	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[2]$	$\frac{1}{2} - \frac{3}{2}$		611
	9	998.4319	0.88 - 101.04	$3s^2 3p^4 - 3s^2 3p^4(^3P_0)7s$	$g^3P^o - 0[0]$	$\frac{1}{2} - \frac{1}{2}$		611
	8	999.3638	0.88 - 100.95	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6d$	$g^3P^o - 2[1]$	$\frac{1}{2} - \frac{1}{2}$		611
	5	999.4929	0.0 - 100.05	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)7s$	$g^3P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	2	1000.113	0.0 - 99.99	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)7s$	$g^3P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	2	1000.278	0.0 - 99.97	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[1]$	$\frac{3}{2} - \frac{1}{2}$		611
	3	1001.4491	0.88 - 100.74	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)7s$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{1}{2}$		611
	20	1002.3464	0.0 - 99.77	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	1002.8952	0.0 - 99.71	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 2[0]$	$\frac{3}{2} - \frac{1}{2}$		611
	2	1003.191	0.0 - 99.68	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	5	1003.8093	0.88 - 100.50	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 0[2]$	$\frac{1}{2} - \frac{3}{2}$		611
	8	1004.6776	0.0 - 99.53	$3s^2 3p^4 - 3s^2 3p^4(^1D)3d$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		611
	1	1005.956	0.0 - 99.41	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 2[1]$	$\frac{3}{2} - \frac{1}{2}$		611
	3	1006.3957	0.88 - 100.25	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[2]$	$\frac{1}{2} - \frac{3}{2}$		611
	1	1006.495	0.0 - 99.35	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^3P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	8	1007.1647	0.88 - 100.17	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^3P^o - 1[1]$	$\frac{1}{2} - \frac{3}{2}$		611

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	3	1007.3626	0.0 - 99.27	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	5	1008.3859	0.88 - 100.05	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)7s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	1009.1857	0.88 - 99.97	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	10	1011.8492	0.88 - 99.71	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5d$	$g^4P^o - 2[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	6	1012.1505	0.88 - 99.68	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^4P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1013.6635	0.88 - 99.53	$3s^2 3p^4 - 3s^2 3p^4(^1D)3d$	$g^4P^o - ^4S$	$\frac{1}{2} - \frac{1}{2}$		611
	6	1015.5139	0.88 - 99.35	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5d$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	1016.3558	0.0 - 98.39	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6s$	$g^4P^o - 0[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	1019.3644	0.0 - 98.10	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	9	1019.9400	0.0 - 98.04	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	1022.0478	0.0 - 97.84	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1022.4143	0.0 - 97.81	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	7	1025.2821	0.0 - 97.53	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	22	1025.5528	0.88 - 98.39	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6s$	$g^4P^o - 0[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	8	1025.8444	0.0 - 97.48	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	10	1027.1785	0.0 - 97.35	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1027.3386	0.0 - 97.34	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	6	1028.1739	0.0 - 97.26	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	8	1028.4075	0.0 - 97.24	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1028.6162	0.88 - 98.10	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	3	1029.2023	0.88 - 98.04	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)6s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	7	1029.3432	0.0 - 97.15	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	10	1030.8845	0.0 - 97.00	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	20	1031.3486	0.88 - 97.84	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 0[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1031.5070	0.0 - 96.95	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[3]$	$\frac{3}{2} - \frac{3}{2}$		611
	6	1031.6704	0.0 - 96.93	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1035.2148	0.88 - 97.48	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)6s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	5	1036.5734	0.88 - 97.35	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	27	1037.5871	0.88 - 97.26	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	25	1038.7779	0.88 - 97.15	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1040.3475	0.88 - 97.00	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1041.1480	0.88 - 96.93	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	1041.7148	0.0 - 96.00	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	8	1042.7793	0.0 - 95.90	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	7	1043.9857	0.0 - 95.79	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	9	1051.3787	0.88 - 96.00	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)4d$	$g^4P^o - 2[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	4	1052.4631	0.88 - 95.90	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)4d$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1079.8821	0.0 - 92.60	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5s$	$g^4P^o - 0[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1084.6671	0.0 - 92.19	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1085.1709	0.0 - 92.15	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	45	1085.3035	0.0 - 92.14	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	60	1088.062	0.0 - 91.91	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		611
	55	1090.2706	0.88 - 92.60	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5s$	$g^4P^o - 0[0]$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1090.7386	0.0 - 91.68	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	45	1090.9815	0.0 - 91.66	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1092.1287	0.0 - 91.56	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	45	1092.4366	0.0 - 91.54	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	60	1094.7686	0.0 - 91.34	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	55	1095.1483	0.88 - 92.19	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	55	1095.6619	0.88 - 92.15	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	60	1095.7971	0.88 - 92.14	$3s^2 3p^4 - 3s^2 3p^4(^3P_1)5s$	$g^4P^o - 1[1]$	$\frac{3}{2} - \frac{3}{2}$		611
	45	1096.8098	0.0 - 91.17	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1097.3692	0.0 - 91.13	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1098.0682	0.0 - 91.07	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1099.5230	0.0 - 90.95	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1101.3381	0.88 - 91.68	$3s^2 3p^4 - 3s^2 3p^4(^3P_2)5s$	$g^4P^o - 2[2]$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1101.9362	0.0 - 90.75	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		611
	40	1102.755	0.88 - 91.56	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1103.069	0.88 - 91.54	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	70	1107.5282	0.88 - 91.17	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	15	1108.8173	0.88 - 91.07	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	60	1110.7448	0.88 - 90.95	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4F$	$\frac{3}{2} - \frac{3}{2}$		611
	45	1137.8528	0.0 - 88.27	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1173.9341	0.0 - 88.19	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1135.3310	0.0 - 88.08	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	60	1144.2909	0.88 - 88.27	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1145.3941	0.88 - 88.19	$3s^2 3p^4 - 3s^2 3p^4(^3P)3d$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	100	1167.1479	0.0 - 85.68	$3s^2 3p^4 - 3s^2 3p^4$	$g^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		611
	30	1179.2927	0.88 - 85.68	$3s^2 3p^4 - 3s^2 3p^4$	$g^4P^o - ^4S$	$\frac{3}{2} - \frac{3}{2}$		611
	50	1188.7515	0.0 - 84.12	$3s^2 3p^4 - 3s^2 3p^4(^1D)4s$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	130	1188.7743	0.0 - 84.12	$3s^2 3p^4 - 3s^2 3p^4(^1D)4s$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	100	1201.3527	0.88 - 84.12	$3s^2 3p^4 - 3s^2 3p^4(^1D)4s$	$g^4P^o - ^4D$	$\frac{3}{2} - \frac{3}{2}$		611
	250	1335.7257	0.0 - 74.87	$3s^2 3p^4 - 3s^2 3p^4(^3P)4s$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	550	1347.2397	0.0 - 74.23	$3s^2 3p^4 - 3s^2 3p^4(^3P)4s$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611
	350	1351.6568	0.88 - 74.87	$3s^2 3p^4 - 3s^2 3p^4(^3P)4s$	$g^4P^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		611

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	600	1363.4471	0.86 - 74.23	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{1}{2} - \frac{3}{2}$		611
1	200	1373.1163	0.0 - 72.83	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{3}{2} - \frac{1}{2}$		611
1	900	1379.5278	0.0 - 72.49	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{3}{2} - \frac{3}{2}$		611
1	1000	1389.6928	0.0 - 71.96	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{3}{2} - \frac{3}{2}$		611
1	900	1389.9569	0.88 - 72.83	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{1}{2} - \frac{1}{2}$		611
1	600	1396.5267	0.88 - 72.49	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4s$	$g^2 P^o - ^2P$	$\frac{1}{2} - \frac{3}{2}$		611

CHLORINE II (Cl^{1+}), $Z = 17$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^4 \ ^3P_2$ (16 electrons)Ionization Potential $192\,070 \text{ cm}^{-1}$; 23.814 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
7	535.047		0.0 - 186.90	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 6s$	$g^2 P - ^4D^o$	2 - 3		613
100	538.3052		0.0 - 185.87	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$g^2 P - ^4P^o$	2 - 1		613
140	538.3083		0.0 - 185.77	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$g^2 P - ^4P^o$	2 - 2		613
100	540.0270		0.70 - 185.87	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$g^2 P - ^4P^o$	1 - 1		613
115	540.3330		0.70 - 185.77	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$g^2 P - ^4P^o$	1 - 2		613
100	540.9047		1.00 - 185.87	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$g^2 P - ^4P^o$	0 - 1		613
15	548.0688		0.0 - 182.45	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 5s$	$g^2 P - ^4P^o$	2 - 2		613
25	550.188		0.70 - 182.45	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 5s$	$g^2 P - ^4P^o$	1 - 2		613
20	551.333		1.00 - 182.37	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 5s$	$g^2 P - ^4P^o$	0 - 1		613
5	555.955		0.0 - 179.87	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	2 - 1		613
60	557.5192		0.0 - 179.37	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4F^o$	2 - 3		613
100	558.14		0.70 - 179.87	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	1 - 1		345
185	559.3057		0.0 - 178.79	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	2 - 3		613
160	559.4065		0.0 - 178.76	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	2 - 2		613
170	559.5279		0.0 - 178.72	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	2 - 1		613
8	560.091		0.0 - 178.54	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	2 - 2		613
140	561.5930		0.70 - 178.76	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	1 - 2		613
25	561.714		0.70 - 178.72	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	1 - 1		613
110	562.2867		0.70 - 178.54	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	1 - 2		613
170	562.3684		0.0 - 177.82	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	2 - 2		613
170	562.5662		0.0 - 177.76	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	2 - 1		613
140	562.6651		1.00 - 178.72	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 6d$	$g^2 P - ^4D^o$	0 - 1		613
160	563.6169		0.0 - 177.43	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4S^o$	2 - 1		613
160	564.5782		0.70 - 177.82	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	1 - 2		613
140	564.7775		0.70 - 177.76	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	1 - 1		613
140	564.9716		0.70 - 177.70	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	1 - 0		613
80	565.1082		0.0 - 176.96	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 7s$	$g^2 P - ^4S^o$	2 - 1		613
170	565.7376		1.00 - 177.76	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4P^o$	0 - 1		613
160	565.8366		0.70 - 177.43	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4S^o$	1 - 1		613
160	566.8002		1.00 - 177.43	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4S^o$	0 - 1		613
25	567.3397		0.70 - 176.96	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 7s$	$g^2 P - ^4S^o$	1 - 1		613
10	568.2952		1.00 - 176.96	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 7s$	$g^2 P - ^4S^o$	0 - 1		613
140	569.8349		11.65 - 187.14	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 6s$	$^1D - ^1D^o$	2 - 2		613
200	571.9033		0.0 - 174.85	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	2 - 3		613
170	572.0083		0.0 - 174.82	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	2 - 2		613
40	572.1215		0.0 - 174.79	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	2 - 1		613
220	574.2946		0.70 - 174.82	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	1 - 2		613
280	574.4088		0.70 - 174.79	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	1 - 1		613
160	575.4019		1.00 - 174.79	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4D^o$	0 - 1		613
25	578.007		11.65 - 184.66	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 4d$	$^1D - ^4F^o$	2 - 2		613
40	579.1982		0.0 - 172.65	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4F^o$	2 - 3		613
9	581.797		0.70 - 172.57	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 4d$	$g^2 P - ^4F^o$	1 - 2		613
50	582.4268		11.65 - 183.35	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 5s$	$^1D - ^4P^o$	2 - 1		613
6	584.067		0.0 - 171.21	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 5s$	$g^2 P - ^4D^o$	2 - 2		613
20	584.611		0.0 - 171.05	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 5d$	$g^2 P - ^4D^o$	2 - 1		613
170	584.7718		0.0 - 171.01	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 5d$	$g^2 P - ^4D^o$	2 - 2		613
170	584.8829		0.0 - 170.97	$3s^2 3p^4 - 3s^2 3p^4(^4S^o) 5d$	$g^2 P - ^4D^o$	2 - 3		613
10	585.484		11.65 - 182.45	$3s^2 3p^4 - 3s^2 3p^4(^4P^o) 5s$	$^1D - ^4P^o$	2 - 2		613
220	586.2442		0.0 - 170.58	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 5s$	$g^2 P - ^4D^o$	2 - 3		613
200	586.3828		0.0 - 170.54	$3s^2 3p^4 - 3s^2 3p^4(^4D^o) 5s$	$g^2 P - ^4D^o$	2 - 2		613

Multiplet	Ref. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	586.4528		0.0 - 170.52	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$g^3P - ^3D^o$	2 - 1		613
125	587.0041		0.70 - 171.05	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5d$	$g^3P - ^3D^o$	1 - 1		613
140	587.1616		0.70 - 171.01	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5d$	$g^3P - ^3D^o$	1 - 2		613
140	588.0413		1.00 - 171.05	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5d$	$g^3P - ^3D^o$	0 - 1		613
185	588.7857		0.70 - 170.54	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$g^3P - ^3D^o$	1 - 2		613
140	588.8564		0.70 - 170.52	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$g^3P - ^3D^o$	1 - 1		613
160	589.9001		1.00 - 170.52	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$g^3P - ^3D^o$	0 - 1		613
170	590.8491		0.0 - 169.25	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)6s$	$g^3P - ^3S^o$	2 - 1		613
9	590.955		1.00 - 170.21	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	0 - 1		613
140	593.2888		0.70 - 169.25	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)6s$	$g^3P - ^3S^o$	1 - 1		613
80	594.3484		1.00 - 169.25	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)6s$	$g^3P - ^3S^o$	0 - 1		613
170	594.4756		11.65 - 179.87	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3P^o$	2 - 1		613
190	598.3026		11.65 - 178.79	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)6d$	$^1D - ^3D^o$	2 - 3		613
100	598.4179		11.65 - 178.76	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)6d$	$^1D - ^3D^o$	2 - 2		613
220	599.2056		11.65 - 178.54	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3D^o$	2 - 2		613
40	601.8086		11.65 - 177.82	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3P^o$	2 - 2		613
2	602.029		11.65 - 177.76	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3P^o$	2 - 1		613
3	612.738		11.65 - 174.85	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3D^o$	2 - 3		613
120	615.3233		0.70 - 163.21	$3s^2 3p^4 - 3s^2 3p^2$	$g^3P - ^3P^o$	1 - 1		613
100	616.4631		1.00 - 163.21	$3s^2 3p^4 - 3s^2 3p^2$	$g^3P - ^3P^o$	0 - 1		613
150	617.3161		0.0 - 161.99	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	2 - 1		613
220	617.6293		0.0 - 161.91	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	2 - 2		613
260	618.0539		0.0 - 161.80	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	2 - 3		613
25	618.920		11.65 - 173.22	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1D - ^3G^o$	2 - 3		613
250	619.9798		0.70 - 161.99	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	1 - 1		613
280	620.2958		0.70 - 161.91	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	1 - 2		613
210	621.1369		1.00 - 161.99	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	0 - 1		613
185	623.0617		0.0 - 160.50	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3F^o$	2 - 3		613
260	626.7339		11.65 - 171.21	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$^1D - ^3D^o$	2 - 2		613
15	627.533		11.65 - 171.01	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5d$	$^1D - ^3D^o$	2 - 2		613
10	627.662		11.65 - 170.97	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5d$	$^1D - ^3D^o$	2 - 3		613
6	629.228		11.65 - 170.58	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$^1D - ^3D^o$	2 - 3		613
8	629.387		11.65 - 170.54	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)5s$	$^1D - ^3D^o$	2 - 2		613
110	630.6835		11.65 - 170.21	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$^1D - ^3P^o$	2 - 1		613
200	631.8314		0.0 - 158.27	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3D^o$	2 - 2		613
220	634.2568		0.0 - 157.66	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	2 - 1		613
200	634.6222		0.70 - 158.27	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3D^o$	1 - 2		613
280	635.8802		0.70 - 157.96	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	1 - 0		613
320	636.6244		0.0 - 157.08	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	2 - 2		613
260	637.0691		0.70 - 157.66	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	1 - 1		613
300	638.2909		1.00 - 157.64	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	0 - 1		613
200	639.4578		0.70 - 157.08	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3P^o$	1 - 2		613
140	643.2069		27.88 - 183.35	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)5s$	$^1S - ^3P^o$	0 - 1		613
140	646.7435		0.0 - 154.62	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	2 - 2		613
185	649.6718		0.70 - 154.62	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	1 - 2		613
320	650.8935		0.0 - 153.63	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5s$	$g^3P - ^3S^o$	2 - 1		613
125	650.944		1.00 - 153.62	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$g^3P - ^3D^o$	0 - 1		613
220	653.8556		0.70 - 153.63	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5s$	$g^3P - ^3S^o$	1 - 1		613
260	655.1427		1.00 - 153.63	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5s$	$g^3P - ^3S^o$	0 - 1		613
60	656.8795		0.0 - 152.23	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)5s$	$g^3P - ^3S^o$	2 - 2		613
130	657.9335		27.88 - 179.87	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)4d$	$^1S - ^3P^o$	0 - 1		613
320	659.8107		11.65 - 163.21	$3s^2 3p^4 - 3s^2 3p^2$	$^1D - ^3P^o$	2 - 1		613
170	661.6588		0.0 - 151.14	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	2 - 1		613
360	661.8394		0.0 - 151.09	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3F^o$	2 - 3		613
320	662.1637		0.0 - 151.02	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	2 - 2		613
440	663.0773		0.0 - 150.81	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3S^o$	2 - 1		613
320	663.6432		0.0 - 150.68	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	2 - 3		613
320	664.7199		0.70 - 151.14	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	1 - 1		613
200	665.1679		11.65 - 161.99	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$^1D - ^3D^o$	2 - 1		613
220	665.2295		0.70 - 151.02	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	1 - 2		613
140	665.5316		11.65 - 161.91	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$^1D - ^3D^o$	2 - 2		613
220	666.0246		11.65 - 161.80	$3s^2 3p^4 - 3s^2 3p^2(^3S^o)4d$	$^1D - ^3D^o$	2 - 3		613
220	666.0502		1.00 - 151.14	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3D^o$	0 - 1		613
260	666.1465		0.70 - 150.81	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3S^o$	1 - 1		613
170	667.4825		1.00 - 150.81	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$g^3P - ^3S^o$	0 - 1		613
260	671.8436		11.65 - 160.50	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$^1D - ^3F^o$	2 - 3		613
380	682.0516		11.65 - 158.27	$3s^2 3p^4 - 3s^2 3p^2(^3D^o)3d$	$^1D - ^3D^o$	2 - 2		613
320	684.8623		0.0 - 146.01	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	2 - 2		613
380	687.6575		0.0 - 145.42	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	2 - 1		613
260	688.1424		0.70 - 146.01	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	1 - 2		613
280	690.9645		0.70 - 145.42	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	1 - 1		613
50	692.4020		1.00 - 145.42	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3P^o$	0 - 1		613
185	692.7820		0.0 - 144.35	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3F^o$	2 - 2		613
380	693.5947		0.0 - 144.18	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3F^o$	2 - 3		613
340	696.1386		0.70 - 144.35	$3s^2 3p^4 - 3s^2 3p^2(^3P^o)3d$	$g^3P - ^3F^o$	1 - 2		613

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	160	698.4482	27.88 - 171.05	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 5d$	${}^1S - {}^1D'$	0 - 1		613
	160	701.0721	27.88 - 170.52	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 5s$	${}^1S - {}^1D'$	0 - 1		613
	280	702.5714	27.88 - 170.21	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1S - {}^1P'$	0 - 1		613
	370	707.4581	0.0 - 141.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	2 - 3		613
	300	709.1616	0.0 - 141.01	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	2 - 2		613
	250	710.5210	0.0 - 140.74	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	2 - 1		613
	370	712.6792	0.70 - 141.01	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	1 - 2		613
	100	712.9584	0.0 - 140.26	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	2 - 1		613
	360	714.0521	0.70 - 140.74	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	1 - 1		613
	360	715.5874	1.00 - 140.74	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1D'$	0 - 1		613
	70	716.5138	0.70 - 140.26	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	1 - 1		613
	340	717.1519	11.65 - 151.09	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1F'$	2 - 3		613
	130	717.5327	11.65 - 151.02	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1D'$	2 - 2		613
	340	719.2703	11.65 - 150.68	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1D'$	2 - 3		613
	440	725.2717	0.0 - 137.88	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	2 - 2		613
	320	725.6570	0.0 - 137.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	2 - 1		613
	500	728.9513	0.70 - 137.88	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	1 - 2		613
	390	729.3406	0.70 - 137.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	1 - 1		613
	340	729.5235	0.70 - 137.77	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	1 - 0		613
	380	730.9424	1.00 - 137.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	$g^2 P - {}^1P'$	0 - 1		613
	140	738.9117	27.88 - 163.21	$3s^2 3p^4 - 3s 3p^5$	${}^1S - {}^1I'$	0 - 1		613
	40	744.2627	11.65 - 146.01	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1P'$	2 - 2		613
	50	745.6368	27.88 - 161.99	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4d$	${}^1S - {}^1D'$	0 - 1		613
	100	747.5649	11.65 - 145.42	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1P'$	2 - 1		613
	250	753.6251	11.65 - 144.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1F'$	2 - 2		613
	280	754.5869	11.65 - 144.18	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1F'$	2 - 3		613
	12	756.632	0.0 - 132.16	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1G'$	2 - 3		613
	60	771.0246	11.65 - 141.35	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1D'$	2 - 3		613
	250	774.7916	0.0 - 129.07	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	2 - 2		613
	440	777.5623	11.65 - 140.26	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	${}^1D - {}^1P'$	2 - 1		613
	60	778.9924	0.70 - 129.07	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	1 - 2		613
	100	787.15						345
	700	787.5805	11.65 - 138.62	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1D - {}^1D'$	2 - 2		613
5	700	788.7408	0.0 - 126.78	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	2 - 3		613
5	550	788.9860	0.0 - 126.74	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	2 - 2		613
5	280	789.0997	0.0 - 126.73	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	2 - 1		613
	550	792.2628	0.0 - 126.22	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1F'$	2 - 3		613
	15	792.694	11.65 - 137.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	${}^1D - {}^1P'$	2 - 1		613
5	700	793.3424	0.70 - 126.74	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	1 - 2		613
5	630	793.4574	0.70 - 126.73	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	1 - 1		613
5	630	795.3537	1.00 - 126.73	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	$g^2 P - {}^1D'$	0 - 1		613
5	320	797.8455	0.70 - 126.03	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1F'$	1 - 2		613
5	140	802.8911	0.70 - 125.25	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1S'$	1 - 0		613
	100	827.85						345
	280	829.8029	11.65 - 132.16	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1G'$	2 - 3		613
4	320	834.4229	0.0 - 119.84	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	2 - 1		613
4	550	834.6463	0.0 - 119.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	2 - 3		613
4	440	834.7223	0.0 - 119.80	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	2 - 2		613
4	770	839.2972	0.70 - 119.84	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	1 - 1		613
4	900	839.6001	0.70 - 119.80	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	1 - 2		613
4	850	841.4191	1.00 - 119.84	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	0 - 1		613
	140	850.7509	27.88 - 145.42	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 3d$	${}^1S - {}^1P'$	0 - 1		613
	700	851.6917	11.65 - 129.07	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	${}^1D - {}^1D'$	2 - 2		613
3	320	864.6198	0.0 - 115.66	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1P'$	2 - 1		613
	380	868.5774	11.65 - 126.78	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	${}^1D - {}^1D'$	2 - 3		613
	220	869.0127	11.65 - 126.73	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	${}^1D - {}^1D'$	2 - 1		613
3	220	872.1338	1.00 - 115.66	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	$g^2 P - {}^1P'$	0 - 1		613
	320	872.8505	11.65 - 126.22	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1F'$	2 - 3		613
	220	874.2790	11.65 - 126.03	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1F'$	2 - 2		613
2	440	888.0256	0.0 - 112.61	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	$g^2 P - {}^1S'$	2 - 1		613
	220	889.8173	27.88 - 140.26	$3s^2 3p^4 - 3s^2 3p^2 ({}^1P') 4s$	${}^1S - {}^1P'$	0 - 1		613
2	440	893.5483	0.70 - 112.61	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	$g^2 P - {}^1S'$	1 - 1		613
2	420	895.9539	1.00 - 112.61	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	$g^2 P - {}^1S'$	0 - 1		613
	380	906.6153	0.0 - 110.30	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	2 - 2		613
	10	910.25						345
	220	912.3468	0.70 - 110.30	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	1 - 1		613
	185	914.8574	1.00 - 110.30	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	$g^2 P - {}^1D'$	0 - 1		613
	100	924.3022	11.65 - 119.84	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	${}^1D - {}^1D'$	2 - 1		613
	75	924.5764	11.65 - 119.81	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 3d$	${}^1D - {}^1D'$	2 - 3		613
	340	926.9588	0.0 - 107.88	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	$g^2 P - {}^1S'$	2 - 2		613
	220	932.9780	0.70 - 107.88	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	$g^2 P - {}^1S'$	1 - 2		613
	440	961.4997	11.65 - 115.66	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 3d$	${}^1D - {}^1P'$	2 - 1		613
	160	990.5327	11.65 - 112.61	$3s^2 3p^4 - 3s^2 3p^2 ({}^1S') 4s$	${}^1D - {}^1S'$	2 - 1		613
	60	1011.6472	27.88 - 126.73	$3s^2 3p^4 - 3s^2 3p^2 ({}^1D') 4s$	${}^1S - {}^1D'$	0 - 1		613
1	775	1063.8311	0.0 - 94.00	$3s^2 3p^4 - 3s 3p^5$	$g^2 P - {}^1P'$	2 - 1		613

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
1	550	1067.9442	0.70 - 94.33	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^4 P^o$	1 - 0		613
1	950	1071.0358	0.0 - 93.37	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^4 P^o$	2 - 2		613
1	770	1071.7667	0.70 - 94.00	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^4 P^o$	1 - 1		613
1	700	1075.2293	1.00 - 94.00	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^4 P^o$	0 - 1		613
1	700	1079.0796	0.70 - 93.37	$3s^2 3p^4 - 3s 3p^5$	$g^4 P - ^4 P^o$	1 - 2		613
15	1123.8445		93.37 - 182.35	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	2 - 1		613
125	1124.2757		93.37 - 182.31	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	2 - 2		613
50	1125.0403		93.37 - 182.25	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 F$	2 - 3		613
140	1125.9030		93.37 - 182.19	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	2 - 3		613
3	1125.959		93.37 - 182.18	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	2 - 2		613
6	1131.794		94.00 - 182.36	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	1 - 0		613
3	1131.888		94.00 - 182.35	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	1 - 1		613
100	1132.1919		94.00 - 182.32	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	1 - 2		613
40	1132.2939		94.00 - 182.32	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	1 - 1		613
100	1134.04		94.00 - 182.18	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	1 - 2		613
10	1136.1849		94.33 - 182.35	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	0 - 1		613
50	1136.5905		94.33 - 182.32	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	0 - 1		613
280	1139.2145		27.88 - 115.66	$3s^2 3p^4 - 3s^2 3p^4 (^4D^o) 3d$	$^4 S - ^4 P^o$	0 - 1		613
50	1179.1097		93.37 - 178.18	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 P$	2 - 1		613
100	1179.4619		93.37 - 178.15	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 P$	2 - 2		613
140	1187.9150		93.37 - 177.55	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 D$	2 - 3		613
5	1187.963		94.00 - 178.18	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 P$	1 - 1		613
80	1188.3235		94.00 - 178.15	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 P$	1 - 2		613
4	1192.6978		94.33 - 178.18	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 P$	0 - 1		613
75	1197.9053		94.00 - 177.48	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 5p$	$^4 P^o - ^4 D$	1 - 2		613
35	1214.3851		11.65 - 94.00	$3s^2 3p^4 - 3s 3p^5$	$^4 D - ^4 P^o$	2 - 1		613
200	1223.7814		11.65 - 93.37	$3s^2 3p^4 - 3s 3p^5$	$^4 D - ^4 P^o$	2 - 2		613
6	1293.134		110.30 - 187.63	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 10f$	$^4 D^o - ^4 F$	4 - 5		613
50	1310.8951		110.30 - 186.58	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 9f$	$^4 D^o - ^4 F$	4 - 5		613
125	1336.5928		110.30 - 185.11	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 8f$	$^4 D^o - ^4 F$	4 - 5		613
85	1336.6431		110.30 - 185.11	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 8f$	$^4 D^o - ^4 F$	2 - 3		613
65	1336.6895		110.30 - 185.11	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 8f$	$^4 D^o - ^4 F$	1 - 2		613
3	1344.188		107.88 - 182.27	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 8p$	$^4 S^o - ^4 P$	2 - 3		613
2	1344.258		107.88 - 182.27	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 8p$	$^4 S^o - ^4 P$	2 - 2		613
1	1344.298		107.88 - 182.27	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 8p$	$^4 S^o - ^4 P$	2 - 1		613
185	1375.9678		110.30 - 182.97	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 7f$	$^4 D^o - ^4 F$	4 - 5		613
170	1376.0241		110.30 - 182.97	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 7f$	$^4 D^o - ^4 F$	2 - 3		613
100	1376.0707		110.30 - 182.97	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 7f$	$^4 D^o - ^4 F$	1 - 2		613
80	1376.1000		110.30 - 182.97	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 7f$	$^4 D^o - ^4 F$	0 - 1		613
3	1389.327		110.30 - 182.27	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 8p$	$^4 D^o - ^4 P$	4 - 3		613
10	1401.16							345
100	1415.7360		107.88 - 178.51	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 7p$	$^4 S^o - ^4 P$	2 - 3		613
60	1415.8503		107.88 - 178.51	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 7p$	$^4 S^o - ^4 P$	2 - 2		613
20	1415.9323		107.88 - 178.50	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4S^o) 7p$	$^4 S^o - ^4 P$	2 - 1		613
220	1441.4697		110.30 - 179.67	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 6f$	$^4 D^o - ^4 F$	4 - 5		613
220	1441.5265		110.30 - 179.67	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 6f$	$^4 D^o - ^4 F$	2 - 3		613
220	1441.5793		110.30 - 179.67	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 6f$	$^4 D^o - ^4 F$	1 - 2		613
125	1441.6021		110.30 - 179.67	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 6f$	$^4 D^o - ^4 F$	0 - 1		613
15	1448.4940		119.81 - 188.85	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4P^o) 5p$	$^4 D^o - ^4 D$	3 - 3		613
15	1448.9013		119.80 - 188.82	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4P^o) 5p$	$^4 D^o - ^4 D$	2 - 2		613
140	1464.3649		93.37 - 161.66	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	2 - 1		613
200	1464.7860		93.37 - 161.64	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	2 - 2		613
125	1465.9037		110.30 - 178.51	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 7p$	$^4 D^o - ^4 P$	4 - 3		613
200	1471.06							345
140	1477.6980		94.00 - 161.67	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	1 - 0		613
100	1478.0495		94.00 - 161.66	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	1 - 1		613
160	1477.4781		94.00 - 161.64	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	1 - 2		613
10	1484.66							345
125	1485.3814		94.33 - 161.66	$3s 3p^5 - 3s^2 3p^4 (^4S^o) 5p$	$^4 P^o - ^4 P$	0 - 1		613
10	1497.2715		119.81 - 186.60	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 9f$	$^4 D^o - ^4 F$	3 - 4		613
30	1499.4764		115.66 - 182.35	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	1 - 1		613
185	1500.0065		115.66 - 182.32	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	1 - 2		613
100	1500.2465		115.66 - 182.31	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	1 - 2		613
50	1500.7415		93.37 - 160.00	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4p$	$^4 P^o - ^4 P$	2 - 1		613
200	1500.9869		115.66 - 182.28	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 P$	1 - 1		613
140	1501.1520		115.66 - 182.27	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 F$	1 - 2		613
160	1503.2483		115.66 - 182.18	$3s^2 3p^4 (^4D^o) 3d - 3s^2 3p^4 (^4D^o) 4f$	$^4 P^o - ^4 D$	1 - 2		613
100	1510.3849		93.37 - 159.78	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4p$	$^4 P^o - ^4 P$	2 - 1		613
125	1512.3604		27.88 - 94.00	$3s^2 3p^4 - 3s 3p^5$	$^4 S - ^4 P^o$	0 - 1		613
50	1524.8894		112.61 - 178.19	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4D^o) 5p$	$^4 S^o - ^4 P$	1 - 0		613
50	1525.1345		112.61 - 178.18	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4D^o) 5p$	$^4 S^o - ^4 P$	1 - 1		613
100	1525.7274		112.61 - 178.15	$3s^2 3p^4 (^4S^o) 4s - 3s^2 3p^4 (^4D^o) 5p$	$^4 S^o - ^4 P$	1 - 2		613
220	1528.5691		93.37 - 158.79	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4p$	$^4 P^o - ^4 D$	2 - 3		613
160	1528.9839		93.37 - 158.77	$3s 3p^5 - 3s^2 3p^4 (^4D^o) 4p$	$^4 P^o - ^4 D$	2 - 2		613
35	1530.4783		119.80 - 185.14	$3s^2 3p^4 (^4S^o) 3d - 3s^2 3p^4 (^4S^o) 8f$	$^4 D^o - ^4 F$	2 - 3		613

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	1530.7333		119.81 - 185.14	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 8f$	$^1D' - ^1F$	3 - 4		613
220	1542.9423		93.37 - 158.18	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1S$	2 - 1		613
200	1543.9084		94.00 - 158.77	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1D$	1 - 2		613
160	1544.9822		94.00 - 158.73	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1D$	1 - 1		613
160	1552.9947		94.33 - 158.73	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1D$	0 - 1		613
100	1557.2538		115.66 - 179.87	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 5p$	$^1P' - ^1D$	1 - 2		613
140	1558.0222		107.88 - 172.06	$3s^2 3p^2 (^4S) 4s - 3s^2 3p^2 (^4S) 6p$	$^1S' - ^1P$	2 - 3		613
220	1558.1445		94.00 - 158.18	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1S$	1 - 1		613
100	1558.3023		107.88 - 172.05	$3s^2 3p^2 (^4S) 4s - 3s^2 3p^2 (^4S) 6p$	$^1S' - ^1P$	2 - 2		613
50	1558.4726		107.88 - 172.05	$3s^2 3p^2 (^4S) 4s - 3s^2 3p^2 (^4S) 6p$	$^1S' - ^1P$	2 - 1		613
220	1565.0503		110.30 - 174.19	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	4 - 5		613
210	1565.1142		110.30 - 174.19	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	2 - 2		613
210	1565.1732		110.30 - 174.19	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	1 - 2		613
210	1565.201		110.30 - 174.19	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	0 - 1		613
210	1566.2958		94.33 - 158.18	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1S$	0 - 1		613
100	1582.0909		119.80 - 183.01	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 7f$	$^1D' - ^1F$	2 - 3		613
125	1582.3581		119.81 - 183.01	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 7f$	$^1D' - ^1F$	3 - 4		613
50	1583.1677		119.84 - 183.01	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 7f$	$^1D' - ^1F$	1 - 2		613
45	1597.5117		126.22 - 188.82	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4P) 5p$	$^1F' - ^1D$	3 - 2		613
50	1598.78		119.80 - 182.35	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1P$	2 - 1		613
125	1599.3909		119.80 - 182.32	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1D$	2 - 2		613
50	1599.69		119.84 - 182.36	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1P$	1 - 0		613
125	1599.9306		119.81 - 182.31	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1P$	3 - 2		613
170	1601.2082		119.80 - 182.25	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1F$	2 - 3		613
170	1601.4864		119.81 - 182.25	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1F$	3 - 3		613
125	1601.7970		119.84 - 182.27	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1F$	1 - 2		613
200	1602.0105		119.81 - 182.23	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1F$	3 - 4		613
35	1602.8157		126.46 - 188.85	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4P) 5p$	$^1F' - ^1D$	4 - 3		613
125	1603.2362		119.81 - 182.19	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1D$	3 - 3		613
170	1604.1806		119.84 - 182.18	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1D$	1 - 2		613
185	1604.9999		119.81 - 182.12	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1G$	3 - 4		613
125	1605.2479		119.80 - 182.10	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 4f$	$^1D' - ^1G$	2 - 3		613
140	1611.0049		126.74 - 188.82	$3s^2 3p^2 (^4D) 4s - 3s^2 3p^2 (^4P) 5p$	$^1D' - ^1D$	2 - 2		613
125	1615.1372		115.66 - 177.57	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 5p$	$^1P' - ^1P$	1 - 1		613
185	1618.9917		110.30 - 172.06	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6p$	$^1D' - ^1P$	4 - 3		613
100	1619.3179		110.30 - 172.05	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6p$	$^1D' - ^1P$	3 - 2		613
50	1619.3922		110.30 - 172.05	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6p$	$^1D' - ^1P$	2 - 2		613
50	1668.9739		119.80 - 179.72	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6f$	$^1D' - ^1F$	2 - 2		613
	1669.29		119.81 - 179.72	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6f$	$^1D' - ^1F$	3 - 4		613
220	1669.67		93.37 - 153.26	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1D$	2 - 2		613
170	1670.1742		119.84 - 179.72	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 6f$	$^1D' - ^1F$	1 - 2		613
100	1687.53		94.00 - 153.26	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1D$	1 - 2		613
100	1731.9759		119.81 - 177.55	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4D) 5p$	$^1D' - ^1D$	3 - 3		613
200	1767.2027		93.37 - 149.95	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	2 - 1		613
200	1772.0258		93.37 - 149.80	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	2 - 2		613
60	1778.1019		126.03 - 182.27	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	2 - 2		613
2	1778.7350		126.03 - 182.25	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	2 - 3		613
60	1781.0431		126.03 - 182.18	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1D$	2 - 2		613
50	1785.0131		126.22 - 182.31	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1G$	3 - 4		613
185	1783.7251		126.03 - 182.10	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1G$	2 - 3		613
100	1784.6792		126.22 - 182.25	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	3 - 3		613
170	1785.0445		94.00 - 150.02	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	1 - 0		613
125	1785.3314		126.22 - 182.23	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	3 - 4		613
50	1786.8508		126.22 - 182.19	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1D$	3 - 3		613
140	1787.1723		94.00 - 149.95	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	1 - 1		613
170	1789.0429		126.22 - 182.12	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1G$	3 - 4		613
185	1792.1067		94.00 - 149.80	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	1 - 2		613
10	1792.2707		126.46 - 182.25	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	4 - 3		613
125	1792.9286		126.46 - 182.23	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1F$	4 - 4		613
200	1793.1533		126.46 - 182.23	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1G$	4 - 5		613
140	1794.2533		126.46 - 182.19	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4D) 4f$	$^1F' - ^1H$	4 - 5		613
160	1797.9035		94.33 - 149.95	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1P$	0 - 1		613
10	1813.75							345
10	1814.43							345
10	1815.16							345
10	1815.61		131.77 - 186.85	$3s^2 3p^2 (^4S) 4p - 3s^2 3p^2 (^4D) 6s$	$^1P' - ^1D'$	0 - 1		345
140	1836.2912		119.80 - 174.26	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	2 - 3		613
125	1836.3726		134.39 - 188.85	$3s^2 3p^2 (^4D) 3d - 3s^2 3p^2 (^4P) 5p$	$^1G' - ^1D$	4 - 3		613
160	1836.6459		119.81 - 174.26	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	3 - 4		613
85	1837.7447		119.84 - 174.26	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 5f$	$^1D' - ^1F$	1 - 2		613
220	1857.4876		110.30 - 164.13	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 4f$	$^1D' - ^1F$	4 - 5		613
185	1857.5769		110.30 - 164.13	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 4f$	$^1D' - ^1F$	2 - 3		613
210	1857.6594		110.30 - 164.13	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 4f$	$^1D' - ^1F$	1 - 2		613
140	1857.684		110.30 - 164.13	$3s^2 3p^2 (^4S) 3d - 3s^2 3p^2 (^4S) 4f$	$^1D' - ^1F$	0 - 1		613
50	1860.1192		93.37 - 147.13	$3s^2 3p^2 - 3s^2 3p^2 (^4D) 4p$	$^1P' - ^1F$	2 - 3		613

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	185	1883.1313	93.37 - 146.47	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1D$	2 - 3		613
	3	1884.8108	94.00 - 147.06	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1F$	1 - 2		613
	100	1887.9334	93.37 - 146.34	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1D$	2 - 2		613
	2	1894.5004	128.73 - 181.52	$3s^2 3p^2 (^1S^o) 4p - 3s^2 3p^2 (^1S^o) 7d$	$^1P - ^1D^o$	3 - 4		613
	160	1910.7442	94.00 - 146.34	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1D$	1 - 2		613
	100	1910.8830	94.00 - 146.33	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1D$	1 - 1		613
	160	1923.1553	94.33 - 146.33	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1D$	0 - 1		613
	125	1937.5678	107.88 - 159.49	$3s^2 3p^2 (^1S^o) 4s - 3s^2 3p^2 (^1S^o) 5p$	$^1S^o - ^1P$	2 - 3		613
	80	1938.4724	107.88 - 159.47	$3s^2 3p^2 (^1S^o) 4s - 3s^2 3p^2 (^1S^o) 5p$	$^1S^o - ^1P$	2 - 2		613
	60	1939.0336	107.88 - 159.45	$3s^2 3p^2 (^1S^o) 4s - 3s^2 3p^2 (^1S^o) 5p$	$^1S^o - ^1P$	2 - 1		613
	65	1942.8687	94.00 - 145.47	$3s^2 3p^2 - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1P$	1 - 1		613
	35	1943.2155	126.22 - 177.68	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 5p$	$^1F^o - ^1F$	3 - 3		613
	15	1945.1017	126.03 - 177.44	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 5p$	$^1F^o - ^1D$	2 - 1		613
	70	1950.3642	126.46 - 177.73	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 5p$	$^1F^o - ^1F$	4 - 4		613
	45	1950.8992	126.22 - 177.48	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 5p$	$^1F^o - ^1D$	3 - 2		613
	65	1957.3047	126.46 - 177.55	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 5p$	$^1F^o - ^1D$	4 - 3		613
	140	1959.1619	115.66 - 166.70	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4p$	$^1P^o - ^1S$	1 - 0		613
	40	1962.853	126.78 - 177.73	$3s^2 3p^2 (^1D^o) 4s - 3s^2 3p^2 (^1D^o) 5p$	$^1D^o - ^1F$	3 - 4		613
	30	1963.211	126.74 - 177.68	$3s^2 3p^2 (^1D^o) 4s - 3s^2 3p^2 (^1D^o) 5p$	$^1D^o - ^1F$	2 - 3		613
	35	1968.251	129.07 - 179.87	$3s^2 3p^2 (^1D^o) 4s - 3s^2 3p^2 (^1D^o) 5p$	$^1D^o - ^1D$	2 - 2		613
	160	1996.7136	132.18 - 182.26	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1H$	4 - 5		613
	85	1997.2619	132.16 - 182.23	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1F$	3 - 4		613
	210	1997.3705	132.19 - 182.26	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1H$	5 - 6		613
		1997.9784	132.18 - 182.23	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1G$	4 - 5		613
		1998.5853	132.16 - 182.20	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1H$	3 - 4		613
		1998.6950	132.19 - 182.23	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1G$	5 - 5		613
		1999.0230	132.18 - 182.20	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1H$	4 - 4		613
		1999.3406	132.18 - 182.19	$3s^2 3p^2 (^1D^o) 3d - 3s^2 3p^2 (^1D^o) 4f$	$^1G^o - ^1H$	4 - 5		613

CHLORINE III (Cl³⁺), Z = 17Ground State $1s^2 2s^2 2p^6 3s^2 3p^3 \ ^4S_{3/2}$ (15 electrons)Ionization Potential 319 500 cm^{-1} ; 39.61 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	406.27	0.0 - 246.14	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 5s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	10	407.51	0.0 - 245.39	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 5s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	300	411.16	0.0 - 243.21	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	400	411.37	0.0 - 243.08	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	400	411.81	0.0 - 242.82	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	100	415.20	18.05 - 258.89	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 5s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	100	415.33	18.12 - 258.89	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 5s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	360	421.77	18.05 - 255.14	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 4d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		43
	300	421.99	18.12 - 255.09	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 4d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{1}{2}$		43
	100	422.71	18.12 - 254.68	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 4d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	10	433.66	18.05 - 248.66	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	10	433.77	18.12 - 248.66	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	300	441.40	18.12 - 244.68	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{1}{2}$		43
	200	442.95	18.05 - 243.83	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		43
	300	457.17	29.91 - 248.66	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	200	457.24	29.81 - 248.53	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		43
	10	457.44	29.91 - 248.53	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	200	552.91	18.12 - 198.98	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
3	600	556.23	0.0 - 179.78	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 3d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
3	700	556.61	0.0 - 179.66	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 3d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
3	700	557.12	0.0 - 179.50	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 3d$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	100	558.39	0.0 - 179.08	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		43
	100	560.64	0.0 - 178.37	$3s^2 3p^2 - 3s^2 3p^2 (^1P) 4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
5	700	561.53	18.05 - 196.14	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		43
5	700	561.68	18.12 - 196.16	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{1}{2}$		43
5	700	561.74	18.12 - 196.14	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		43
	400	564.29	18.05 - 195.27	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	200	564.51	18.12 - 195.27	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	300	565.27	18.05 - 194.96	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43
	400	565.48	18.12 - 194.96	$3s^2 3p^2 - 3s^2 3p^2 (^1D) 3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$		43

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
2	400	572.69	0.0 - 174.61	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
2	300	574.41	0.0 - 174.09	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
2	300	575.58	0.0 - 173.74	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
	400	586.87	18.05 - 188.45	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
	300	587.08	18.05 - 188.39	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
	400	587.30	18.12 - 188.39	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
6	300	591.12	29.81 - 198.98	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
6	400	591.43	29.91 - 198.98	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
6	400	591.65	29.81 - 198.84	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
6	200	591.96	29.91 - 198.84	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
	400	594.64	18.05 - 186.22	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	300	595.99	18.05 - 185.84	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	400	596.24	18.12 - 185.84	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	100	605.86	29.91 - 194.96	$3s^2 3p^2 - 3s^2 3p^2(^1D)3d$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
4	200	606.10	18.05 - 183.04	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
4	500	606.35	18.12 - 183.04	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
4	400	609.67	18.05 - 182.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
4	10	609.90	18.12 - 182.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
	100	619.03	18.12 - 179.66	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	300	621.03	18.05 - 179.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	400	621.28	18.12 - 179.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	300	623.77	18.05 - 178.37	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	100	630.38	29.81 - 188.45	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		43
	100	630.75	29.91 - 188.45	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		43
	100	631.01	29.91 - 188.39	$3s^2 3p^2 - 3s^2 3p^2(^1D)4s$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		43
	100	639.76	29.91 - 186.22	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	100	640.93	29.81 - 185.84	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	100	641.30	29.91 - 185.84	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	200	653.01	29.91 - 183.04	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		43
	200	656.77	29.81 - 182.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		43
	200	657.17	29.91 - 182.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		43
	200	669.95	29.81 - 179.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
	300	670.38	29.91 - 179.08	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
	300	673.13	29.81 - 178.37	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
	100	673.60	29.91 - 178.37	$3s^2 3p^2 - 3s^2 3p^2(^1P)4s$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{1}{2}$		43
	100	746.86	18.05 - 151.95	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
	100	747.42	18.05 - 151.85	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$		43
	100	747.60	18.12 - 151.88	$3s^2 3p^2 - 3s^2 3p^2(^1P)3d$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{1}{2}$	P	43
	100	930.94	98.52 - 205.94	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		38
	100	936.28	99.13 - 205.94	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		38
	10	939.31	99.48 - 205.94	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		38
	100	943.22	98.52 - 204.54	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		38
	100	946.97	98.52 - 204.12	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		38
	100	948.67	99.13 - 204.54	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	38
	200	953.40	99.13 - 204.02	$3s 3p^4 - 3s^2 3p^2(^1P)4p$	$^1P - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		38
1	500	1005.28	0.0 - 99.48	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
1	600	1008.78	0.0 - 99.13	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
1	700	1015.02	0.0 - 98.52	$3s^2 3p^2 - 3s 3p^4$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$		38
	10	1683.18	146.53 - 205.94	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		43
	100	1689.50	146.75 - 205.94	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		43
7	200	1797.98	146.75 - 202.37	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		43
7	400	1808.51	147.07 - 202.37	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		43
7	100	1810.26	146.53 - 201.77	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		43
7	400	1817.68	146.75 - 201.77	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$	P	43
7	600	1822.50	147.50 - 202.37	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		43
7	300	1824.59	146.53 - 201.33	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		43
7	500	1828.40	147.07 - 201.77	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		43
7	400	1832.08	146.75 - 201.33	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		43
7	400	1833.25	146.53 - 201.07	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1F - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	P	43
	10	1848.74	151.85 - 205.94	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1S^o$	$\frac{3}{2} - \frac{3}{2}$		43
	10	1849.56	151.88 - 205.95	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$	P	43
	200	1852.11	151.95 - 205.94	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1S^o$	$\frac{1}{2} - \frac{1}{2}$		43
	300	1880.10	151.85 - 205.04	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	10	1888.97	205.95 - 258.89	$3s^2 3p^2(^1P)4p - 3s^2 3p^2(^1D)5s$	$^1D^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	42
8	300	1897.80	151.85 - 204.54	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$	P	43
8	500	1901.61	151.95 - 204.54	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		43
8	400	1912.90	151.85 - 204.12	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		43
8	300	1914.09	151.88 - 204.12	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		43
8	400	1916.53	151.95 - 204.12	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{3}{2}$		43
8	400	1917.87	151.88 - 204.02	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{3}{2} - \frac{1}{2}$		43
8	400	1920.32	151.95 - 204.02	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		43
	300	1979.46	151.85 - 202.37	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1D^o$	$\frac{3}{2} - \frac{1}{2}$		43
	500	1983.61	151.95 - 202.37	$3s^2 3p^2(^1P)3d - 3s^2 3p^2(^1P)4p$	$^1D - ^1D^o$	$\frac{1}{2} - \frac{1}{2}$		43

CHLORINE IV (Cl^{3+}), $Z = 17$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$ (14 electrons)Ionization Potential $431\,226\text{ cm}^{-1}$; 53.466 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	318.75		0.49 - 314.23	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	1-2		43
100	319.51		0.0 - 312.99	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	0-1		43
300	319.62		1.34 - 314.23	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	2-2		43
10	319.99		0.49 - 312.99	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	1-1		43
100	320.25		0.49 - 312.75	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	1-0		43
100	320.88		1.34 - 312.99	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$g^3P - ^3P^o$	2-1		43
200	331.84		13.77 - 315.12	$3s^2 3p^2 - 3s^2 3p(^3P^o) 5s$	$^1D - ^3P^o$	2-1		44
400	437.83		65. + X - 293.4 + X	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^3S^o - ^3P$	2-3		43
300	439.26		65. + X - 292.66 + X	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^3S^o - ^3P$	2-2		43
200	440.25		65. + X - 292.15 + X	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^3S^o - ^3P$	2-1		43
300	463.01		0.49 - 216.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	1-2		38
300	464.29		0.0 - 215.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	0-1		38
400	464.86		1.34 - 216.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	2-2		38
300	465.35		0.49 - 215.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	1-1		38
300	466.13		0.49 - 215.03	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	1-0		38
300	467.19		1.34 - 215.39	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$g^3P - ^3P^o$	2-1		38
800	486.17		13.77 - 219.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^1D - ^3P^o$	2-1		44
800	534.73		0.0 - 187.01	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3D^o$	0-1		43
400	535.04		32.55 - 219.45	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4s$	$^3S - ^3P^o$	0-1		44
700	535.67		0.49 - 187.17	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3D^o$	1-2		43
600	536.15		0.49 - 187.01	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3D^o$	1-1		43
900	537.61		1.34 - 187.35	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3D^o$	2-3		43
600	538.12		1.34 - 187.17	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3D^o$	2-2		43
500	549.22		0.0 - 182.07	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	0-1		43
400	550.02		0.49 - 182.30	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	1-0		43
300	550.71		0.49 - 182.07	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	1-1		43
200	551.12		187.17 - 368.62	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 5p$	$^3D^o - ^3D$	2-2		43
100	551.64		187.35 - 368.62	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 5p$	$^3D^o - ^3D$	3-2		43
700	552.02		0.49 - 181.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	1-2		43
600	553.30		1.34 - 182.07	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	2-1		43
100	554.21		181.64 - 362.08	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 5p$	$^3P^o - ^3P$	2-2		43
700	554.62		1.34 - 181.64	$3s^2 3p^2 - 3s^2 3p(^3P^o) 3d$	$g^3P - ^3P^o$	2-2		43
100	555.49		182.07 - 362.08	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 5p$	$^3P^o - ^3P$	1-2		43
200	599.73		0.0 - 166.74	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	0-1		44
500	601.50		0.49 - 166.74	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	1-1		44
500	604.59		1.34 - 166.74	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	2-1		44
300	607.09		0.0 - 164.72	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3S^o$	0-1		38
400	608.90		0.49 - 164.72	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3S^o$	1-1		38
400	612.07		1.34 - 164.72	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3S^o$	2-1		38
400	653.70		13.77 - 166.74	$3s^2 3p^2 - 3s^2 3p^2$	$^1D - ^3P^o$	2-1		44
300	662.45		13.77 - 164.72	$3s^2 3p^2 - 3s^2 3p^2$	$^1D - ^3S^o$	2-1		44
200	668.77		102.87 - 252.40	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	3-2		43
10	672.43		102.75 - 251.47	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	1-0		43
10	684.49		102.87 - 248.96	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3D$	3-3		43
400	745.21		32.55 - 166.74	$3s^2 3p^2 - 3s^2 3p^2$	$^3S - ^3P^o$	0-1		44
100	756.56		32.55 - 164.72	$3s^2 3p^2 - 3s^2 3p^2$	$^3S - ^3S^o$	0-1		44
10	776.91		120.26 - 248.96	$3s^2 3p^2 - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3D$	2-3		43
400	831.43		0.0 - 120.27	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	0-1		38
300	834.66		0.49 - 120.30	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	1-0		38
500	834.84		0.49 - 120.27	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	1-1		38
500	834.97		0.49 - 120.26	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	1-2		38
400	840.81		1.34 - 120.27	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	2-1		38
600	840.93		1.34 - 120.26	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3P^o$	2-2		38
	865.3		13.77 - 129.34	$3s^2 3p^2 - 3s^2 3p^2$	$^1D - ^3D^o$	2-2		92
500	973.21		0.0 - 102.75	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3D^o$	0-1		38
600	977.56		0.49 - 102.79	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3D^o$	1-2		38
400	977.90		0.49 - 102.75	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3D^o$	1-1		38
700	984.95		1.34 - 102.87	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3D^o$	2-3		38
400	985.75		1.34 - 102.79	$3s^2 3p^2 - 3s^2 3p^2$	$g^3P - ^3D^o$	2-2		38
100	1413.39		181.64 - 252.40	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3P - ^3P$	2-2		43
100	1421.97		182.07 - 252.40	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3P$	1-2		43
100	1426.89		181.64 - 251.73	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3P$	2-1		43
10	1440.95		182.07 - 251.47	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3P$	1-0		43
10	1529.28		187.01 - 252.40	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	1-2		43
100	1532.10		182.30 - 247.57	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3P^o - ^3D$	0-1	P	43
100	1533.21		187.17 - 252.40	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	2-2	P	43
300	1537.26		187.35 - 252.40	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	3-2	P	43
200	1539.24		248.02 - 312.99	$3s^2 3p(^3P^o) 4p - 3s^2 3p(^3P^o) 5s$	$^3P - ^3P^o$	2-1	P	43
200	1545.19		187.01 - 251.73	$3s^2 3p(^3P^o) 3d - 3s^2 3p(^3P^o) 4p$	$^3D^o - ^3P$	1-1		43

Multiplets	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	200	1549.15	187.17 - 251.73	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3P$	2 - 1	P	43
	100	1551.27	187.01 - 251.47	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3P$	1 - 0		43
	100	1617.38	252.40 - 314.23	$3s^2 3p(^4P) 4p - 3s^2 3p(^4P) 5s$	$^3P - ^3P^o$	2 - 2		43
	200	1622.86	187.35 - 248.96	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3D$	3 - 3		43
	10	1638.95	187.01 - 248.02	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3D$	1 - 2		43
	100	1643.40	187.17 - 248.02	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3D$	2 - 2		43
	10	1648.04	187.35 - 248.02	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3D$	3 - 2		43
	100	1651.21	187.01 - 247.57	$3s^2 3p(^4P) 3d - 3s^2 3p(^4P) 4p$	$^3D^o - ^3D$	1 - 1		43

CHLORINE V (Cl^{4+}), $Z = 17$

Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \text{ } ^3P_{1/2}$ (13 electrons)

Ionization Potential $547\,000 \text{ cm}^{-1}$; 67.8 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	236.44	0.0 - 422.95	$3s^2(^1S)3p - 3s^2(^1S)5d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		549
	200	237.23	1.49 - 423.02	$3s^2(^1S)3p - 3s^2(^1S)5d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{5}{2}$		549
	200	286.13	0.0 - 349.51	$3s^2(^1S)3p - 3s^2(^1S)4d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		43
	200	372.59	86.54 + X - 354.93 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		43
	200	373.17	86. + X - 353.98 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		43
	300	373.78	87.38 + X - 354.93 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		43
	10	373.91	86.54 + X - 353.98 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		43
	100	374.66	86.54 + X - 353.45 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		43
	200	375.10	87.38 + X - 353.98 + X	$3s3p^2 - 3s3p(^2P^o)4s$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		43
	400	390.15	0.0 - 256.31	$3s^2(^1S)3p - 3s^2(^1S)4s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		43
	500	392.43	1.49 - 256.31	$3s^2(^1S)3p - 3s^2(^1S)4s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		43
	200	535.46	86. + X - 272.76 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{3}{2}$		43
	200	535.92	86. + X - 272.60 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{1}{2} - \frac{1}{2}$		43
	300	536.53	86.54 + X - 272.92 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	400	537.01	86.54 + X - 272.76 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	300	537.46	86.54 + X - 272.60 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{1}{2}$		549
	500	538.03	0.0 - 185.86	$3s^2(^1S)3p - 3s^2(^1S)3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		38
	400	538.68	87.38 + X - 273.02 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	300	538.98	87.38 + X - 272.92 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	10	539.44	87.38 + X - 272.76 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		43
	300	541.28	86. + X - 270.75 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		549
	800	542.23	86. + X - 270.42 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		549
	600	542.30	1.49 - 185.89	$3s^2(^1S)3p - 3s^2(^1S)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		38
	300	542.40	1.49 - 185.86	$3s^2(^1S)3p - 3s^2(^1S)3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		38
	400	542.87	86.54 + X - 270.75 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		549
	100	543.82	86.54 + X - 270.42 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		549
	1000	545.11	86.54 + X - 269.99 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		549
	600	546.33	87.38 + X - 270.42 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		549
	1000	547.63	87.38 + X - 269.99 + X	$3s3p^2 - 3s3p(^2P^o)3d$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		549
	300	629.35	0.0 - 158.89	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		38
	400	633.19	0.0 - 157.93	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		38
	400	635.32	1.49 - 158.89	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		38
	300	639.23	1.49 - 157.93	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		38
	300	676.79	86. + X - 233.76 + X	$3s3p^2 - 3p^2$	$^3P - ^3S$	$\frac{1}{2} - \frac{3}{2}$		38
	300	679.26	86.54 + X - 233.76 + X	$3s3p^2 - 3p^2$	$^3P - ^3S$	$\frac{3}{2} - \frac{3}{2}$		38
	400	681.92	0.0 - 146.64	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		38
	400	683.17	87.38 + X - 233.76 + X	$3s3p^2 - 3p^2$	$^3P - ^3S$	$\frac{3}{2} - \frac{3}{2}$		38
	400	688.93	1.49 - 146.64	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		38
	715.55	113.23 - 252.99		$3s3p^2 - 3p^2$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{1}{2}$		251
	716.19	113.31 - 252.93		$3s3p^2 - 3p^2$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$		251
	400	883.13	0.0 - 113.23	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		38
	400	894.34	1.49 - 113.31	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		38
	100	894.91	1.49 - 113.23	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		38
	914.5	113.31 - 222.65		$3s3p^2 - 3p^2$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$		92

CHLORINE VI (Cl^{VI}), Z = 17Ground State 1s²2s²2p⁶3s² 1S₀ (12 electrons)Ionization Potential [782 600] cm⁻¹; [97.03] eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ⁶ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
100	194.80	97.96 + E - 611.32 + E	3s(°S)3p - 3s(°S)5d	°P° - °D	1 - 2			535
150	195.23	99.12 + E - 611.35 + E	3s(°S)3p - 3s(°S)5d	°P° - °D	2 - 3			535
250	242.89	97.41 + E - 509.13 + E	3s(°S)3p - 3s(°S)4d	°P° - °D	0 - 1			535
400	243.19	97.96 + E - 509.15 + E	3s(°S)3p - 3s(°S)4d	°P° - °D	1 - 2			535
100	243.21	97.96 + E - 509.13 + E	3s(°S)3p - 3s(°S)4d	°P° - °D	1 - 1			535
600	243.85	99.12 + E - 509.21 + E	3s(°S)3p - 3s(°S)4d	°P° - °D	2 - 3			535
150	243.88	99.12 + E - 509.15 + E	3s(°S)3p - 3s(°S)4d	°P° - °D	2 - 2			535
600	323.36	97.41 + E - 406.66 + E	3s(°S)3p - 3s(°S)4s	°P° - °S	0 - 1			535
800	323.94	97.96 + E - 406.66 + E	3s(°S)3p - 3s(°S)4s	°P° - °S	1 - 1			535
1000	325.16	99.12 + E - 406.66 + E	3s(°S)3p - 3s(°S)4s	°P° - °S	2 - 1			535
250	399.94	279.10 + E - 529.15 + E	3s(°S)3d - 3s(°S)4f	°D - °F°	1 - 2			535
350	399.96	279.12 + E - 529.15 + E	3s(°S)3d - 3s(°S)4f	°D - °F°	2 - 3			535
400	400.00	279.15 + E - 529.15 + E	3s(°S)3d - 3s(°S)4f	°D - °F°	3 - 4			535
250	550.36	97.41 + E - 279.10 + E	3s(°S)3p - 3s(°S)3d	°P° - °D	0 - 1			535
500	551.99	97.96 + E - 279.12 + E	3s(°S)3p - 3s(°S)3d	°P° - °D	1 - 2			535
100	552.05	97.96 + E - 279.10 + E	3s(°S)3p - 3s(°S)3d	°P° - °D	1 - 1			535
1000	555.49	99.12 + E - 279.15 + E	3s(°S)3p - 3s(°S)3d	°P° - °D	2 - 3			535
150	555.58	99.12 + E - 279.12 + E	3s(°S)3p - 3s(°S)3d	°P° - °D	2 - 2			535
400	565.48	234.22 + E - 411.06 + E	3p ² - 3p(°P°)3d	°P - °D°	0 - 1			549
200	566.63	234.85 + E - 411.33 + E	3p ² - 3p(°P°)3d	°P - °D°	1 - 2			549
100	567.48	234.85 + E - 411.06 + E	3p ² - 3p(°P°)3d	°P - °D°	1 - 1			549
400	570.03	236.06 + E - 411.49 + E	3p ² - 3p(°P°)3d	°P - °D°	2 - 3			549
200	570.53	236.06 + E - 411.33 + E	3p ² - 3p(°P°)3d	°P - °D°	2 - 2			549
in	570.88	234.85 + E - 411.06 + E	3p ² - 3p(°P°)3d	°P - °P°	1 - 1			549
100	571.38	234.22 + E - 409.23 + E	3p ² - 3p(°P°)3d	°P - °P°	0 - 1			549
10	571.44	236.06 + E - 411.06 + E	3p ² - 3p(°P°)3d	°P - °D°	2 - 1			549
200	576.42	234.85 + E - 408.34 + E	3p ² - 3p(°P°)3d	°P - °P°	1 - 2			549
100	577.44	236.06 + E - 409.23 + E	3p ² - 3p(°P°)3d	°P - °P°	2 - 1			549
200	580.44	236.06 + E - 408.34 + E	3p ² - 3p(°P°)3d	°P - °P°	2 - 2			549
	582.6	148.95 - 320.59	3s(°S)3p - 3s(°S)3d	°P° - °D	1 - 2			111
	624.11	229.22 + F - 389.45 + F	3p ² - 3p(°P°)3d	°D - °D°	2 - 2			242
	668.30	276.10 - 425.74	3p ² - 3p(°P°)3d	°S - °P°	0 - 1			242
400	671.37	0.0 - 148.95	3s ² - 3s(°S)3p	g°S - °P°	0 - 1			51
150	724.13	97.96 + E - 236.06 + E	3s(°S)3p - 3p ²	°P° - °P	1 - 2			535
150	727.54	97.41 + E - 234.85 + E	3s(°S)3p - 3p ²	°P° - °P	0 - 1			535
200	730.31	99.12 + E - 236.06 + E	3s(°S)3p - 3p ²	°P° - °P	2 - 2			535
150	733.89	97.96 + E - 234.22 + E	3s(°S)3p - 3p ²	°P° - °P	1 - 0			535
150	736.76	99.12 + E - 234.85 + E	3s(°S)3p - 3p ²	°P° - °P	2 - 1			535
	755.63	279.15 + E - 411.49 + E	3s(°S)3d - 3p(°P°)3d	°D - °D°	3 - 3		P	251
	756.34	279.12 + E - 411.33 + E	3s(°S)3d - 3p(°P°)3d	°D - °D°	2 - 2		P	251
	757.82	279.10 + E - 411.06 + E	3s(°S)3d - 3p(°P°)3d	°D - °D°	1 - 1		P	251
	774.04	279.15 + E - 408.34 + E	3s(°S)3d - 3p(°P°)3d	°D - °P°	3 - 2		P	251
	786.44	148.95 - 276.10	3s(°S)3p - 3p ²	°P° - °S	1 - 0			251
	949.2	279.15 + E - 384.50 + E	3s(°S)3d - 3p(°P°)3d	°D - °F°	3 - 4			111
	955.6	279.12 + E - 383.76 + E	3s(°S)3d - 3p(°P°)3d	°D - °F°	2 - 3			111
	961.0	279.10 + E - 383.16 + E	3s(°S)3d - 3p(°P°)3d	°D - °F°	1 - 2			111
	1245.77	148.95 - 229.22 + F	3s(°S)3p - 3p ²	°P° - °D	1 - 2			854
	1256.0	630.00 + K - 709.62 + K	3s(°S)5g - 3s(°S)7h	°G - °H°	4 - 5			111
	1767.7	452.56 + E - 509.13 + E	3s(°S)4p - 3s(°S)4d	°P° - °D	0 - 1			92
	1772.0	452.72 + E - 509.15 + E	3s(°S)4p - 3s(°S)4d	°P° - °D	1 - 2			92
	1783.3	453.13 + E - 509.21 + E	3s(°S)4p - 3s(°S)4d	°P° - °D	2 - 3			92
	1985.0	630.00 + K - 680.38 + K	3s(°S)5g - 3s(°S)6h	°G - °H°	4 - 5			111

Ground State $1s^2 2s^2 2p^6 3s^2 S_{1/2}$ (11 electrons)Ionization Potential 921 051 cm⁻¹; 114.197 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
		133.11	0.0 - 751.26	$2p^6 3s - 2p^6 6p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		160
		149.37	0.0 - 669.48	$2p^6 3s - 2p^6 5p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		160
		149.43	0.0 - 669.21	$2p^6 3s - 2p^6 5p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{1}{2}$		160
		155.32	123.01 - 766.83	$2p^6 3p - 2p^6 6d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		160
		155.78	124.90 - 766.83	$2p^6 3p - 2p^6 6d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		160
150		174.04	123.01 - 697.60	$2p^6 3p - 2p^6 5d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		546
200		174.60	124.90 - 697.62	$2p^6 3p - 2p^6 5d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		546
100		190.59	123.01 - 647.68	$2p^6 3p - 2p^6 5s$	$^4 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		546
200		191.28	124.90 - 647.68	$2p^6 3p - 2p^6 5s$	$^4 P^o - ^4 S$	$\frac{3}{2} - \frac{1}{2}$		546
500		196.12	0.0 - 509.89	$2p^6 3s - 2p^6 4p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		546
400		196.39	0.0 - 509.20	$2p^6 3s - 2p^6 4p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{1}{2}$		546
200		207.76	290.25 - 771.35	$2p^6 3d - 2p^6 6f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{5}{2}$		546
300		224.14	123.01 - 569.14	$2p^6 3p - 2p^6 4d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		546
500		225.08	124.90 - 569.18	$2p^6 3p - 2p^6 4d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		546
300		240.83	290.17 - 705.40	$2p^6 3d - 2p^6 5f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{5}{2}$		546
200		240.87	290.25 - 705.41	$2p^6 3d - 2p^6 5f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{3}{2}$		546
400		293.25	123.01 - 464.00	$2p^6 3p - 2p^6 4s$	$^4 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		546
500		294.90	124.90 - 464.00	$2p^6 3p - 2p^6 4s$	$^4 P^o - ^4 S$	$\frac{3}{2} - \frac{1}{2}$		546
750		340.23	290.17 - 584.09	$2p^6 3d - 2p^6 4f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{5}{2}$		546
900		340.30	290.25 - 584.10	$2p^6 3d - 2p^6 4f$	$^4 D - ^4 F^o$	$\frac{3}{2} - \frac{3}{2}$		546
100		455.27	290.25 - 509.89	$2p^6 3d - 2p^6 4p$	$^4 D - ^4 P^o$	$\frac{3}{2} - \frac{3}{2}$		546
50		456.56	290.17 - 509.20	$2p^6 3d - 2p^6 4p$	$^4 D - ^4 P^o$	$\frac{3}{2} - \frac{1}{2}$		546
		532.7	509.89 - 697.62	$2p^6 4p - 2p^6 5d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$	Q	92
600		598.211	123.01 - 290.17	$2n^6 3n - 2n^6 4d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		753, 546
1000		604.783	124.90 - 290.25	$2p^6 3p - 2p^6 3d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		546
50		605.05	124.90 - 290.17	$2p^6 3p - 2p^6 3d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{3}{2}$		546
150		800.641	0.0 - 124.90	$2p^6 3s - 2p^6 3p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		753, 546
100		812.960	0.0 - 123.01	$2p^6 3s - 2p^6 3p$	$g^4 S - ^4 P^o$	$\frac{1}{2} - \frac{1}{2}$		753, 546
		820.7	584.10 - 705.95	$2p^6 4f - 2p^6 5g$	$^4 F^o - ^4 G$	$\frac{7}{2} - \frac{9}{2}$	Q	92
		944.1	705.41 - 811.33	$2p^6 5f - 2p^6 7g$	$^4 F^o - ^4 G$	$\frac{7}{2} - \frac{9}{2}$	P	92
		949.1	705.95 - 811.31	$2p^6 5g - 2p^6 7h$	$^4 G - ^4 H^o$	$\frac{9}{2} - \frac{11}{2}$	P	92
		1356.3	697.62 - 771.35	$2p^6 5d - 2p^6 6f$	$^4 D - ^4 F^o$	$\frac{5}{2} - \frac{7}{2}$	Q	92
		1509.2	705.41 - 771.67	$2p^6 5f - 2p^6 6g$	$^4 F^o - ^4 G$	$\frac{7}{2} - \frac{9}{2}$	Q	92
		1531.0	771.69 - 837.01	$2p^6 6h - 2p^6 8i$	$^4 H^o - ^4 I$	$\frac{11}{2} - \frac{13}{2}$	Q	92
		1668.2	509.20 - 569.14	$2p^6 4p - 2p^6 4d$	$^4 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$	P	92
		1686.4	509.89 - 569.18	$2p^6 4p - 2p^6 4d$	$^4 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$	P	92

CHLORINE VIII (Cl²⁺), Z = 17Ground State $1s^2 2s^2 2p^6 ^1 S_0$ (10 electrons)Ionization Potential 2 809 100 cm⁻¹; 348.29 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
100		39.462	0.0 - 2534.08	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{1/2}) 5d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1		179
10		39.655	0.0 - 2521.75	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 5d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1		179
1		41.636	0.0 - 2401.77	$2s^2 2p^6 - 2s^2 2p^6 (^4 S) 3p$	$g^1 S - ^4 P^o$	0 - 1		179
10		42.166	0.0 - 2371.58	$2s^2 2p^6 - 2s^2 2p^6 (^4 S) 3p$	$g^1 S - ^4 P^o$	0 - 1		179
200		42.220	0.0 - 2368.55	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{1/2}) 4d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1		179
100		42.430	0.0 - 2356.82	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 4d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1		179
200		44.361	0.0 - 2254.2	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{1/2}) 4s$	$g^1 S - \frac{1}{2} [\frac{1}{2}]^o$	0 - 1		179
200		44.603	0.0 - 2242.	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 4s$	$g^1 S - \frac{3}{2} [\frac{1}{2}]^o$	0 - 1		179
700		49.487	0.0 - 2020.73	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{1/2}) 3d$	$g^1 S - \frac{1}{2} [\frac{3}{2}]^o$	0 - 1		179
500		50.074	0.0 - 1997.04	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 3d$	$g^1 S - \frac{3}{2} [\frac{3}{2}]^o$	0 - 1		179
200		50.700	0.0 - 1972.39	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 3d$	$g^1 S - \frac{3}{2} [\frac{1}{2}]^o$	0 - 1		179
1000		58.673	0.0 - 1704.36	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{1/2}) 3s$	$g^1 S - \frac{1}{2} [\frac{1}{2}]^o$	0 - 1		179
900		59.191	0.0 - 1689.45	$2s^2 2p^6 - 2s^2 2p^6 (^4 P^o_{3/2}) 3s$	$g^1 S - \frac{3}{2} [\frac{1}{2}]^o$	0 - 1		179
		1161.9	2613.25 + B - 2699.32 + B	$2s^2 2p^6 (^4 P^o) 5f - 2s^2 2p^6 (^4 P^o) 6g$	$^4 G - ^4 H^o$	4 - 5		111
		1169.6	2699.32 + B - 2784.81 + B	$2s^2 2p^6 (^4 P^o) 6g - 2s^2 2p^6 (^4 P^o) 8h$	$^4 H^o - ^4 I$	5 - 6		111

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		1766.0 1932.0	2751.08 + B - 2807.70 + B 2699.32 + B - 2751.08 + B	$2s^2 2p^4 (^3P^o) 7h - 2s^2 2p^4 (^3P^o) 9i$ $2s^2 2p^4 (^3P^o) 6f - 2s^2 2p^4 (^3P^o) 7g$	$^1I - ^1K^o$ $^1G - ^1H^o$	6 - 7 4 - 5		111 111

CHLORINE IX (Cl^{8+}), $Z = 17$ Ground State $1s^2 2s^2 2p^5 \ ^3P_{3/2}^o$ (9 electrons)Ionization Potential $3\,226\,700 \text{ cm}^{-1}$; 400.06 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	42.940	0.0 - 2328.83	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	120	43.168	13.6 - 2330.13	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		179
	200	41.003	0.0 - 2272.57	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	400	44.088	0.0 - 2268.00	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	200	44.183	0.0 - 2263.31	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		179
	300	44.267	13.6 - 2272.57	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		179
	100	44.530	13.6 - 2259.28	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3d$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		179
	400	45.112	0.0 - 2216.71	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	200	45.261	0.0 - 2209.47	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	100	45.332	0.0 - 2205.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		179
	300	45.378	0.0 - 2203.85	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3F$	$\frac{3}{2} - \frac{3}{2}$		179
	10	45.465	0.0 - 2199.54	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		179
	200	45.519	0.0 - 2196.89	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		179
	200	45.539	13.6 - 2209.47	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		179
	15	45.626	13.6 - 2205.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		179
	10	45.745	13.6 - 2199.54	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3d$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		179
	100	46.098	553.4 - 2722.69	$2s 2p^4 - 2s 2p^4 (^3P^o) 3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		179
	10	46.242	553.4 - 2715.94	$2s 2p^4 - 2s 2p^4 (^3P^o) 3d$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		179
	100	49.234	0.0 - 2031.08	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		179
	100	49.568	13.6 - 2031.08	$2s^2 2p^4 - 2s^2 2p^4 (^1S) 3s$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		179
	400	51.026	0.0 - 1959.79	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3s$	$g^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		179
	300	51.378	13.6 - 1959.96	$2s^2 2p^4 - 2s^2 2p^4 (^1D) 3s$	$g^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		179
	200	52.055	0.0 - 1921.05	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		179
	400	52.303	0.0 - 1911.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		179
	300	52.426	13.6 - 1921.05	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		179
	200	52.677	13.6 - 1911.95	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		179
	300	52.726	0.0 - 1896.6	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		179
	10	52.939	0.0 - 1888.97	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		179
	1	52.959	13.6 - 1901.85	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		179
	1	53.108	13.6 - 1896.6	$2s^2 2p^4 - 2s^2 2p^4 (^3P) 3s$	$g^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		179
	10	53.448	553.4 - 2424.38	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{1}{2}$		179
	100	53.696	553.4 - 2415.74	$2s 2p^4 - 2s 2p^4 (^3P^o) 3s$	$^3S - ^3P^o$	$\frac{1}{2} - \frac{3}{2}$		179
		180.71	0.0 - 553.4	$2s^2 2p^4 - 2s 2p^4$	$g^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		160
		185.26	13.6 - 553.4	$2s^2 2p^4 - 2s 2p^4$	$g^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		160
		918.2	3050.02 + B - 3158.93 + B	$2s^2 2p^4 (^3P) 5g - 2s^2 2p^4 (^3P) 6h$	$^3H - ^3I^o$	$\frac{11}{2} - \frac{13}{2}$		111
		1526.0	3158.93 + B - 3224.46 + B	$2s^2 2p^4 (^3P) 6h - 2s^2 2p^4 (^3P) 7i$	$^3I^o - ^3K$	$\frac{13}{2} - \frac{15}{2}$		111

CHLORINE X (Cl^{10+}), $Z = 17$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential $3\ 674\ 900\ \text{cm}^{-1}$; 455.63 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in $10^4\ \text{cm}^{-1}$)	Configurations	Terms	J - J	Notes	References
110	34.79		0.0 - 2874. + Z	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})4s$	$g^3P - ^3S^{\circ}$	2 - 1		250, 375
40	38.66		0.0 - 2588.6 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^1P^{\circ}$	2 - 1		250
250	39.01		0.0 - 2563.6 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^1F^{\circ}$	2 - 3	Q	250, 375
250	39.15		0.0 - 2554.3	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 2	Q	250, 375
10	39.253		0.0 - 2547.58	$7s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 3		179
20	39.422		10.85 - 2547.6	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^3D^{\circ}$	1 - 1		947
1	39.528		0.0 - 2529.8	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^3F^{\circ}$	2 - 3		179, 375
1	39.634		10.85 - 2534.1	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 1		179, 375
250	39.77		0.0 - 2512.2	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$g^3P - ^3S^{\circ}$	2 - 1	Q	250, 375
100	39.956		0.0 - 2502.75	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$g^3P - ^3P^{\circ}$	2 - 2		179
90	40.019		64.82 + E - 2563.6 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$^1D - ^1F^{\circ}$	2 - 3		947
200	40.085		0.0 - 2494.7	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 3		179
1	40.136		10.85 - 2502.75	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$g^3P - ^3P^{\circ}$	1 - 2		179
250	40.49		0.0 - 2471.0	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$g^3P - ^3F^{\circ}$	2 - 2	Q	250, 375
100	40.660		64.82 + E - 2524.24 + E	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$^1D - ^1F^{\circ}$	2 - 3		179
40	40.759		135.20 + E - 2588.6 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3d$	$^1S - ^1P^{\circ}$	0 - 1		947
10	40.994		64.82 + E - 2504.20 + E	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3d$	$^1D - ^1D^{\circ}$	2 - 2		179
100	41.390		0.0 - 2416.04	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})3d$	$g^3P - ^3D^{\circ}$	2 - 3		179
10	41.589		10.85 - 2415.36	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})3d$	$g^3P - ^3D^{\circ}$	1 - 2		179
300	45.396		0.0 - 2202.8	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3s$	$g^3P - ^3D^{\circ}$	2 - 3		179
10	45.431		64.82 + E - 2265.96 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3s$	$^1D - ^1P^{\circ}$	2 - 1		179
400	45.655		10.85 - 2201.3	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3s$	$g^3P - ^3D^{\circ}$	1 - 2		865
150	45.732		14.11 - 2200.7	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3s$	$g^3P - ^3D^{\circ}$	0 - 1		865
500	46.477		64.82 + E - 2216.47 + E	$2s^2 2p^4 - 2s^2 2p^3(^3D^{\circ})3s$	$^1D - ^1D^{\circ}$	2 - 2		865
400	46.845		0.0 - 2124.7	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})3s$	$g^3P - ^3S^{\circ}$	2 - 1		179
150	46.908		135.20 + E - 2265.96 + E	$2s^2 2p^4 - 2s^2 2p^3(^3P^{\circ})3s$	$^1S - ^1P^{\circ}$	0 - 1		865
150	47.085		10.85 - 2134.7	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})3s$	$g^3P - ^3S^{\circ}$	1 - 1		865
50	47.158		14.11 - 2134.7	$2s^2 2p^4 - 2s^2 2p^3(^4S^{\circ})3s$	$g^3P - ^3S^{\circ}$	0 - 1		865
	164.5		64.82 + E - 672.67 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1P^{\circ}$	2 - 1		160
	186.06		135.20 + E - 672.67 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^1S - ^1P^{\circ}$	0 - 1		248
	201.50		0.0 - 496.26	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	2 - 1		160
	203.80		10.85 - 501.51	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	1 - 0		160
	205.40		0.0 - 486.85	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	2 - 2		160
	206.02		10.85 - 496.26	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	1 - 1		160
	207.41		14.11 - 496.26	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	0 - 1		160
	210.08		10.85 - 486.85	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^3P^{\circ}$	1 - 2		160
	739.7		0.0 - 135.20 + E	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^1S$	2 - 0	F, P	375
	804.2		10.85 - 135.20 + E	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^1S$	1 - 0	F, P	375
	1420.84		64.82 + E - 135.20 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1S$	2 - 0	F, P	375
	1542.8		0.0 - 64.82 + E	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^1D$	2 - 2	F, P	375
	1853.0		10.85 - 64.82 + E	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^1D$	1 - 2	F, P	375
	1903.		3447.47 + B - 3500.00 + B	$2s^2 2p^3(^4S^{\circ})7h - 2s^2 2p^3(^4S^{\circ})8i$	$^1H - ^1I^{\circ}$	5 - 6		111
	1972.0		14.11 - 64.82 + E	$2s^2 2p^4 - 2s^2 2p^3$	$g^3P - ^1D$	0 - 2	F, P	375

CHLORINE XI (Cl^{10+}), $Z = 17$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential $4\ 268\ 900\ \text{cm}^{-1}$; 529.28 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in $10^4\ \text{cm}^{-1}$)	Configurations	Terms	J - J	Notes	References
70	35.92		0.0 - 2782.41 + E	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		250, 375
350	36.286		0.0 - 2755.88	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		852
500	36.334		0.0 - 2752.24	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$g^4S^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		852
10	36.441		90.69 + E - 2834.70 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		852
600	36.674		90.69 + E - 2817.42 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		852
300	37.05		88.66 + E - 2787.63 + E	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^1D^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		250
50	37.123		140.94 + E - 2834.70 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^{\circ} - ^1P$	$\frac{3}{2} - \frac{3}{2}$		852
100	37.259		140.94 + E - 2824.86 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D)3d$	$^1P^{\circ} - ^1D$	$\frac{3}{2} - \frac{3}{2}$		852
150	37.537		90.69 + E - 2754.73 + E	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		852
100	37.673		88.66 + E - 2743.08 + E	$2s^2 2p^3 - 2s^2 2p^2(^4P)3d$	$^1D^{\circ} - ^1F$	$\frac{3}{2} - \frac{3}{2}$		852

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
150	37.783	140.94 + E - 2787.63 + E	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$			852
200	37.88	90.69 + E - 2731.25 + E	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			250
10	38.603	140.94 + E - 2731.25 + E	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3d$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$			852
350	40.392	0.0 - 2475.74	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$			852
100	40.505	0.0 - 2468.83	$2s^2 2p^3 - 2s^2 2p^3 (^4P) 3s$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$			852
10	40.787	90.69 + E - 2542.45 + E	$2s^2 2p^3 - 2s^2 2p^3 (^4D) 3s$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$			852
	162.83	88.66 + E - 702.80 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	166.07	88.66 + E - 690.82 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	166.63	90.69 + E - 690.82 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	177.00	137.87 + E - 702.80 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	177.96	140.94 + E - 702.80 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	180.85	137.87 + E - 690.82 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$			248
	181.84	140.94 + E - 690.82 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	190.03	566.72 + E - 1092.95 + E	$2s^2 2p^3 - 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			248
	190.94	137.87 + E - 661.59 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4S$	$\frac{3}{2} - \frac{3}{2}$			161
	192.06	140.94 + E - 661.59 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4S$	$\frac{3}{2} - \frac{3}{2}$			161
	195.69	567.04 + E - 1078.05 + E	$2s^2 2p^3 - 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$			248
	209.18	88.66 + E - 566.72 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$			161
	209.93	90.69 + E - 567.04 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4D$	$\frac{3}{2} - \frac{3}{2}$			161
	233.17	137.87 + E - 566.72 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$			161
	234.67	140.94 + E - 567.04 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$			161
	234.84	0.0 - 425.83	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	237.42	0.0 - 421.19	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	242.76	0.0 - 411.93	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$			161
	709.5	0.0 - 140.94 + E	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		F, P	375
	725.3	0.0 - 137.87 + E	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4P$	$\frac{3}{2} - \frac{3}{2}$		F, P	375
	1102.6	0.0 - 90.69 + E	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		F, P	375
	1127.9	0.0 - 88.66 + E	$2s^2 2p^3 - 2s^2 2p^3$	$g^4S - ^4D$	$\frac{3}{2} - \frac{3}{2}$		F, P	375
	1912.89	88.66 + E - 140.94 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		F, P	375
	1990.17	90.69 + E - 140.94 + E	$2s^2 2p^3 - 2s^2 2p^3$	$^4D - ^4P$	$\frac{3}{2} - \frac{3}{2}$		F, P	375

CHLORINE XII (Cl^{11+}), $Z = 17$ Ground State $1s^2 2s^2 2p^2 \ ^3P_0$ (6 electrons)Ionization Potential 4 774 700 cm^{-1} ; 591.99 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
10	32.531	16.62 - 3090.62	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3p$	$g^4P - ^4D$	2 - 3			852
150	33.531	0.0 - 2982.6	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	0 - 1			852
50	33.542	500. + L - 3481.34 + L	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3d$	$^4S - ^4P$	2 - 2			852
100	33.596	500. + L - 3476.54 + L	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3d$	$^4S - ^4P$	2 - 3			852
	33.597	7.25 - 2983.7	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	1 - 0			949
	33.610	7.25 - 2982.6	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	1 - 1			949
	33.613	7.25 - 2982.2	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	1 - 2		P	949
	33.716	16.62 - 2982.6	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	2 - 1			949
	33.720	16.62 - 2982.2	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4P$	2 - 2		P	949
	33.736	0.0 - 2964.02	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	0 - 1			949
500	33.774	7.25 - 2968.10	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	1 - 2			852
800	33.789	16.62 - 2976.16	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	2 - 3			852
	33.802	7.25 - 2965.6	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	1 - 1		P	949
	33.886	16.62 - 2968.10	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	2 - 2			949
10	34.000	388.69 - 3329.86	$2s^2 2p^2 - 2s^2 2p^2 (^4D) 3d$	$^4D - ^4F$	3 - 4			852
	34.047	75.51 + E - 3012.8 + E	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4P$	2 - 1		P	949
600	34.052	75.51 + E - 3012.1 + E	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4F$	2 - 3			852
	34.101	16.62 - 2948.7 + E	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4D$	2 - 2			949
	34.146	16.62 - 2946.4	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4F$	2 - 3			949
	34.236	16.62 - 2937.5	$2s^2 2p^2 - 2s^2 2p^2 3d$	$g^4P - ^4F$	2 - 2			949
	34.422	577.09 + E - 3481.34 + L	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3d$	$^4D - ^4P$	2 - 2		Q	949
	34.576	75.51 + E - 2968.10	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4D$	2 - 2			949
100	34.804	75.51 + E - 2948.7 + E	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4D$	2 - 2			852
	34.857	75.51 + E - 2946.4	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4F$	2 - 3		Q	949
50	34.894	146.96 + E - 3012.8 + E	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4S - ^4P$	0 - 1			852
	34.958	75.51 + E - 2937.5	$2s^2 2p^2 - 2s^2 2p^2 3d$	$^4D - ^4F$	2 - 2		Q	949
10	35.429	388.69 - 3211.24	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3d$	$^4D - ^4F$	3 - 4			852
10	36.566	500. + L - 3234.8 + L	$2s^2 2p^2 - 2s^2 2p^2 (^4P) 3s$	$^4S - ^4P$	2 - 3			852
50	36.845	16.62 - 2729.23	$2s^2 2p^2 - 2s^2 2p^2 3s$	$g^4P - ^4P$	2 - 2			852
10	37.464	75.51 + E - 2744.74 + E	$2s^2 2p^2 - 2s^2 2p^2 3s$	$^4D - ^4P$	2 - 1			852

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		172.06	0.0 - 581.24	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2S$	0 - 1		161
		174.21	7.25 - 581.24	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2S$	1 - 1		161
		175.71	75.51 + E - 644.63 + E	$2s^2 2p^2 - 2s 2p^3$	$^1D - ^1P$	2 - 1		161
		177.11	16.62 - 581.24	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2S$	2 - 1		161
		196.33	388.46 - 897.81	$2s 2p^3 - 2p^4$	$^3D - ^3P$	1 - 0		248
		197.82	388.06 - 893.60	$2s 2p^3 - 2p^4$	$^1D - ^1P$	2 - 1		375
		199.37	75.51 + E - 577.09 + E	$2s^2 2p^2 - 2s 2p^3$	$^1D - ^1D$	2 - 2		161
		202.54	388.69 - 882.48	$2s 2p^3 - 2p^4$	$^1D - ^1P$	3 - 2		248
		219.53	0.0 - 455.54	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2P$	0 - 1		161
		222.72	7.25 - 456.24	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2P$	1 - 2		161
		223.11	7.25 - 455.46	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2P$	1 - 0		161
		227.47	16.62 - 456.24	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2P$	2 - 2		161
		227.83	16.62 - 455.54	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^2P$	2 - 1		161
		228.29	455.54 - 893.60	$2s 2p^3 - 2p^4$	$^3P - ^3P$	1 - 1		248
		234.64	456.24 - 882.48	$2s 2p^3 - 2p^4$	$^3P - ^3P$	2 - 2		248
		257.43	0.0 - 388.46	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^1D$	0 - 1		248
		262.32	7.25 - 388.46	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^1D$	1 - 1		248
		262.60	7.25 - 388.06	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^1D$	1 - 2		248
		268.77	16.62 - 388.69	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^1D$	2 - 3		248
		269.21	16.62 - 388.06	$2s^2 2p^2 - 2s 2p^3$	$g^2P - ^1D$	2 - 2		248
		331.94	581.24 - 882.48	$2s 2p^3 - 2p^4$	$^3S - ^3P$	1 - 2		250
		715.8	7.25 - 146.96 + E	$2s^2 2p^2 - 2s^2 2p^3$	$g^2P - ^1S$	1 - 0	F, P	375
		767.2	16.62 - 146.96 + E	$2s^2 2p^2 - 2s^2 2p^3$	$g^2P - ^1S$	2 - 0	F, P	375
		1324.3	0.0 - 75.51 + E	$2s^2 2p^2 - 2s^2 2p^3$	$g^2P - ^1D$	0 - 2	F, P	375
		1399.68	75.51 + E - 146.96 + E	$2s^2 2p^2 - 2s^2 2p^3$	$^1D - ^1S$	2 - 0	F, P	375
		1464.9	7.25 - 75.51 + E	$2s^2 2p^2 - 2s^2 2p^3$	$g^2P - ^1D$	1 - 2	F, P	375
		1698.0	16.62 - 75.51 + E	$2s^2 2p^2 - 2s^2 2p^3$	$g^2P - ^1D$	2 - 2	F, P	375

CHLORINE XIII (Cl^{12+}), $Z = 17$ Ground State $1s^2 2s^2 2p^2 P_{1/2}$ (5 electrons)Ionization Potential $5\,296\,700 \text{ cm}^{-1}$; 656.71 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	24.09	378.2 - 4529.3	$2s 2p^2 - 2s 2p(^1P)4d$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		250
	200	24.29	0.0 - 4116.92	$2s^2 2p - 2s^2 4d$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	24.40	17.41 - 4116.92	$2s^2 2p - 2s^2 4d$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	24.79	504.07 - 4536.4	$2s 2p^2 - 2s 2p(^3P)4d$	$^3P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	24.86	512.23 - 4536.4	$2s 2p^2 - 2s 2p(^3P)4d$	$^3P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	24.97	378.2 - 4383.	$2s 2p^2 - 2s 2p(^3P)4d$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		250
	10	28.665	17.41 - 3506.	$2s^2 2p - 2s 2p(^1P)3p$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	10	29.940	0.0 - 3340.	$2s^2 2p - 2s 2p(^3P)3p$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	50	30.010	17.41 - 3549.6	$2s^2 2p - 2s 2p(^3P)3p$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	50	31.126	378.2 - 3590.95	$2s 2p^2 - 2s 2p(^1P)3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		852
	10	31.253	391.16 + R - 3590.86 + R	$2s 2p^2 - 2s 2p(^3P)3d$	$^3P - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	50	31.360	384.68 + R - 3573.66 + R	$2s 2p^2 - 2s 2p(^3P)3d$	$^3P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	50	31.365	400.00 + R - 3588.27 + R	$2s 2p^2 - 2s 2p(^3P)3d$	$^3P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		852
	250	31.448	400.00 + R - 3579.85 + R	$2s 2p^2 - 2s 2p(^3P)3d$	$^3P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	500	31.465	0.0 - 3178.13	$2s^2 2p - 2s^2 3d$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	800	31.620	17.41 - 3180.	$2s^2 2p - 2s^2 3d$	$g^2P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	150	32.05						250
	10	32.32	512.23 - 3606.33	$2s 2p^2 - 2s 2p(^1P)3d$	$^3P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	10	32.43	377.67 - 3460.34	$2s 2p^2 - 2s 2p(^3P)3d$	$^1D - ^1P$	$\frac{1}{2} - \frac{1}{2}$		852
	250	32.445	378.2 - 3460.34	$2s 2p^2 - 2s 2p(^3P)3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{1}{2}$		852
	50	33.020	378.2 - 3406.67	$2s 2p^2 - 2s 2p(^3P)3d$	$^1D - ^1D$	$\frac{1}{2} - \frac{1}{2}$		852
	160	36.30	750.6 - 3506.	$2p^2 - 2s 2p(^1P)3p$	$^1D - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250, 375
	110	38.46	750.63 - 3349.6	$2p^2 - 2s 2p(^3P)3p$	$^1D - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250, 375
	40	38.61	749.48 - 3340.	$2p^2 - 2s 2p(^3P)3p$	$^1D - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250, 375
		195.22	0.0 - 512.23	$2s^2 2p - 2s 2p^3$	$g^2P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		248
		198.40	0.0 - 504.07	$2s^2 2p - 2s 2p^3$	$g^2P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		248
		202.10	17.41 - 512.23	$2s^2 2p - 2s 2p^3$	$g^2P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		248
		205.47	17.41 - 504.07	$2s^2 2p - 2s 2p^3$	$g^2P - ^3P$	$\frac{1}{2} - \frac{1}{2}$		248
		209.81	0.0 - 476.62	$2s^2 2p - 2s 2p^3$	$g^2P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		248
		217.77	17.41 - 476.62	$2s^2 2p - 2s 2p^3$	$g^2P - ^3S$	$\frac{1}{2} - \frac{1}{2}$		248

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		221.38	384.68 + R - 836.4 + R	$2s2p^2 - 2p^3$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		248
		224.60	391.16 + R - 836.4 + R	$2s2p^2 - 2p^3$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		248
		229.15	400.00 + R - 836.4 + R	$2s2p^2 - 2p^3$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		248
		264.78	0.0 - 377.67	$2s^22p - 2s2p^2$	$g^4P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		248
		277.17	17.41 - 378.2	$2s^22p - 2s2p^2$	$g^4P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		248
		277.59	17.41 - 377.67	$2s^22p - 2s2p^2$	$g^4P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		248
		302.24	512.23 - 843.09	$2s2p^2 - 2p^3$	$^1P - ^1P$	$\frac{1}{2} - \frac{1}{2}$		250
		407.48	504.07 - 749.48	$2s2p^2 - 2p^3$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
		419.46	512.23 - 750.63	$2s2p^2 - 2p^3$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250

CHLORINE XIV (Cl^{13+}), $Z = 17$ Ground State $1s^22s^2 \ ^1S_0$ (4 electrons)Ionization Potential 6 047 200 cm^{-1} ; 749.76 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	18.63	232.66 + K - 5600.36 + K	$2s2p - 2s7d$	$^1P - ^1D$	2 - 3		250
	50	19.58	232.66 + K - 5339.86 + K	$2s2p - 2s6d$	$^1P - ^1D$	2 - 3		250
	50	20.55	232.66 + K - 5098.86 + K	$2s2p - 2s5d$	$^1P - ^1D$	2 - 3		250
	50	20.84	582.01 + K - 5380.46 + K	$2p^2 - 2p5d$	$^1P - ^1D$	2 - 3		250
	50	22.00	232.66 + K - 4778.06 + K	$2s2p - 2p4p$	$^1P - ^1P$	2 - 2		250
	50	22.11	232.66 + K - 4755.46 + K	$2s2p - 2p4p$	$^1P - ^1D$	2 - 3		250
	50	22.37	219.86 + K - 4690.16 + K	$2s2p - 2s4d$	$^1P - ^1D$	1 - 2		250
	100	22.42	232.66 + K - 4692.96 + K	$2s2p - 2s4d$	$^1P - ^1D$	2 - 3		250
	100	22.86	582.01 + K - 4956.46 + K	$2p^2 - 2p4d$	$^1P - ^1D$	2 - 3		250
	10	27.65	232.66 + K - 3849.26 + K	$2s2p - 2p3p$	$^1P - ^1P$	2 - 2		852
	10	27.88	232.66 + K - 3819.46 + K	$2s2p - 2p3p$	$^1P - ^1D$	2 - 3		852
	50	28.059	0.0 - 3564.76 + K	$2s^2 - 2s3p$	$g^1S - ^1P$	0 - 1		852
	100	28.113	0.0 - 3557.07	$2s^2 - 2s3p$	$g^1S - ^1P$	0 - 1		852
	50	29.383	213.46 + K - 3616.76 + K	$2s2p - 2s3d$	$^1P - ^1D$	0 - 1		852
	150	29.423	219.86 + K - 3618.76 + K	$2s2p - 2s3d$	$^1P - ^1D$	1 - 2		852
	350	29.529	232.66 + K - 3619.76 + K	$2s2p - 2s3d$	$^1P - ^1D$	2 - 3		852
	10	30.085	571.59 + K - 3895.51 + K	$2p^2 - 2p3d$	$^1P - ^1D$	1 - 2		852
	10	30.145	582.01 + K - 3899.31 + K	$2p^2 - 2p3d$	$^1P - ^1D$	2 - 3		852
	10	30.25	638.86 - 3944.64	$2p^2 - 2p3d$	$^1D - ^1F$	2 - 3		852
	50	30.900	420.70 - 3656.95	$2s2p - 2s3d$	$^1P - ^1D$	1 - 2		852
	10	30.995	232.66 + K - 3458.96 + K	$2s2p - 2s3s$	$^1P - ^1S$	2 - 1		852
		237.70	0.0 - 420.70	$2s^2 - 2s2p$	$g^1S - ^1P$	0 - 1		250
		276.13	219.86 + K - 582.01 + K	$2s2p - 2p^2$	$^1P - ^1P$	1 - 2		248
		284.31	219.86 + K - 571.59 + K	$2s2p - 2p^2$	$^1P - ^1P$	1 - 1		248
		286.26	232.66 + K - 582.01 + K	$2s2p - 2p^2$	$^1P - ^1P$	2 - 2		248
		290.51	219.86 + K - 564.08 + K	$2s2p - 2p^2$	$^1P - ^1P$	1 - 0		248
		295.05	232.66 + K - 571.59 + K	$2s2p - 2p^2$	$^1P - ^1P$	2 - 1		248
		454.84	0.0 - 219.86 + K	$2s^2 - 2s2p$	$g^1S - ^1P$	0 - 1	P	386
		458.39	420.70 - 638.86	$2s2p - 2p^2$	$^1P - ^1D$	1 - 2		250

CHLORINE XV (Cl^{14+}), $Z = 17$ Ground State $1s^22s \ ^2S_{1/2}$ (3 electrons)Ionization Potential 6 528 300 cm^{-1} ; 809.41 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.4474	3750.94 - 26235.0	$1s^23p - 1s2p(^1P^*)3p$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.4516	3750.94 - 26213.8	$1s^23p - 1s2p(^1P^*)3p$	$^1P - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.4585	240.67 - 22667.9	$1s^22p - 1s2p^2$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.4630	260.44 - 22667.9	$1s^22p - 1s2p^2$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.4669	0.0 - 22386.9	$1s^22s - 1s(2s2p(^1P^*))$	$g^2S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Z	643

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		4.468	3778. - 26160.0	$1s^2 3d - 1s 2p(^1P^o) 3s$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
		4.469	3779. - 26160.0	$1s^2 3d - 1s 2p(^1P^o) 3s$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
		4.4837	0.0 - 22303.0	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.485	240.67 - 22532.4	$1s^2 2p - 1s 2p^2$	$^3P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
		4.488	260.44 - 22542.4	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	283
		4.4925	240.67 - 22500.0	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.4970	260.44 - 22500.0	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$	Z	643
		4.5215	0.0 - 22116.6	$1s^2 2s - 1s(2s 2p(^1P^o))$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	Z	643
	50	17.10	240.67 - 6101.8	$1s^2 2p - 1s^2 8d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	17.25	0.0 - 5797.1	$1s^2 2s - 1s^2 6p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	50	17.46	260.44 - 5981.2	$1s^2 2p - 1s^2 7d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	17.96	260.44 - 5821.8	$1s^2 2p - 1s^2 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	18.13	0.0 - 5515.7	$1s^2 2s - 1s^2 5p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	100	18.99	260.44 - 5519.8	$1s^2 2p - 1s^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	150	20.13	0.0 - 4967.7	$1s^2 2s - 1s^2 4p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	100	21.10	240.67 - 4980.	$1s^2 2p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	150	21.18	260.44 - 4981.9	$1s^2 2p - 1s^2 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	50	21.41	260.44 - 4924.6	$1s^2 2p - 1s^2 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		250
	350	26.66	0.0 - 3750.94	$1s^2 2s - 1s^2 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	350	26.67	0.0 - 3749.	$1s^2 2s - 1s^2 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
	300	28.27	240.67 - 3778.	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	450	28.42	260.44 - 3779.	$1s^2 2p - 1s^2 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		250
	200	28.93	240.67 - 3698.	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		250
	200	29.09	260.44 - 3698.	$1s^2 2p - 1s^2 3s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		250
		383.96	0.0 - 260.44	$1s^2 2s - 1s^2 2p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250
		415.50	0.0 - 240.67	$1s^2 2s - 1s^2 2p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		250

CHLORINE XVI (Cl^{16+}), Z = 17Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 29 507 670 cm^{-1} ; 3658.51 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		3.481	0.0 - 28725.8	$1s^2 - 1s 6p$	$g^1S - ^1P^o$	0 - 1	P	728
		3.523	0.0 - 28383.85	$1s^2 - 1s 5p$	$g^1S - ^1P^o$	0 - 1	P	728
		3.603	0.0 - 27751.97	$1s^2 - 1s 4p$	$g^1S - ^1P^o$	0 - 1	P	918
		3.7896	0.0 - 26387.90	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1	P	918
		3.7943	0.0 - 26355.22	$1s^2 - 1s 3p$	$g^1S - ^1P^o$	0 - 1	P	918
		3.8620						624
		4.4442	0.0 - 22501.32	$1s^2 - 1s 2p$	$g^1S - ^1P^o$	0 - 1	P	918
		4.4677	0.0 - 22382.67	$1s^2 - 1s 2p$	$g^1S - ^1P^o$	0 - 1	P	918
		4.497	0.0 - 22236.86	$1s^2 - 1s 2s$	$g^1S - ^1S$	0 - 1	F, P	375
		24.25	22236.86 - 26360.30	$1s 2s - 1s 3p$	$^1S - ^1P^o$	1 - 2	P	375
		25.02	22390.60 - 26387.90	$1s 2s - 1s 3p$	$^1S - ^1P^o$	0 - 1	P	375
		70.14	26314.96 - 27740.69	$1s 3s - 1s 4p$	$^1S - ^1P^o$	1 - 2	P	375
		71.61	26355.55 - 27751.97	$1s 3s - 1s 4p$	$^1S - ^1P^o$	0 - 1	P	375
		614.25	22236.86 - 22399.66	$1s 2s - 1s 2p$	$^1S - ^1P^o$	1 - 2	P	375
		903.16	22390.60 - 22501.32	$1s 2s - 1s 2p$	$^1S - ^1P^o$	0 - 1	P	375

Ground State $1s^2 S_{1/2}$ (1 electron)Ionization Potential 31 829 000 cm^{-1} ; 3946.32 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		3.173	0.0 - 31511.75	1s - 10p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		3.181	0.0 - 31437.36	1s - 9p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		3.192	0.0 - 31333.35	1s - 8p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		3.207	0.0 - 31181.63	1s - 7p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		3.231	0.0 - 30947.87	1s - 6p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		3.272	0.0 - 30558.99	1s - 5p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
10		3.351	0.0 - 29844.42	1s - 4p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
20		3.534	0.0 - 28300.65	1s - 3p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
10		3.535	0.0 - 28291.90	1s - 3p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
65		4.185	0.0 - 23892.90	1s - 2p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	209, 375
35		4.191	0.0 - 23862.03	1s - 2p	$g^*S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
		13.074	23863.10 - 31511.75	2s - 10p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		13.125	25892.90 - 31511.75	2p - 10d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		13.203	23863.10 - 31437.36	2s - 9p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		13.255	23892.90 - 31437.36	2p - 9d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		13.386	23863.10 - 31333.35	2s - 8p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		13.440	23892.90 - 31333.35	2p - 8d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		13.664	23863.10 - 31181.63	2s - 7p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		13.720	23892.90 - 31181.63	2p - 7d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		14.115	23863.10 - 30947.87	2s - 6p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		14.174	23892.90 - 30947.87	2p - 6d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		14.934	23863.10 - 30558.99	2s - 5p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		15.000	23892.90 - 30559.64	2p - 5d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		16.719	23863.10 - 29844.42	2s - 4p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		16.799	23892.90 - 29845.69	2p - 4d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		22.535	23863.10 - 28300.65	2s - 3p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		22.672	23892.90 - 28303.66	2p - 3d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		31.057	28291.82 - 31511.75	3s - 10p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		31.142	28300.65 - 31511.75	3p - 10d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		31.171	28363.66 - 31511.75	3d - 10f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		31.791	28291.82 - 31437.36	3s - 9p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		31.881	28300.65 - 31437.36	3p - 9d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		31.911	28303.66 - 31437.36	3d - 9f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		32.878	28291.82 - 31333.35	3s - 8p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		32.974	28200.65 - 31333.35	3p - 8d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		33.007	28303.66 - 31333.35	3d - 8f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		34.604	28291.82 - 31181.63	3s - 7p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		34.710	28300.65 - 31181.63	3p - 7d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		34.747	28303.66 - 31181.63	3d - 7f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		37.650	28291.82 - 30947.87	3s - 6p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		37.776	28300.65 - 30947.87	3p - 6d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		37.818	28303.66 - 30947.87	3d - 6f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		44.108	28291.82 - 30558.99	3s - 5p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		44.268	28300.65 - 30559.64	3p - 5d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		44.320	28303.66 - 30559.97	3d - 5f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		59.842	29840.70 - 31511.75	4s - 10p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		59.976	29844.42 - 31511.75	4p - 10d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		60.022	29845.69 - 31511.75	4d - 10f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		62.631	29840.70 - 31437.36	4s - 9p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		62.777	29844.42 - 31437.36	4p - 9d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		62.827	29845.69 - 31437.36	4d - 9f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		64.408	28291.82 - 29844.42	3s - 4p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		64.723	28300.65 - 29845.69	3p - 4d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		64.823	28303.66 - 29846.32	3d - 4f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		66.995	29840.70 - 31333.35	4s - 8p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		67.162	29844.42 - 31333.35	4p - 8d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		67.220	29845.69 - 31333.35	4d - 8f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		74.575	29840.70 - 31181.63	4s - 7p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		74.782	29844.42 - 31181.63	4p - 7d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		74.853	29845.69 - 31181.63	4d - 7f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		90.320	29840.70 - 30947.87	4s - 6p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		90.624	29844.42 - 30947.87	4p - 6d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		90.729	29845.69 - 30947.87	4d - 6f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		104.748	30557.08 - 31511.75	5s - 10p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		104.958	30558.99 - 31511.75	5p - 10d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		105.030	30559.64 - 31511.75	5d - 10f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		113.601	30557.08 - 31437.36	5s - 9p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309
		113.848	30558.99 - 31437.36	5p - 9d	$P' - D$	$\frac{3}{2} - \frac{5}{2}$	P	309
		113.932	30559.64 - 31437.36	5d - 9f	$D - F$	$\frac{5}{2} - \frac{7}{2}$	P	309
		128.823	30557.08 - 31333.35	5s - 8p	$S - P'$	$\frac{1}{2} - \frac{3}{2}$	P	309

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
		129.140	30558.99 - 31333.35	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		129.248	30559.64 - 31333.35	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		139.219	29840.70 - 30558.99	4s - 5p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		139.817	29844.42 - 30559.64	4p - 5d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		140.002	29845.69 - 30559.97	4d - 5f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		160.116	30557.08 - 31181.63	5s - 7p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		160.606	30558.99 - 31181.63	5p - 7d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		160.774	30559.64 - 31181.63	5d - 7f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309
		255.893	30557.08 - 30947.87	5s - 6p	$^3S - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	309
		257.147	30558.99 - 30947.87	5p - 6d	$^3P - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	309
		257.578	30559.64 - 30947.87	5d - 6f	$^3D - ^3F$	$\frac{3}{2} - \frac{3}{2}$	P	309

Ar

ARGON, Z = 18

Ar

Unclassified Lines

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	125	21.69						736
	50	27.90						248
	100	40.64						248
	150	41.38						248
	100	44.19						248
	150	45.67						248
	50	46.26						248
	100	46.39						248
	20	405.42						707
	20	409.12						707
	20	410.10						707
	20	415.86						707
	10	417.12						707
	10	429.80						707
	10	438.64						707
	40	439.96						707
	30	440.91						707
	30	441.83						707
	20	454.76						707
	150	465.02						707
	80	468.38						707
	60	485.79						707
	300	486.60						707
	40	496.91						707
	40	502.42						707
	60	505.45						707
	200	509.02						707
	20	515.62						707
	40	538.41						707
	30	539.19						707
	50	539.79						707
	120	554.50						707
	40	557.04						707
	40	559.48						707
	30	562.18						707
	20	565.31						707
	20	613.40						707
	10	614.69						707
	200	618.63						707
	200	619.04						707
	20	620.05						707
	20	621.05						707
	60	631.68						707
	50	649.03						707
	10	663.93						707
	50	664.93						707
	20	670.39						707
	20	675.28						707
	20	680.60						707
	10	681.15						707
	100	684.81						707
	150	694.85						707
	20	698.08						707
	150	701.11						707
	10	716.42						707
	10	720.94						707
	10	727.58						707
	10	772.41						707
	250	783.14						707
	30	784.38						707
	10	792.08						707
	10	796.62						707
	20	803.59						707
	60	804.59						707
	30	807.46						707
	30	815.14						707
	20	820.56						707
	50	820.98						707
	40	828.84						707
	150	845.68						707

Ar

Ar I

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	855.71						707
	10	868.20						707
	10	869.24						707
	10	892.07						707
	10	892.74						707
	50	893.50						707
	10	894.97						707
	80	904.89						707
	10	912.91						707
	10	913.80						707
	10	917.72						707
	20	934.84						707

ARGON I (Ar^{+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^6 \ ^1S_0$ (18 electrons)Ionization Potential $127\,109.80 \text{ cm}^{-1}$; 15.760 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
		427.5	0.0 - 233.92	$3s^2 3p^6 - 3s 3p^6 9p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		428.8	0.0 - 233.21	$3s^2 3p^6 - 3s 3p^6 8p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		431.0	0.0 - 232.02	$3s^2 3p^6 - 3s 3p^6 7p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		435.0	0.0 - 229.89	$3s^2 3p^6 - 3s 3p^6 6p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		443.1	0.0 - 225.68	$3s^2 3p^6 - 3s 3p^6 5p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
		466.2	0.0 - 214.50	$3s^2 3p^6 - 3s 3p^6 4p$	$g^1S - ^1P^o$	0 - 1	A, Z	440
1		778.224	0.0 - 128.50	$3p^6 - 3p^6 (^1P_{1/2}) 52s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
1		778.231	0.0 - 128.50	$3p^6 - 3p^6 (^1P_{1/2}) 51s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
1		778.247	0.0 - 128.49	$3p^6 - 3p^6 (^1P_{1/2}) 50s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
2		778.260	0.0 - 128.49	$3p^6 - 3p^6 (^1P_{1/2}) 49s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
2		778.273	0.0 - 128.49	$3p^6 - 3p^6 (^1P_{1/2}) 48s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
3		778.286	0.0 - 128.49	$3p^6 - 3p^6 (^1P_{1/2}) 47s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
4		778.302	0.0 - 128.48	$3p^6 - 3p^6 (^1P_{1/2}) 46s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
4		778.319	0.0 - 128.48	$3p^6 - 3p^6 (^1P_{1/2}) 45s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
5		778.335	0.0 - 128.48	$3p^6 - 3p^6 (^1P_{1/2}) 44s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
6		778.354	0.0 - 128.48	$3p^6 - 3p^6 (^1P_{1/2}) 43s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
8		778.379	0.0 - 128.47	$3p^6 - 3p^6 (^1P_{1/2}) 42s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
8		778.396	0.0 - 128.47	$3p^6 - 3p^6 (^1P_{1/2}) 41s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
9		778.420	0.0 - 128.47	$3p^6 - 3p^6 (^1P_{1/2}) 40s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
11		778.447	0.0 - 128.46	$3p^6 - 3p^6 (^1P_{1/2}) 39s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
13		778.474	0.0 - 128.46	$3p^6 - 3p^6 (^1P_{1/2}) 38s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
14		778.504	0.0 - 128.45	$3p^6 - 3p^6 (^1P_{1/2}) 37s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
14		778.537	0.0 - 128.45	$3p^6 - 3p^6 (^1P_{1/2}) 36s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
14		778.572	0.0 - 128.44	$3p^6 - 3p^6 (^1P_{1/2}) 35s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
17		778.612	0.0 - 128.43	$3p^6 - 3p^6 (^1P_{1/2}) 34s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
18		778.655	0.0 - 128.43	$3p^6 - 3p^6 (^1P_{1/2}) 33s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
18		778.703	0.0 - 128.42	$3p^6 - 3p^6 (^1P_{1/2}) 32s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
19		778.756	0.0 - 128.41	$3p^6 - 3p^6 (^1P_{1/2}) 31s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
21		778.814	0.0 - 128.40	$3p^6 - 3p^6 (^1P_{1/2}) 30s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
22		778.879	0.0 - 128.39	$3p^6 - 3p^6 (^1P_{1/2}) 29s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
23		778.952	0.0 - 128.38	$3p^6 - 3p^6 (^1P_{1/2}) 28s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
25		779.034	0.0 - 128.36	$3p^6 - 3p^6 (^1P_{1/2}) 27s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
25		779.126	0.0 - 128.35	$3p^6 - 3p^6 (^1P_{1/2}) 26s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
27		779.230	0.0 - 128.33	$3p^6 - 3p^6 (^1P_{1/2}) 25s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
29		779.350	0.0 - 128.31	$3p^6 - 3p^6 (^1P_{1/2}) 24s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
11		779.486	0.0 - 128.29	$3p^6 - 3p^6 (^1P_{1/2}) 23s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
		779.49	0.0 - 128.29	$3p^6 - 3p^6 (^1P_{1/2}) 21d$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
11		779.645	0.0 - 128.26	$3p^6 - 3p^6 (^1P_{1/2}) 22s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
		779.65	0.0 - 128.26	$3p^6 - 3p^6 (^1P_{1/2}) 20d$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
11		779.828	0.0 - 128.23	$3p^6 - 3p^6 (^1P_{1/2}) 21s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
		779.84	0.0 - 128.23	$3p^6 - 3p^6 (^1P_{1/2}) 19d$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
13		780.044	0.0 - 128.20	$3p^6 - 3p^6 (^1P_{1/2}) 20s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
		780.05	0.0 - 128.20	$3p^6 - 3p^6 (^1P_{1/2}) 18d$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
13		780.300	0.0 - 128.16	$3p^6 - 3p^6 (^1P_{1/2}) 19s$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732
		780.31	0.0 - 128.15	$3p^6 - 3p^6 (^1P_{1/2}) 17d$	$g^1S - ^1/2 [^1/2]$	0 - 1	A, Z	732

Ar I

Ar I

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	15	780.606	0.0 - 128.11	$3p^2 - 3p^2(^3P_{1/2})18s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		780.62	0.0 - 128.10	$3p^2 - 3p^2(^3P_{1/2})16d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	21	780.975	0.0 - 128.05	$3p^2 - 3p^2(^3P_{1/2})17s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		780.99	0.0 - 128.04	$3p^2 - 3p^2(^3P_{1/2})15d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	23	781.427	0.0 - 127.97	$3p^2 - 3p^2(^3P_{1/2})16s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		781.45	0.0 - 127.97	$3p^2 - 3p^2(^3P_{1/2})14d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	24	781.992	0.0 - 127.88	$3p^2 - 3p^2(^3P_{1/2})15s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		782.02	0.0 - 127.87	$3p^2 - 3p^2(^3P_{1/2})13d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	31	782.705	0.0 - 127.76	$3p^2 - 3p^2(^3P_{1/2})14s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		782.74	0.0 - 127.76	$3p^2 - 3p^2(^3P_{1/2})12d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	43	783.627	0.0 - 127.61	$3p^2 - 3p^2(^3P_{1/2})13s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	120	783.67	0.0 - 127.61	$3p^2 - 3p^2(^3P_{1/2})11d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732, 707
	57	784.845	0.0 - 127.41	$3p^2 - 3p^2(^3P_{1/2})12s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		784.90	0.0 - 127.40	$3p^2 - 3p^2(^3P_{1/2})10d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	63	786.506	0.0 - 127.14	$3p^2 - 3p^2(^3P_{1/2})11s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
		786.59	0.0 - 127.13	$3p^2 - 3p^2(^3P_{1/2})9d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A, Z	732
	0	786.923	0.0 - 127.08	$3p^2 - 3p^2(^3P_{1/2})58d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	0	786.929	0.0 - 127.08	$3p^2 - 3p^2(^3P_{1/2})57d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	0	786.938	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})56d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	2	786.947	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})55d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	3	786.955	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})54d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	3	786.964	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})53d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	4	786.973	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})52d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	6	786.984	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})51d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	9	786.994	0.0 - 127.07	$3p^2 - 3p^2(^3P_{1/2})50d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	10	787.006	0.0 - 127.06	$3p^2 - 3p^2(^3P_{1/2})49d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	12	787.017	0.0 - 127.06	$3p^2 - 3p^2(^3P_{1/2})48d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	14	787.030	0.0 - 127.06	$3p^2 - 3p^2(^3P_{1/2})47d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	17	787.044	0.0 - 127.06	$3p^2 - 3p^2(^3P_{1/2})46d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	21	787.058	0.0 - 127.06	$3p^2 - 3p^2(^3P_{1/2})45d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	22	787.074	0.0 - 127.05	$3p^2 - 3p^2(^3P_{1/2})44d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	24	787.090	0.0 - 127.05	$3p^2 - 3p^2(^3P_{1/2})43d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	25	787.108	0.0 - 127.05	$3p^2 - 3p^2(^3P_{1/2})42d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	25	787.128	0.0 - 127.04	$3p^2 - 3p^2(^3P_{1/2})41d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	25	787.148	0.0 - 127.04	$3p^2 - 3p^2(^3P_{1/2})40d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	26	787.170	0.0 - 127.04	$3p^2 - 3p^2(^3P_{1/2})39d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	28	787.194	0.0 - 127.03	$3p^2 - 3p^2(^3P_{1/2})38d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	29	787.220	0.0 - 127.03	$3p^2 - 3p^2(^3P_{1/2})37d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	29	787.249	0.0 - 127.02	$3p^2 - 3p^2(^3P_{1/2})36d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	30	787.280	0.0 - 127.02	$3p^2 - 3p^2(^3P_{1/2})35d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	32	787.312	0.0 - 127.01	$3p^2 - 3p^2(^3P_{1/2})34d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	10	787.322	0.0 - 127.01	$3p^2 - 3p^2(^3P_{1/2})34d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	32	787.349	0.0 - 127.01	$3p^2 - 3p^2(^3P_{1/2})33d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	10	787.361	0.0 - 127.01	$3p^2 - 3p^2(^3P_{1/2})33d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	33	787.389	0.0 - 127.00	$3p^2 - 3p^2(^3P_{1/2})32d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	12	787.403	0.0 - 127.00	$3p^2 - 3p^2(^3P_{1/2})32d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	34	787.434	0.0 - 126.99	$3p^2 - 3p^2(^3P_{1/2})31d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	12	787.450	0.0 - 126.99	$3p^2 - 3p^2(^3P_{1/2})31d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	36	787.482	0.0 - 126.99	$3p^2 - 3p^2(^3P_{1/2})30d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	13	787.500	0.0 - 126.98	$3p^2 - 3p^2(^3P_{1/2})30d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	36	787.535	0.0 - 126.98	$3p^2 - 3p^2(^3P_{1/2})29d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	14	787.557	0.0 - 126.98	$3p^2 - 3p^2(^3P_{1/2})29d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	39	787.595	0.0 - 126.97	$3p^2 - 3p^2(^3P_{1/2})28d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	15	787.619	0.0 - 126.97	$3p^2 - 3p^2(^3P_{1/2})28d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	39	787.661	0.0 - 126.96	$3p^2 - 3p^2(^3P_{1/2})27d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	14	787.688	0.0 - 126.95	$3p^2 - 3p^2(^3P_{1/2})27d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	40	787.736	0.0 - 126.95	$3p^2 - 3p^2(^3P_{1/2})26d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	16	787.763	0.0 - 126.94	$3p^2 - 3p^2(^3P_{1/2})26d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	38	787.819	0.0 - 126.93	$3p^2 - 3p^2(^3P_{1/2})25d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	17	787.850	0.0 - 126.93	$3p^2 - 3p^2(^3P_{1/2})25d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	36	787.913	0.0 - 126.92	$3p^2 - 3p^2(^3P_{1/2})24d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	19	787.948	0.0 - 126.91	$3p^2 - 3p^2(^3P_{1/2})24d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	37	788.020	0.0 - 126.90	$3p^2 - 3p^2(^3P_{1/2})23d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	20	788.059	0.0 - 126.89	$3p^2 - 3p^2(^3P_{1/2})23d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	36	788.141	0.0 - 126.88	$3p^2 - 3p^2(^3P_{1/2})22d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	24	788.185	0.0 - 126.87	$3p^2 - 3p^2(^3P_{1/2})22d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	41	788.280	0.0 - 126.86	$3p^2 - 3p^2(^3P_{1/2})21d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	28	788.329	0.0 - 126.85	$3p^2 - 3p^2(^3P_{1/2})21d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	59	788.440	0.0 - 126.83	$3p^2 - 3p^2(^3P_{1/2})20d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	29	788.496	0.0 - 126.82	$3p^2 - 3p^2(^3P_{1/2})20d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	40	788.623	0.0 - 126.80	$3p^2 - 3p^2(^3P_{1/2})19d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	34	788.629	0.0 - 126.80	$3p^2 - 3p^2(^3P_{1/2})21s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	30	788.686	0.0 - 126.79	$3p^2 - 3p^2(^3P_{1/2})19d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	41	788.827	0.0 - 126.77	$3p^2 - 3p^2(^3P_{1/2})18d$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	36	788.841	0.0 - 126.77	$3p^2 - 3p^2(^3P_{1/2})20s$	$g^4S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	30	788.863	0.0 - 126.76	$3p^4 - 3p^3(^4P^{\circ}_{3/2})18d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	34	788.902	0.0 - 126.76	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10s$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	39	789.031	0.0 - 126.74	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8d$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
		789.077	0.0 - 126.73	$3p^4 - 3p^3(^4P^{\circ}_{3/2})17f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	30	789.113	0.0 - 126.72	$3p^4 - 3p^3(^4P^{\circ}_{3/2})19s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	18	789.140	0.0 - 126.72	$3p^4 - 3p^3(^4P^{\circ}_{3/2})17d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	34	789.257	0.0 - 126.70	$3p^4 - 3p^3(^4P^{\circ}_{3/2})17d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
		789.387	0.0 - 126.68	$3p^4 - 3p^3(^4P^{\circ}_{3/2})16f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	33	789.425	0.0 - 126.67	$3p^4 - 3p^3(^4P^{\circ}_{3/2})18s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	29	789.440	0.0 - 126.67	$3p^4 - 3p^3(^4P^{\circ}_{3/2})16d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	23	789.568	0.0 - 126.65	$3p^4 - 3p^3(^4P^{\circ}_{3/2})16d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	1	789.625	0.0 - 126.64	$3p^4 - 3p^3(^4P^{\circ}_{3/2})17p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		789.756	0.0 - 126.62	$3p^4 - 3p^3(^4P^{\circ}_{3/2})15f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	36	789.803	0.0 - 126.61	$3p^4 - 3p^3(^4P^{\circ}_{3/2})17s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	34	789.813	0.0 - 126.61	$3p^4 - 3p^3(^4P^{\circ}_{3/2})15d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	9	789.962	0.0 - 126.59	$3p^4 - 3p^3(^4P^{\circ}_{3/2})15d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	2	790.046	0.0 - 126.57	$3p^4 - 3p^3(^4P^{\circ}_{3/2})16p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		790.208	0.0 - 126.55	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		790.210	0.0 - 126.55	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	36	790.266	0.0 - 126.54	$3p^4 - 3p^3(^4P^{\circ}_{3/2})16s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	45	790.270	0.0 - 126.54	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	22	790.451	0.0 - 126.51	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	2	790.535	0.0 - 126.50	$3p^4 - 3p^3(^4P^{\circ}_{3/2})15p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	4	790.559	0.0 - 126.49	$3p^4 - 3p^3(^4P^{\circ}_{3/2})15p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		790.768	0.0 - 126.46	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		790.771	0.0 - 126.46	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	60	790.840	0.0 - 126.45	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	29	791.059	0.0 - 126.41	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	1	791.202	0.0 - 126.39	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	2	791.222	0.0 - 126.39	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		791.478	0.0 - 126.35	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
		791.482	0.0 - 126.35	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	42	791.551	0.0 - 126.33	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	30	791.566	0.0 - 126.33	$3p^4 - 3p^3(^4P^{\circ}_{3/2})14s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	30	791.811	0.0 - 126.29	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	1	792.033	0.0 - 126.26	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	3	792.059	0.0 - 126.25	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	43	792.3207 st	0.0 - 126.21	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9s$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	47	792.367	0.0 - 126.20	$3p^4 - 3p^3(^4P^{\circ}_{3/2})11d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	28	792.513	0.0 - 126.18	$3p^4 - 3p^3(^4P^{\circ}_{3/2})13s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	C - 1	A	732
	25	792.632	0.0 - 126.16	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7d$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	732
	35	793.025	0.0 - 126.10	$3p^4 - 3p^3(^4P^{\circ}_{3/2})11d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	1	793.115	0.0 - 126.09	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	4	793.151	0.0 - 126.08	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	1	793.586	0.0 - 126.01	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	2	793.598	0.0 - 126.01	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	42	793.750	0.0 - 125.98	$3p^4 - 3p^3(^4P^{\circ}_{3/2})12s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	42	793.781	0.0 - 125.98	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	27	794.291	0.0 - 125.90	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	2	794.574	0.0 - 125.85	$3p^4 - 3p^3(^4P^{\circ}_{3/2})11p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	4	794.619	0.0 - 125.85	$3p^4 - 3p^3(^4P^{\circ}_{3/2})11p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	5	794.964	0.0 - 125.79	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8p$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 2	A, F	732
	1	795.212	0.0 - 125.75	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	3	795.226	0.0 - 125.75	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	49	795.430	0.0 - 125.72	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	30	795.4474 st	0.0 - 125.72	$3p^4 - 3p^3(^4P^{\circ}_{3/2})11s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	30	796.0955 st	0.0 - 125.61	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	2	796.599	0.0 - 125.53	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	4	796.665	0.0 - 125.52	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	3	796.918	0.0 - 125.48	$3p^4 - 3p^3(^4P^{\circ}_{3/2})6f$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 2	A, F	732
	53	797.595	0.0 - 125.38	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	732
	38	797.7457 st	0.0 - 125.35	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8s$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	15	797.8818 st	0.0 - 125.33	$3p^4 - 3p^3(^4P^{\circ}_{3/2})10s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	26	798.1721 st	0.0 - 125.29	$3p^4 - 3p^3(^4P^{\circ}_{3/2})6d$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	10	799.1316 st	0.0 - 125.14	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517
	2	799.518	0.0 - 125.08	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	5	799.616	0.0 - 125.06	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	2	800.864	0.0 - 124.87	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	3	800.914	0.0 - 124.86	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7f$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	51	801.3577 st	0.0 - 124.79	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	41	801.3937 st	0.0 - 124.78	$3p^4 - 3p^3(^4P^{\circ}_{3/2})9s$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517, 732
	7	802.190	0.0 - 124.66	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7p$	$g^1S - \frac{1}{2}(\frac{1}{2})$	0 - 2	A, F	732
	20	802.8590 st	0.0 - 124.55	$3p^4 - 3p^3(^4P^{\circ}_{3/2})7d$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 1	A	517
	3	803.981	0.0 - 124.38	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732
	7	804.138	0.0 - 124.36	$3p^4 - 3p^3(^4P^{\circ}_{3/2})8p$	$g^1S - \frac{3}{2}(\frac{1}{2})$	0 - 2	A, F	732

Ar I

Ar II

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	4	805.560	0.0 - 124.14	$3p^6 - 3p^5(^4P^o_{3/2})5f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	4	806.119	0.0 - 124.05	$3p^6 - 3p^5(^4P^o_{3/2})6f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	5	806.186	0.0 - 124.04	$3p^6 - 3p^5(^4P^o_{3/2})6f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	100	806.4711 st	0.0 - 124.00	$3p^6 - 3p^5(^4P^o_{3/2})6d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	60	806.8689 st	0.0 - 123.94	$3p^6 - 3p^5(^4P^o_{3/2})8s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	30	807.2184 st	0.0 - 123.88	$3p^6 - 3p^5(^4P^o_{3/2})7s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	40	807.6529 st	0.0 - 123.82	$3p^6 - 3p^5(^4P^o_{3/2})5d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	50	809.9266 st	0.0 - 123.47	$3p^6 - 3p^5(^4P^o_{3/2})6d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	5	811.282	0.0 - 123.26	$3p^6 - 3p^5(^4P^o_{3/2})7p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	10	811.552	0.0 - 123.22	$3p^6 - 3p^5(^4P^o_{3/2})7p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	4	814.942	0.0 - 122.71	$3p^6 - 3p^5(^4P^o_{3/2})5f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	5	815.087	0.0 - 122.69	$3p^6 - 3p^5(^4P^o_{3/2})5f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	9	815.429	0.0 - 122.64	$3p^6 - 3p^5(^4P^o_{3/2})6p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	120	816.2320 st	0.0 - 122.51	$3p^6 - 3p^5(^4P^o_{3/2})5d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	70	816.4640 st	0.0 - 122.48	$3p^6 - 3p^5(^4P^o_{3/2})7s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	80	820.1236 st	0.0 - 121.93	$3p^6 - 3p^5(^4P^o_{3/2})5d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	6	821.999	0.0 - 121.65	$3p^6 - 3p^5(^4P^o_{3/2})4f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	8	824.603	0.0 - 121.27	$3p^6 - 3p^5(^4P^o_{3/2})6p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	12	825.141	0.0 - 121.19	$3p^6 - 3p^5(^4P^o_{3/2})6p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	120	825.3460 st	0.0 - 121.16	$3p^6 - 3p^5(^4P^o_{3/2})6s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	120	826.3649 st	0.0 - 121.01	$3p^6 - 3p^5(^4P^o_{3/2})4d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	5	831.738	0.0 - 120.23	$3p^6 - 3p^5(^4P^o_{3/2})4f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	7	832.025	0.0 - 120.19	$3p^6 - 3p^5(^4P^o_{3/2})4f$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	150	834.3918 st	0.0 - 119.85	$3p^6 - 3p^5(^4P^o_{3/2})4d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	100	835.0721 st	0.0 - 119.76	$3p^6 - 3p^5(^4P^o_{3/2})6s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	100	842.8051 st	0.0 - 118.65	$3p^6 - 3p^5(^4P^o_{3/2})4d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	12	844.100	0.0 - 118.47	$3p^6 - 3p^5(^4P^o_{3/2})5p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	12	853.361	0.0 - 117.18	$3p^6 - 3p^5(^4P^o_{3/2})5p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	13	854.705	0.0 - 117.00	$3p^6 - 3p^5(^4P^o_{3/2})5p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	180	866.8000 st	0.0 - 115.37	$3p^6 - 3p^5(^4P^o_{3/2})3d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
4	150	869.7542 st	0.0 - 114.98	$3p^6 - 3p^5(^4P^o_{3/2})5s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	180	876.0577 st	0.0 - 114.15	$3p^6 - 3p^5(^4P^o_{3/2})3d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	180	879.9466 st	0.0 - 113.64	$3p^6 - 3p^5(^4P^o_{3/2})5s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
3	150	894.3102 st	0.0 - 111.82	$3p^6 - 3p^5(^4P^o_{3/2})3d$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
	15	932.058	0.0 - 107.29	$3p^6 - 3p^5(^4P^o_{3/2})4p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	14	941.288	0.0 - 106.24	$3p^6 - 3p^5(^4P^o_{3/2})4p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
	15	946.816	0.0 - 105.62	$3p^6 - 3p^5(^4P^o_{3/2})4p$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-2	A, F	732
2	1000	1048.2199 st	0.0 - 95.40	$3p^6 - 3p^5(^4P^o_{3/2})4s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517
1	500	1066.6599 st	0.0 - 93.75	$3p^6 - 3p^5(^4P^o_{3/2})4s$	$g^4S - \frac{1}{2}\frac{1}{2}$	0-1		517

ARGON II (Ar^{1+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^4 \ ^3P^o_{2/2}$ (17 electrons)Ionization Potential 222 848.2 cm^{-1} ; 27.630 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	15	465.8365 st	0.0 - 214.67	$3s^2 3p^4 - 3s^2 3p^3(^1D)5d$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		512
	30	469.6301 st	0.0 - 212.93	$3s^2 3p^4 - 3s^2 3p^3(^1D)6s$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		512
	30	472.8114 st	1.43 - 212.93	$3s^2 3p^4 - 3s^2 3p^3(^1D)6s$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		512
	180	475.9054 st	0.0 - 210.13	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	120	477.1048 st	0.0 - 209.60	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	30	477.6068 st	0.0 - 209.38	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	30	479.1678 st	0.0 - 208.70	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	60	479.2177 st	0.0 - 208.67	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	30	480.8108 st	1.43 - 209.41	$3s^2 3p^4 - 3s^2 3p^3(^3P)6d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	15	482.4451 st	0.0 - 207.28	$3s^2 3p^4 - 3s^2 3p^3(^3P)7s$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	300	487.2272 st	0.0 - 205.24	$3s^2 3p^4 - 3s^2 3p^3(^1D)4d$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		512
	270	488.7926 st	0.0 - 204.59	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	120	488.9615 st	0.0 - 204.52	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	240	489.1953 st	0.0 - 204.42	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	290	490.6495 st	1.43 - 204.24	$3s^2 3p^4 - 3s^2 3p^3(^1D)4d$	$g^2P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		512
	70	490.7012 st	1.43 - 205.22	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	150	492.4083 st	1.43 - 204.52	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	30	492.6454 st	1.43 - 204.42	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	15	494.6676 st	0.0 - 202.16	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512
	15	496.6436 st	0.0 - 201.35	$3s^2 3p^4 - 3s^2 3p^3(^3P)5d$	$g^2P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		512

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
12	15	496.6592 st	0.0 - 201.35	$3s^2 3p^4 - 3s^2 3p^4(^4P)5d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	0	499.9192 st	0.0 - 200.03	$3s^2 3p^4 - 3s^2 3p^4(^4P)6s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	30	500.8016 st	0.0 - 199.68	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	60	501.1897 st	0.0 - 199.53	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	15	501.3872 st	0.0 - 199.45	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	15	502.0276 st	1.43 - 200.62	$3s^2 3p^4 - 3s^2 3p^4(^4P)6s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	60	502.1629 st	0.0 - 199.14	$3s^2 3p^4 - 3s^2 3p^4(^4P)6s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	60	503.6503 st	1.43 - 199.98	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
		504.8117 st	1.43 - 199.53	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	30	505.0121 st	1.43 - 199.45	$3s^2 3p^4 - 3s^2 3p^4(^4D)4d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	30	510.5509 st	0.0 - 195.87	$3s^2 3p^4 - 3s^2 3p^4(^4D)5s$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	200	510.5564 st	0.0 - 195.86	$3s^2 3p^4 - 3s^2 3p^4(^4D)5s$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
12	210	514.3100 st	1.43 - 195.87	$3s^2 3p^4 - 3s^2 3p^4(^4D)5s$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	150	518.9088 st	0.0 - 192.71	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	300	519.3269 st	0.0 - 192.56	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	450	522.7924 st	1.43 - 192.71	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	450	524.6803 st	0.0 - 190.59	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	210	526.4969 st	0.0 - 189.93	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	30	528.6511 st	1.43 - 190.59	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	450	530.4954 st	1.43 - 189.93	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	30	533.0794 st	0.0 - 187.59	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4F$	$\frac{3}{2} - \frac{3}{2}$		512
	15	535.0711 st	0.0 - 186.89	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	150	537.1396 st	0.0 - 186.17	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	30	537.4193 st	0.0 - 186.07	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4F$	$\frac{3}{2} - \frac{3}{2}$		512
12	30	540.8066 st	1.43 - 186.34	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4F$	$\frac{1}{2} - \frac{3}{2}$		512
	60	541.3019 st	1.43 - 186.17	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	300	542.9123 st	0.0 - 184.19	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{1}{2}$		512
	450	543.2032 st	0.0 - 184.09	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4S$	$\frac{3}{2} - \frac{1}{2}$		512
	20	543.508	0.0 - 183.99	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
	270	543.7305 st	0.0 - 183.91	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	240	546.1768 st	0.0 - 183.09	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	270	547.1650 st	1.43 - 184.19	$3s^2 3p^4 - 3s^2 3p^4(^4P)4d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{1}{2}$		512
	360	547.4605 st	1.43 - 184.09	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		512
	120	547.9960 st	1.43 - 183.91	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	210	548.7808 st	0.0 - 182.22	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	120	550.4810 st	1.43 - 183.09	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	30	550.9045 st	1.43 - 182.95	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
11	60	553.1263 st	1.43 - 182.22	$3s^2 3p^4 - 3s^2 3p^4(^4P)5s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	90	555.7659 st	0.0 - 179.93	$3s^2 3p^4 - 3s^2 3p^4(^4S)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	360	556.8169 st	0.0 - 175.59	$3s^2 3p^4 - 3s^2 3p^4(^4S)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	270	560.2232 st	1.43 - 179.93	$3s^2 3p^4 - 3s^2 3p^4(^4S)3d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	270	572.0136 st	0.0 - 174.82	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	360	573.3619 st	0.0 - 174.41	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	300	576.7364 st	1.43 - 174.82	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	270	578.1071 st	1.43 - 174.41	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	10	578.6043 st	0.0 - 172.83	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	360	580.2631 st	0.0 - 172.34	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	300	583.4371 st	1.43 - 172.83	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	9	597.7000 st	0.0 - 167.31	$3s^2 3p^4 - 3s^2 3p^4(^4S)4s$	$g^4P - ^4S$	$\frac{3}{2} - \frac{1}{2}$		512
9	300	602.8584 st	1.43 - 167.31	$3s^2 3p^4 - 3s^2 3p^4(^4S)4s$	$g^4P - ^4S$	$\frac{1}{2} - \frac{1}{2}$		512
	300	612.3715 st	0.0 - 163.30	$3s^2 3p^4 - 3s^2 3p^4(^4D)3d$	$g^4P - ^4F$	$\frac{3}{2} - \frac{3}{2}$		512
	540	661.8689 st	0.0 - 151.09	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	300	664.5622 st	0.0 - 150.47	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	450	666.0108 st	0.0 - 150.15	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4F$	$\frac{3}{2} - \frac{3}{2}$		512
	600	670.9455 st	1.43 - 150.47	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	900	671.8513 st	0.0 - 148.84	$3s^2 3p^4 - 3s^2 3p^4(^4D)4s$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	240	672.8562 st	0.0 - 148.62	$3s^2 3p^4 - 3s^2 3p^4(^4D)4s$	$g^4P - ^4D$	$\frac{3}{2} - \frac{3}{2}$		512
	360	676.2424 st	0.0 - 147.88	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	300	677.9518 st	0.0 - 147.50	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	300	679.2183 st	0.0 - 147.23	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	450	679.4005 st	1.43 - 148.62	$3s^2 3p^4 - 3s^2 3p^4(^4D)4s$	$g^4P - ^4D$	$\frac{1}{2} - \frac{3}{2}$		512
	180	686.4883 st	0.0 - 145.67	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
5	150	691.0373 st	0.0 - 144.71	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	180	693.3018 st	1.43 - 145.67	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	150	697.4890 st	0.0 - 143.37	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4F$	$\frac{3}{2} - \frac{3}{2}$		512
	180	697.9418 st	1.43 - 144.71	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	270	699.7745 st	0.0 - 143.11	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	270	704.5237 st	1.43 - 143.37	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P - ^4F$	$\frac{1}{2} - \frac{3}{2}$		512
	450	718.0898 st	0.0 - 139.26	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	900	723.3605 st	0.0 - 138.24	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	540	725.5485 st	1.43 - 139.26	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{1}{2}$		512
	360	730.9297 st	1.43 - 138.24	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{1}{2} - \frac{3}{2}$		512
	60	737.4537 st	0.0 - 135.60	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{1}{2}$		512
	450	740.2691 st	0.0 - 135.09	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512
	450	744.9247 st	0.0 - 134.24	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P - ^4P$	$\frac{3}{2} - \frac{3}{2}$		512

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3	360	745.3222 st	1.43 - 135.60	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P^o - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		512
3	210	748.1982 st	1.43 - 135.09	$3s^2 3p^4 - 3s^2 3p^4(^4P)4s$	$g^4P^o - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		512
2	15	753.3654 st	0.0 - 132.74	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P^o - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$		512
2	210	754.8239 st	0.0 - 132.48	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P^o - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$		512
2	60	761.5791 st	1.43 - 132.74	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P^o - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$		512
2	180	762.2000 st	1.43 - 132.63	$3s^2 3p^4 - 3s^2 3p^4(^4P)3d$	$g^4P^o - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$		512
1	1000	919.7810 st	0.0 - 108.72	$3s^2 3p^4 - 3s^2 3p^4$	$g^4P^o - ^4S^o$	$\frac{1}{2} - \frac{1}{2}$		512, 501
1	1000	932.0537 st	1.43 - 108.72	$3s^2 3p^4 - 3s^2 3p^4$	$g^4P^o - ^4S^o$	$\frac{1}{2} - \frac{1}{2}$		512, 501
	1	1001.29	108.72 - 208.59	$3s^2 3p^4 - 3s^2 3p^4(^4D)4f$	$^4S - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$	Q	712
	100	1268.483	132.74 - 211.57	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4D - 1[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1280.225	132.33 - 210.44	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1282.620	132.48 - 210.45	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1284.793	132.63 - 210.46	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	30	1324.51	135.09 - 210.58	$3s^2 3p^4(^4P)4s - 3s^2 3p^4(^4P)6f$	$^4P - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$	Q	712
	100	1348.751	132.48 - 206.62	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1351.333	132.63 - 206.63	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1354.915	132.33 - 206.13	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	20	1357.435	132.48 - 206.15	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1360.735	132.63 - 206.12	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 1[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1363.032	132.74 - 206.10	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 1[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	50	1376.106	132.33 - 205.00	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1376.956	132.33 - 204.95	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	400	1377.211	132.33 - 204.94	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	20	1377.442	132.48 - 205.08	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1379.378	132.48 - 204.98	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	300	1379.884	132.48 - 204.95	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1380.728	132.63 - 205.06	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1382.228	132.63 - 204.98	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1382.770	132.74 - 205.06	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1396.231	142.19 - 213.81	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)7f$	$^4F - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1451.879	142.72 - 211.59	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1455.484	143.37 - 212.08	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1459.873	143.11 - 211.61	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1463.155	142.19 - 210.53	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1464.176	143.37 - 211.67	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 1[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1465.153	142.19 - 210.44	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1474.537	142.72 - 210.53	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1544.177	154.18 - 218.94	$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)5f$	$^4G - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1544.711	154.20 - 218.94	$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)5f$	$^4G - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1547.356	108.72 - 173.35	$3s^2 3p^4 - 3s^2 3p^4(^4D)4p$	$^4S - ^4D^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1557.305	144.71 - 208.92	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4P - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	300	1559.072	132.48 - 196.62	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	400	1560.191	108.72 - 172.82	$3s^2 3p^4 - 3s^2 3p^4(^4D)4p$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1562.442	132.63 - 196.63	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1563.043	132.33 - 196.31	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1565.377	144.71 - 208.59	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4P - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1566.811	132.48 - 196.31	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	400	1567.987	132.33 - 196.10	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1571.391	132.48 - 196.12	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1574.401	145.11 - 206.62	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
14	600	1574.993	108.72 - 172.21	$3s^2 3p^4 - 3s^2 3p^4(^4D)4p$	$^4S - ^4P^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	300	1575.815	132.63 - 196.09	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	300	1576.898	142.72 - 206.13	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	300	1578.812	132.74 - 196.08	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 1[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1580.770	143.37 - 206.63	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 0[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1580.960	145.67 - 208.92	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4P - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1583.833	143.11 - 206.25	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 1[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1586.261	143.11 - 206.15	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 1[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	500	1589.465	142.19 - 205.10	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1590.233	143.37 - 206.26	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 1[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	1	1591.939	132.48 - 195.30	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1593.587	142.19 - 204.94	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1594.799	132.33 - 195.03	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1595.737	132.63 - 195.30	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1596.151	132.63 - 195.28	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1598.575	132.33 - 194.88	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1598.722	132.48 - 195.03	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1598.880	132.74 - 195.28	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[1]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1599.130	132.33 - 194.86	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	100	1599.607	132.48 - 195.00	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	400	1600.133	132.33 - 194.82	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	600	1600.694	132.33 - 194.80	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[4]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1602.554	132.63 - 195.03	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[2]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1602.891	142.72 - 205.10	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - 2[5]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	400	1603.075	132.48 - 194.86	$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - 2[3]^o$	$\frac{1}{2} - \frac{1}{2}$		501, 506

Multiplet	Rel. Int.	λ_{vac} (in Å)	Level (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
400	1603.442	132.63 - 195.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
500	1604.082	132.48 - 194.32		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
300	1606.197	132.74 - 195.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
400	1606.926	132.63 - 194.86		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1607.180	142.72 - 204.94		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1615.807	143.11 - 205.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1616.972	143.11 - 204.95		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
20	1627.085	150.15 - 211.61		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1628.825	144.71 - 206.10		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1629.834	149.18 - 210.53		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)6f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1640.343	145.67 - 206.63		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1650.735	145.67 - 206.26		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1653.322	144.71 - 205.19		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1662.253	149.18 - 209.34		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1686.076	145.67 - 204.98		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1689.470	150.15 - 209.34		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1701.358	150.47 - 209.25		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1702.188	147.88 - 206.62		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1705.980	147.50 - 206.12		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1710.909	150.47 - 208.92		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1713.218	147.88 - 206.25		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1718.680	132.33 - 190.51		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1719.346	151.09 - 209.25		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1723.147	147.23 - 205.19		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1725.549	147.23 - 205.18		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1729.075	151.09 - 208.92		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)4f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1729.253	147.23 - 205.06		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1733.372	147.50 - 205.19		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1735.378	132.48 - 190.11		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1736.834	147.56 - 205.08		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1750.694	147.88 - 205.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1751.679	132.33 - 189.41		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1755.819	147.11 - 206.13		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1763.669	132.74 - 189.44		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1768.043	132.48 - 189.04		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1770.658	150.15 - 206.62		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1771.829	132.33 - 188.77		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1776.672	132.48 - 188.77		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1782.596	150.15 - 206.25		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1785.672	150.15 - 206.15		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
300	1788.104	149.18 - 205.10		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1791.561	149.11 - 205.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1793.435	149.18 - 204.94		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
30	1795.10	158.17 - 213.87		$3s^2 3p^4(^4P)4p - 3s^2 3p^4(^4P)7g$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$	Q	712
50	1812.475	134.24 - 189.41		$3s^2 3p^4(^4P)4s - 3s^2 3p^4(^4P)5p$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1813.014	154.18 - 209.34		$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)4f$	$^4G - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1813.766	154.20 - 209.34		$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)4f$	$^4G - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
15	1815.98	154.18 - 209.25		$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)4f$	$^4G - ^2D$	$\frac{3}{2} - \frac{3}{2}$	Q	712
50	1816.14	151.09 - 206.15		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1823.205	150.15 - 205.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1824.842	134.24 - 189.04		$3s^2 3p^4(^4P)4s - 3s^2 3p^4(^4P)5p$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
500	1830.770	154.18 - 208.80		$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)4f$	$^4G - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
500	1831.527	154.20 - 208.80		$3s^2 3p^4(^4D)3d - 3s^2 3p^4(^4D)4f$	$^4G - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1834.038	134.24 - 188.77		$3s^2 3p^4(^4P)4s - 3s^2 3p^4(^4P)5p$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1854.986	151.09 - 205.00		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)5f$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1866.089	142.72 - 196.31		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
300	1868.660	143.11 - 196.62		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1872.589	142.72 - 196.12		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
600	1873.140	142.72 - 196.10		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
400	1877.523	143.37 - 196.63		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1879.420	143.11 - 196.32		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
200	1879.790	143.11 - 196.31		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
400	1886.386	143.11 - 196.12		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
30	1887.42	143.11 - 196.09		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$	Q	712
400	1888.782	143.37 - 196.32		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
600	1889.029	142.19 - 195.12		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1897.352	143.37 - 196.08		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
15	1898.36	150.47 - 203.15		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4D)5p$	$^4D - ^2D$	$\frac{3}{2} - \frac{3}{2}$	Q	712
100	1899.287	155.04 - 207.69		$3s^2 3p^4(^4P)4p - 3s^2 3p^4(^4P)6d$	$^4P - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
100	1899.847	142.19 - 194.82		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
400	1900.638	142.19 - 194.80		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
400	1907.988	142.72 - 195.13		$3s^2 3p^4(^4P)3d - 3s^2 3p^4(^4P)4f$	$^4F - ^2D$	$\frac{3}{2} - \frac{3}{2}$		501, 506
50	1909.5689 ST	108.72 - 161.09		$3s^2 3p^4 - 3s^2 3p^4(^4P)4p$	$^4S - ^2S$	$\frac{1}{2} - \frac{1}{2}$		501, 506
50	1911.053	108.72 - 161.05		$3s^2 3p^4 - 3s^2 3p^4(^4P)4p$	$^4S - ^2S$	$\frac{1}{2} - \frac{1}{2}$		501, 506
30	1917.79	157.23 - 209.38		$3s^2 3p^4(^4P)4p - 3s^2 3p^4(^4P)6d$	$^4D - ^2F$	$\frac{3}{2} - \frac{3}{2}$	Q	712

Ar II

Ar III

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
13	300	1919.199	142.72 - 194.82	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(4)^+$	$\frac{7}{2} - \frac{7}{2}$	Q	501, 506
	200	1920.007	142.72 - 194.80	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(4)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	10	1927.19	143.11 - 195.00	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(2)^+$	$\frac{7}{2} - \frac{7}{2}$		712
	100	1931.419	143.11 - 194.88	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(3)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	200	1932.230	143.11 - 194.86	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(3)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	200	1933.694	143.11 - 194.82	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(4)^+$	$\frac{7}{2} - \frac{7}{2}$	Q	501, 506
	100	1937.041	143.37 - 195.00	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(2)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	300	1941.0724 ST	108.72 - 160.24	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4p$	$^4S - ^4P^+$	$\frac{1}{2} - \frac{1}{2}$		308, 501, 506
	30	1942.13	143.37 - 194.86	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4F - 2(3)^+$	$\frac{7}{2} - \frac{7}{2}$		712
	200	1946.795	144.71 - 196.08	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 1(2)^+$	$\frac{1}{2} - \frac{1}{2}$		501, 506
13	400	1961.3610 ST	108.72 - 159.71	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4p$	$^4S - ^4P^+$	$\frac{1}{2} - \frac{1}{2}$	Q	308, 501, 506
	300	1962.161	145.67 - 196.63	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 0(3)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	100	1966.953	158.43 - 209.27	$3s^2 3p^4 (^4P) 4p - 3s^2 3p^4 (^4P) 6d$	$^4D^+ - ^4F$	$\frac{1}{2} - \frac{1}{2}$		501, 506
	200	1972.274	157.23 - 207.94	$3s^2 3p^4 (^4P) 4p - 3s^2 3p^4 (^4P) 6d$	$^4D^+ - ^4F$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	200	1973.4837 ST	108.72 - 159.39	$3s^2 3p^4 - 3s^2 3p^4 (^4P) 4p$	$^4S - ^4D^+$	$\frac{1}{2} - \frac{1}{2}$		308, 501, 506
	300	1974.462	145.67 - 196.32	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 1(3)^+$	$\frac{7}{2} - \frac{7}{2}$	Q	501, 506
	300	1976.765	144.71 - 195.30	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 2(1)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	20	1977.200	157.67 - 208.25	$3s^2 3p^4 (^4P) 4p - 3s^2 3p^4 (^4P) 7s$	$^4D^+ - ^4P$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	100	1981.74	157.23 - 207.69	$3s^2 3p^4 (^4P) 4p - 3s^2 3p^4 (^4P) 6d$	$^4D^+ - ^4D$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	100	1983.299	145.67 - 196.09	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 1(2)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
13	100	1983.329	145.67 - 196.08	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 1(2)^+$	$\frac{7}{2} - \frac{7}{2}$	Q	501, 506
	300	1988.620	144.71 - 195.00	$3s^2 3p^4 (^4P) 3d - 3s^2 3p^4 (^4P) 4f$	$^4P - 2(2)^+$	$\frac{7}{2} - \frac{7}{2}$		501, 506
	20	1993.555	158.17 - 208.33	$3s^2 3p^4 (^4P) 4p - 3s^2 3p^4 (^4P) 7s$	$^4D^+ - ^4P$	$\frac{7}{2} - \frac{7}{2}$		501, 506

ARGON III (Ar^{2+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^4 \text{ } ^4P_2$ (16 electrons)Ionization Potential $328\,600 \text{ cm}^{-1}$; 40.74 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
125	382.61		14.01 - 275.37	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4d$	$^4D - ^4F^+$	2 - 3		271
100	387.45		14.01 - 272.11	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4d$	$^4D - ^4D^+$	2 - 2		271
25	389.49		14.01 - 270.76	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4d$	$^4D - ^4P^+$	2 - 1		271
50	395.92		0.0 - 252.58	$3s^2 3p^4 - 3s^2 3p^4 (^4S^+) 5s$	$g^4P - ^4S^+$	2 - 1		59
200	396.37		0.0 - 252.29	$3s^2 3p^4 - 3s^2 3p^4 (^4S^+) 4d$	$g^4P - ^4D^+$	2 - 3		271
50	397.67		1.11 - 252.58	$3s^2 3p^4 - 3s^2 3p^4 (^4S^+) 5s$	$g^4P - ^4S^+$	1 - 1		59
125	398.17		1.11 - 252.25	$3s^2 3p^4 - 3s^2 3p^4 (^4S^+) 4d$	$g^4P - ^4D^+$	1 - 2		271
50	398.91		1.57 - 252.27	$3s^2 3p^4 - 3s^2 3p^4 (^4S^+) 4d$	$g^4P - ^4D^+$	0 - 1		271
250	466.53		0.0 - 214.35	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	2 - 1		59
300	467.39		0.0 - 213.95	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	2 - 2		59
200	468.47		1.11 - 214.57	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	1 - 0		59
150	468.96		1.11 - 214.35	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	1 - 1		59
200	469.83		1.11 - 213.95	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	1 - 2		59
200	469.97		1.57 - 214.35	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4P^+$	0 - 1		59
300	473.03							59
300	473.92		0.0 - 211.00	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4D^+$	2 - 2		59
350	476.43		1.11 - 211.00	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 3d$	$g^4P - ^4D^+$	1 - 2		59
300	481.85		0.0 - 207.53	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	2 - 1		59
400	482.55		0.0 - 207.23	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	2 - 2		59
250	484.12		1.11 - 207.67	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	1 - 0		59
250	484.45		1.11 - 207.53	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	1 - 1		59
300	485.15		1.11 - 207.23	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	1 - 2		59
200	485.52		1.57 - 207.53	$3s^2 3p^4 - 3s^2 3p^4 (^4P^+) 4s$	$g^4P - ^4P^+$	0 - 1		59
350	487.03							59
350	487.99							59
350	488.45		0.0 - 204.73	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 3d$	$g^4P - ^4S^+$	2 - 1		59
200	491.12		1.11 - 204.73	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 3d$	$g^4P - ^4S^+$	1 - 1		59
150	492.23		1.57 - 204.73	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 3d$	$g^4P - ^4S^+$	0 - 1		59
450	508.44		0.0 - 196.68	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	2 - 3		337
300	508.61		0.0 - 196.61	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	2 - 2		337
180	508.68		0.0 - 196.59	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	2 - 1		337
300	511.51		1.11 - 196.61	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	1 - 2		337
180	511.57		1.11 - 196.59	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	1 - 1		337
180	512.77		1.57 - 196.59	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 4s$	$g^4P - ^4D^+$	0 - 1		337
450	529.90		0.0 - 188.71	$3s^2 3p^4 - 3s^2 3p^4 (^4D^+) 3d$	$g^4P - ^4D^+$	2 - 3		59

Ar III

Ar IV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	350	532.41	0.0 - 157.82	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$g^4P - ^1D^o$	2 - 2		59
	50	534.26	0.0 - 187.17	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$g^4P - ^1D^o$	2 - 1		59
	350	535.58	1.11 - 187.82	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$g^4P - ^1D^o$	1 - 2		59
	300	537.46	1.11 - 187.17	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$g^4P - ^1D^o$	1 - 1		59
	300	538.79	1.57 - 187.17	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$g^4P - ^1D^o$	0 - 1		59
4	450	553.47	0.0 - 180.68	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 4s$	$g^4P - ^1S^o$	2 - 1		59
4	300	556.89	1.11 - 180.68	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 4s$	$g^4P - ^1S^o$	1 - 1		59
4	250	558.32	1.57 - 180.68	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 4s$	$g^4P - ^1S^o$	0 - 1		59
	200	573.47	0.0 - 174.38	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 4s$	$g^4P - ^1S^o$	2 - 2		59
	150	577.15	1.11 - 174.38	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 4s$	$g^4P - ^1S^o$	1 - 2		59
	200	578.39	14.01 - 186.90	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$^1D - ^1F^o$	2 - 2		60
	150	579.21	14.01 - 186.66	$3s^2 3p^4 - 3s^2 3p^2(^1D^o) 3d$	$^1D - ^1F^o$	2 - 3		60
	500	604.15						59
3	150	636.82	0.0 - 157.03	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	2 - 1		59
3	1000	637.28	0.0 - 156.92	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	2 - 3		59
3	250	641.36	1.11 - 157.03	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	1 - 1	P	59
3	600	641.81	1.11 - 156.92	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	1 - 2		59
3	450	643.25	1.57 - 157.03	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	0 - 1	P	59
2	400	690.17	0.0 - 144.89	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	2 - 3		59
2	300	695.54	1.11 - 144.89	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	1 - 2		59
2	100	697.74	1.57 - 144.08	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$g^4P - ^1D^o$	0 - 1		59
	50	699.72	14.01 - 156.72	$3s^2 3p^4 - 3s^2 3p^2(^1S^o) 3d$	$^1D - ^1D^o$	2 - 3		60
5	600	769.15	14.01 - 144.02	$3s^2 3p^4 - 3s^2 3p^2$	$^1D - ^1P^o$	2 - 1		59
1	500	871.10	0.0 - 114.80	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	2 - 1		59
1	450	875.53	1.11 - 115.33	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	1 - 0		59
1	600	878.73	0.0 - 113.80	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	2 - 2		59
1	400	879.62	1.11 - 114.80	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	1 - 1		59
1	450	883.18	1.57 - 114.80	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	0 - 1		59
1	500	887.40	1.11 - 113.80	$3s^2 3p^4 - 3s^2 3p^2$	$g^4P - ^1P^o$	1 - 2		59
	150	1002.10	14.01 - 113.80	$3s^2 3p^4 - 3s^2 3p^2$	$^1D - ^1P^o$	2 - 2		60
	200	1460.17	156.92 - 225.40	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	3 - 3	P	59
	100	1460.32	156.92 - 225.40	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	2 - 3	P	59
	100	1465.62	156.92 - 225.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	3 - 2	P	59
	150	1465.78	156.92 - 225.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	2 - 2	P	59
	150	1467.92	157.03 - 225.16	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	1 - 1	P	59
6	100	1468.07	157.03 - 225.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1D^o) 4p$	$^1D^o - ^1D$	1 - 2	P	59
6	50	1669.10	144.89 - 204.80	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	2 - 3		59
6	250	1669.30	144.89 - 204.80	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	3 - 3		59
6	350	1669.67	144.91 - 204.80	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	4 - 3		59, 488
6	50	1673.14	144.88 - 204.65	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	1 - 2		59
6	150	1673.24	144.89 - 204.65	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	2 - 2		59
6	350	1673.43	144.89 - 204.65	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	3 - 2		59, 488
6	350	1675.58	144.88 - 204.56	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	1 - 1		59
6	200	1675.64	144.89 - 204.56	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	2 - 1		59, 488
7	450	1914.40	156.92 - 209.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	3 - 2		59
7	150	1914.65	156.92 - 209.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	2 - 2		59
7	350	1915.56	156.92 - 209.13	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	2 - 1		59
7	50	1918.06	157.03 - 209.17	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	1 - 0		59
7	200	1918.67	157.03 - 209.15	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	1 - 2		59
7	200	1919.52	157.03 - 209.13	$3s^2 3p^2(^1S^o) 3d - 3s^2 3p^2(^1S^o) 4p$	$^1D^o - ^1P$	1 - 1		59
	50	1957.83	180.68 - 231.75	$3s^2 3p^2(^1S^o) 4s - 3s^2 3p^2(^1D^o) 4p$	$^1S^o - ^1P$	1 - 0		59
	100	1962.74	180.68 - 231.63	$3s^2 3p^2(^1S^o) 4s - 3s^2 3p^2(^1D^o) 4p$	$^1S^o - ^1P$	1 - 1		59
	200	1973.78	180.68 - 231.34	$3s^2 3p^2(^1S^o) 4s - 3s^2 3p^2(^1D^o) 4p$	$^1S^o - ^1P$	1 - 2		59

ARGON IV (Ar^{2+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^1S_{3/2}$ (15 electrons)Ionization Potential $482\,400 \text{ cm}^{-1}$; 59.81 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
	160	396.87	0.0 - 251.97	$3s^2 3p^2 - 3s^2 3p^2(^1P) 4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		59
	160	398.55	0.0 - 250.91	$3s^2 3p^2 - 3s^2 3p^2(^1P) 4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		59
	120	399.63	0.0 - 250.22	$3s^2 3p^2 - 3s^2 3p^2(^1P) 4s$	$g^4S^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$		59
	10	423.48	21.22 - 257.35	$3s^2 3p^2 - 3s^2 3p^2(^1P) 4s$	$^1D^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
	80	443.40	21.22 - 246.74	$3s^2 3p^2 - 3s^2 3p^2(^1D) 3d$	$^1D^o - ^1F$	$\frac{3}{2} - \frac{3}{2}$		295, 707

Ar IV

Ar V

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	15	451.20	0.0 - 221.63	$3s^2 3p^2 - 3s^2 3p^2(^3P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		242, 707
	45	451.87	0.0 - 221.3	$3s^2 3p^2 - 3s^2 3p^2(^3P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		242, 707
	80	452.91	0.0 - 220.79	$3s^2 3p^2 - 3s^2 3p^2(^3P) 3d$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		242, 707
		458.1	21.22 - 239.5	$3s^2 3p^2 - 3s^2 3p^2(^1D) 3d$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		242
	60	471.09	34.86 - 247.13	$3s^2 3p^2 - 3s^2 3p^2(^1D) 3d$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		707, 213
	60	471.97	35.03 - 246.91	$3s^2 3p^2 - 3s^2 3p^2(^1D) 3d$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		707, 213
	50	492.64	21.09 - 224.08	$3s^2 3p^2 - 3s^2 3p^2(^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		707, 213
	80	495.55	21.22 - 223.02	$3s^2 3p^2 - 3s^2 3p^2(^3P) 3d$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		707, 213
	20	561.06	117.56 - 295.81	$3s^2 3p^2 - 3s^2 3p^2(^3P) 4p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
	250	623.77	145.92 - 306.24	$3s^2 3p^2 - 3s^2 3p^2(^1D) 4p$	$^3D - ^3D^o$	$\frac{3}{2} - \frac{3}{2}$	Q	60, 375
3	400	683.28	21.09 - 167.45	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		59
3	300	688.39	21.09 - 166.36	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		59
3	500	689.01	21.22 - 166.36	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		59
	100	694.85	145.92 - 289.83	$3s^2 3p^2 - 3s^2 3p^2(^3P) 4p$	$^3D - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
	240	699.41	34.86 - 177.83	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3S$	$\frac{1}{2} - \frac{1}{2}$		59
	320	700.28	35.03 - 177.83	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3S$	$\frac{3}{2} - \frac{1}{2}$		59
	160	754.21	34.86 - 167.45	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		59
	120	755.21	35.03 - 167.45	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		59
	120	760.44	34.86 - 166.36	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{3}{2}$		59
	230	771.47	35.03 - 166.36	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		59
	10	772.49	166.36 - 295.81	$3s^2 3p^2 - 3s^2 3p^2(^3P) 4p$	$^3P - ^3P^o$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
2	270	800.57	21.09 - 146.	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
2	400	801.09	21.09 - 145.92	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
2	400	801.41	21.22 - 146.	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
2	200	801.91	21.22 - 145.92	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
1	600	840.03	0.0 - 119.04	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{1}{2}$		59
1	800	843.77	0.0 - 118.52	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		59
1	1000	850.60	0.0 - 117.56	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 S^o - ^4P$	$\frac{3}{2} - \frac{3}{2}$		59
	200	900.36	34.86 - 145.92	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3D$	$\frac{1}{2} - \frac{3}{2}$		59
	400	901.17	35.03 - 146.	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
	80	901.80	35.03 - 145.92	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3D$	$\frac{3}{2} - \frac{3}{2}$		59
	40	1037.93	21.22 - 117.56	$3s^2 3p^2 - 3s^2 3p^2$	$^3D^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		59
	40	1187.80	34.86 - 119.04	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{1}{2} - \frac{1}{2}$		59
	80	1190.35	35.03 - 119.04	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{1}{2}$		59
	40	1197.84	35.03 - 118.52	$3s^2 3p^2 - 3s^2 3p^2$	$^3P^o - ^3P$	$\frac{3}{2} - \frac{3}{2}$		59

ARGON V (Ar^{+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \ ^3P_0$ (14 electrons)Ionization Potential 605 100 cm^{-1} ; 75.02 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
6	150	336.56	0.76 - 297.89	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	1 - 2		549
6	150	337.56	0.0 - 296.25	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	0 - 1		549
6	300	338.00	2.03 - 297.89	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	2 - 2		549
6	100	338.43	0.76 - 296.25	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	1 - 1		549
6	150	339.01	0.76 - 295.74	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	1 - 0		549
6	150	339.89	2.03 - 296.25	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$g^4 P - ^4P^o$	2 - 1		549
8	150	350.88	16.30 - 301.3	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 4s$	$^1D - ^1P^o$	2 - 1		549
	120	436.67	16.30 - 245.31	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$^1D - ^1F^o$	2 - 3		707, 213
5	250	445.997	0.0 - 224.22	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	0 - 1		197, 549
5	400	446.949	0.76 - 224.51	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	1 - 2		197, 549
5	200	447.53	0.76 - 224.22	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	1 - 1		549
5	900	449.065	2.03 - 224.72	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	2 - 3		197, 549
5	200	449.49	2.03 - 224.51	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	2 - 2		549
5	50	450.08	2.03 - 224.22	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4D^o$	2 - 1		549
4	150	458.12	0.0 - 218.29	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	0 - 1		549
4	100	458.98	0.76 - 218.64	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	1 - 0		549
4	50	459.73	0.76 - 218.29	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	1 - 1		549
4	300	461.23	0.76 - 217.58	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	1 - 2		549
4	150	462.42	2.03 - 218.29	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	2 - 1		549
4	350	463.938	2.03 - 217.58	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$g^4 P - ^4P^o$	2 - 2		197, 549
	60	466.82	37.91 - 252.13	$3s^2 3p^2 - 3s^2 3p^2(^3P^o) 3d$	$^1S - ^1P^o$	0 - 1		707, 213
	25	511.89	0.0 - 195.36	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 P - ^4P^o$	0 - 1		549
	50	513.91	0.76 - 195.36	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 P - ^4P^o$	1 - 1		549
	25	517.25	2.03 - 195.36	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 P - ^4P^o$	2 - 1		549
3	150	522.09	0.0 - 191.54	$3s^2 3p^2 - 3s^2 3p^2$	$g^4 P - ^4S^o$	0 - 1		549

Ar V

Ar VI

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
3	250	524.19	0.76 - 191.54	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 S^o$	1 - 1	Q	549
3	300	527.69	2.03 - 191.54	$3s^2 3p^2 - 3s^2 4p^2$	$g^2 P - ^4 S^o$	2 - 1		549
	400	536.75	37.91 - 224.22	$3s^2 3p^2 - 3s^2 3p(^4P^o) 3d$	$^1 S - ^1 D^o$	0 - 1		59, 375
7	250	558.48	16.30 - 195.36	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^1 P^o$	2 - 1		549
	80	570.61	16.30 - 191.54	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^4 S^o$	2 - 1		707, 213
	150	635.12	37.91 - 195.36	$3s^2 3p^2 - 3s 3p^3$	$^1 S - ^1 P^o$	0 - 1		707, 213
2	150	705.35	0.0 - 141.77	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 P^o$	0 - 1		549
2	250	709.20	0.76 - 141.76	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 P^o$	1 - 2		549
2	200	715.60	2.03 - 141.77	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 P^o$	2 - 1		549
2	150	715.65	2.03 - 141.76	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 P^o$	2 - 2		549
	100	725.11	16.30 - 154.21	$3s^2 3p^2 - 3s 3p^3$	$^1 D - ^1 D^o$	2 - 2		707, 213
1	200	822.161	0.0 - 121.63	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	0 - 1		197, 549
1	250	827.052	0.76 - 121.68	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	1 - 2		197, 549
1	150	827.35	0.76 - 121.63	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	1 - 1		549
1	200	834.88	2.03 - 121.81	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	2 - 3		549
1	50	835.79	2.03 - 121.68	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	2 - 2		549
1	100	836.13	2.03 - 121.63	$3s^2 3p^2 - 3s 3p^3$	$g^2 P - ^4 D^o$	2 - 1		549

ARGON VI (Ar^{6+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 3p^2 \text{ } ^4P_{1/2}$ (13 electrons)Ionization Potential 734 040 cm^{-1} ; 91.010 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	80	180.07	0.0 - 555.33	$3s^2 (^1S) 3p - 3s^2 (^1S) 5d$	$g^2 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		549
	120	180.72	2.21 - 555.56	$3s^2 (^1S) 3p - 3s^2 (^1S) 5d$	$g^2 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		549
	120	219.90	0.0 - 454.76	$3s^2 (^1S) 3p - 3s^2 (^1S) 4d$	$g^2 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		549
	200	220.95	2.21 - 454.81	$3s^2 (^1S) 3p - 3s^2 (^1S) 4d$	$g^2 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		549
	120	281.43	100.96 - 456.28	$3s 3p^2 - 3s 3p(^4P^o) 4s$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	160	281.92	100.16 - 454.87	$3s 3p^2 - 3s 3p(^4P^o) 4s$	$^4 P - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		549
	240	282.42	102.19 - 456.28	$3s 3p^2 - 3s 3p(^4P^o) 4s$	$^4 P - ^4 P^o$	$\frac{5}{2} - \frac{7}{2}$		549
	40	282.56	100.96 - 454.87	$3s 3p^2 - 3s 3p(^4P^o) 4s$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	120	283.16	100.96 - 454.12	$3s 3p^2 - 3s 3p(^4P^o) 4s$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	200	292.15	0.0 - 342.29	$3s^2 (^1S) 3p - 3s^2 (^1S) 4s$	$g^2 P^o - ^4 S$	$\frac{1}{2} - \frac{1}{2}$		549
	240	294.05	2.21 - 342.29	$3s^2 (^1S) 3p - 3s^2 (^1S) 4s$	$g^2 P^o - ^4 S$	$\frac{3}{2} - \frac{5}{2}$		549
	80	455.81	100.16 - 319.55	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{1}{2} - \frac{3}{2}$		549
	120	456.38	100.16 - 319.28	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{3}{2} - \frac{5}{2}$		549
	200	457.01	100.96 - 319.77	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{5}{2} - \frac{7}{2}$		549
	800	457.48	0.0 - 218.59	$3s^2 (^1S) 3p - 3s^2 (^1S) 3d$	$g^2 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		549
	40	458.04	100.96 - 319.28	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{3}{2} - \frac{5}{2}$		549
	400	459.32	102.19 - 319.90	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{5}{2} - \frac{7}{2}$		549
	100	459.60	102.19 - 319.77	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{3}{2} - \frac{5}{2}$		549
	40	460.06	102.19 - 319.55	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 D^o$	$\frac{5}{2} - \frac{7}{2}$		549
	40	460.20	100.16 - 317.46	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{1}{2} - \frac{3}{2}$		549
	300	461.23	100.16 - 316.97	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	50	461.90	100.96 - 317.46	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{5}{2} - \frac{7}{2}$		549
	1000	462.007	2.21 - 218.66	$3s^2 (^1S) 3p - 3s^2 (^1S) 3d$	$g^2 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		197, 549
	160	462.15	2.21 - 218.59	$3s^2 (^1S) 3p - 3s^2 (^1S) 3d$	$g^2 P^o - ^4 D$	$\frac{5}{2} - \frac{7}{2}$		549
	160	464.26	100.96 - 316.36	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	80	465.59	102.19 - 316.97	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{5}{2} - \frac{7}{2}$		549
	160	466.93	102.19 - 316.36	$3s 3p^2 - 3s 3p(^4P^o) 3d$	$^4 P - ^4 P^o$	$\frac{3}{2} - \frac{5}{2}$		549
	160	544.73	0.0 - 183.58	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		549
	200	548.91	0.0 - 182.18	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 P$	$\frac{3}{2} - \frac{5}{2}$		549
	320	551.37	2.21 - 183.58	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 P$	$\frac{5}{2} - \frac{7}{2}$		549
	160	555.64	2.21 - 182.18	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 P$	$\frac{3}{2} - \frac{5}{2}$		549
	40	587.01	100.16 - 270.51	$3s^2 (^1S) 3p - 3p^2$	$^4 P - ^4 S^o$	$\frac{1}{2} - \frac{3}{2}$		549
	200	588.92	0.0 - 169.80	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 S$	$\frac{3}{2} - \frac{5}{2}$		549
	80	589.78	100.96 - 270.51	$3s 3p^2 - 3p^2$	$^4 P - ^4 S^o$	$\frac{3}{2} - \frac{5}{2}$		549
	100	594.10	102.19 - 270.51	$3s 3p^2 - 3p^2$	$^4 P - ^4 S^o$	$\frac{5}{2} - \frac{7}{2}$		549
	160	596.69	2.21 - 169.80	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 S$	$\frac{3}{2} - \frac{5}{2}$		549, 252
	100	754.93	0.0 - 132.46	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 D$	$\frac{1}{2} - \frac{3}{2}$		252
	200	767.06	2.21 - 132.58	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 D$	$\frac{3}{2} - \frac{5}{2}$		252
	100	767.71	2.21 - 132.46	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 D$	$\frac{5}{2} - \frac{7}{2}$		252
	30	998.43	0.0 - 100.16	$3s^2 (^1S) 3p - 3s 3p^2$	$g^2 P^o - ^4 P$	$\frac{1}{2} - \frac{3}{2}$		213

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	40	1000.16	2.21 - 102.19	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^oP$	$\frac{1}{2} - \frac{1}{2}$		213
	10	1012.67	2.21 - 100.96	$3s^2(^1S)3p - 3s3p^2$	$g^3P^o - ^oP$	$\frac{1}{2} - \frac{1}{2}$		213

ARGON VII (Ar^{++}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s^2 \ ^1S_0$ (12 electrons)Ionization Potential $1\,002\,730 \text{ cm}^{-1}$; 124.324 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	50	151.70	112.12 + E - 771.32 + E	$3s(^3S)3p - 3s(^3S)5d$	$^3P^o - ^3D$	0 - 1		549
	100	151.88	112.92 + E - 771.35 + E	$3s(^3S)3p - 3s(^3S)5d$	$^3P^o - ^3D$	1 - 2		549
	150	152.26	114.61 + E - 771.38 + E	$3s(^3S)3p - 3s(^3S)5d$	$^3P^o - ^3D$	2 - 3		549
	500	176.57	0.0 - 566.36	$3s^2 - 3s(^3S)4p$	$g^1S - ^1P^o$	0 - 1		549
	150	191.76	112.12 + E - 633.61 + E	$3s(^3S)3p - 3s(^3S)4d$	$^3P^o - ^3D$	0 - 1		549
	250	192.04	112.92 + E - 633.65 + E	$3s(^3S)3p - 3s(^3S)4d$	$^3P^o - ^3D$	1 - 2		549
	350	192.64	114.61 + E - 633.72 + E	$3s(^3S)3p - 3s(^3S)4d$	$^3P^o - ^3D$	2 - 3		549
	100	249.38	112.12 + E - 513.11 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P^o - ^3S$	0 - 1		549
	250	249.886	112.92 + E - 513.11 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P^o - ^3S$	1 - 1		197, 549
	350	250.940	114.61 + E - 513.11 + E	$3s(^3S)3p - 3s(^3S)4s$	$^3P^o - ^3S$	2 - 1		197, 549
	150	297.62	323.12 + E - 659.12 + E	$3s(^3S)3d - 3s(^3S)4f$	$^3D - ^3F^o$	1 - 2		549
	200	297.66	323.16 + E - 659.12 + E	$3s(^3S)3d - 3s(^3S)4f$	$^3D - ^3F^o$	2 - 3		549
	300	297.70	323.21 + E - 659.12 + E	$3s(^3S)3d - 3s(^3S)4f$	$^3D - ^3F^o$	3 - 4		549
	200	473.938	112.12 + E - 323.12 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	0 - 1		197, 549
	400	475.656	112.92 + E - 323.16 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	1 - 2		197, 549
	100	475.73	112.92 + E - 323.12 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	1 - 1		549
	600	479.379	114.61 + E - 323.21 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	2 - 3		197, 549
	100	479.49	114.61 + E - 323.16 + E	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	2 - 2		549
	120	501.07	170.72 - 370.29	$3s(^3S)3p - 3s(^3S)3d$	$^3P^o - ^3D$	1 - 2		220, 707
	750	585.75	0.0 - 170.72	$3s^2 - 3s(^3S)3p$	$g^1S - ^1P^o$	0 - 1		549
	100	630.31	112.92 + E - 271.58 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	1 - 2		549
	100	634.21	112.12 + E - 269.79 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	0 - 1		549
	200	637.05	114.61 + E - 271.58 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	2 - 2		549
	50	637.47	112.92 + E - 269.79 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	1 - 1		549
	100	641.32	112.92 + E - 268.85 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	1 - 0		549
	100	644.39	114.61 + E - 269.79 + E	$3s(^3S)3p - 3p^2$	$^3P^o - ^3P$	2 - 1		549
		885.55	0.0 - 112.92 + E	$3s^2 - 3s(^3S)3p$	$g^1S - ^1P^o$	0 - 1	P	375
		1063.55	170.72 - 264.75	$3s(^3S)3p - 3p^2$	$^3P^o - ^3D$	1 - 2		220

ARGON VIII (Ar^{++}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 3s \ ^2S_{1/2}$ (11 electrons)Ionization Potential $1\,157\,056 \text{ cm}^{-1}$; 143.458 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	100	120.09	0.0 - 832.72	$2p^2 3s - 2p^2 5p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$		549
	50	120.16	0.0 - 832.27	$2p^2 3s - 2p^2 5p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$		549
	10	122.62	140.09 - 955.62	$2p^2 3p - 2p^2 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		549
	50	123.03	142.81 - 955.62	$2p^2 3p - 2p^2 6d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		549
	150	137.93	140.09 - 865.10	$2p^2 3p - 2p^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		549
	250	138.44	142.81 - 865.14	$2p^2 3p - 2p^2 5d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{1}{2}$		549
	100	148.73	140.09 - 812.46	$2p^2 3p - 2p^2 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		549
	150	149.33	142.81 - 812.46	$2p^2 3p - 2p^2 5s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		549
	400	158.92	0.0 - 629.27	$2p^2 3s - 2p^2 4p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$		549
	250	159.18	0.0 - 628.27	$2p^2 3s - 2p^2 4p$	$g^2S - ^2P^o$	$\frac{1}{2} - \frac{1}{2}$		549

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
500	179.40	179.40	140.09 - 697.51	$2p^3 3p - 2p^4 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		549
750	180.25	180.25	142.81 - 697.59	$2p^3 3p - 2p^4 4d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		549
150	184.27	184.27	332.61 - 875.30	$2p^3 3d - 2p^4 5f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		549
250	184.32	184.32	332.76 - 875.33	$2p^3 3d - 2p^4 5f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		549
	200.03	200.03	332.76 - 832.72	$2p^3 3d - 2p^4 5p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		847
	200.13	200.13	332.61 - 832.27	$2p^3 3d - 2p^4 5p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		847
250	229.44	229.44	140.09 - 575.94	$2p^3 3p - 2p^4 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		549
350	230.88	230.88	142.81 - 575.94	$2p^3 3p - 2p^4 4s$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		549
200	260.25	260.25	332.61 - 716.85	$2p^3 3d - 2p^4 4f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		549
300	260.33	260.33	332.76 - 716.88	$2p^3 3d - 2p^4 4f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{1}{2}$		549
100	337.26	337.26	332.76 - 629.27	$2p^3 3d - 2p^4 4p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		549
10	338.22	338.22	332.61 - 628.27	$2p^3 3d - 2p^4 4p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		549
	389.43	389.43	575.94 - 832.72	$2p^3 4s - 2p^4 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		847
	390.12	390.12	575.94 - 832.27	$2p^3 4s - 2p^4 5p$	$^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		847
150	519.43	519.43	140.09 - 332.61	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		549
250	526.46	526.46	142.81 - 332.76	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		549
50	526.87	526.87	142.81 - 332.61	$2p^3 3p - 2p^4 3d$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		549
	562.46	562.46	697.51 - 875.30	$2p^3 4d - 2p^4 5f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		847
	562.61	562.61	697.59 - 875.33	$2p^3 4d - 2p^4 5f$	$^1D - ^1F^o$	$\frac{1}{2} - \frac{3}{2}$		847
1000	700.245	700.245	0.0 - 142.81	$2p^3 3s - 2p^4 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		753, 252
500	713.812	713.812	0.0 - 140.09	$2p^3 3s - 2p^4 3p$	$g^1S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		753, 252
	740.0	740.0	697.59 - 832.72	$2p^3 4d - 2p^4 5p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	375, 847
	742.0	742.0	697.51 - 832.27	$2p^3 4d - 2p^4 5p$	$^1D - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P	375, 847

ARGON IX (Ar^{8+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 \ ^1S_0$ (10 electrons)Ionization Potential 3 407 300 cm^{-1} ; 422.45 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
600	31.52	31.52	0.0 - 3172.59	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 6d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		255
700	31.66	31.66	0.0 - 3158.56	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 6d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		255
400	32.64	32.64	0.0 - 3063.73	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 5d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		255
700	35.02	35.02	0.0 - 2855.51	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 4d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		255
300	35.23	35.23	0.0 - 2834.47	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 4d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		255
500	35.82	35.82	0.0 - 2791.74	$2s^2 2p^6 - 2s^2 2p^6 (^1S) 3p$	$g^1S - ^1P^o$	0 - 1		259, 255
150	36.78	36.78	0.0 - 2718.9	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 4s$	$g^1S - \frac{1}{2}[\frac{1}{2}]^o$	0 - 1	Q	248, 807
100	36.96	36.96	0.0 - 2705.6	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 4s$	$g^1S - \frac{3}{2}[\frac{1}{2}]^o$	0 - 1	Q	248, 807
600	41.48	41.48	0.0 - 2410.8	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 3d$	$g^1S - \frac{1}{2}[\frac{3}{2}]^o$	0 - 1		255
200	42.02	42.02	0.0 - 2379.82	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 3d$	$g^1S - \frac{3}{2}[\frac{3}{2}]^o$	0 - 1		255
200	42.56	42.56	0.0 - 2349.62	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 3d$	$g^1S - \frac{3}{2}[\frac{1}{2}]^o$	0 - 1		255
500	48.73	48.73	0.0 - 2052.12	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{1/2}) 3s$	$g^1S - \frac{1}{2}[\frac{1}{2}]^o$	0 - 1		549
500	49.18	49.18	0.0 - 2033.35	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o_{3/2}) 3s$	$g^1S - \frac{3}{2}[\frac{1}{2}]^o$	0 - 1		549

ARGON X (Ar^{7+}), $Z = 18$ Ground State $1s^2 2s^2 2p^6 \ ^1P^o_{1/2}$ (9 electrons)Ionization Potential 3 860 900 cm^{-1} ; 478.69 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
100	29.1	29.1	0.0 - 3436.0	$2s^2 2p^6 - 2s^2 2p^6 (^1D) 5d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		248
50	29.2	29.2	18.11 - 3443.1	$2s^2 2p^6 - 2s^2 2p^6 (^1D) 5d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		248
150	30.96	30.96	0.0 - 3230.0	$2s^2 2p^6 - 2s^2 2p^6 (^1D) 4d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		248
100	31.08	31.08	18.11 - 3235.6	$2s^2 2p^6 - 2s^2 2p^6 (^1D) 4d$	$g^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$		248
320	32.45	32.45	0.0 - 3081.7	$2s^2 2p^6 - 2s^2 2p^6 (^1P^o) 3p$	$g^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$		132

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	32.55		0.0 - 3072.2	$2s^2 2p^4 - 2s^2 2p^4(^1P)4s$	$g^4P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		248
200	32.61		0.0 - 3066.5	$2s^2 2p^4 - 2s^2 2p^4(^1P)3p$	$g^4P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		132
50	32.74		18.11 - 3072.2	$2s^2 2p^4 - 2s^2 2p^4(^1P)4s$	$g^4P - ^1P$	$\frac{1}{2} - \frac{1}{2}$		248
100	36.56		0.0 - 2735.8	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^4P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
150	36.78		18.11 - 2737.6	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^4P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		248
50	37.10							248
250	37.43		0.0 - 2671.2	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		248
200	37.60		18.11 - 2677.1	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1D$	$\frac{1}{2} - \frac{1}{2}$		248
150	38.23		0.0 - 2615.7	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		248
500	38.40		0.0 - 2603.	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Q	255, 375
420	38.51		18.11 - 2614.4	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		132
700	38.64		18.11 - 2605.4	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Q	255, 374
500	38.88		18.11 - 2591.1	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1P$	$\frac{1}{2} - \frac{1}{2}$	Q	255, 374
200	41.57		0.0 - 2405.6	$2s^2 2p^4 - 2s^2 2p^4(^1S)3s$	$g^4P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		248
100	41.89		18.11 - 2405.6	$2s^2 2p^4 - 2s^2 2p^4(^1S)3s$	$g^4P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		248
250	42.94		0.0 - 2328.8	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^4P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		248
150	43.27		18.11 - 2329.2	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^4P - ^1D$	$\frac{1}{2} - \frac{3}{2}$		248
350	43.69		0.0 - 2288.7	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{3}{2} - \frac{1}{2}$		248
450	43.92		0.0 - 2276.9	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		248
350	44.05		18.11 - 2288.7	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{1}{2} - \frac{1}{2}$		248
450	44.27		18.11 - 2276.9	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		248
450	44.45		0.0 - 2249.7	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{3}{2} - \frac{3}{2}$		248
400	44.63		18.11 - 2258.9	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		248
300	44.84		604.13 - 2133.7	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$		248
350	45.03		604.13 - 2123.8	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$		248
400	165.53		0.0 - 604.13	$2s^2 2p^4 - 2s^2 2p^4$	$g^4P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		160, 255
200	171.63		18.11 - 604.13	$2s^2 2p^4 - 2s^2 2p^4$	$g^4P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		160, 255

ARGON XI (Ar^{16+}), $Z = 18$ Ground State $1s^2 2s^2 2p^4 \ ^3P_2$ (8 electrons)Ionization Potential 4 347 000 cm^{-1} ; 538.96 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
150	29.57		14.46 - 3396.3	$2s^2 2p^4 - 2s^2 2p^4(^1S)3p$	$g^4P - ^1S$	1 - 1		255, 132
150	30.40		0.0 - 3289.5	$2s^2 2p^4 - 2s^2 2p^4(^1S)3p$	$g^4P - ^1P$	2 - 2		132
200	31.10		148.44 + E - 3363.83 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3p$	$^1S - ^1P$	0 - 1		132
300	31.36		148.44 + E - 3337.23 + E	$2s^2 2p^4 - 2s^2 2p^4(^1D)3p$	$^1S - ^1P$	0 - 1		132
100	33.53		0.0 - 2979.0	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	2 - 1	Q	248
300	33.65		0.0 - 2971.8	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	2 - 3		248
	33.73		14.46 - 2979.0	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	1 - 1	P	947
	33.78		18.27 - 2979.0	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	0 - 1	P	947
200	33.84		14.46 - 2969.5	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	1 - 2		248
	33.88		14.46 - 2965.33 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$g^4P - ^1D$	1 - 2	P	947
100	33.96		71.83 + E - 3015.43 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$^1D - ^1P$	2 - 1		248
100	34.10		0.0 - 2932.6	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1S$	2 - 1		248
150	34.24		0.0 - 2920.6	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1P$	2 - 2		248
300	34.33		0.0 - 2912.9	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1D$	2 - 3		248
480	34.35		71.83 + E - 2984.73 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$^1D - ^1P$	2 - 3		132
100	34.52		14.46 - 2911.3	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$g^4P - ^1D$	1 - 2		248
500	34.80		71.83 + E - 2945.43 + E	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$^1D - ^1P$	2 - 3		248, 834
40	34.88		148.44 + E - 3015.43 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3d$	$^1S - ^1P$	0 - 1		947
100	35.07		71.83 + E - 2923.23 + E	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$^1D - ^1D$	2 - 2		248
200	35.37		0.0 - 2827.3	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^4P - ^1D$	2 - 3		248
150	35.58		14.46 - 2825.0	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^4P - ^1D$	1 - 2		248
100	35.70		18.27 - 2819.4	$2s^2 2p^4 - 2s^2 2p^4(^1S)3d$	$g^4P - ^1D$	0 - 1		248
200	36.16		148.44 + E - 2911.7	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$^1S - ^1D$	0 - 1	Q	248, 375
200	36.31		148.44 + E - 2902.63 + E	$2s^2 2p^4 - 2s^2 2p^4(^1D)3d$	$^1S - ^1P$	0 - 1		248
150	37.79		0.0 - 2644.8	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	2 - 2	Q	248, 834
150	38.00		14.46 - 2644.8	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$g^4P - ^1P$	1 - 2		248
380	38.33		71.83 + E - 2680.73 + E	$2s^2 2p^4 - 2s^2 2p^4(^1P)3s$	$^1D - ^1P$	2 - 1		132
400	38.62		0.0 - 2589.3	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^4P - ^1D$	2 - 3		248
300	38.79		14.46 - 2592.5	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^4P - ^1D$	1 - 2		248
250	38.87		18.27 - 2589.	$2s^2 2p^4 - 2s^2 2p^4(^1D)3s$	$g^4P - ^1D$	0 - 1		248

Ar XI

Ar XII

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (m 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	300	39.49	71.83 + E - 2604.13 + E	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$^1D - ^1D'$	2 - 2		248
	300	39.64	71.83 + E - 2592.5	$2s^2 2p^4 - 2s^2 2p^3(^1D) 3s$	$^1D - ^1D'$	2 - 2	Q	248, 375
	150	39.79						248
	150	39.98	14.46 - 2517.8	$2s^2 2p^4 - 2s^2 2p^3(^3S) 3s$	$^3P - ^3S'$	1 - 1		248
	100	40.02	18.27 - 2517.8	$2s^2 2p^4 - 2s^2 2p^3(^3S) 3s$	$^3P - ^3S'$	0 - 1		248
	250	40.04						248
		40.19	0.0 - 2488.5 + K	$2s^2 2p^4 - 2s^2 2p^3(^3S) 3s$	$^3P - ^3S'$	2 - 2	P	680
	50	40.42	14.46 - 2488.5 + K	$2s^2 2p^4 - 2s^2 2p^3(^3S) 3s$	$^3P - ^3S'$	1 - 2		248, 680
		151.86	71.83 + E - 730.33 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1P'$	2 - 1		160
		184.51	0.0 - 541.96	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	2 - 1		160
		187.08	14.46 - 548.99	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	1 - 0		160
		188.82	0.0 - 529.63	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	2 - 2		160
		189.57	14.46 - 541.96	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	1 - 1		160
		190.96	18.27 - 541.96	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	0 - 1		160
		194.09	14.46 - 529.63	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3P'$	1 - 2		160
		673.68	0.0 - 148.44 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3S$	2 - 0	F, P	375
		746.36	14.46 - 148.44 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^3S$	1 - 0	F, P	375
		1305.38	71.83 + E - 148.44 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^1D - ^1S$	2 - 0	F, P	375
	0	1392.12	0.0 - 71.83 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^1D$	2 - 2	F	940
		1742.86	14.46 - 71.83 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^1D$	1 - 2	F, P	375
		1867.10	18.27 - 71.83 + E	$2s^2 2p^4 - 2s^2 2p^3$	$^3P - ^1D$	0 - 2	F, P	375

ARGON XII (Ar^{11+}), $Z = 18$ Ground State $1s^2 2s^2 2p^3 \ ^4S_{3/2}$ (7 electrons)Ionization Potential 4 986 600 cm^{-1} ; 618.26 eV

Multiplet	Rel. Int.	λ_{vac} (m Å)	Levels (m 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
	10	25.04	0.0 - 3993.6	$2s^2 2p^3 - 2s^2 2p^2(^1P) 4d$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	25.19						248
	100	25.24						248
	100	28.05	153.85 + E - 3718.95 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3p$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		132
	50	30.58	0.0 - 3270.1	$2s^2 2p^3 - 2s^2 2p^2(^3S) 3p$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	150	30.65	94.59 + E - 3355.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3d$	$^1D' - ^1D$	$\frac{3}{2} - \frac{3}{2}$		132
	50	31.18	148.99 + E - 3355.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1S) 3d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
	350	31.347	0.0 - 3190.1	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	500	31.3P3	0.0 - 3185.8	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	31.458	97.92 + E - 3276.3 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	50	31.483	94.59 + E - 3270.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	31.55	94.59 + E - 3264.3 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D' - ^3F$	$\frac{3}{2} - \frac{3}{2}$		248, 680
	600	31.643	97.92 + E - 3257.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D' - ^3F$	$\frac{3}{2} - \frac{3}{2}$		852
	350	31.66	97.92 + E - 3256.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^1D' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		132, 375
	100	31.962	97.92 + E - 3226.4 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		852
	50	31.984	94.59 + E - 3220.7 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		852
	10	32.027	153.85 + E - 3276.3 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	32.147	153.85 + E - 3264.3 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^3P' - ^3F$	$\frac{3}{2} - \frac{3}{2}$		852
	50	32.20	153.85 + E - 3256.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		248
	200	32.25	148.99 + E - 3251.3 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		132, 375
	100	32.344	97.92 + E - 3189.5 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D' - ^3F$	$\frac{3}{2} - \frac{3}{2}$		852
	50	32.459	94.59 + E - 3174.9 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D' - ^3F$	$\frac{3}{2} - \frac{3}{2}$		852
	100	32.546	153.85 + E - 3226.4 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^3P' - ^3D$	$\frac{3}{2} - \frac{3}{2}$		852
	100	32.74	97.92 + E - 3152.5	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3d$	$^1D' - ^3F$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
	250	34.67	0.0 - 2884.3	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	150	34.78	0.0 - 2875.2	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
	50	34.88	0.0 - 2867.0	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^4S' - ^4P$	$\frac{3}{2} - \frac{3}{2}$		852
		35.0	97.92 + E - 2955.5 + E	$2s^2 2p^3 - 2s^2 2p^2(^1D) 3s$	$^1D' - ^3D$	$\frac{3}{2} - \frac{3}{2}$	P	680
		35.54	97.92 + E - 2911.75 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1D' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	375
	220	35.68	94.59 + E - 2897.8 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1D' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		132
	100	35.96	94.59 + E - 2875.2	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^1D' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
	10	36.26	153.85 + E - 2911.75 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$		852
	100	36.39	148.99 + E - 2897.8 + E	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	P	680, 248
	500	36.67	153.85 + E - 2884.3	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3s$	$^3P' - ^3P$	$\frac{3}{2} - \frac{3}{2}$	Q	255, 374
	200	39.30	458.11 - 3002.6	$2s^2 2p^3 - 2s^2 2p^2(^1P) 3p$	$^4P - ^4D'$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375

Ar XII

Ar XII

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
250	39.75		613.64 + E - 3129.8 + E	$2s^2 2p^4 - 2s^2 2p^2(^1D)3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$	J	248, 375
50	41.08		614.24 + E - 3046.9 + E	$2s^2 2p^4 - 2s^2 2p^2(^3P)3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
150	43.42		745.47 + E - 3046.9 + E	$2s^2 2p^4 - 2s^2 2p^2(^3P)3p$	$^3P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
150	44.79		761.56 + E - 2995.1	$2s^2 2p^4 - 2s^2 2p^2(^3P)3p$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Q	248, 375
50	45.38		97.92 + E - 2301.5 + E	$2s^2 2p^4 - 2s^2 2p^2(^1D)3s$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		248, 255
100	45.49		94.59 + E - 2292.9 + E	$2s^2 2p^4 - 2s^2 2p^2(^1D)3s$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		248
150	46.53		153.85 + E - 2301.5 + E	$2s^2 2p^4 - 2s^2 2p^2(^1D)3s$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	248, 375
	149.93		94.59 + E - 761.56 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$		161
	153.63		94.59 + E - 745.47 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$		161
	154.43		97.92 + E - 745.47 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$		161
	163.23		148.99 + E - 761.56 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1P$	$\frac{1}{2} - \frac{1}{2}$		161
	164.51		153.85 + E - 761.56 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1P$	$\frac{3}{2} - \frac{1}{2}$		248
	167.62		148.99 + E - 745.47 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$		161
	169.00		153.85 + E - 745.47 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1P$	$\frac{3}{2} - \frac{1}{2}$		161
	176.62		148.99 + E - 715.18 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1S$	$\frac{1}{2} - \frac{1}{2}$		161
	178.15		153.85 + E - 715.18 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1S$	$\frac{3}{2} - \frac{1}{2}$		161
	192.66		94.59 + E - 613.64 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		161
30	193.68		97.92 + E - 614.24 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$		161, 93
	215.49		0.0 - 464.06	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1P$	$\frac{3}{2} - \frac{1}{2}$		161
	217.21		153.85 + E - 614.24 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$		161
	218.29		0.0 - 458.11	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1P$	$\frac{3}{2} - \frac{3}{2}$		161
	224.25		0.0 - 445.93	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1P$	$\frac{3}{2} - \frac{3}{2}$		161
	436.8		2911.75 + E - 3140.7 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	447.0		2897.8 + E - 3121.5 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	680
80	450.44		3035.9 + E - 3257.9 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^1D)3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
80	470.57		3140.7 + E - 3353.2 + E	$2s^2 2p^2(^1D)3p - 2s^2 2p^2(^1S)3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 375
	474.7		2911.75 + E - 3122.4 + E	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^1D)3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	538.2		2875.2 - 3061.0	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{3}{2}$	P	680
	540.0		2955.5 + E - 3140.7 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	542.0		2956.2 + E - 3140.7 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	557.1		3046.9 + E - 3226.4 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	565.9		2884.3 - 3061.0	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1S$	$\frac{3}{2} - \frac{3}{2}$	P	680
	567.9		3044.6 + E - 3220.7 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1P - ^1D$	$\frac{1}{2} - \frac{3}{2}$	P	680
	576.0		2956.2 + E - 3129.8 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	599.2		2955.5 + E - 3122.4 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	605.0		2956.2 + E - 3121.5 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	636.9		3081.6 + E - 3238.6 + E	$2s^2 2p^2(^1D)3p - 2s^2 2p^2(^1D)3d$	$^1F - ^1C$	$\frac{3}{2} - \frac{3}{2}$	P	680
	643.5		3015.0 - 3170.4	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	643.9		3085.0 + E - 3240.3 + E	$2s^2 2p^2(^1D)3p - 2s^2 2p^2(^1D)3d$	$^1F - ^1G$	$\frac{1}{2} - \frac{3}{2}$	P	680
	650.0		0.0 - 153.85 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1P$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
10	651.04		3035.9 + E - 3189.5 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	Q	707, 680
	653.2		3021.8 + E - 3174.9 + E	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	680
	659.2		3201.5 + E - 3353.2 + E	$2s^2 2p^2(^1S)3p - 2s^2 2p^2(^1S)3d$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	660.1		2995.1 - 3146.6	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	680
	667.1		3002.6 - 3152.5	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	680
	668.0		3010.7 - 3160.4	$2s^2 2p^2(^3P)3p - 2s^2 2p^2(^3P)3d$	$^1D - ^1F$	$\frac{1}{2} - \frac{3}{2}$	P	680
	671.2		0.0 - 148.99 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1P$	$\frac{3}{2} - \frac{1}{2}$	F, P	375
	690.1		3056.6 + E - 3201.5 + E	$2s^2 2p^2(^1S)3s - 2s^2 2p^2(^1S)3p$	$^1S - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	680
	694.4		3056.6 + E - 3200.6 + E	$2s^2 2p^2(^1S)3s - 2s^2 2p^2(^1S)3p$	$^1S - ^1P$	$\frac{1}{2} - \frac{1}{2}$	P	680
	745.2		2867.0 - 3001.2	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P	680
	765.1		2884.3 - 3015.0	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	772.2		2955.5 + E - 3085.0 + E	$2s^2 2p^2(^1D)3s - 2s^2 2p^2(^1D)3p$	$^1D - ^1F$	$\frac{3}{2} - \frac{3}{2}$	P	680
	784.9		2875.2 - 3002.6	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	791.1		2884.3 - 3010.7	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	834.0		2875.2 - 2995.1	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1D$	$\frac{3}{2} - \frac{3}{2}$	P	680
	855.4		2884.3 - 3001.2	$2s^2 2p^2(^3P)3s - 2s^2 2p^2(^3P)3p$	$^1P - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P	680
	1021.2		0.0 - 97.92 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1D$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1057.2		0.0 - 94.59 + E	$2s^2 2p^4 - 2s^2 2p^4$	$g^4S - ^1D$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1687.25		94.59 + E - 153.85 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1787.88		97.92 + E - 153.85 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{3}{2}$	F, P	375
	1838.03		94.59 + E - 148.99 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$	F, ?	375
	1958.10		97.92 + E - 148.99 + E	$2s^2 2p^4 - 2s^2 2p^4$	$^1D - ^1P$	$\frac{3}{2} - \frac{1}{2}$	F, P	375

Ground State $1s^2 2s^2 2p^6 \ ^3P_0$ (6 electrons)Ionization Potential 5 533 800 cm^{-1} ; 686.11 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^3 cm^{-1})	Configurations	Terms	J - J	Notes	References
50	23.03		21.89 - 4364.0	$2s^2 2p^5 - 2s^2 2p^4 d$	$^3P - ^3P$	2-2		132
50	23.39		84.95 + E - 4360.24 + E	$2s^2 2p^5 - 2s^2 2p^4 d$	$^1D - ^1D$	2-2		132
200	23.57		9.85 - 4252.6	$2s^2 2p^5 - 2s^2 2p^4 s$	$^3P - ^3P$	1-2		132
50	23.93		162.06 + E - 4341.04 + E	$2s^2 2p^5 - 2s^2 2p^4 d$	$^1S - ^1P$	0-1		132
80	24.61		162.06 + E - 4225.54 + E	$2s^2 2p^5 - 2s^2 2p^4 s$	$^1S - ^1P$	0-1		132
100	26.30		9.85 - 3815.5	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^3P - ^3S$	1-1	Q	248, 375
110	26.36		21.89 - 3815.5	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^3P - ^3S$	2-1		132
60	26.53		21.89 - 3791.2	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^3P - ^3P$	2-2		132
40	26.72		21.89 - 3765.44 + E	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^3P - ^3D$	2-2	Q	132, 375
40	26.82		84.95 + E - 3813.54 + E	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^1D - ^1P$	2-1		132
60	27.17		84.95 + E - 3765.44 + E	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^1D - ^1D$	2-2		132
100	27.60		21.89 - 3644.0	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^3P - ^3D$	2-3		132
80	28.68		162.06 + E - 3644.0	$2s^2 2p^5 - 2s^2 2p^3 3p$	$^1S - ^1D$	0-1		132
	29.016		21.89 - 3466.84 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1P$	2-1		949
	29.191		9.85 - 3435.6	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1P$	1-0		949
50	29.208		225.9 + K - 3649.7 + K	$2s^2 2p^5 - 2s^2 2p^3 (^3P) 3d$	$^1S - ^1P$	2-2		852
	29.220		9.85 - 3432.5	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1P$	1-2		949
50	29.249		225.9 + K - 3644.92 + K	$2s^2 2p^5 - 2s^2 2p^3 (^3P) 3d$	$^1S - ^1P$	2-3		852
	29.304		21.89 - 3434.3	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1P$	2-1		949
100	29.32		21.89 - 3432.5	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1P$	2-2		852
	29.552		9.85 - 3417.05	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	1-2		949
500	29.37		21.89 - 3426.7	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	2-3		852
	29.403		9.85 - 3410.6	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	1-1		949
	29.454		21.89 - 3417.05	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	2-2		949
	29.534		9.85 - 3394.64 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	1-2		949
250	29.565		84.95 + E - 3467.34 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1F$	2-3		852
	29.575		84.95 + E - 3466.84 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1P$	2-1		949
	29.639		21.89 - 3394.64 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1D$	2-2		949
50	29.689		21.89 - 3392.3	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1F$	2-3		949, 248
	29.769		21.89 - 3381.3	$2s^2 2p^5 - 2s^2 2p^3 d$	$^3P - ^1F$	2-2		949
50	29.873		84.95 + E - 3432.5	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1P$	2-2		949, 248
	30.014		84.95 + E - 3417.05	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1D$	2-2		949
200	30.06		84.95 + E - 3410.6	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1D$	2-1	Q	255, 375
50	30.214		84.95 + E - 3394.64 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1D$	2-2		852
50	30.236		84.95 + E - 3392.3	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1F$	2-3		949, 248
10	30.260		162.06 + E - 3466.84 + E	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1S - ^1P$	0-1		852
50	30.350		84.95 + E - 3381.3	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1D - ^1F$	2-2		949, 248
50	30.77		162.06 + E - 3410.6	$2s^2 2p^5 - 2s^2 2p^3 d$	$^1S - ^1D$	0-1		248
50	30.84							248
	31.74		9.85 - 3160.20	$2s^2 2p^5 - 2s^2 2p^3 s$	$^3P - ^1P$	1-2	Q	375
10	31.864		21.89 - 3160.20	$2s^2 2p^5 - 2s^2 2p^3 s$	$^3P - ^1P$	2-2		852
10	32.34		84.95 + E - 3177.04 + E	$2s^2 2p^5 - 2s^2 2p^3 s$	$^1D - ^1P$	2-1		852
	159.08		0.0 - 628.62	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^3S$	0-1		161
	161.61		9.85 - 628.62	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^3S$	1-1		161
	162.96		84.95 + E - 698.59 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^1D - ^1P$	2-1		161
	164.82		21.89 - 628.62	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^3S$	2-1	P	161
	184.90		84.95 + E - 625.78 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^1D - ^1D$	2-2		248
	186.38		162.06 + E - 698.59 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^1S - ^1P$	0-1		248
	201.69		0.0 - 495.81	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	0-1		248
	205.24		9.85 - 497.04	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	1-2		248
	205.77		9.85 - 495.81	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	1-1		248
	205.94		9.85 - 495.46	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	1-0		248
	210.40		21.89 - 497.04	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	2-2		248
	211.00		21.89 - 495.81	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1P$	2-1		248
	236.27		0.0 - 423.24	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	0-1		248
	241.90		9.85 - 423.24	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	1-1		248
	242.22		9.85 - 422.72	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	1-2		248
	248.68		21.89 - 423.97	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	2-3		248
	249.46		21.89 - 422.72	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	2-2		248
	462.8		9.85 - 225.9 + K	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1S$	1-2	P	680
	490.2		21.89 - 225.9 + K	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1S$	2-2	P	680
	656.98		9.85 - 162.06 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1S$	1-0	F, P	375
	713.45		21.89 - 162.06 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1S$	2-0	F, P	375
	1177.20		0.0 - 84.95 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	0-2	F, P	375
	1296.87		84.95 + E - 162.06 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^1D - ^1S$	2-0	F, P	375
	1331.52		9.85 - 84.95 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^3F - ^1D$	1-2	F	442
	1585.94		21.89 - 84.95 + E	$2s^2 2p^5 - 2s^2 2p^2$	$^3P - ^1D$	2-2	F, P	375

Ground State 1s²2s²2p ⁴P_{1/2} (5 electrons)Ionization Potential 6 095 500 cm⁻¹; 755.75 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
		4.058	22.66 - 24643.0	1s ² 2s ² 2p - 1s2s ² 2p ²	g ⁴ P° - °P	3/2 - 3/2	Z	839
100	21.17	22.66 - 4751.5		2s ² 2p - 2s ² 4d	g ⁴ P° - °D	3/2 - 3/2	Q	132
60	25.42	0.0 - 3933.9		2s ² 2p - 2s2p ³	g ⁴ P° - °P	3/2 - 3/2		132
60	25.58	22.66 - 3933.9		2s ² 2p - 2s2p ³ p	g ⁴ P° - °P	3/2 - 3/2		132
50	27.22	411.2 - 4085.0		2s2p ² - 2s2p(°P°)3d	°D - °F°	3/2 - 3/2		248
200	27.42	554.66 - 4201.7		2s2p ² - 2s2p(°P°)3d	°P - °D°	3/2 - 3/2		248
300	27.47	0.0 - 3640.3		2s ² 2p - 2s ² 3d	g ⁴ P° - °D	3/2 - 3/2		248
300	27.63	22.66 - 3642.0		2s ² 2p - 2s ² 3d	g ⁴ P° - °D	3/2 - 3/2		248
	28.10	22.66 - 3581.		2s ² 2p - 2s ² 3p	g ⁴ P° - °P°	3/2 - 3/2	F, P	375
150	28.32	554.66 - 4085.0		2s2p ² - 2s2p(°P°)3d	°P - °F°	3/2 - 3/2	Q	248, 375
150	29.49	22.66 - 3413.8		2s ² 2p - 2s ² 3s	g ⁴ P° - °S	3/2 - 3/2		152
50	29.90	545.23 - 3890. + U		2s2p ² - 2s2p(°P°)3d	°P - °D°	3/2 - 3/2	Q	248, 375
50	33.03	554.66 - 3581.		2s2p ² - 2s ² 3p	°P - °P°	3/2 - 3/2	Q	248, 375
	180.29	0.0 - 554.66		2s ² 2p - 2s2p ²	g ⁴ P° - °P	3/2 - 3/2		248
	183.41	0.0 - 545.23		2s ² 2p - 2s2p ²	g ⁴ P° - °P	3/2 - 3/2		248
	187.95	22.66 - 554.66		2s ² 2p - 2s2p ²	g ⁴ P° - °P	3/2 - 3/2		248
	191.35	22.66 - 545.23		2s ² 2p - 2s2p ²	g ⁴ P° - °P	3/2 - 3/2		248
	194.39	0.0 - 514.43		2s ² 2p - 2s2p ²	g ⁴ P° - °S	3/2 - 3/2		248
	203.35	22.66 - 514.43		2s ² 2p - 2s2p ²	g ⁴ P° - °S	3/2 - 3/2		248
	204.64	196.7 + F - 685.36 + F		2s2p ² - 2p ³	°P - °S°	3/2 - 3/2		248
	208.31	205.31 + F - 685.36 + F		2s2p ² - 2p ³	°P - °S°	3/2 - 3/2		248
	213.42	216.8 + F - 685.36 + F		2s2p ² - 2p ³	°P - °S°	3/2 - 3/2		248
	243.74	0.0 - 410.27		2s ² 2p - 2s2p ²	g ⁴ P° - °D	3/2 - 3/2		248
	257.37	22.66 - 411.2		2s ² 2p - 2s2p ²	g ⁴ P° - °D	3/2 - 3/2		248
	257.98	22.66 - 410.27		2s ² 2p - 2s2p ²	g ⁴ P° - °D	3/2 - 3/2		248

ARGON XV (Ar¹⁴⁺), Z = 18Ground State 1s²2s² ¹S₀ (4 electrons)Ionization Potential 6 894 200 cm⁻¹; 854.78 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
5	3.33	0.0 - 30030.		1s ² 2s ² - 1s2s ² 4p	g ⁴ S - °P°	0 - 1	Z	559
5	3.45	0.0 - 28986.		1s ² 2s ² - 1s2s ² 3p	g ⁴ S - °P°	0 - 1	Z	559
70	4.010	0.0 - 24938.		1s ² 2s ² - 1s2s ² 2p	g ⁴ S - °P°	0 - 1	Z	559
100	25.05	0.0 - 3992.		1s ² 2s ² - 1s ² 2s3p	g ⁴ S - °P°	0 - 1		132
40	25.72	228.38 + W - 4116.4 + W		1s ² 2s2p - 1s ² 2s3d	°P° - °D	0 - 1		132
60	25.84	235.84 + W - 4105.8 + W		1s ² 2s2p - 1s ² 2s3d	°P° - °D	1 - 2		132
80	26.00	252.57 + W - 4098.8 + W		1s ² 2s2p - 1s ² 2s3d	°P° - °D	2 - 3		132
120	27.41	452.18 + W - 4100.5 + W		1s ² 2s2p - 1s ² 2s3d	°P° - °D	1 - 2		132
200	221.15	0.0 - 452.18 + W		1s ² 2s ² - 1s ² 2s2p	g ⁴ S - °P°	0 - 1		443, 730
120	424.01	0.0 - 235.84 + W		1s ² 2s ² - 1s ² 2s2p	g ⁴ S - °P°	0 - 1		443, 730

ARGON XVI (Ar¹⁵⁺), Z = 18Ground State 1s²2s ²S_{1/2} (3 electrons)Ionization Potential [7 404 400] cm⁻¹; [918.04] eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10 ³ cm ⁻¹)	Configurations	Terms	J - J	Notes	References
5	3.25	0.0 - 30769.		1s ² 2s - 1s2s4p	g ³ S - °P°	1/2 - 3/2	Z	559
5	3.268	282.55 - 30882.6		1s ² 2p - 1s2p4p	°P° - °D	3/2 - 3/2	Z	559
	3.392	0.0 - 29481.		1s ² 2s - 1s ² 3p	g ³ S - °P°	1/2 - 3/2	Z	839
5	3.42	282.55 - 29450.		1s ² 2p - 1s2p(°P°)3p	°P° - °P	3/2 - 3/2	Z	559
150	3.430	282.55 - 29435.		1s ² 2p - 1s2p(°P°)3p	°P° - °D	3/2 - 3/2	Z	559

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		3.961	256.98 - 25510.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1S$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		3.964	282.55 - 25510.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1S$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		3.967	0.0 - 25208.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		3.968	0.0 - 25202.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
		3.961	0.0 - 25119.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		3.983	0.0 - 25107.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P, Z	629
	260	3.985	282.55 - 25377.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
	260	3.989	256.98 - 25326.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1D$	$\frac{1}{2} - \frac{3}{2}$	Z	559
		3.992	282.55 - 25327.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1D$	$\frac{3}{2} - \frac{3}{2}$	Z	559
		4.005	0.0 - 24969.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		4.010	256.98 - 25196.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1P$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
		4.012	282.55 - 25208.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{3}{2}$	P, Z	629
		4.014	282.55 - 25196.	$1s^2 2p - 1s 2p^2$	$^1P^o - ^1P$	$\frac{3}{2} - \frac{1}{2}$	P, Z	629
		4.015	0.0 - 24907.	$1s^2 2s - 1s(2s 2p(^1P^o))$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P, Z	629
	300	353.92	0.0 - 282.55	$1s^2 2s - 1s^2 2p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$		730
	300	389.14	0.0 - 256.98	$1s^2 2s - 1s^2 2p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$		730

ARGON XVII (Ar^{16+}), $Z = 18$ Ground State $1s^2 \ ^1S_0$ (2 electrons)Ionization Potential 33 236 830 cm^{-1} ; 4120.87 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
	5	3.095	0.0 - 32310.	$1s^2 - 1s 6p$	$^3S - ^1P^o$	0 - 1		559
	5	3.128	0.0 - 31967.86	$1s^2 - 1s 5p$	$^3S - ^1P^o$	0 - 1	P	559
	130	3.200	0.0 - 31254.28	$1s^2 - 1s 4p$	$^3S - ^1P^o$	0 - 1	P	559
	190	3.365	0.0 - 29713.74	$1s^2 - 1s 3p$	$^3S - ^1P^o$	0 - 1	P	559
		3.370	0.0 - 29678.06	$1s^2 - 1s 3p$	$^3S - ^1P^o$	0 - 1	P	839
	1000	3.9488	0.0 - 25323.95	$1s^2 - 1s 2p$	$^3S - ^1P^o$	0 - 1	P	559
	550	3.9691	0.0 - 25194.66	$1s^2 - 1s 2p$	$^3S - ^1P^o$	0 - 1	P	559
	5	3.994	0.0 - 25038.23	$1s^2 - 1s 2s$	$^3S - ^1S$	0 - 1	F, P	375, 856
		21.52	25038.23 - 29684.63	$1s 2s - 1s 3p$	$^3S - ^1P^o$	1 - 2	P	375
	40	22.17	25202.48 - 29713.74	$1s 2s - 1s 3p$	$^1S - ^1P^o$	0 - 1	P	132
		62.21	29634.85 - 31242.39	$1s 3s - 1s 4p$	$^3S - ^1P^o$	1 - 2	P	375
		63.45	29678.21 - 31254.28	$1s 3s - 1s 4p$	$^1S - ^1P^o$	0 - 1	P	375
		560.54	25038.23 - 25216.63	$1s 2s - 1s 2p$	$^3S - ^1P^o$	1 - 2	P	375
		823.25	25202.48 - 25523.95	$1s 2s - 1s 2p$	$^1S - ^1P^o$	0 - 1	P	375

ARGON XVIII (Ar^{17+}), $Z = 18$ Ground State $1s \ ^2S_{1/2}$ (1 electron)Ionization Potential 35 699 780 cm^{-1} ; 4426.24 eV

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^6 cm^{-1})	Configurations	Terms	J - J	Notes	References
		2.829	0.0 - 35344.22	$1s - 10p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.836	0.0 - 35260.81	$1s - 9p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.845	0.0 - 35144.21	$1s - 8p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.859	0.0 - 34974.12	$1s - 7p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.881	0.0 - 34712.04	$1s - 6p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.917	0.0 - 34275.89	$1s - 5p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309
		2.918	0.0 - 34273.40	$1s - 5p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309
	7	2.987	0.0 - 33474.63	$1s - 4p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375
	3	2.988	0.0 - 33469.78	$1s - 4p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
	20	3.150	0.0 - 31743.61	$1s - 3p$	$^3S - ^1P^o$	$\frac{1}{2} - \frac{3}{2}$	P	309, 375

Multiplet	Rel. Int.	λ_{vac} (in Å)	Levels (in 10^4 cm^{-1})	Configurations	Terms	J - J	Notes	References
10 65 35	10	3.151	0.0 - 31732.10	1s - 3p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 375
	65	3.731	0.0 - 26801.62	1s - 2p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 559
	35	3.737	0.0 - 26762.78	1s - 2p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309, 559
		11.655	26764.08 - 35344.22	2s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		11.706	26801.62 - 35344.22	2p - 10d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		11.769	26764.08 - 35260.81	2s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		11.822	26801.62 - 35260.81	2p - 9d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		11.933	26764.08 - 35144.21	2s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		11.987	26801.62 - 35144.21	2p - 8d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		12.180	26764.08 - 34974.12	2s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		12.236	26801.62 - 34974.12	2p - 7d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		12.582	26764.08 - 34712.04	2s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		12.642	26801.62 - 34712.04	2p - 6d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		13.312	26764.08 - 34275.89	2s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		13.378	26801.62 - 34276.70	2p - 5d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		14.902	26764.08 - 33474.63	2s - 4p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		14.982	26801.62 - 33476.23	2p - 4d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		20.082	26764.08 - 31743.61	2s - 3p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		20.219	26801.62 - 31747.40	2p - 3d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		27.688	31732.49 - 35344.22	3s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		27.773	31743.61 - 35344.22	3p - 10d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		27.802	31747.40 - 35344.22	3d - 10f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		28.342	31732.49 - 35260.81	3s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		28.432	31743.61 - 35260.81	3p - 9d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		28.462	31747.40 - 35260.81	3d - 9f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		29.311	31732.49 - 35144.21	3s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		29.407	31743.61 - 35144.21	3p - 8d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		29.439	31747.40 - 35144.21	3d - 8f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		30.849	31732.49 - 34974.12	3s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		30.955	31743.61 - 34974.12	3p - 7d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		30.991	31747.40 - 34974.12	3d - 7f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		33.562	31732.49 - 34712.04	3s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		33.688	31743.61 - 34712.04	3p - 6d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		33.731	31747.40 - 34712.04	3d - 6f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		39.318	31732.49 - 34275.89	3s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		39.478	31743.61 - 34276.70	3p - 5d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		39.530	31747.40 - 34277.11	3d - 5f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		53.354	33469.94 - 35344.22	4s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		53.488	33474.63 - 35344.22	4p - 10d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		53.534	33476.23 - 35344.22	4d - 10f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		55.839	33469.94 - 35260.81	4s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		55.985	33474.63 - 35260.81	4p - 9d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		56.036	33476.23 - 35260.81	4d - 9f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		57.400	31732.49 - 33474.63	3s - 4p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		57.716	31743.61 - 33476.23	3p - 4d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		57.816	31747.40 - 33477.03	3d - 4f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		59.728	33469.94 - 35144.21	4s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		59.896	33474.63 - 35144.21	4p - 8d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		59.953	33476.23 - 35144.21	4d - 8f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		66.482	33469.94 - 34974.12	4s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		66.690	33474.63 - 34974.12	4p - 7d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		66.761	33476.23 - 34974.12	4d - 7f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		80.509	33469.94 - 34712.04	4s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		80.814	33474.63 - 34712.04	4p - 6d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		80.919	33476.23 - 34712.04	4d - 6f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		93.394	34273.49 - 35344.22	5s - 10p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		93.604	34275.89 - 35344.22	5p - 10d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		93.675	34276.70 - 35344.22	5d - 10f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		101.284	34273.49 - 35260.81	5s - 9p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		101.530	34275.89 - 35260.81	5p - 9d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		101.615	34276.70 - 35260.81	5d - 9f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		114.848	34273.49 - 35144.21	5s - 8p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		115.165	34275.89 - 35144.21	5p - 8d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		115.274	34276.70 - 35144.21	5d - 8f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		124.078	33469.94 - 34275.89	4s - 5p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		124.677	33474.63 - 34276.70	4p - 5d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		124.862	33476.23 - 34277.11	4d - 5f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		142.729	34273.49 - 34974.12	5s - 7p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		143.219	34275.89 - 34974.12	5p - 7d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		143.387	34276.70 - 34974.12	5d - 7f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309
		228.022	34273.49 - 34712.04	5s - 6p	$^3S - ^3P$	$\frac{1}{2} - \frac{1}{2}$	P	309
		229.277	34275.89 - 34712.04	5p - 6d	$^3P - ^3D$	$\frac{1}{2} - \frac{1}{2}$	P	309
		229.708	34276.70 - 34712.04	5d - 6f	$^3D - ^3F$	$\frac{1}{2} - \frac{1}{2}$	P	309

SECTION II

Spectrum Lines in Order of Wavelength (Finding List)

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Kr (Ka)	0.9801			Ar XVI	3.989	260	Z	S XV	5.0385	3	P
Br (Ka)	1.0397			S XVI	3.991	20	P	P XIII	5.0395		Z
Se (Ka)	1.1048			S XVI	3.992	10	P	S XIV	5.0415		Z
As (Ka)	1.1759			Ar XVI	3.992	260	Z	S XIV	5.0468		Z
Ge (Ka)	1.2541			Ar XVII	3.994	5	F, P	S XIV	5.0565		Z
Ga (Ka)	1.3401			S XV	3.998			S XIV	5.0607		Z
Zn (Ka)	1.4352			Ar XVI	4.005		P, Z	S XIV	5.0648		Z
Cu (Ka)	1.5406			Ar XV	4.010	70	Z	S XIV	5.066		P, Z
Ni (Ka)	1.6579			Ar XVI	4.010		P, Z	S XV	5.0662	1	P
Co (Ka)	1.7890			Ar XVI	4.012		P, Z	S XIV	5.067		P, Z
Fe (Ka)	1.9360			Ar XVI	4.014		P, Z	S XIV	5.0861	7	Z
Mn (Ka)	2.1018			Ar XVI	4.015		P, Z	S XIV	5.087		P, Z
Cr (Ka)	2.2897			Ar XIV	4.058		Z	S XIV	5.0903		Z
V (Ka)	2.5036			P XV	4.080		P	S XIV	5.0964		Z
Ti (Ka)	2.7485			S XV	4.0883		P	S XV	5.101	2	F, P
Ar XVIII	2.829		P	P XV	4.089		P	S XIV	5.1010		Z
Ar XVIII	2.836		P	P XV	4.103		P	S	5.113		N
Ar XVIII	2.845		P	P XV	4.123		P	S XIV	5.122		P, Z
Ar XVIII	2.859		P	P XV	4.154		P	S XIV	5.127		P, Z
Ar XVIII	2.881		P	Cl XVII	4.185	65	P	S XIV	5.128	1	P, Z
Ar XVIII	2.917		P	Cl XVII	4.191	35	P	S XIV	5.130		P, Z
Ar XVIII	2.918		P	Ar (Ka)	4.1918			S XIV	5.132	1	P, Z
Ar XVIII	2.987	7	P	S XIV	4.1924		Z	S XIII	5.137		Z
Ar XVIII	2.988	3	P	P XV	4.207		P	S XII	5.18		Z
Sc (Ka)	3.0309			S XV	4.2903	1	P	Si XIV	5.217	20	P
Ar XVII	3.095	5		S XV	4.3045		P	Si XIV	5.218	10	P
Ar XVII	3.128	5	P	P XV	4.308	10	P	Si XIII	5.223		P
Ar XVIII	3.150	20	P	S XIV	4.3705		Z	Si XIV	5.2850	5	
Ar XVIII	3.151	10	P	S XIV	4.3765		Z	S (Ka)	5.3722		
Cl XVII	3.173		P	S XIV	4.3822		Z	P XIII	5.3802		Z
Cl XVII	3.181		P	S XIV	4.386		Z	P XV	5.381	65	P
Cl XVII	3.192		P	S XIV	4.3891		Z	P XIII	5.3859		Z
Ar XVII	3.200	130	P	S XIV	4.395		Z	P XV	5.387	35	P
Cl XVII	3.207		P	S XIV	4.4013		Z	Si XIII	5.4045	13	
Cl XVII	3.231		P	Cl XVI	4.4442		P	Al XIII	5.435		P
Ar XVI	3.25	5	Z	Cl XV	4.4474		Z	Al XIII	5.448		P
Ar XVI	3.268	5	Z	Cl XV	4.4516		Z	P XIV	5.4485		Z
Cl XVII	3.272		P	S XIII	4.454		Z	Al XIII	5.466		P
Ar XV	3.33	5	Z	Cl XV	4.4585		Z	Al XIII	5.493		P
Cl XVII	3.351	10	P	Cl XV	4.4630		Z	Al XIII	5.534		P
Ca (Ka)	3.3584			Cl XV	4.4669		Z	Al XIII	5.605		P
Ar XVII	3.365	190	P	Cl XVI	4.4677		P	Si XII	5.680		Z
Ar XVII	3.370		P	Cl XV	4.468		P, Z	Si XIII	5.6805	25	P
Ar XVI	3.392		Z	Cl XV	4.469		P, Z	Si XIII	5.688		P
Ar XVI	3.42	5	Z	Cl XV	4.4837		Z	Al XIII	5.739	10	P
Ar XVI	3.430	150	Z	P XIV	4.485			P XIV	5.7600		P
Ar XV	3.45	5	Z	Cl XV	4.485		P, Z	P XIII	5.7642		Z
Cl XVI	3.481		F	Cl XV	4.488		P, Z	Si XII	5.768		Z
Cl XVI	3.523		P	S XII	4.490			P XIII	5.7702		Z
Cl XVII	3.534	20	P	Cl XV	4.4925		Z	P XIII	5.7870		Z
Cl XVII	3.535	10	P	Cl XVI	4.497		F, P	P XIII	5.7919		Z
S XVI	3.584		P	Cl XV	4.4970		Z	Si XII	5.7931		Z
S XVI	3.593		P	P XIV	4.520			P XIV	5.7931		P
Cl XVI	3.603		P	Cl XV	4.5215		Z	Si XII	5.8031		Z
S XVI	3.604		P	P XV	4.543	20	P	Si XII	5.808	6	Z
S XVI	3.622		P	P XV	4.544	10	P	Si XII	5.8125		Z
S XVI	3.649		P	P XIV	4.5745		P	Si XII	5.816		Z
S XVI	3.696		P	P XIV	4.6779		P	P XIII	5.8169		Z
Ar XVIII	3.731	65	P	Si XIV	4.685		P	P XIII	5.8230		Z
Ar XVIII	3.737	35	P	Si XIV	4.696		P	P XIII	5.8316		Z
K (Ka)	3.7414			Si XIV	4.712		P	P XIV	5.836		F, P
S XVI	3.784	10	P	S XVI	4.727	65	P	P XIII	5.8365		Z
Cl XVI	3.7896		P	Cl (Ka)	4.7278			P XIII	5.869		Z
Cl XVI	3.7943		P	S XVI	4.733	35	P	Al XII	5.992		
Cl XVI	3.8620			Si XIV	4.735		P	Al XII	6.0095		
Ar XVII	3.9488	1000	P	Si XIV	4.770		P	Al XII	6.0294		
S XV	3.949			P XIII	4.788		Z	Al XIII	6.053	30	P
Ar XVI	3.961		P, Z	P XIII	4.807		Z	Al XII	6.059		
Ar XVI	3.964		P, Z	Si XIV	4.831		P	Al XII	6.1005		
Ar XVI	3.967		P, Z	P XIV	4.9180			P (Ka)	6.157		
Ar XVI	3.968		P, Z	P XIV	4.9245			Al XII	6.1745		
Ar XVII	3.9691	550	P	Si XIV	4.947	3	P	Si XIV	6.180	65	P
Ar XVI	3.981		P, Z	P XIII	5.0126		Z	Si XIV	6.186	35	
Ar XVI	3.983		P, Z	P XIII	5.0199		Z	Si XIII	6.1973	1	P, Z
Ar XVI	3.985		P, Z	P XIII	5.0203		Z	Si XIII	6.224	1	Z

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Si XIII	6.244		Z	Na XI	7.833		P	Ne X	10.238	20	P
Si XIII	6.2517		P, Z	Al XI	7.846	14	P, Z	Ne X	10.240	10	P
Si XIII	6.2664	1	Z	Al XI	7.849		P, Z	Ne IX	10.513	50	
Al XII	6.3137			Mg XI	7.8503	44		Ne IX	10.565	70	
Mg XII	6.381		P	Al XI	7.856	11	P, Z	Ne IX	10.646	120	
Mg XII	6.396		P	Mg XI	7.8629	2		Ne IX	10.765	230	
Mg XII	6.417		P	Al XII	7.872		F, P	Ne IX	11.001	350	
Mg XII	6.448		P	Al XI	7.875	65	P, Z	Na X	11.0027		P
Mg XII	6.497	3	P	Al XI	7.878		P, Z	Ne IX	11.008		P
Mg XII	6.580	8	P	Al	7.886		N	Na IX	11.029		Z
Al XII	6.6350	10		Mg X	7.998		Z	Na IX	11.067		P, Z
Al XII	6.6444			Na XI	8.021	10	P	Na IX	11.070		P, Z
Si XIII	6.6477	227	P	Mg X	8.0358	2	Z	Na X	11.0830		P
Si XII	6.6617		Z	Mg X	8.0514		Z	Na IX	11.090		P, Z
Si XII	6.678		P, Z	Mg X	8.0688	4	Z	Na IX	11.092		P, Z
Si XII	6.681		P, Z	Mg X	8.092	3	Z	Na IX	11.154		P, Z
Si XIII	6.6879	3	P	Al (K α)	8.3393			Na IX	11.157		P, Z
Si XII	6.688	66	P, Z	Mg XII	8.419	60	P	Na X	11.16		
Si XII	6.689		P, Z	Mg XII	8.425	120	P	Na IX	11.170		P, Z
Si XII	6.718	20	P, Z	Mg XI	8.445		Z	Na X	11.19		F, P
Si XII	6.720	12	P, Z	Mg XI	8.458		Z	Na IX	11.197		P, Z
Si XII	6.724		P, Z	Na XI	8.459	20	P	Na IX	11.199		P, Z
Si XII	6.727		P, Z	Na XI	8.460	10	P	F IX	11.353	0	
Si XII	6.731		P, Z	Mg XI	8.4943		P, Z	F IX	11.380	10	
Mg XII	6.738	10	P	Mg XI	8.5228	1	Z	F IX	11.418	20	
Si XII	6.738		P, Z	Mg XI	8.5313		P, Z	F IX	11.473	30	
Si XIII	6.740		F, P	Mg XI	8.5487	2	P, Z	Ne IX	11.544	570	
Si XII	6.742		P, Z	Mg XI	8.573	1	Q, Z	F IX	11.560	40	P
Al XI	6.748		Z	Mg XI	8.5983		Z	Ne IX	11.568		P
Si	6.763		N	Na X	8.686		P	Ar XVIII	11.655		P
Si XII	6.779		P, Z	Na X	8.788		P	Ar XVIII	11.706		P
Al XI	6.780		Z	Na X	8.983		P	F IX	11.707	60	P
Si XII	6.781		P, Z	Na X	8.989		P	Ar XVIII	11.769		P
Si XII	6.782		P, Z	Mg XI	9.1685	100		Ar XVIII	11.822		P
Si XII	6.784		P, Z	Mg X	9.1771	5	Z	Ne VIII	11.905	40	Z
Si XII	6.785		P, Z	Mg X	9.187	4	Z	Na (K α)	11.9101		
Si XII	6.787	7	P, Z	Mg X	9.1912		Z	Ar XVIII	11.933		P
Al XI	6.792		Z	Ne X	9.194		P	Ar XVIII	11.987		P
Al XI	6.805		Z	Mg X	9.195	3	Z	F IX	11.988	55	P
Si	6.806		N	Ne X	9.215		P	F IX	11.989	25	P
Al XI	6.824		Z	Mg X	9.218	4	P, Z	Ne X	12.132	65	P
Al XI	6.83	5	Z	Mg X	9.221		P, Z	Ne X	12.138	35	P
Si X	6.846	13	Z	Mg XI	9.2310	31		Ne IX	12.172		P, Z
Si IX	6.884			Mg X	9.234		P, Z	Ar XVIII	12.180		P
Mg XII	7.106	20	P	Mg X	9.235	4	P, Z	Ar XVIII	12.236		P
Mg XII	7.107	10	P	Ne X	9.246		P	Ne IX	12.260		P, Z
Si (K α)	7.1254			Mg X	9.266	2	Z	Ne IX	12.303	50	A, Z
Mg XI	7.128	2		Mg X	9.2832	16	Z	Ne IX	12.309		P, Z
Mg XI	7.156	3		Mg X	9.285		P, Z	Ne IX	12.324		P, Z
Al XIII	7.171	65	P	Ne X	9.291		P	Ne IX	12.355	50	A, Z
Al XIII	7.176	35	P	Mg X	9.294	13	P, Z	Ar XVIII	12.582		P
Mg XI	7.177	4		Mg X	9.297		P, Z	Ar XVIII	12.642		P
Al XII	7.1913		Z	Mg X	9.300		P, Z	F IX	12.643	70	P
Mg XI	7.225	4		Mg XI	9.314	32	F, P	F IX	12.644	30	P
Al XII	7.2282		Z	Mg X	9.316	32	P, Z	Cl XVII	13.074		P
Al XII	7.2518		Z	Mg X	9.318		P, Z	Cl XVII	13.125		P
Al XII	7.260		Z	Mg X	9.319		P, Z	F VIII	13.143	10	
Al XII	7.2745		Z	Ne X	9.362		P	F VIII	13.185	20	
Mg XI	7.3101	6		Mg X	9.382		P, Z	Cl XVII	13.203		P
Mg XI	7.4730	10		Mg X	9.383		P, Z	F VIII	13.244	40	
Na XI	7.596		P	Mg X	9.384		P, Z	Cl XVII	13.255		P
Na XI	7.614		P	Mg X	9.386		P, Z	Ar XVIII	13.312		P
Na XI	7.639		P	Mg X	9.391		P, Z	F VIII	13.334	50	
Na XI	7.677		P	Na X	9.433		P	Ar XVIII	13.378		P
Na XI	7.735		P	Na X	9.449		P	Cl XVII	13.386		P
Al XII	7.7571	21	P	Ne X	9.481		P	Cl XVII	13.440		P
Al XI	7.765	10	Z	Ne X	9.708	10	P	Ne IX	13.447	1000	
Al XI	7.773	10	Z	Mg (K α)	9.8900			F VIII	13.488	60	
Al XI	7.796	2	P, Z	Na XI	10.023	65	P	F VIII	13.495		P
Al XI	7.800	6	P, Z	Na XI	10.029	35	P	Ne IX	13.553	150	P
Al XII	7.8067	8	P	Na X	10.06		P, Z	Ne VIII	13.654	70	Z
Al XI	7.810		P, Z	Na X	10.119		P, Z	Cl XVII	13.664		P
Al XI	7.811		P, Z	Na X	10.157		P, Z	Ne IX	13.70	500	F, P
Al XI	7.815	11	Z	Na X	10.170		P, Z	Ne VIII	13.710	70	Z
Al XI	7.827	5	Z	Na X	10.193		P, Z	Cl XVII	13.720		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
F VIII	13.781	80		O VII	17.405		P	S XIV	21.79	50	
F VIII	13.792		P	Cl XV	17.46	50		O VII	21.804	300	
Cl XVII	14.115		P	P XV	17.572		P	O VI	21.845	4	Z
Cl XVII	14.174		P	P XV	17.627		P	Cl XIV	22.00	50	
O VIII	14.372		P	O VII	17.768	200		O VI	22.020	4	Z
O VIII	14.406		P	O VII	17.785		P	O VI	22.044	3	Z
O VIII	14.454		P	Cl XV	17.96	50		Si XIV	22.060		P
F VIII	14.458	100		Cl XV	18.13	50		O VII	22.10	500	F, P
F VIII	14.487		P	P XV	18.153		P	Cl XIV	22.11	50	
O VIII	14.524		P	P XV	18.211		P	O VI	22.120	4	Z
Ne (Ka)	14.610			F (Ka)	18.32			Si XIV	22.125		P
O VIII	14.634		P	O VII	18.627	500		Ar XVII	22.17	40	P
S XVI	14.768		P	Cl XIV	18.63	50		Cl XIV	22.37	50	
S XVI	14.819		P	O VII	18.672		P	Al XIII	22.404		P
O VIII	14.821		P	N VII	18.682		P	Cl XIV	22.42	100	
Ar XVIII	14.902		P	N VII	18.698		P	Al XIII	22.455		P
S XVI	14.913		P	N VII	18.717		P	Cl XVII	22.535		P
Cl XVII	14.934		P	N VII	18.742		P	Al XIII	22.625		P
S XVI	14.965		P	N VII	18.774		P	P XIII	22.64	50	
F IX	14.982	130	P	N VII	18.819		P	Cl XVI	22.672		P
Ar XVIII	14.982		P	N VII	18.882		P	Al XIII	22.676		P
F IX	14.988	70	P	S XVI	18.887		P	N VI	22.765	1	
Cl XVII	15.000		P	O VIII	18.967	70	P	Cl XIV	22.86	100	
F VIII	15.008	30	A, Z	S XVI	18.967		P	N VI	22.870	4	
F VIII	15.008	30	A, Z	O VIII	18.972	30	P	Al XIII	22.940		P
F VIII	15.046	30	A, Z	N VII	18.974		P	Al XIII	22.994		P
F VIII	15.046	30	A, Z	Cl XV	18.99	100		N VI	23.024	9	
F VIII	15.076	0	Q, Z	O VII	18.993	0	Z	Ar XIII	23.03	50	
S XVI	15.121		P	O VII	18.993	0	Z	S XIV	23.04	150	
F VIII	15.155	20	A, Z	O VII	19.012	2	Z	P XIII	23.08	50	
S XVI	15.174		P	O VII	19.012	2	Z	S XIII	23.24	10	
O VIII	15.176	10	P	O VII	19.045	4	Z	N VI	23.277	10	
F VIII	15.224	30	A, Z	O VII	19.045	4	Z	N VI	23.293		P
F VIII	15.246	30	A, Z	O VII	19.096	1	Z	Ar XIII	23.39	50	
F VIII	15.286	40	A, Z	N VII	19.118		P	Al XIII	23.417		P
S XVI	15.434		P	O VII	19.164	2	Z	Al XIII	23.472		P
O VII	15.439		Z	P XV	19.206		P	Ar XIII	23.57	200	
S XVI	15.490		P	O VII	19.207	2	Z	O (Ka)	23.62		
O VII	15.750		Z	O VII	19.207	2	Z	S XIII	23.70	250	
S XVI	15.944		P	P XV	19.271		P	P XIII	23.75		P
S XVI	16.004		P	O VII	19.301	4	Z	N VI	23.771	10	
O VIII	16.006	20	P	Si XIV	19.309		P	N VI	23.795		P
O VIII	16.007	10	P	O VII	19.330	4	Z	P XIII	23.810	10	
O VII	16.186		Z	Si XIV	19.360		P	Ar XIII	23.93	50	
O VII	16.478		Z	N VII	19.361		P	Cl XIII	24.09	50	
O VII	16.581		Z	O VII	19.385	5	Z	Al XIII	24.122		P
O VII	16.650		Z	Si XIV	19.499		P	Cl XVI	24.25		P
Cl XVII	16.719		P	Si XIV	19.551		P	Al XIII	24.251		P
O VII	16.770		Z	Cl XIV	19.58	50		S XIV	24.26	100	
Cl XVII	16.799		P	Si XIV	19.771		P	Cl XIII	24.29	200	
F VIII	16.807	200		Si XIV	19.824		P	Cl XIII	24.40	50	
P XV	16.812		P	N VII	19.826	10	P	S XIV	24.43	150	
F VII	16.831	50	Z	Ar XVIII	20.082		P	S XIII	24.59	10	
F VII	16.857	50	Z	Cl XV	20.13	150		Ar XIII	24.61	80	
P XV	16.863		P	Si XIV	20.182		P	Si XIV	24.699		P
S XVI	16.870		P	Ar XVIII	20.219		P	Si XIV	24.778		P
F VII	16.935	0	Q, Z	Si XIV	20.237		P	N VII	24.779	70	P
S XVI	16.935		P	Cl XIV	20.55	50		N VII	24.785	30	P
F VIII	16.947	60		Cl XIV	20.84	50		Cl XIII	24.79	50	
F VII	16.966	20	Z	Si XIV	20.849		P	Cl XIII	24.86	50	
P XV	16.977		P	Si XIV	20.908		P	N VI	24.898	30	
P XV	17.029		P	N VII	20.910	30	P	N VI	24.962		P
F VII	17.047	0	Z	Cl XV	21.10	100		Cl XIII	24.97	50	
O VII	17.086	1		Ar XIV	21.17	100	Q	Cl XVI	25.02		P
F VII	17.092	40	Z	Cl XV	21.18	150		Ar XII	25.04	10	
Cl XV	17.10	50		Cl XV	21.41	50		Ar XV	25.05	100	
F VII	17.116	40	Z	P XV	21.503		P	P XIII	25.103	20	
F VIII	17.15		F, P	Ar XVII	21.52		P	P XIII	25.169	20	
F VII	17.167	50	Z	P XV	21.582		P	Ar XII	25.19	100	
O VII	17.200	50		O VII	21.6020	1000		Ar XII	25.24	100	
O VII	17.207		P	O VI	21.649	1	Z	Ar XIV	25.42	60	
P XV	17.214		P	O VI	21.676	4	Z	S XVI	25.462		P
Cl XV	17.25	50		Ar	21.69	125	N	C VI	25.559		P
P XV	17.267		P	S XIV	21.72			Ar XIV	25.58	60	
O VII	17.396	100		O VI	21.781	3	Z	Al XIII	25.597		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
S XVI	25.598		P	Cl XV	28.42	450		Si XI	30.322	5	
C VI	25.619		P	Ar XVIII	28.432		P	Ar XIII	30.350	50	
S XII	25.65	10		S XV	28.45		P	Si XI	30.368	10	
Si XII	25.655	1		Ar XVIII	28.462		P	Al XI	30.376	20	
Al XIII	25.662		P	Mg XII	28.463		P	Ar XI	30.40	150	
C VI	25.705		P	C VI	28.466	30	P	S XIV	30.423	100	
Ar XV	25.72	40		P XII	28.549	10		S XIV	30.463	50	
F VIII	25.74		P, Z	P XIII	28.66	150		Ar XII	30.58	50	
S XIII	25.76	10		Al XIII	28.661		P	Ar XII	30.65	150	
P XII	25.788	0		Cl XIII	28.665	10		P XII	30.667	0	
F VIII	25.79		P, Z	Ar XIII	28.68	80		P XII	30.722	40	
S XIII	25.83	50		Al XIII	28.740		P	P XII	30.749	40	
C VI	25.830		P	N VI	28.787	100		Ar XIII	30.77	50	
Ar XV	25.84	60		Cl XV	28.93	200		Ar XIII	30.84	50	
Ar XV	26.00	80		P XV	28.993		P	Ar XVIII	30.849		P
C VI	26.026		P	Ar XIII	29.016			Cl XIV	30.900	50	
Si XII	26.03			N VI	29.084	15		Ar XVIII	30.955		P
Ar XIII	26.30	100	Q	Cl XV	29.09	200		Ar X	30.96	150	
Mg XII	26.305		P	Ar X	29.1	100		Ar XVIII	30.991		P
S XIII	26.35	10		P XV	29.130		P	Cl XIV	30.995	10	
Mg XII	26.355		P	Ar XIII	29.191			Si XII	31.015	60	
C VI	26.357		P	Ar X	29.2	50		S XI	31.04	100	
Ar XIII	26.36	110		S XII	29.20	100		Cl XVII	31.057		P
Si XII	26.460	3		Ar XIII	29.208	50		Ar X	31.08	100	
Ar XIII	26.53	60		Ar XIII	29.220			P XII	31.090	40	
Mg XII	26.564		P	S XII	29.24	50		Ar XI	31.10	200	
P XIII	26.608	10		Ar XIII	29.249	50		Cl XIII	31.126	50	
Mg XII	26.616		P	Ar XIII	29.304			Cl XVII	31.142		P
Cl XV	26.66	350		Ar XVIII	29.311		P	Cl XVII	31.171		P
Cl XV	26.67	350		Ar XIII	29.32	100		Ar XII	31.18	50	Q
Ar XIII	26.72	40	Q	Ar XIII	29.352			Cl XIII	31.253	10	
Ar XIII	26.82	40		Ar XIII	29.37	500		Al XI	31.313	35	
S XII	26.89	10		Cl XIV	29.383	50		Na XI	31.317		P
Mg XII	26.935		P	Ar XIII	29.403			P XII	31.327	10	
Si XII	26.98			Ar XVIII	29.407		P	Ar XII	31.347	350	
Mg XII	26.988		P	Al XI	29.416	6		Ar XI	31.36	300	
C VI	26.990	10	P	Cl XIV	29.423	150		Cl XIII	31.360	50	
Si XII	27.035	1		Si XII	29.439	10		Cl XIII	31.365	50	
P XII	27.049	10		Ar XVIII	29.439		P	Na XI	31.368		P
P XII	27.101	10		Ar XIII	29.454			Ar XII	31.388	500	
Ar XIII	27.17	60		Ar XIV	29.49	150		Al XI	31.426	3	
Ar XIV	27.22	50		Si XII	29.509	20		Cl XIII	31.448	250	
Ar XV	27.41	120		N VI	29.52	19	F	Ar XII	31.458	100	
Ar XIV	27.42	200		Cl XIV	29.529	350		Cl XIII	31.465	500	
Ar XIV	27.47	300		Ar XIII	29.534			Al XI	31.483	6	
Mg XII	27.495		P	Ar XIII	29.565	250		Ar XII	31.483	50	
S XV	27.53		P	Ar XI	29.57	150		P XIV	31.52		P
Mg XII	27.550		P	Si XII	29.574	1		Ar IX	31.52	600	
Ar XIII	27.60	100		Ar XIII	29.575			P XII	31.527	30	
Ar XIV	27.63	300		P XII	29.622	10		Ar XII	31.55	100	
Cl XIV	27.65	10		Ar XIII	29.639			N (K α)	31.6		
P XII	27.677	0		Si XII	29.645	3		Cl XIII	31.620	800	
Ar XVIII	27.688		P	Ar XIII	29.689	50		Na XI	31.626		P
Ar XVIII	27.773		P	Ar XIII	29.769			Ar XII	31.643	600	
Ar XVIII	27.802		P	Al XI	29.793	10		S XIII	31.649	50	
Si XII	27.850	3		Ar XIII	29.873	50		Ar IX	31.66	700	
Cl XIV	27.88	10		Ar XIV	29.90	50	Q	Ar XII	31.66	350	
S XII	27.89	10		Cl XIII	29.940	10		Na XI	31.677		P
Ar	27.90	50	N	P XII	29.970	10		S XIII	31.72	10	
Si XII	27.909	10		P XII	29.996	40		Ar XIII	31.74		Q
P XII	28.017	10		I XIII	30.010	50		Cl XVII	31.791		P
P XIII	28.044	50		Ar XIII	30.014			S XIII	31.829	0	
Ar XII	28.05	100		Mg XII	30.055		P	Ar XIII	31.864	10	
Cl XIV	28.05 ^o	50		Ar XIII	30.06	200	Q	Cl XVII	31.881		P
Ar XIV	28.10		F, P	P XII	30.060	60		Cl XVII	31.911		P
Cl XIV	28.113	100		S XIII	30.08			Si XI	31.924	10	
P XIII	28.128	70		Cl XIV	30.085	10		S XIII	31.934	50	
S XII	28.18	50		Mg XII	30.120		P	Ar XII	31.962	100	
S XII	28.22	50		Si XI	30.126	5		Si XI	31.980	20	
Cl XV	28.27	300		Cl XIV	30.145	10		Ar XII	31.984	50	
P XII	28.304	30		P XI	30.15	10		Ar XII	32.027	10	
Ar XIV	28.32	150	Q	Ar XIII	30.214	50		Cl XIII	32.05	150	
S XII	28.33	100		Ar XIII	30.236	50		C V	32.064		
Ar XVIII	28.342		P	Cl XIV	30.25	10		Na XI	32.068		P
Mg XII	28.405		P	Ar XIII	30.260	10		Al XI	32.068	6	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na XI	32.120		P	C VI	33.734	65	P	P XIII	35.136	100	
Al XI	32.128	10		Cl XII	33.736			S XVI	35.162		P
Ar XII	32.147	100		C VI	33.740	35	P	Al XI	35.163	6	
C V	32.188			Cl XII	33.774	500		S XVI	35.191		P
S XIII	32.191	100		Ar XI	33.78		P	S XII	35.203	50	
Ar XII	32.20	50		Cl XII	33.789	800		Al XI	35.239	6	
S XIII	32.236	100		S XIII	33.796	50		S XII	35.275	50	
Ar XII	32.25	200		Cl XII	33.802		P	Ar IX	35.28	300	
P XII	32.304	0		Na XI	33.818		P	Al X	35.301	10	
Cl XIII	32.32	10		Ar XI	33.84	200		Si X	35.310	10	
Ar XIII	32.34	10		S XIII	33.843	100		Cl	35.33	40	N
Ar XII	32.344	100		Na XI	33.877		P	Al X	35.340	10	
C V	32.3998	4		Ar XI	33.88		P	Si X	35.353	10	
Cl XIII	32.43	10		Cl XII	33.886			Si XI	35.353	10	
S XIV	32.430	250		C V	33.925	3	Z	Mg X	35.366	3	
Cl XIII	32.445	250		S XIII	33.945	150		Ar XI	35.37	200	
Ar X	32.45	320		Ar XI	33.96	100		Si XI	35.383	60	
Ar XII	32.459	50		Cl XII	34.000	10		Cl XII	35.429	10	
Cl XII	32.531	10		C V	34.022	1	Z	Si XI	35.446	100	
Ar XII	32.546	100		Si X	34.040	5		Ar XII	35.54		P
Ar X	32.55	50		Cl XII	34.047		P	Ar XI	35.58	150	
S XIV	32.554	800		Cl XII	34.052	600		S XIII	35.614	10	
Ar X	32.61	200		Ar XI	34.10	100		Si X	35.656	5	
P XIV	32.64		P	Cl XII	34.101			S XIII	35.665	100	
Ar IX	32.64	400		S XIII	34.118	0		Ar XII	35.68	220	
P XI	32.67	10		S XII	34.132	10		Ar XI	35.70	100	
Na XI	32.734		P	Cl XII	34.146			Si X	35.709	20	
Si XI	32.735	10		Cl XII	34.256			S XIII	35.751	50	
Ar X	32.74	50		Si X	34.238	5		Na XI	35.783		P
Ar XII	32.74	100	Q	Ar XI	34.24	150		Ar IX	35.82	500	
C V	32.7542	10		C V	34.283	1	Z	Mg X	35.827	6	
C V	32.773			S X	34.31	100		Si X	35.838	40	
Na XI	32.789		P	Cl	34.31	200	N	Na XI	35.848		P
Cl XVII	32.878		P	P XI	34.32	10		Al X	35.888	50	
Si XII	32.888	35		Ar XI	34.33	300		S XVI	35.907		P
S XII	32.926	50		Ar XI	34.35	480		Cl XI	35.92	70	
Si XII	32.972	90		P XI	34.37	10		Si X	35.932	20	
Cl XVII	32.974		P	Cl XII	34.422		Q	S XII	35.955	100	
Al XI	33.007	200		Al X	34.445	25		Ar XII	35.96	100	Q
Cl XVII	33.007		P	Ar XI	34.52	100		S XVI	35.996		P
Cl XIII	33.020	50		C V	34.520	2	Z	S XVI	36.027		P
Ar XIV	33.03	50	Q	S XII	34.533	50		S XII	36.124	50	
P XI	33.04	100		Cl XII	34.576			Ar XI	36.16	200	Q
Al XI	33.109	10		S XII	34.586	100		Al X	36.188	25	
P XI	33.15	100		C V	34.598	1	Z	Si XI	36.238	10	
Si XI	33.153	10		Cl XVII	34.604		P	S XII	36.253	100	
Al XI	33.172	35		S XIII	34.633	0		Ar XII	36.26	10	
Si XI	33.222	20		Cl	34.66	200	N	Cl XI	36.286	350	
P XI	33.24	150		Ar XII	34.67	250		Cl XII	36.30	160	
S XIII	33.252	100		S XIII	34.678	100		Ar XI	36.31	200	
S XIV	33.259	10		C V	34.699	2	Z	Si XI	36.311	80	
Si XI	33.298	20		Cl XVII	34.710		P	Cl XI	36.334	500	
Si XIV	33.308		P	S XIII	34.712	150		Si XI	36.335	80	
C V	33.4257	30		Cl XVII	34.747		P	S XII	36.335	350	
S XIV	33.426	50		S XIII	34.771	0		Al X	36.350	25	
Si XIV	33.444		P	Ar XII	34.78	150		Ar XII	36.39	100	P
C V	33.463		P	Cl X	34.79	110		S XIII	36.393	150	
Si XI	33.515	20		Ar XI	34.80	500		S XII	36.398	500	
Ar XI	33.53	100	Q	Cl XII	34.804	100		Al X	36.403	50	
Cl XII	33.531	150		S XIII	34.854	150		Si XIII	36.43		P
Cl XII	33.542	50		Cl XII	34.857		Q	Cl XI	36.441	10	
Ar XVIII	33.562		P	Ar XI	34.88	40		S XIII	36.499	0	
Si XI	33.573	10		Ar XII	34.88	50		Mg X	36.518	35	
Cl XII	33.596	100		Cl XII	34.894	50		P XII	36.520	30	
Cl XII	33.597			Si XI	34.910	20		S XIII	36.559	150	
Cl XII	33.610			Cl XII	34.958		Q	Ar X	36.56	100	Q
Cl XII	33.613		P	C V	34.9728	100		P XII	36.562	50	
Ar XI	33.65	300		Al XI	34.994	200		S XII	36.563	800	
Mg XII	33.654		P	Ar XII	35.0		P	Cl XII	36.566	10	
Ar XVIII	33.688		P	Ar IX	35.02	700		P XII	36.613	80	
Cl XII	33.716			Al XI	35.065	250		S XIII	36.642	0	
Cl XII	33.720		P	Ar XI	35.07	100		P XII	36.655	60	
Ar XI	33.73		P	C V	35.070		P	Ar XII	36.67	500	Q
Ar XVIII	33.731		P	S XVI	35.077		P	Cl XI	36.674	600	
Mg XII	33.733		P	P XIII	35.095	150		Al XI	36.675	400	

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P XII	36.697	40		Mg X	38.769	60		Al X	39.853	50	
P X	36.75	50		Ar XI	38.79	300		P XI	39.911	10	
Si XI	36.772	70		Al XIII	38.793		P	Al X	39.925	100	
Ar IX	36.78	150	Q	Ne X	38.816		P	P XV	39.929		P
Ar X	36.78	150		Mg X	38.823	120		Cl X	39.956	100	
P XII	36.792	70		S XII	38.824	10		Ar XI	39.98	150	
B V	36.810		P	Si X	38.830	60		P XV	40.014		P
Cl XII	36.865	50		Ne X	38.868		P	Cl X	40.019	90	
B V	36.897		P	Ar XI	38.87	250		Ar XI	40.02	100	
Ar IX	36.96	100	Q	B V	38.871	10	P	Mg X	40.022	120	
P XII	36.975	100		Ar X	38.88	500	Q	Ar XI	40.04	250	
B V	37.020		P	S XII	38.882	10		P XV	40.043		P
P XII	37.041	10		P XIII	38.921	50		Na XI	40.069		P
Cl XI	37.05	300		S XI	38.996	100		Mg X	40.080	200	
Si XI	37.060	10		Cl X	39.01	250	Q	Cl X	40.085	200	
P XII	37.074	10		S XI	39.025		P	S XI	40.103		P
Ar X	37.10	50		S XI	39.049	100		Cl X	40.136	1	
Cl XI	37.123	50		S XVI	39.086		P	Na XI	40.149		P
S XVI	37.135		P	S XI	39.089		P	P XII	40.157	10	
Si X	37.159	20		Al XI	39.091	250		P XII	40.171	30	
B V	37.201		P	S XI	39.11	100		Ar XI	40.19		P
Si X	37.206	20		S XI	39.131		P	C V	40.2680	500	
S XVI	37.231		P	Cl X	39.15	250	Q	S XI	40.277		P
S XII	37.24		F, P	Si X	39.175	40		P XII	40.301	200	
Si X	37.248	10		Al XI	39.180	400		P XII	40.348	50	
Cl XI	37.259	100		S XVI	39.192		P	P XII	40.388	120	
S XVI	37.264		P	Si X	39.203	50		Cl XI	40.392	350	
P XII	37.287	150		S XI	39.214		P	Si X	40.407	10	
Si XI	37.340	50		S XVI	39.228		P	Ar XI	40.42	50	
P XII	37.347	150		S XI	39.24	150		Al X	40.421	25	
Ar X	37.43	250		Cl X	39.253	10		P XII	40.429	150	
S XII	37.463	10		Si X	39.264	50		P XII	40.478	20	
Cl XII	37.464	10		Al X	39.291	75		Cl X	40.49	250	Q
B V	37.483		P	Ar XII	39.30	200	Q	Si X	40.503	5	
Cl XI	37.537	150		S XI	39.300	500		Cl XI	40.505	100	
P XIII	37.561	150		Si X	39.305	80		S XI	40.566	100	
Ar X	37.60	200		P XII	39.310	120		S XI	40.580		P
S XIII	37.600	150		Ar XVIII	39.318		P	P XII	40.613	120	
S XII	37.603	350		S XI	39.323	800		Mg IX	40.638	10	
Mg X	37.644	60		S XI	39.336		P	Ar	40.64	100	N
Cl XVII	37.650		P	P XII	39.354	300		Cl X	40.660	100	
Cl XI	37.673	100		S IX	39.383	150		S XI	40.707	50	
P XIII	37.706	200		S XI	39.408		P	C V	40.7306	30	
S XII	37.714	250		Cl X	39.422	20		Cl X	40.759	40	
P XIII	37.723	20		Si X	39.443	50		Cl XI	40.787	10	
S XI	37.773	10		P XII	39.456	500		P XV	40.875		P
Cl XVII	37.776		P	Cl VIII	39.462	100		Al IX	40.904	10	
Cl XI	37.783	150		Ar XVIII	39.478		P	Si XII	40.911	200	
Ar XI	37.79	150	Q	Ar XI	39.49	300		Ne X	40.936		P
Si XIII	37.81		P	S IX	39.516	200		Si XII	40.951	200	
Cl XVII	37.818		P	Cl X	39.528	1		P XV	40.964		P
Cl XI	37.88	200		Al XI	39.530	60		Ne X	40.994		P
Ne X	37.907		P	Ar XVIII	39.530		P	P XV	40.994		P
Ne X	37.958		P	Al X	39.535	100		Cl X	40.994	10	
B V	37.960		P	Si X	39.552	70		B V	40.996	30	P
Ar XI	38.00	150		S XI	39.555			Si X	41.023	30	
Ar X	38.23	150		Cl	39.559	1	N	Al IX	41.037	20	
Al X	38.255	100		S XI	39.572	50		Ar XII	41.08	50	Q
Ne X	38.281		P	Ne X	39.623		P	Si X	41.086	30	
Al X	38.310	125		Al XI	39.623	90		P XI	41.125	50	
S XII	38.32	100		Al X	39.628	125		S X	41.357	50	
Ar XI	38.33	380		Cl X	39.634	1		Ar	41.38	150	N
Ne X	38.332		P	Ar XI	39.64	300	Q	S XI	41.386	50	
Si XI	38.336	20		S XI	39.648	800		Cl X	41.390	100	
Ar X	38.40	500	Q	Cl VIII	39.655	10		C V	41.47		F
Cl XIII	38.46	110		P XII	39.664	40		P XII	41.471	50	
Ar X	38.51	420		Mg X	39.669	250		S XI	41.474	10	
Cl XI	38.603	10		Ne X	39.678		P	Ar IX	41.48	600	
Cl XIII	38.61	40		S XI	39.728		P	P XII	41.518	60	
Ar XI	38.62	400		Ar XII	39.75	250	Q	Al IX	41.543	20	
P XII	38.629		F, P	P XI	39.753	10		S XI	41.543	10	
Ar X	38.64	700	Q	Cl X	39.77	250	Q	P IX	41.556	150	
Al XIII	38.657		P	S XI	39.782		P	Ar X	41.57	200	
Cl X	38.66	40		Ar XI	39.79	150		Cl X	41.589	10	
P XIII	38.754	30		S XIII	39.8		P	P XII	41.634	120	

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Cl VIII	41.636	1		Al IX	43.549	10		Cl IX	45.332	100	
P XII	41.661	50		Al X	43.549	350		Al IX	45.344	40	
P XII	41.700	70		Al X	43.577	100		S VIII	45.370	20	
Al X	41.730	100		Ar X	43.69	350		Cl IX	45.378	300	
Mg IX	41.803	40		Si XI	43.763	10		Ar XII	45.38	50	
Ar X	41.89	100		S X	43.782	100		Cl X	45.396	300	
P XI	41.998	100		P XI	43.809	10		Mg XII	45.397		P
Ar IX	42.02	200		Mg IX	43.843	60		Si XI	45.398	10	
Cl VIII	42.166	10		S X	43.854	50		S X	45.406	10	
Cl VIII	42.220	200		P XI	43.894	10		Cl X	45.431	10	
P XI	42.227	10		S XI	43.900	100		S VIII	45.458	20	
P XV	42.276		P	Ar X	43.92	450		Cl IX	45.465	10	
Mg X	42.294	250		S X	43.984			Ar XII	45.49	100	
Al X	42.310	75		Cl IX	44.003	200		S VIII	45.508	20	
Al X	42.340	200		Si XII	44.021	200		Si XII	45.519	10	
P XI	42.351	100		P XII	44.044	10		Cl IX	45.519	200	
Mg X	42.363	400		Ar X	44.05	350		Mg XII	45.533		P
P XV	42.369		P	Mg X	44.050	400		Cl IX	45.539	200	
P XV	42.401		P	Cl IX	44.088	400		Si X	45.606	5	
Al X	42.403	350		S X	44.094	350		Cl IX	45.626	15	
P XI	42.409	100		Cl XVII	44.108		P	Mg IX	45.635	40	
Cl VIII	42.430	100		P XI	44.115	350		Cl X	45.655	400	
P XI	42.471	250		Al X	44.136	10		Ar	45.67	150	N
P XI	42.483	350		Si XII	44.165	250		Si X	45.684	60	
S X	42.485	250		Cl IX	44.183	200		P XI	45.690	10	
S X	42.495	350		Ar	44.19	100	N	Si XII	45.692	20	
Mg X	42.523	0		Si IX	44.215	10		Cl X	45.732	150	
S XVI	42.528		P	P XI	44.232	250		Cl IX	45.745	10	
S X	42.543	500		S X	44.237	150		P XI	45.747	10	
P XII	42.553	20		Si IX	44.249	10		Si XIV	45.856		P
Ar IX	42.56	200		Cl IX	44.267	300		P X	45.905	75	
Al XII	42.59		P	Cl XVII	44.268		P	P X	45.931	125	
Mg X	42.596	10		Ar X	44.27	450		Si XIV	45.941		P
P XI	42.599	500		Al XII	44.32		P	P X	45.963	200	
P XII	42.647	40		Cl XVII	44.320		P	Si XIV	45.969		P
S XVI	42.653		P	P X	44.336	10		Mg IX	45.980	20	
P XII	42.679	20		S VIII	44.350	20		P X	45.992		
S XVI	42.696		P	Cl VIII	44.361	200		P XI	45.997	400	
S X	42.698	50		P X	44.367	10		S X	45.997	500	
Al IX	42.708	10		S X	44.367	500		P X	46.060		
Si XI	42.730	40		Mg IX	44.373	40		P X	46.079		
Al IX	42.744	10		S VIII	44.374	100		Na IX	46.090	100	
S XI	42.751	10		S X	44.406	500		Cl IX	46.098	100	
P XII	42.763	140		Mg IX	44.420	60		P X	46.199		
P XI	42.764	800		Ar X	44.45	450		P XI	46.203	450	
Si XI	42.773	10		Al X	44.493	75		S VII	46.212	10	
P XII	42.779	20		P XV	44.499		P	Al X	46.223	75	
Si XI	42.826	70		Si X	44.521	30		P X	46.233		
Si XI	42.866	30		Cl IX	44.530	100		Cl IX	46.242	10	
Si XI	42.910	10		S VIII	44.547	50	Q	P X	46.255		
Al IX	42.928	20		P XV	44.602		P	Ar	46.26	50	N
S X	42.937			Cl VIII	44.603	200		Si XI	46.264	10	
Ar X	42.94	250		Ar X	44.63	400		P X	46.294	450	
Cl IX	42.940	100		P XV	44.637		P	S X	46.298	350	
Si XI	42.950	20		Si X	44.655	30		Ne IX	46.3		
S X	43.002	600		C (K α)	44.7			Si XI	46.300	50	
Si XI	43.046	20		Al IX	44.704	60		P X	46.334	450	
Mg IX	43.087	10		Si X	44.719	20		Mg IX	46.340	40	
S XI	43.123	150		Na IX	44.723	10		S IX	46.373	250	
Mg IX	43.136	20		Al IX	44.743	80		Ar	46.39	100	N
Cl IX	43.168	120		Ar XII	44.79	150	Q	P X	46.399		
Al IX	43.195	40		B IV	44.8		Z	Si XI	46.401	100	
Al IX	43.237	40		Si X	44.830	30		S IX	46.413	150	
Al IX	43.261	80		Ar X	44.84	300		S X	46.430	100	
Ar X	43.27	150		Si X	44.855	30		Cl X	46.477	500	
Si XI	43.290	10		Al X	44.902	10		S IX	46.514	20	
Ne X	43.315		P	Si X	44.979	60		Ar XII	46.53	150	Q
Si XI	43.329	10		Mg IX	44.983	20		S IX	46.549	150	
Ne X	43.379		P	P XI	44.987	50		Si X	46.563	30	
Si XI	43.395	10		Ar X	45.03	350		S IX	46.585	250	
Ar XII	43.42	150	Q	Al IX	45.077	10		S IX	46.624	150	
Al X	43.460	75		Cl IX	45.112	400		P X	46.636	300	
Mg IX	43.481	50		Cl IX	45.261	200		Mg IX	46.657	160	
P XI	43.488	50		S VIII	45.279	50		Si XI	46.662	40	
P XI	43.529	70		S VIII	45.290	50		Mg IX	46.711	10	

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S IX	46.713	50	Q	S X	48.116			Si VIII	49.987	10	
S IX	46.760	50		S X	48.157	10		S VII	49.990	120	Q
P X	46.769	350		S IX	48.160	400		Si X	50.018	90	
P X	46.777			S IX	48.291	40		Si VIII	50.019	50	
S IX	46.799	100		Al XI	48.297	700		S VII	50.027	70	
F IX	46.814		P	Al XI	48.338	700		S XVI	50.036		P
S IX	46.843	100		Mg IX	48.340	100		Cl VIII	50.074	500	
Cl X	46.845	400		S IX	48.367	200		Si X	50.124	70	
F IX	46.864		P	Si X	48.381	20		Si X	50.154	50	
P X	46.887			P XV	48.424		P	S X	50.164		
Si X	46.895	20		Si X	48.440	40		Mg VIII	50.219	20	
Al IX	46.896	40		Ne X	48.505		P	S X	50.219	50	
S IX	46.906	50		P XV	48.544		P	Si X	50.254	70	
Cl X	46.908	150		Si XIV	48.552		P	Ne IX	50.3		
Si XIV	46.943		P	Na IX	48.553	200		Si X	50.305	50	
Si XIV	47.031		P	Si X	48.553	10		S X	50.332	10	
Mg IX	47.041	60		S IX	48.564	250		Si X	50.333	50	
Si X	47.043	50		S XV	48.58		P	Mg VIII	50.366	20	
S IX	47.047	250		Ne X	48.584		P	Si X	50.390	10	
Si XIV	47.061		P	P XV	48.584		P	S X	50.397		
Cl X	47.085	150		B V	48.586	65	P	B IV	50.4347	100	
S VII	47.098	50		B V	48.591	35	P	Mg XI	50.44		P
Cl X	47.158	50		Si X	48.596	20		P IX	50.511	200	
S IX	47.188	200		S XV	48.61		P	Si VIII	50.524	50	
S X	47.190			Si XIV	48.645		P	Si X	50.524	50	
S X	47.229			S VII	48.647	150		Si XI	50.524	100	
Mg X	47.231	250		Si XIV	48.677		P	F IX	50.555		P
S IX	47.249	300		Ar IX	48.73	500		P IX	50.560	300	
F IX	47.276		P	Al IX	48.765	20		F IX	50.613		P
Si XI	47.293	20		S IX	48.766	100		Si XI	50.617	40	
S VII	47.307	50		Mg IX	48.794	10		P IX	50.626	100	
Mg X	47.310	400		S VII	48.874	100		Al X	50.670	50	
F IX	47.327		P	Al IX	48.899	2		P X	50.671	50	
P X	47.341			P IX	48.925	350		Si X	50.691	100	
Si XI	47.350	50		F IX	48.934		P	Cl VIII	50.700	200	
S IX	47.360	50		B IV	48.939			Al X	50.717	75	
Si XI	47.385	10		P X	48.986	50		Al X	50.762	350	
Al IX	47.417	80		F IX	48.989		P	P X	50.774	10	
S IX	47.433	450		Si XI	48.991	20		Mg IX	50.777	10	
Si XI	47.453	10		Si XI	49.052	30		Al X	50.802	50	
Al IX	47.489	200		P X	49.076	10		P X	50.870	10	
Si X	47.489	50		Al IX	49.094	40		Al X	50.903	50	
Si XI	47.489	50		S X	49.102			Al X	50.946	10	
S IX	47.518	250		S IX	49.119	300		Cl IX	51.026	400	
Al IX	47.534	100		P X	49.145	10		Al X	51.039	10	
Si X	47.545	50		S X	49.166		Q	Mg VIII	51.040	10	
S VIII	47.566	10		Ar IX	49.18	500		Mg VIII	51.098	40	
S VIII	47.594	10		Si XI	49.181	30		Si XIV	51.106		P
Si XI	47.607	50		Si X	49.182	10		Si IX	51.113	50	
S IX	47.616	200		S X	49.211			P X	51.155	450	
Si XI	47.653	50		Si XI	49.222	50		P IX	51.156	450	
S X	47.655	500		Cl IX	49.234	100		Si XIV	51.209		P
Ne IX	47.7			S X	49.255			S VIII	51.227	100	
Si XI	47.702	5		Si XI	49.265	10		Si XIV	51.244		P
P X	47.702	100		Na IX	49.326	100		Na VIII	51.316	10	
Si XI	47.735	20		S IX	49.328	250		Al X	51.362	350	
S IX	47.740	50		Na IX	49.386	200		Si IX	51.362	100	
Al IX	47.755	10		S IX	49.390	150		Cl IX	51.378	300	
Na IX	47.776	10		Al VIII	49.436	6		Mg VIII	51.389	20	
S X	47.791	350		Si X	49.441	50		Al X	51.400	1	
S VIII	47.793	10		B IV	49.4549			Al X	51.454	1	
Mg IX	47.818	10		Cl VIII	49.487	700		Mg VIII	51.470	40	
Na IX	47.836	100		Ne IX	49.5			S VIII	51.470	70	
Al IX	47.856	50		Cl IX	49.568	100		Mg IX	51.560	10	
P X	47.896	50		Mg IX	49.586	1		Mg IX	51.591	300	
Si XI	47.899	50		Si X	49.701	100		Si X	51.635	10	
S X	47.905	100		Al VIII	49.758	5		Mg IX	51.654	400	
F IX	47.936		P	P X	49.765	50		Si X	51.676	20	
Mg IX	47.947	100		P X	49.803	25		S VIII	51.718	20	
F IX	47.989		P	S XVI	49.824		P	Si X	51.73		F, P
Cl	47.990	10	N	Al IX	49.854	100		Na VIII	51.789	10	
Ne IX	48.0			P X	49.865	15		S VII	51.807	350	
Mg IX	48.024	10		Al IX	49.916	100		Si VIII	51.919	20	
P X	48.045			Si X	49.984	60		P IX	51.861	300	
P X	48.113	50		S XVI	49.984		P	P IX	51.889	100	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al X	51.979	300		Al	53.598	10	N	Al VIII	55.317	50	
Cl IX	52.055	200		Cl IX	53.696	100		Na VIII	55.345	10	
Si X	52.070	50		Mg VIII	53.744	10		Si IX	55.356	100	
S VII	52.097	200		Na VIII	53.750	10		Al X	55.376	750	
Na IX	52.116	100		Si VIII	53.770	10		Na VIII	55.396	100	
Si X	52.155	100		Al VIII	53.785	10		Si IX	55.401	100	
P X	52.158	250		Al VIII	53.800	10		Si IX	55.511	50	
P IX	52.160	300		Ne VIII	53.81	20		S IX	55.540	250	
Na IX	52.186	200		Mg VIII	53.812	10		Si XIV	55.615		P
Si XI	52.296	100		Al VIII	53.823	10		Al IX	55.62	1	Q
Al XI	52.299	400		Na IX	53.860	300		Al IX	55.667	10	
Cl IX	52.303	400		Mg VIII	53.905	100		P VIII	55.672	120	
Mg VIII	52.395	10		Si IX	53.992	10		P VIII	55.710	70	
Ne IX	52.4			Mg IX	54.011	200		Al VIII	55.720	65	
Cl IX	52.426	300		Na XI	54.059		P	Al X	55.731	50	
Al XI	52.446	700		S XI	54.108	300	Q	Si XIV	55.735		P
Si X	52.485	100		Al X	54.115	220		P XIV	55.76		P
Na IX	52.487	1		S VIII	54.118	500		Si XIV	55.776		P
P IX	52.552	150		P IX	54.124	150		Si IX	55.781	150	
Si VIII	52.554	20		Mc	54.131	10	N	P XIV	55.80		P
P X	52.594	200		S IX	54.175	450		Ar XVIII	55.839		P
Si X	52.611	50		Na XI	54.194		P	P VIII	55.876	300	
Mg VIII	52.628	40		Al VIII	54.217	200		P VIII	55.926	100	
Mg XI	52.65		P	Al VIII	54.258	200		Ar XVIII	55.985		P
Si IX	52.671	10		S VIII	54.266	100		Si IX	56.027	150	
Cl IX	52.677	200		Ne VIII	54.31	70		Ar XVIII	56.036		P
S VIII	52.681	20		Al IX	54.312	10		Ne IX	56.04		P
B IV	52.6853	330		S VIII	54.370	20		Ne VIII	56.043	320	
Mg VIII	52.692	80		Na VIII	54.380	100		S IX	56.081	200	
S VIII	52.702	20		S VIII	54.385	100		S IX	56.125	150	
P IX	52.709	150		Al XI	54.388	60		Si	56.145	50	N
Cl IX	52.726	300		Si IX	54.403	50	Q	Al IX	56.150	50	
S VIII	52.756	300		S VIII	54.424	150		P VII	56.174	50	
S VIII	52.789	300		S IX	54.431	200		Al IX	56.274	30	Q
Si IX	52.810	20		Al IX	54.457	200		P VII	56.282	10	
Si IX	52.838	50		Si VII	54.462	50		Al IX	56.304	70	
S VIII	52.854	100		Si X	54.462	50		P VII	56.322	120	
S IX	52.859	300		Mg IX	54.463	10		Al XIII	56.331		P
Cl IX	52.939	10		Al XIII	54.464		P	S IX	56.332	150	
S VIII	52.958	350		S VIII	54.501	20		Al IX	56.346	70	
Cl IX	52.959	1		S IX	54.516	50		Mg VIII	56.358	10	
Al IX	52.966	10		Si VII	54.522	50		Al IX	56.373	65	
P IX	52.980	250		Si X	54.522	50		Mg VIII	56.403	10	
S VIII	52.985	70		Al XIII	54.552		P	S IX	56.418	50	
Si	53.025	20	N	S VIII	54.566	50		Al XIII	56.425		P
Si	53.063	20	N	Si X	54.571	50		Al XIII	56.456		P
S VIII	53.073	50		Al XIII	54.582		P	Si VII	56.528	50	
Al IX	53.098	10		Si X	54.599	50		Al	56.545	10	N
Cl IX	53.108	1		S VIII	54.604	50		Al X	56.590	75	
Mg IX	53.112	10		S VII	54.652	100		P X	56.597	150	
Mg IX	53.188	200		Si X	54.664	10		Si VII	56.645	50	Q
Al XIII	53.203		P	Si X	54.702	10		Al X	56.650	10	
Mg IX	53.222	200		P VII	54.708	50		Si X	56.680	50	
Al IX	53.237	60		Si IX	54.841	100		Al X	56.696	75	
S VIII	53.239	30		Mg VIII	54.853	60		P XV	56.721		P
Al IX	53.267	60		Si IX	54.870	100		Al X	56.762	10	
Al XIII	53.287		P	Mg VIII	54.886	100		Al X	56.802	200	
Al XIII	53.316		P	P VII	54.887	100		Si X	56.804	50	
Ar XVIII	53.354		P	Si IX	54.907	100		Mg IX	56.861	10	
Al IX	53.376	10		S VII	54.938	100		P XV	56.881		P
Al IX	53.412	10	Q	Ne VIII	55.01	130		S IX	56.89		P
Al IX	53.424	10		Mg IX	55.060	200		Al IX	56.899	100	
Mg VIII	53.438	20		P IX	55.066	100		S XV	56.92		P
Cl IX	53.448	10		Si IX	55.094	50		P XV	56.933		P
Si X	53.463	10		Si X	55.096	100		Al IX	56.945	250	
Mg VIII	53.484	10		Si IX	55.116	50		Al X	56.945	250	
Al IX	53.488	1		Al	55.143	10	N	S XV	56.96		P
Ar XVIII	53.488		P	P IX	55.220	100		Al X	56.964	150	
F IX	53.494		P	Mg VIII	55.222	10		Al X	57.024	250	
Mg VIII	53.512	100		Al X	55.227	150		P VIII	57.042	450	
Ar XVIII	53.534		P	Si IX	55.234	50		Al X	57.072	10	
Al IX	53.554	10		Al X	55.272	500		P IX	57.083	450	
F IX	53.558		P	Si IX	55.272	150		Na VIII	57.096	10	
Si X	53.573	50		P IX	55.299	50		Al X	57.116	75	
Si X	55.595	50		Si IX	55.305	50		Na VIII	57.119	10	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
S IX	57.15		P	Na IX	59.042	200		O VIII	60.740		P
Si IX	57.157	30		Si IX	59.077	50		Be IV	60.743	10	P
Si X	57.209	20		Na VIII	59.101	10		Al X	60.787	250	
Na VIII	57.230	10		Al X	59.107	300		Ne VIII	60.796	630	
P VIII	57.230	350		Mg VIII	59.153	300		S VII	60.804	750	
Al	57.244	50	N	Ne VIII	59.19	290		Mg VIII	60.806	10	
P IX	57.266	350		Cl VIII	59.191	900		Al X	60.809	50	Q
Al	57.271	50	N	Na VIII	59.204	300		Si VII	60.837	100	
Si VII	57.325	50		S VIII	59.236	70		Al IX	60.896	300	
Al VIII	57.326	80		Na VIII	59.249	10		Al X	60.925	185	
P IX	57.339	150		O VIII	59.266		P	Si VII	60.989	100	
Si X	57.365	80		Al XIII	59.296		P	Si VIII	60.989	100	
Al X	57.368	350		Al X	59.298	10	Q	Si IX	60.989	100	
Ar XVIII	57.400		P	P VIII	59.302	350		Si VIII	61.019	100	
Si VII	57.434	50		O VIII	59.316		P	Mg IX	61.038	200	
Si IX	57.434	50		Be IV	59.320		P	P IX	61.065	50	
Be IV	57.522		P	Al IX	59.381	10		Al IX	61.069	600	
Al VIII	57.553	10		Al XIII	59.399		P	Si VIII	61.070	200	
Si VII	57.589	50		F VIII	59.401	3		B IV	61.088		
Si IX	57.589	50		Al XIII	59.434		P	Na VIII	61.088	200	
Mg VIII	57.590	10		Al VII	59.481	10	Q	Mg IX	61.088	100	
Al VIII	57.597	87		P VIII	59.516	250		Si IX	61.109	50	
Al VIII	57.624	10		S VIII	59.593	20		Mg IX	61.127	300	
Be IV	57.659		P	Mg VII	59.640	1		F VIII	61.175	1	
Al X	57.663	10	Q	Ar XVIII	59.728		P	Mg IX	61.175	200	
P IX	57.683	100		Na VIII	59.759	200		Si VIII	61.175	50	
P IX	57.711	50		Al IX	59.761	300		Si IX	61.190	50	
Ar XVIII	57.716		P	Al VII	59.827	10		Si VIII	61.223	100	
Mg VIII	57.736	100		Cl XVII	59.842		P	Al IX	61.262	10	Q
Ne VIII	57.747	470		O VIII	59.851		P	P IX	61.270	50	
Si IX	57.778	100		Al X	59.884	125		Si VII	61.306	50	
Ar XVIII	57.816		P	Si VII	59.884	50		P IX	61.320	50	
Be IV	57.851		P	Ar XVIII	59.896		P	Na VIII	61.347	1	
Mg X	57.876	700		O VIII	59.902		P	Si IX	61.355	50	
Mg X	57.920	700		F IX	59.906		P	Mg IX	61.359	10	
P VI	58.018	350		Al VII	59.911	10		Al	61.373	50	N
Al IX	58.060	10		Ar XVIII	59.953		P	Mg IX	61.393	100	
Na VIII	58.070	10		Al IX	59.960	60		Si VIII	61.395	50	
Al IX	58.112	50		Si VII	59.966	100		Si VIII	61.446	100	
Be IV	58.133		P	Si IX	59.966	100		Al	61.472	100	N
Si IX	58.150	50	Q	Cl XVII	59.976		P	Mg IX	61.489	200	
Na IX	58.201	500		F IX	59.984		P	Si IX	61.502	50	
Al IX	58.222	100		Na VIII	59.992	10		Si IX	61.546	100	
Al IX	58.276	1		Cl XVII	60.022		P	S VII	61.547	200	
Na IX	58.279	600		Al X	60.052	50	Q	Si IX	61.600	50	
Mg VII	58.316	10		Na VIII	60.053	100		S VIII	61.600	500	
Al VII	58.379	10		Na V	60.073	100		P VI	61.622	50	
Si VII	58.388	50		Mg VII	60.138	10		Al IX	61.647	10	
Ne VIII	58.407	180		Si X	60.151	20	Q	Si IX	61.649	100	
Si VII	58.445	100		S VII	60.161	1000		Al VIII	61.694	150	
Ne IX	58.468	100		Al IX	60.162	10		Si VIII	61.798	100	
P VIII	58.506	150		Al IX	60.197	50		Si VIII	61.87	100	
Si VII	58.526	10		Si VII	60.221	100		Si IX	61.8	100	
Mg VIII	58.537	10		Al IX	60.222	10		P VI	61.86	50	
F VIII	58.573	13		Al IX	60.262	10		Mg VIII	61.891	200	
Be IV	58.574		P	Al IX	60.312	50		Si VIII	61.895	150	
Si VII	58.580	100		B IV	60.3144	1000		Al	61.900	10	N
Mg VIII	58.614	200		Mg VIII	60.316	40		Si VIII	61.914	150	
Mg VIII	58.667	300		Al IX	60.347	100		Mg IX	61.924	400	
Cl VIII	58.673	1000		Ne VIII	60.351	300		Al VIII	61.933	50	Q
Si VII	58.719	50		Mg VIII	60.384	10		O VIII	61.951		P
Al VII	58.750	1		Ne VIII	60.413	400		Mg VIII	61.964	100	
P VIII	58.776	50		Si	60.421	20	N	Mg IX	61.964	100	
Si VII	58.782	50		Si IX	60.459	20	Q	P VI	61.970	50	
Al X	58.808	1		Ne VIII	60.49	10		S VIII	61.978	250	
Al X	58.858	100		Al IX	60.504	150		B III	62.0		Q, Z
Si VIII	58.885	150		Al IX	60.549	200		O VIII	62.005		P
Si IX	58.906	50		Al IX	60.588	300		Al VIII	62.016	100	
Na IX	58.954	100		F VIII	60.609	5		Mg IX	62.020	10	
P VII	58.972	35		Al X	60.632	205		Al IX	62.070	50	Q
Al X	58.987	150		Al IX	60.645	10		Si VII	62.154	50	Q
Si IX	59.004	100		Na X	60.67		P	Mg VII	62.166	10	
Na VIII	59.009	100		Si VIII	60.673	100		Ar XVII	62.21		P
P VII	59.028	15		O VIII	60.688		P	P VII	62.245	150	
Mg VIII	59.038	200		Al X	60.700	10		Si X	62.251	100	Q

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
Na VIII	62.276	100		Si VIII	63.903	150		Si XIV	65.308		P
Mg VIII	62.291	10		Al VIII	63.933	10		P VI	65.308	150	
Al VII	62.292	12		Mg XII	63.943		P	P XIV	65.34		P
Ne VIII	62.297	350		Al VIII	63.965	150		Si XIV	65.360		P
Al IX	62.327	250		O VIII	64.004		P	Al VIII	65.381	50	
Al VII	62.330		P	Al VIII	64.004	200		Na VII	65.388	100	
Al VII	62.354	27		Mg XII	64.031		P	P XIV	65.39		P
Ne VIII	62.361	500		P VIII	64.051	80		Ne X	65.446		P
Al IX	62.369	150		O VIII	64.061		P	Na VII	65.474	100	
Si	62.386	50	N	Mg XII	64.061		P	Al VIII	65.494	50	
Al VII	62.430	1		Al VII	64.061	1		Ne X	65.582		P
B IV	62.44		F, P	Be IV	64.064	30	P	Si VII	65.595	50	
Si IX	62.454	20	Q	Al VIII	64.086	10		Mg IX	65.609	400	
Mg XII	62.462		P	P VIII	64.100	20		Al X	65.632	50	Q
Al VII	62.465	8		Na VII	64.113	10		P VI	65.640	350	
Al IX	62.474	100		S VIII	64.120	50		Na VIII	65.672	50	
F VIII	62.491	12		Mg VII	64.122	200		Mg X	65.672	35	
P VII	62.515	50		S VIII	64.137	100		Si	65.711	50	N
Mg XII	62.546		P	Na VIII	64.205	200		Na VIII	65.730	10	
F VIII	62.569	12		Na VIII	64.237	400		Mg VIII	65.735	100	
Mg XII	62.575		P	Mg VIII	64.246	10		Al VII	65.770	8	
Ne VIII	62.58	150		Al X	64.269	10	Q	P VIII	65.788	350	
Si VIII	62.586	50		Si VIII	64.281	100		Mg VIII	65.806	200	
Al IX	62.587	100		P VII	64.286	150		Al X	65.821	50	Q
Mg VII	62.615	10	Q	Na VIII	64.302	500		Ne VIII	65.822	600	
Cl XVII	62.631		P	S VIII	64.305	20		Si VIII	65.833	50	
Mg VII	62.696	100		Si VIII	64.327	150		Mg X	65.847	60	
Na VII	62.725	10		Al VII	64.328	8		Ne VII	65.85		
Mg IX	62.751	500		P VIII	64.337	100		Al VII	65.862	18	
Cl XVII	62.777		P	Al VII	64.349	25		Al VII	65.882	50	
Si VIII	62.808	100		Si VIII	64.355	50		Ne VIII	65.895	700	
Cl XVII	62.827		P	P VII	64.361	250		P VI	65.940	350	
Si VIII	62.849	150		P VIII	64.361	300		Al IX	66.038	50	
Si VIII	62.884	50		Mg VII	64.377	100		P VIII	66.051	350	
Al IX	62.916	150		Mg VIII	64.377	100		Na VIII	66.059	200	
Si VII	62.940	50		Cl XVII	64.408		P	Mg VIII	66.069	300	
Al IX	62.948	65		Al	64.418	10	N	Al IX	66.092	50	
Si IX	62.974	50		Al VII	64.481	1		F VIII	66.127	28	
Al VII	63.005	65		Mg VIII	64.488	100		Mg XII	66.136		P
Al VII	63.025	500		Al VII	64.516	1		Al IX	66.142	120	
Al IX	63.025	500		Mg VIII	64.518	100		Mg XII	66.229		P
S VIII	63.026	50		Al XIII	64.529		P	Al IX	66.239	150	
Al VII	63.056	65		P VII	64.579	150		Ne VIII	66.259	300	
Na VIII	63.114	100		F VIII	64.581	8		Mg XII	66.261		P
Al X	63.134	200		P VII	64.587	100		Al IX	66.275	50	
Mg X	63.152	400		Al IX	64.625	50		Al VIII	66.321	60	
Si	63.183	50	N	Mg VIII	64.635	200		Al IX	66.321	60	
Na VII	63.185	10		P VII	64.635	200		Ne VIII	66.330	350	
Al VIII	63.203	10		Al XIII	64.649		P	Na VIII	66.358	10	
Na VII	63.227	10		Si XIII	64.67		P	Al VIII	66.363	10	
Si VIII	63.229	150		Al XIII	64.689		P	Al VII	66.409	27	
Si VIII	63.266	50		Al VII	64.698	12		P VII	66.432	150	
F VIII	63.282	14		Mg VIII	64.702	200		Na VIII	66.433	200	
Mg X	63.295	700		Si XIII	64.71		P	Ar XVIII	66.482		P
S VIII	63.304	500		Cl XVII	64.723		P	P VII	66.488	50	
Na VII	63.361	10		Si X	64.772	50	Q	Na VIII	66.498	400	
Mg VII	63.396	100		Al VII	64.801	8		P VII	66.576	100	
S VIII	63.431	100		Mg VIII	64.811	10		Al IX	66.624	10	
Al VIII	63.433	45		Al VII	64.816	9		Ar XVIII	66.690		P
Na VII	63.442	10		Cl XVII	64.823		P	P VII	66.691	150	
Ar XVIII	63.45		P	S VIII	64.874	20		Al VIII	66.704	150	
Si IX	63.478	20	Q	Mg VIII	64.878	100		Al IX	66.724	345	
Al IX	63.509	500		Al IX	64.885	150		Si X	66.726	100	Q
Al VIII	63.559	45		Al VII	64.892	27		Al VIII	66.731	200	
Na X	63.57		P	Na VII	64.904	10		Ar XVIII	66.761		P
Si IX	63.586	100		Al IX	64.904	100		Al VIII	66.771	350	
Al IX	63.632	300		Si VI	65.004	20		Si VI	66.772	20	
Na VIII	63.695	10		Al VII	65.020	12		Mg VII	66.788	10	
Al IX	63.7		F, P	Al X	65.032	175	P	Si VI	66.796	10	
S VIII	63.711	50		Al VIII	65.128	10		Al IX	66.836	100	
Al VIII	63.714	100		Si XIV	65.149		P	Si IX	66.912	100	Q
Si VIII	63.732	150		S VIII	65.149	50		Si X	66.977	20	Q
Na VII	63.778	10		Si VI	65.211	10		Cl XVII	66.995		P
Si VIII	63.879	50	Q	Si IX	65.236	10		Al	66.996	10	N
S VIII	63.886	250		Al VIII	65.298	10		Na VIII	67.027	100	Q

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al VIII	67.044	10		Si VIII	68.522	50		Si VII	69.872	100	
Mg IX	67.090	500		Al IX	68.531	100		Mg VII	69.900	10	
Al VIII	67.096	100		Al VII	68.534	60		Si VIII	69.905	50	
Al VIII	67.121	100		Mg VIII	68.550	100		Mg IX	69.950	600	
Mg IX	67.135	600		Mg VIII	68.580	10		Si VII	70.027	250	
Si VIII	67.157	150		Si VII	68.593	50		Al VIII	70.040	50	Q
Cl XVII	67.162		P	Mg VIII	68.606	200		Si VII	70.072	250	
Al VIII	67.166	10		Al VII	68.626	64		Al IX	70.090	100	Q
Cl XVII	67.220		P	Al IX	68.637	50		F VII	70.120	1	
Mg IX	67.239	700		Si VII	68.642	50		Si VII	70.123	20	
Al VIII	67.244	150		P VIII	68.654	100		Cl XVI	70.14		P
Al VIII	67.288	500		Si VII	68.669	50		Al VIII	70.161	300	
Si VIII	67.318	100		Al VII	68.675	30		Mg VII	70.193	100	
Al VIII	67.360	250		Si VII	68.715	100		Si VII	70.222	200	
Ne VIII	67.382	770		Al IX	68.722	25	Q	Si VII	70.250	200	
Al VIII	67.408	500		Al IX	68.783	10	Q	Na	70.320	10	N
Si VIII	67.408	150		Si	68.786	100	N	Al VIII	70.323	200	
Al VIII	67.437	50		Al VIII	68.825	50		Si VII	70.323	50	
Mg VII	67.453	10		Al IX	68.825	50		Al VIII	70.402	1	
Al VIII	67.464	600		Si	68.833	20	N	F VIII	70.405	29	
Mg VII	67.470	100		Si VIII	68.853	100	Q	Si VII	70.427	50	
Na VIII	67.478	200		Na VII	68.866	10	Q	Si VIII	70.458	100	
Mg VII	67.497	200		Al IX	68.904	10	Q	Si VIII	70.473	100	
Al VII	67.523	47		Na VII	68.908	100		Mg	70.512	10	N
Al VIII	67.529	10		Ne VII	68.92	100		Mg	70.563	10	N
Al VII	67.560			Mg IX	68.949	10		Si VII	70.594	100	Q
Al VIII	67.565	150		Al IX	68.958	50		Na IX	70.615	700	
Si IX	67.574	50	Q	Mg IX	68.986	100		Na IX	70.653	600	
S XVI	67.585		P	Mg IX	69.009	100		Al VIII	70.727	250	
P VIII	67.587	300		Al VII	69.029	16		Si VII	70.730	50	
Na VIII	67.672	400		Mg IX	69.058	10		S XVI	70.735		P
S XVI	67.718		P	Al VII	69.085	16		Na VIII	70.741	10	
O VIII	67.725		P	Mg IX	69.116	100		Mg	70.762	100	N
Mg VIII	67.731	400		Na VIII	69.120	300		Si	70.771	100	N
Mg IX	67.731	400		P VI	69.121	50		Mg	70.787	100	N
S XVI	67.764		P	Al IX	69.135	215		Al VIII	70.802	50	Q
O VIII	67.789		P	Mg IX	69.161	300		Mg VIII	70.878	10	Q
Ne VII	67.80	50		Al VII	69.165	200	Q	S XVI	70.882		P
Na VII	67.826	100		Si VI	69.204	50		S XVI	70.932		P
Al IX	67.828	10		Si VI	69.236	250		Mg VIII	70.953	100	
Al	67.873	10	N	Al IX	69.258	50		F VII	70.979	10	
Na VII	67.877	100		Na VII	69.314	10		Ne VII	70.990	300	
Na VII	67.912	200		Mg VIII	69.327	10	Q	Mg VIII	71.007	200	
Al VIII	67.946	500		Mg IX	69.374	200		Ne VII	71.038	300	
P VII	67.989	50		Al	69.379	50	N	Al	71.077	10	N
Mg VII	67.993	100		Si VII	69.385	150		Mg VIII	71.118	300	
Al VIII	68.000	10	Q	Na VII	69.395	10		Al	71.139	50	N
Si VII	68.026	10		Mg VIII	69.413	400		Mg VIII	71.168	100	
Mg VII	68.064	200		Mg IX	69.413	400		Si VI	71.181	250	
Mg VII	68.100	200		Al VIII	69.420	50		Al VIII	71.238	135	
Mg VII	68.144	300		Si VI	69.421	50		Si VI	71.273	100	
P VII	68.147	50		F VII	69.448	1		Al VIII	71.274	125	
Si VII	68.148	250		Si VI	69.448	100		Al VIII	71.277	50	Q
Al VI	68.167	50		Mg VIII	69.467	500		Si VI	71.304	10	
Si VII	68.190	50		Mg IX	69.467	500		Si VI	71.340	50	
Na VIII	68.193	100		Al VIII	69.502	100		Si VI	71.366	150	
Si VII	68.212	50		Mg IX	69.513	100		Si VI	71.384	200	
Al VI	68.223	10		Mg VIII	69.577	100		Si VII	71.384	200	
Si VII	68.270	50	Q	Si VII	69.580	100		Na VIII	71.386	10	Q
Ne VII	68.28	160		Si VII	69.602	100		Mg VIII	71.454	100	Q
Al VI	68.289	1		Al VIII	69.611	200		Si VI	71.474	50	
Si VII	68.340	50	Q	Mg VII	69.615	300		Si VI	71.534	50	
Mg VII	68.352	200		Mg IX	69.615	300		Si VI	71.561	50	
Al VIII	68.375	750		Mg XII	69.618		P	Al	71.590	70	N
F VIII	68.381	11		Al VIII	69.631	200	Q	Cl XVI	71.61		P
P VIII	68.384	200		Si VIII	69.632	150		Mg	71.621	10	N
P VIII	68.385	100		Si VII	69.663	200		Al VIII	71.625	70	Q
Si VII	68.408	100		Al IX	69.716	100		Si VI	71.644	10	
Na VII	68.422	10		Mg XII	69.720		P	Si VI	71.718	10	
Al	68.439	50	N	Mg XII	69.755		P	Mg	71.724	10	N
Mg VIII	68.450	100		Al VIII	69.773	150		Al IX	71.774	10	Q
Si VII	68.456	10		Si VII	69.790	200		Mg VII	71.786	100	
Al	68.458	50	N	Si VIII	69.790	200		Mg IX	71.841	100	
Si VIII	68.497	50		Al IX	69.850	50		Al	71.867	10	N
Na VII	68.519	100		Si VII	69.861	100		Si VII	71.900	200	Q

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Mg IX	71.901	200		Na VII	74.217	200		O VII	75.5		P
Si VII	71.955	200		Ne VII	74.23	80		Na VIII	75.518	300	
Al	71.987	10	N	Na VII	74.255	300		Mg	75.528	10	N
Na VII	72.020	100		Al VI	74.259	10	Q	Al VII	75.544	227	
Mg VIII	72.027	300		Na VII	74.268	300		Ne VII	75.55	120	
Mg IX	72.027	300		Mg VIII	74.274	200		Al VIII	75.577	150	
S VII	72.029	1000		Mg IX	74.274	200		Si VI	75.587	50	
Na VII	72.079	100		Mg VI	74.319	300		Al XIII	75.595		P
Al VIII	72.223	200		Mg VIII	74.319	300		Al VIII	75.623	100	
Mg IX	72.226	300		Mg IX	74.319	300		Li II	75.64		Z
Si VIII	72.228	200		Al VII	74.321	50	Q	P VI	75.648	200	
Al VII	72.282	195		Al VI	74.346	50		Mg	75.666	300	N
O VII	72.3		P	Ne IX	74.35		P	S XVI	75.667		P
F VII	72.300	16		Na XI	74.359		P	Al VIII	75.734	50	
Mg IX	72.312	400		Mg VIII	74.366	400		Al XIII	75.754		P
Al VIII	72.324	200		Mg IX	74.366	400		Mg XII	75.764		P
Si VII	72.324	300		Si VIII	74.371	20		Ne VII	75.765	500	
Si VIII	72.324	300		Ne VII	74.40			Al VIII	75.778	250	
Al VIII	72.401	150		Mg VIII	74.411	100		Si XIII	75.78		P
Si VIII	72.420	200		Mg IX	74.411	100		Al XIII	75.806		P
Mg VI	72.430	100		Na XI	74.443		P	Al VII	75.809	100	
Mg VII	72.546	10		Al VI	74.444	300		Mg VI	75.834	200	
Mg VIII	72.546	10		Mg VI	74.461	10		S XVI	75.834		P
S VII	72.663	1000		Mg IX	74.461	10		Si XIII	75.84		P
Al VI	72.674	300	Q	Na XI	74.472		P	O VIII	75.844		P
Mg VIII	72.684	100		F VII	74.481	38		Al VII	75.846	195	
P VII	72.684	100		F VIII	74.484			Al VII	75.876	195	
Al VI	72.714	1		Al VI	74.504	50		Mg XII	75.883		P
S XVI	72.770		P	Mg IX	74.520	100		Mg VI	75.890	10	
Mg VII	72.787	100		Mg IX	74.520	100		S XVI	75.891		P
Al VI	72.810	250		Ne VIII	74.541	650		Al VIII	75.894	100	
Mg VII	72.852	10		Mg VI	74.574	200		Al XII	75.90		P
Na VII	72.865	200		Cl XVII	74.575		P	Al VII	75.903	262	
Al VI	72.865	50		Al VI	74.592	150		O VIII	75.923		P
Mg VII	72.896	1		Ne VIII	74.637	650		Mg XII	75.923		P
Si VI	72.896	50		Al VI	74.656	250		P VII	75.924	450	
Al VI	72.926	100		Mg VIII	74.676	100	Q	Be IV	75.926	65	P
O VII	73.0		P	Mg IX	74.738	100		Al VII	75.926	185	
P VII	73.070	100		Cl XVII	74.782		P	Be IV	75.931	35	P
Al VI	73.076	100		Al IX	74.785	50		Al VII	75.946		
S XVI	73.085		P	Al VI	74.813	50		Al XII	75.95		P
Mg VII	73.112	10	Q	Al VIII	74.841	200		Mg VII	75.975	400	
Si VII	73.123	500		Cl XVII	74.853		P	Al VIII	75.985	50	
Na	73.128	10	N	Mg VIII	74.858	600		Si VIII	75.986	50	
S XVI	73.185		P	Na VII	74.861	300		Al VII	76.009	205	
Mg VIII	73.250	400		Al VI	74.892	100		Al VII	76.022	157	
Al VIII	73.278	100	Q	P VI	74.951	400		Al VII	76.090	125	
Al VI	73.334	1		Na VIII	74.956	300		Be III	76.096	0	Z
Si VII	73.350	250		Ne VII	74.962	380		F VII	76.108	6	
Al VIII	73.406	304		Al VIII	74.965	150		Na VIII	76.123	500	
Si VII	73.433	200		Na VII	74.980	300		Na XI	76.123		P
Al IX	73.451	1		Na VIII	74.980	300		Mg	76.169	100	N
Ne VIII	73.470	700		Mg VIII	75.034	700		Na VIII	76.173	100	
Ne VIII	73.563	750		Na VIII	75.043	400		Si VIII	76.198	20	
Al IX	73.625	1		Al VIII	75.058	50		Mg VIII	76.199	100	
Al VIII	73.703	150		Na VIII	75.096	100		Na XI	76.210		P
Mg VIII	73.710	10	Q	Mg	75.112	100	N	Na VIII	76.217	200	
Al VIII	73.733	100		Al VI	75.164	100	Q	Al VII	76.226	205	
Al VIII	73.760	10		Si VI	75.193	200		Na XI	76.240		P
Mg VII	73.773	10	Q	Si VII	75.193	200		Al VII	76.262	195	
Mg VIII	73.825	100		Al VIII	75.226	100	Q	Al VII	76.344	157	
F VIII	73.841	58		Mg VI	75.248	100		P VII	76.344	200	
Mg VIII	73.862	200		Al VII	75.281	215		Al VII	76.366	140	
Al VIII	73.879	200		Al VII	75.313	250		Al VII	76.386	300	
Mg VIII	73.890	100		F VII	75.332	2		Mg VII	76.392	300	
F VIII	73.895		P	Mg VI	75.334	100		Al VII	76.400	215	
O VII	73.9		P	O VII	75.344	2		Al VI	76.402	610	Q
Mg VIII	73.927	100		Al VII	75.367	227		Al VII	76.430	288	
Mg VIII	73.981	200		Na VIII	75.385	100		Al VII	76.440	215	
Al VIII	74.016	120	Q	Al VIII	75.397	70		Mg IX	76.459	100	Q
Mg VIII	74.021	300		Si VI	75.398	150		Be III	76.477	10	Z
Na VII	74.097	100		Na VIII	75.428	200		Na VII	76.501	10	
Al VII	74.099	74		Si VI	75.486	50		O VII	76.513	1	
Na VII	74.180	200		Al VIII	75.488	200		Ne VII	76.515	140	
Si VIII	74.186	100		Ne VII	75.49	130		P VI	76.534	50	

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Al VII	76.557	215		Al VIII	78.351	1000		Mg VIII	80.229	400	
Na VII	76.565	10		Al VII	78.365	262		Na VII	80.245	100	
Al VII	76.582	225		F VII	78.370	70		Mg VIII	80.255	400	
Al VI	76.618	200		Mg VII	78.376	10	Q	Al VIII	80.320	10	
Na VII	76.626	10		Mg VII	78.405	10		Na VI	80.345	10	
F VIII	76.667	25		P VII	78.414	150		Si VI	80.395	250	
Al VI	76.697	200		Al VIII	78.421	10	Q	Al	80.403	10	N
Mg VIII	76.714	100		Mg VIII	78.446	600		Mg IX	80.428	100	
Mg VIII	76.740	200		Na VII	78.459	10		Si VI	80.449	500	
Mg VIII	76.788	300		Al VI	78.459	70		Al VIII	80.483	10	
Al VI	76.794	200	Q	Al VIII	78.508	150	Q	Si VI	80.491	250	
Na VII	76.827	10		Mg VII	78.521	200		Si VI	80.501	500	
Al VIII	76.853	200	Q	Be III	78.530	40	Z	P VII	80.507	50	
Na VII	76.862	10		Al	78.573	70	N	Ar XVIII	80.509		P
Mg VI	76.908	1		Mg VIII	78.574	600		P XV	80.525		P
P XV	76.934		P	Mg VIII	78.6		F, P	Ne VII	80.533	520	
Al VI	76.953	50		Si V	78.611	50		Al IV	80.56		A, Z
Li II	76.98		Z	Al VI	78.628	10		Mg VI	80.563	100	Q
Al IX	76.984	100	Q	Mg	78.643	100	N	Si VI	80.577	600	
Mg VII	77.033	100		Be III	78.662	90	Z	Al IV	80.58		A, Z
Al VI	77.052	50	Q	Mg	78.668	100	N	Na VI	80.645	10	
P XV	77.064		P	F VII	78.699	29		P XV	80.666		P
P XV	77.109		P	Al VI	78.712	10		Si VI	80.698	500	
F VII	77.115	12		Na XI	78.734		P	Al VIII	80.704	100	
Mg VII	77.144	200		P VII	78.734	250		P XV	80.714		P
Al IV	77.18		A, Z	Na VII	78.771	10		Mg VI	80.724	10	
Ne VII	77.25	220		Al IV	78.79		A, Z	Si VI	80.725	500	
Na VIII	77.267	600		Na XI	78.827		P	Na VIII	80.756	10	
Ne VII	77.30	220		Al VIII	78.836	100	Q	Al VI	80.770	70	
Mg VI	77.301	10	Q	Na XI	78.859		P	Mg VIII	80.806	10	
Al IX	77.315	10	Q	O VII	78.884	4		Si V	80.807	100	
Na VII	77.353	100		Si V	78.903	50		P VII	80.813	100	
O VII	77.374	1		Na VII	78.907	300		Ar XVIII	80.814		P
Al IX	77.381	150		Be III	78.92	0	Z	Si VI	80.821	400	
Mg VI	77.407	200		Al VII	78.938	300	Q	F IX	80.828		P
Mg VIII	77.405	200		Na VII	78.982	200		Mg VIII	80.889	100	
N VII	77.429		P	Al VII	79.022	314		Si VI	80.908	400	
Si VI	77.429	500		Mg VI	79.059	10		Ar XVIII	80.919		P
Al VII	77.443	215		Mg VII	79.131	500		Mg VI	80.936	200	
Al IX	77.448	150		Mg VII	79.168	500		N VII	80.937		P
N VII	77.479		P	Al VII	79.204	300		F IX	80.972		P
Mg VI	77.511	100		Si VII	79.236	250		N VII	80.991		P
Mg VIII	77.511	100		Mg VII	79.248	100		Mg VII	81.024	100	
Na VII	77.558	10	Q	Si VII	79.262	50		Si VI	81.030	350	
Mg VIII	77.572	500		N VII	79.286		P	Mg VI	81.106	300	
Al VIII	77.605	300		N VII	79.338		P	Si V	81.113	100	
Mg VI	77.639	10		Al VIII	79.455	120		Mg VII	81.133	300	
Mg VIII	77.671	500		Na VII	79.477	200		Na IX	81.175	500	
O VII	77.695	3		Si VII	79.491	100		Al VII	81.176	50	Q
Si VI	77.718	300		Si VII	79.523	100		Na VIII	81.210	500	
Mg VIII	77.737	600		Al VI	79.557	10	Q	F VII	81.222	55	
Mg IX	77.737	600		Na VII	79.571	100		Al VII	81.234	50	Q
Na IX	77.764	700		Si VII	79.615	100		Mg VIII	81.304	100	Q
Al VII	77.778	91		Na VII	79.620	100	Q	Al VII	81.339	10	Q
Al IV	77.79		A, Z	Al VII	79.637	64		Na IX	81.350	500	
Al VII	77.809	104		S XV	79.68		P	Mg VIII	81.368	10	Q
Al VII	77.906	250		Al VII	79.692	215		Ne VII	81.37	110	
Na IX	77.911	800		Mg VIII	79.695	200		Na VII	81.430	100	
Al VI	77.945	500		Na VII	79.761	10		S XV	81.44		P
Al VII	77.958	166		Al	79.783	50	N	Si VII	81.449	50	
P VII	77.969	250		Na VII	79.786	10		O VII	81.494	10	
Na	78.023	10		Mg VI	79.817	200		Na VI	81.498	200	
Al VI	78.112	100		Mg VI	79.830	400		Na VII	81.498	200	
Al VI	78.149	100	Q	Mg VI	79.857	400		Na VI	81.543	100	
Al VI	78.178	50		Mg VIII	79.880	200	Q	Si VII	81.558	250	
N VII	78.193		P	Na VII	79.893	300		Al XI	81.560	100	Q
Al VIII	78.225	1		Al VII	79.928	390		F VII	81.581	1	
Mg VI	78.239	10		Al VII	79.960	390		Na VI	81.584	100	Z
N VII	78.244		P	Al VII	79.972	300		Si VII	81.620	600	
Al VIII	78.256	70	Q	Na VII	80.008	300		Al VII	81.667	100	Q
Ne IX	78.26		P	Al	80.014	10	N	Mg VIII	81.732	300	
P VII	78.285	400		Mg VI	80.032	200		Al VI	81.738	50	
Ne IX	78.300	100		Mg VI	80.075	200		Al VII	81.741	262	
Al VII	78.329	345		Na VII	80.133	10		Al VII	81.774	205	
Al VII	78.343	288		Na VII	80.174	10		Mg VIII	81.790	200	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al VII	81.794	365		Al VIII	83.635	10		Al VI	85.724	300	
Al VII	81.809	380		Na VI	83.639	100		Mg VIII	85.749	400	
Mg VIII	81.844	400		Si VI	83.639	150		Al VI	85.764	400	
Na VII	81.855	400		Be II	83.66		A, Z	Al V	85.804	350	
Be III	81.890	50		N VII	83.677		P	F VII	85.808	89	
Si VII	81.895	500		Si VI	83.684	50		Al VI	85.817	350	
O VII	81.914	10		Mg VII	83.716	300		Na VIII	85.826	200	
Mg VIII	81.943	200		Al VIII	83.723	133		Na VIII	85.861	300	
Mg VIII	81.979	200		Si VI	83.729	50		Al VI	85.865	100	
Si VII	81.998	150		Mg VII	83.766	500		Na VIII	85.887	300	
Ne VII	82.01	13	P	Si VI	83.802	300		Al V	85.922	10	
Al VI	82.082	70		Al VII	83.833	512		Na VIII	85.936	100	
Al IX	82.105	70	Q	Mg VII	83.910	300		Al VI	85.970	10	
Mg	82.111	10	N	Mg VII	83.959	400		Na VIII	85.992	300	
Al	82.128	70	N	Si VI	83.965	10		Al VI	86.020	150	
Ne VII	82.16	14		Al VII	84.005	475		Mg VII	86.032	200	
Ne VII	82.198	500		Mg VII	84.025	500		Na VIII	86.039	500	
Mg VI	82.238	200		Na VIII	84.050	500		Al VI	86.070	150	
Mg VIII	82.238	200		Si VI	84.082	600		Ne VI	86.09	10	
Al VI	82.267	50		Si VII	84.082	600		Al VI	86.097	150	
Ne VII	82.268	700		Mg VII	84.087	300		O VII	86.100	29	
Mg VIII	82.317	300		Mg VIII	84.087	300		P XV	86.146		P
Al VI	82.338	10		Al VII	84.095	422		Mg VII	86.147	10	Q
Be III	82.378	100		Mg VII	84.189	10		Al VI	86.147	200	
Al VII	82.423	50	Q	Ne VII	84.212	200		Ne VI	86.19	13	
Mg VI	82.475	100		Na VII	84.221	400		Mg VIII	86.234	100	
Li II	82.49		Z	S XVI	84.232		P	Al	86.282	50	N
Na VII	82.516	10	Q	Ne VII	84.292	200		P XV	86.306		P
Al VIII	82.543	150		Al IV	84.38		A, Z	Mg VIII	86.359	100	
Be II	82.58		A, Z	O VII	84.425	1		Al VIII	86.360	100	Q
Al	82.582	50	N	S XVI	84.439		P	P XV	86.360		P
Mg VIII	82.598	200		Al IV	84.48		A, Z	Na VIII	86.381	400	
Si	82.622	50	N	S XVI	84.510		P	Al VII	86.393	100	Q
Na VII	82.636	10		Mg VII	84.642	500		Na VIII	86.417	500	Q
Na VII	82.685	10		Al VI	84.650	100		Mg VIII	86.417	200	Q
Mg VIII	82.709	200		Mg VI	84.745	200		Al VIII	86.427	100	Q
Mg VIII	82.822	300		Be III	84.754	300		Mg VIII	86.440	200	Q
Mg VI	82.853	100		Al VI	84.801	20		F VII	86.442	17	
P XV	82.860		P	Mg VIII	84.827	10		Na VIII	86.479	600	
Na XI	82.880		P	Al VI	84.828	70		Na VIII	86.530	100	
Al VII	82.908	50	Q	Na VII	84.832	10		Ne VII	86.54		P
Mg VII	82.940	400		Mg VIII	84.919	100		Al	86.540	10	N
Mg VII	82.969	400		Al VI	84.928	10	Q	Na VII	86.596	400	
Na XI	82.982		P	Al IX	85.046	1	Q	Na VII	86.652	500	
Si VI	83.006	200		Mg VIII	85.064	10		Al VII	86.666	118	
Mg VII	83.015	500		Mg VII	85.091	10	Q	Al VII	86.685	166	
Na XI	83.017		P	Mg VI	85.153	10		F VII	86.746	97	
Al VIII	83.102	10	Q	Mg VIII	85.153	10		Na VII	86.758	300	
Si VI	83.128	750		Si V	85.175	500		Na VIII	86.758	300	
P XV	83.174		P	Al VI	85.189	10	Q	Mg VII	86.762	100	Q
Na VII	83.180	100	Q	Ne VII	85.19	150		Mg VI	86.807	200	
Be III	83.200	200		Si VII	85.219	100		Ne VII	86.818	190	
Na VIII	83.240	700		Mg VIII	85.248	200		Mg VIII	86.847	200	
S XV	83.25		P	Na VII	85.260	300		Si VII	86.88		P
Si VI	83.258	250		Si VII	85.289	500		Al VII	86.884	475	
P XV	83.274		P	Ne VII	85.29	190		Na VII	86.890	10	Q
Si VI	83.283	50		Na VII	85.297	300		Al VI	86.975	10	Q
Na VIII	83.288	800		Ne VII	85.31	20		Mg VIII	87.017	100	
F	83.3	20	N	Mg VII	85.336	10		Al V	87.020	100	
S XV	83.33		P	Mg VII	85.407	700		Al VII	87.058	456	
Al VIII	83.335	10	Q	Ne VII	85.41	20		Mg VII	87.131	500	
Si VI	83.358	400		Al VI	85.423	100		Na VI	87.141	100	
Na VIII	83.391	900		Ne VII	85.45	27		Na VII	87.141	100	
Mg VI	83.403	400		Na VII	85.458	400		Al VII	87.165	422	
Mg VII	83.403	400		Al VI	85.515	1000		Mg VII	87.175	400	
Al VIII	83.465	50		Al VI	85.569	200		Si VII	87.19		P
Mg VI	83.519	300		Mg VI	85.577	200		Na VI	87.211	700	
Mg VII	83.519	300		Si V	85.579	300		Na VIII	87.211	700	
Si VI	83.526	400		Si VII	85.584	500		Al V	87.279	50	
Mg VI	83.560	200		Mg VIII	85.599	300		Al VI	87.334	400	
Mg VII	83.560	200		Si	85.614	20	N	Si XII	87.36		P
Mg VII	83.587	200		Mg VI	85.622	300		Mg VI	87.406	10	
Si VI	83.611	400		Al VI	85.622	300		Na VII	87.471	10	
N VII	83.619		P	Al V	85.662	50		Na	87.524	200	N
Mg VII	83.635	10		Si VII	85.698	100		Al VI	87.544	350	

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Si	87.57		N	Mg VI	89.649	10		Si VI	91.798	200	
Al VI	87.592	500		Na VIII	89.759	200		Na VI	91.836	10	
Al VI	87.629	100		Be II	89.80		A, Z	F VI	91.9	45	Q
Al VI	87.655	650		Na VIII	89.818	300		Na VII	92.003	300	
Mg	87.660	10	N	Na VIII	89.948	430		Al V	92.039	10	
Mg VII	87.722	600		Ne VI	89.95	18		Mg VIII	92.123	100	
Mg VII	87.767	400		Ne X	90.002		P	Ne X	92.137		P
Al VI	87.783	250		Be II	90.04		A, Z	Be I	92.19		A, Z
Al VI	87.802	250		Ne VI	90.06	24		Ne X	92.224		P
F	87.85	45	N	Ne X	90.085		P	Ne X	92.254		P
Al VI	87.866	350		Si	90.09		N	Mg VII	92.256	300	
Al VI	87.887	250		Ne X	90.114		P	Mg VIII	92.324	10	
Mg VII	87.889	500		Mg	90.165	10	N	Mg V	92.409	10	
Al IX	87.932	100	Q	Na VII	90.173	100		Mg V	92.428	10	
Si VII	88.008	150		Na XI	90.199		P	Si XIV	92.473		P
Mg VIII	88.016	200	Q	Al VI	90.200	1000		Mg VII	92.503	10	Q
Al VII	88.027	515		Be I	90.21		A, Z	Mg V	92.534	10	Q
Na VI	88.038	100		Na VII	90.252	400		Mg V	92.588	10	
Ne VIII	88.092	850		Na VIII	90.252	400		Na VI	92.608	10	Q, Z
Al IX	88.108	100	Q	Na XI	90.318		P	Be II	92.61		A, Z
Ne VIII	88.13	300	P	Mg XI	90.32		P	Si XIV	92.615		P
Na VI	88.143	200		Cl XVII	90.320		P	Al VI	92.626	750	
Al VI	88.170	1000		Mg VII	90.338	100	Q	Al VI	92.636	200	
Na VI	88.223	100		Na XI	90.358		P	Mg V	92.641	10	
Al VI	88.241	10	Q	Mg XI	90.38		P	Si XIV	92.663		P
Na VI	88.246	200		Si V	90.447	200		Mg	92.685	10	N
Na VI	88.270	300		Mg	90.463	10	N	Na VII	92.774	200	
Al VI	88.273	750		Na VI	90.468	300		Na VII	92.809	100	
Be III	88.309	500		Na VIII	90.536	500		Na VII	92.843	100	
Al VI	88.325	100		Al VII	90.547	515		Ne VII	92.850	90	
Na VI	88.340	100		Al VII	90.596	185		Al VI	92.875	500	
Si XIV	88.349		P	Cl XVII	90.624		P	Na VII	92.883	100	
Al VI	88.376	750		Al VII	90.627	185		Mg VII	92.898	200	
Na VI	88.387	10		Al V	90.630	250		Na VII	92.930	200	
Al V	88.425	100		Al V	90.646	100		Mg VII	92.934	200	
Na VI	88.460	100		P VI	90.647	500		Si	92.957	50	N
Al VI	88.469	250		Be I	90.67		A, Z	Mg VI	92.964	100	
Si XIV	88.479		P	Al V	90.701	200		Mg VII	92.964	100	
N VII	88.482		P	Mg VII	90.706	400		Al VI	92.970	250	
Si XIV	88.523		P	Cl XVII	90.729		P	Na VII	92.976	400	
Al V	88.539	400		Na VI	90.746	10		O VI	93.03	100	
N VII	88.546		P	Al VII	90.766	195		Na	93.070	10	N
Na VI	88.583	100	Q	Mg VII	90.815	300		Mg V	93.109	100	
Si XII	88.60			Na VII	90.830	10		Mg VI	93.109	100	
Al V	88.636	100		Si V	90.850	200		Na VIII	93.120	100	
Mg VII	88.680	600		Al VI	90.858	600		Be II	93.14		A, Z
Al V	88.688	200		Mg VI	90.897	600		Na VIII	93.197	10	
Al VI	88.688	100		Mg VII	90.897	600		F VIII	93.238	49	
Na VII	88.698	200		Al V	90.914	200		Na VIII	93.242	200	
Na VII	88.747	300		Al V	90.982			Al VII	93.275	420	
Mg XII	88.760		P	F VI	91.0	60	Q	Al VII	93.298	550	
Al V	88.817	50		Mg	91.013	10	N	Na VIII	93.339	10	
Mg VI	88.827	200		Al	91.023	500	N	Na VII	93.393	400	
Si XII	88.84			Be II	91.06		A, Z	Ar XVIII	93.394		P
Na VII	88.865	400		Na VII	91.064	200		Be II	93.42		A, Z
Na VII	88.914	200		O VII	91.078	30		Na VII	93.434	400	
Mg XII	88.918		P	Al V	91.078	10		P XIV	93.44		P
Al XII	88.93		P	Mg	91.129	10	N	Na VII	93.486	500	
Al V	88.945	1		Na VI	91.268	100		Mg VI	93.493	300	
Mg VI	88.952	100		P XIV	91.29		P	Al VII	93.517	420	
Mg XII	88.971		P	Mg VII	91.302	10	Q	Na VII	93.528	100	
Al XII	89.00		P	Al VI	91.332	500		Al VII	93.535	343	
Ne VII	89.02	130		Be II	91.36		A, Z	Ar XVIII	93.604		P
Mg VI	89.021	10		Si VI	91.370	200		Al V	93.654	20	
Ne VI	89.06	22		Mg IX	91.385	10		Na VIII	93.670	400	
Ne VI	89.10	22		Na VI	91.414	10		Ar XVIII	93.675		P
Be I	89.16		A, Z	Mg VII	91.460	10		Mg VIII	93.720	100	Q
N	89.256	100	N	P VI	91.471	500		Al V	93.755	350	
O VII	89.363	10		Na VI	91.475	10		Al V	93.855	200	
Ne VII	89.368	500		Al VIII	91.487	50		Al V	93.880	70	
F	89.4	100	N	Ne VII	91.564	260		Na VIII	93.898	200	
Mg VII	89.407	200		Mg VII	91.573	100		Mg VIII	93.911	10	
Mg VII	89.448	200		Na VI	91.737	10		O VI	93.915	20	
Mg VII	89.476	10		Be II	91.74		A, Z	Be II	93.93		A, Z
Mg	89.556	10	N	Al V	91.750	50		Al V	93.955	300	

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Mg VIII	93.972	10	Q	Al	95.859	10	N	Na VII	97.790	100	
Al V	93.981	100		Mg V	95.909	100		Be I	97.86		A, Z
Na VII	94.020	10		Ne VII	95.91	27		Na VII	97.907	200	
Mg VII	94.043	400		P XV	95.912		P	F VI	97.95	80	Q
Mg VIII	94.043	400		Na VI	95.933	300		Be I	97.97		A, Z
Al V	94.089	70		Ne VII	95.95	36		Na VII	98.016	100	
Al V	94.117	120		Mg V	95.965	100		Mg VII	98.032	300	
Al V	94.160	100		Al VII	95.975	440		Na VII	98.080	300	
Mg VII	94.174	300		Na	96.018	120	N	Na VIII	98.080	300	
Al V	94.187	100		Mg V	96.019	200		Ne VIII	98.115	850	
Na VI	94.208	100		Mg VII	96.019	200		Be I	98.12		A, ZZ
Mg VII	94.276	200		Si VI	96.022	500		Ne VI	98.13		
Na VII	94.288	600		Al VI	96.071	10		Na VII	98.188	300	
Ne VII	94.29	400		Mg V	96.085	100		Si V	98.211	100	
Al V	94.321	10		Mg VI	96.085	100		Mg V	98.235	100	
Ne VII	94.36	500		P XV	96.106		P	Ne VI	98.26		
Al V	94.394	10		Na VI	96.124	10		Ne VIII	98.260	870	
Ne VII	94.40	400		O VII	96.126	68		Mg V	98.271	200	
F VI	94.45	120	Q	Al V	96.150	20		N VI	98.3		
Na VII	94.468	700		Mg V	96.159	10		Na VI	98.309	20	
Mg X	94.721	100	Q, Z	Mg VI	96.159	100		Be I	98.37		A, ZZ
Be II	94.78		A, Z	P XV	96.171		P	Na VII	98.378	300	
Mg V	94.793	10		Na VI	96.196	100		Na VII	98.394	300	
Na VI	94.827	10		Al VII	96.207	375		Mg V	98.406	100	
Ne VII	94.890	300		Mg VI	96.240	100		Mg V	98.444	100	
Al VII	94.970	150	Q	Mg VI	96.256	200		Mg VI	98.508	300	
Ne VII	94.986	300		Be I	96.29		A, Z	Mg V	98.636	200	
Mg VII	95.027	400		Mg VI	96.303	200		Be I	98.66		A, Z
Al VII	95.076	105		Na VI	96.307	100		F VIII	98.669		P
O VI	95.082	40		Al VII	96.327	227		Al VI	98.684	10	
Mg VII	95.089	10		Mg VI	96.388	100		F VIII	98.698	74	
Mg VII	95.139	100		Al VI	96.442	10		F VIII	98.797	62	
Na VI	95.182	100		Si V	96.442	750		Mg V	98.805	200	
Si XIV	95.188		P	Mg VI	96.467	10		Mg V	98.872	100	
Mg VII	95.233	100		Na VI	96.475	300		Si XIV	98.931		P
Mg VII	95.259	200		Si VI	96.488	500		Be I	98.94		A, Z
Na VI	95.263	100		Na	96.572	10	N	Mg V	98.983	400	
Ne X	95.298		P	Mg VI	96.670	200		Mg VI	98.983	400	
Na VI	95.319	10		Al VI	96.673	50		Mg VII	98.983	400	
Ne VI	95.37	13		Mg VI	96.704	200		Na VI	99.004	10	
Mg VI	95.385	400		Mg VI	96.797	100		Mg V	99.025	200	
Mg VII	95.385	400		O VI	96.840	70		Mg VI	99.025	200	
Ne X	95.390		P	Na VII	96.845	100		F VI	99.044	10	
Al	95.405	10	N	Mg VI	96.857	100		Mg V	99.067	200	
Mg VI	95.421	400		Na VII	96.872	200		Si XIV	99.090		P
Mg VII	95.421	400		Ne VI	96.89	20		N VII	99.093		P
Ne X	95.422		P	Mg VI	96.903	10		Si VI	99.0963	500	
Al VI	95.436	100		Na VII	96.922	300		F VI	99.105	15	
Ne VI	95.44	12		Mg VI	96.939	400		Si XIV	99.144		P
Mg VI	95.483	500		Al	96.939	10	N	Mg V	99.149	10	
Mg VII	95.483	500		Ne VI	96.97	27		N VII	99.171		P
Si XIV	95.502		P	Mg VI	96.973	400		Be I	99.19		A, Z
Na VIII	95.551	200		Ne VI	97.05	23		Al V	99.200	20	
Mg V	95.556	100		O VII	97.076	1		F VI	99.203	10	
Mg VII	95.556	100		Ne VI	97.09	25		Mg V	99.205	1	Q
Al IV	95.56		A, Z	Ne VI	97.11	25		Al V	99.277	10	
P XIV	95.56		P	Si V	97.143	500		Mg VI	99.279	400	
Mg V	95.592	10		Be I	97.24		A, Z	Al V	99.290	100	
Si XIV	95.602		P	Mg VI	97.251	500		Mg VI	99.333	400	
Al VI	95.624	100	Q	F VII	97.261	17		Na VII	99.38		F, P
Mg VI	95.637	300		Mg VI	97.278	500		Na VII	99.421	400	
Mg VII	95.637	300		F VII	97.360	28		Al V	99.425	40	
P XIV	95.66		P	Mg V	97.391	100		Si VI	99.4595	750	
Mg VI	95.675	300		N VI	97.4			N VI	99.5		
Al IV	95.68		A, Z	Mg V	97.439	200		Na VI	99.500	10	
F VII	95.697	10		Be I	97.44		A, Z	Mg V	99.535	100	Q
Al	95.720	200	N	Mg VIII	97.465	200		Al V	99.541	30	
Ne VII	95.75	700		Ne VII	97.502	730		Na VII	99.556	400	
Be II	95.76		A, Z	Mg VIII	97.525	10		Si VI	99.5991	500	
F VII	95.775	100		Mg V	97.563	100		Mg V	99.610	200	
Na	95.796	10	N	Mg V	97.606	200		Al V	99.614	80	
Mg V	95.803	200		Mg VIII	97.606	200		Na VI	99.617	100	
Mg VI	95.803	200		Na VI	97.636	10		Na VI	99.680	100	
Al V	95.835	30		Mg V	97.686	100		Na VII	99.680	100	
Ne VII	95.84	250		Mg VIII	97.686	100		O VI	99.688	110	

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Mg VI	99.713	300		Li III	102.272		P	Al V	104.496	150	
Mg VI	99.738	300		S XVI	102.331		P	Mg VI	104.519	300	
Al V	99.774	10		O VIII	102.355		P	Be III	104.55		F, P
Mg V	99.788	100		O VI	102.37	40		N VI	104.551	1	
Si VI	99.9658	500		Na VII	102.390	100		Mg VI	104.597	500	
Mg	100.196	100	N	S XVI	102.436		P	O VI	104.612	20	
Ne V	100.2			Na VII	102.448	10		O VI	104.669	40	
O VII	100.254			Mg VII	102.471	300		Be I	104.67		A, Z
Je III	100.2552	1000		Be II	102.49		A, Z	Cl XVII	104.748		P
Ne X	100.318		P	O VIII	102.490		P	O VI	104.813	220	
Na VII	100.337	100	Q	Al XIII	102.498		P	Na VII	104.871	200	
Mg VII	100.374	100	Q	Li III	102.515		P	F VIII	104.891	6	
Ne X	100.419		P	Ne VI	102.59	27	Q	Ne VI	104.93	23	
Mg VII	100.421	100	Q	N VI	102.6			Na VII	104.955	300	
Ne X	100.454		P	Al XIII	102.628		P	Cl XVII	104.958		P
Na VI	100.469	200		Al XIII	102.672		P	Al VI	104.960	10	Q
Na VI	100.519	300		Si VI	102.846	50		N VI	105.0		
Mg VIII	100.519	10	Q	Li III	102.856		P	Cl XVII	105.030		P
Mg X	100.545	200	Q	Mg VII	102.906	300	Q	Mg	105.066	500	N
Na VI	100.590	100		Ne VIII	102.911	790		Na VII	105.111	300	
Mg VIII	100.597	200	Q	Na VI	103.002	10		Mg VII	105.159	100	
Al VI	100.616	600		Al VI	103.062	10		Na VII	105.205	200	
Al VI	100.639	100		Na VI	103.078	100		Na VII	105.354	400	
Si VI	100.6403	500		Ne VIII	103.085	830		F VI	105.4	90	Q
Mg VI	100.702	500		Ne VII	103.09			Mg VI	105.410	200	
Na VII	100.718	200		Si VI	103.163	100		C VI	105.413		P
Be I	100.86		A, Z	F VI	103.2	180	Q	C VI	105.463		P
Na V	100.88	10		O VI	103.206	5		Li III	105.468		P
Al VI	100.894	200		Na VI	103.210	200		Mg VI	105.502	300	
Mg VI	100.904	400		O VI	103.260	20		Si XIII	105.630		P
Al VI	100.919	200		Mg V	103.333	10	Z	Na XI	105.676		P
Ne	100.94	35	N	Na VII	103.354	100		Mg VI	105.778	100	Q
Na V	100.945	10		Li III	103.359		P	Be I	105.80		A, Z
Mg V	100.949	10		Na VII	103.400	10		Mg XI	105.83		P
Si VI	100.953	40		Na V	103.482	10		Mg VI	105.830	100	Q
Si VI	100.970	10		Ne VI	103.58	30		Na XI	105.835		P
Al VI	101.027	150		N VI	103.6			Na XI	105.887		P
Si VI	101.159	10		Ne VI	103.65	50		Mg XI	105.92		P
Be I	101.20		A, Z	Ne VI	103.71	23		Ne VII	106.040	300	
Na VII	101.201	10	Q	Mg VII	103.743	10		Na VI	106.040	300	
Ne VI	101.22	25		Na VII	103.779	300		Na VI	106.077	300	
Ar XVIII	101.284		P	Al V	103.805	300		Ne VII	106.086	800	
Mg	101.322	100	N	F VIII	103.810	28	Q	Na VI	106.125	400	
Ne VI	101.34	45		Na VII	103.842	200		Ne VII	106.192	800	
Na VI	101.348	10	Q	Mg VII	103.859	10		Na V	106.278	100	
Mg	101.398	10	N	Al V	103.882	400		Mg III	106.30		A, Z
Ne VI	101.42	27		Na VII	103.891	400		Na V	106.302	100	
N VI	101.46			Mg V	103.904	400		Na	106.345	200	N
Mg VI	101.508	200		Al VI	103.940	300		Na V	106.399	100	
Ar XVIII	101.530		P	Mg V	103.947	300		C VI	106.453		P
Ne VI	101.54	50		Al V	103.992	150		Mg VII	106.453	200	Q
Mg VI	101.556	300		Na VII	104.000	200		Al	106.471	10	N
O VI	101.57	20		Na VII	104.036	220		Na V	106.490	100	
Ar XVIII	101.615		P	Al VI	104.047	1000		C VI	106.504		P
Si X	101.64		Q	Al V	104.072	250		Mg VII	106.524	200	
Mg V	101.671	300		Ne VI	104.09	66		F VI	106.55	120	Q
F VIII	101.689	4		Mg V	104.100	200		Na VI	106.580	10	
Be II	101.7		Z	Al V	104.122	200		F VII	106.7		
Ne VI	101.75	13		Mg V	104.140	200		Na VIII	106.703	10	Q
Mg V	101.782	300		Li III	104.142		P	Mg VII	106.707	100	
Na VII	101.785	300		Ne VI	104.17	45		O VI	106.731	40	
Ne VI	101.80	18		Al V	104.181	250		O VI	106.789	70	
Na VII	101.816	300		Mg V	104.182	100		Mg VII	106.809	10	
Mg V	101.845	100	Q	Mg V	104.214	100		Na VI	107.014	200	
Ne VI	101.87	23		Al	104.227	10	N	Mg III	107.05		A, Z
Mg VII	101.956	200		Ne VI	104.26	37		Na VI	107.061	300	
S XVI	102.027		P	Na	104.314	10	N	Na VII	107.061	300	
Na VIII	102.043	10		Mg	104.342	300	N	O VI	107.081	5	
Mg VII	102.053	10	Q	Al VI	104.344	800		Na VI	107.093	300	
Mg V	102.079	200		Al V	104.362	200		Na VII	107.093	300	
Be I	102.13		A, Z	Be II	104.40		A, Z	Ne VII	107.099	200	
Mg VII	102.138	100		Mg V	104.432	200		N VI	107.15		
Mg VI	102.189	500		Na	104.440	10	N	Na VI	107.158	100	
Na VII	102.226	100		Al V	104.447	100		Na VIII	107.158	100	
Mg VI	102.239	500		Al VI	104.466	400		Si	107.2	50	N

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na VI	107.227	300		Ne VI	109.46	66		F IX	111.255		P
Be I	107.26		A, Z	Al VI	109.514	1000		Ne VI	111.26	45	
Al XIII	107.284		P	Na VII	109.519	200		Mg V	111.261	40	
Na VI	107.288	400		Si	109.54		N	Na VII	111.390	200	
Be I	107.38		A, Z	Ne V	109.57	18		Mg V	111.419	200	
Al XIII	107.425		P	Al V	109.630	2		Mg V	111.467	200	
Al XIII	107.473		P	Al V	109.675	5		Mg V	111.496	200	
Na VI	107.535	300		Al V	109.730	1		Na V	111.512	100	
Na VI	107.553	300		Ne VII	109.75			Na V	111.552	10	
Ne VI	107.60	37		Na VI	109.763	10		Mg VI	111.552	500	
Na VI	107.608	400		Ne VII	109.78	33		Al IV	111.589	150	
Al VI	107.620	700		Ne VII	109.81	33		O VI	111.6		
F VI	107.65	45	Q	Mg V	109.812	200		F VII	111.6	100	
Mg V	107.661	200		Al VI	109.843	600		Si	111.6	50	N
Na VI	107.683	500		Ne VII	109.87	27		Na VI	111.725	100	
Al V	107.711	200		Na VI	109.896	500		Mg VI	111.746	400	
Na VI	107.742	200		Ne VII	109.93	27		Al IV	111.781	50	
Si XI	107.8	50	Q	Al VI	109.974	200		Na VI	111.793	100	
Mg V	107.820	400		Ne VII	109.98	250		Ne VII	111.807	430	
Na V	107.934	200		Mg V	110.029	100		Mg VI	111.864	400	
Na VI	107.934	200		Al V	110.045	5		Na V	111.879	10	
C VI	107.942		P	Na VI	110.085	200		Si XI	111.9	20	Q
Al V	107.948	600		Mg III	110.12		A, Z	Mg VII	111.984	10	
Ne V	107.96	18		Mg V	110.121	10		F VI	112.0	90	Q
C VI	107.994		P	Mg VII	110.121	10		Na V	112.009	300	
Li III	107.999	10	P	Si XIV	110.150		P	Na VI	112.009	300	
Al V	108.005	150		O VI	110.157	70		Na V	112.077	10	
Mg VI	108.015	300		C VI	110.189		P	Mg VII	112.135	10	
Na V	108.017	200		O VI	110.220	110		Na V	112.186	10	
Al V	108.059	300		N VI	110.231	4		Mg VII	112.269	1	
Na VII	108.079	10		C VI	110.243		P	Na V	112.347	10	
Mg III	108.08		A, Z	Si XIV	110.343		P	Si	112.4	50	N
Al V	108.113	300		Ne V	110.36	23		Na VI	112.448	300	
Mg VI	108.114	200		Si XIV	110.408		P	Na	112.526	10	N
Mg VI	108.148	100		Ne V	110.42	23		Na	112.641	10	N
Na VII	108.159	10	Q	Al XIII	110.470		P	Mg IV	112.914	10	
Na VII	108.193	200		Na	110.474	10	N	F VII	112.935	400	
Si XIII	108.28		P	Ne VI	110.49	20	P	Na VI	112.950	400	
Al V	108.316	100		F VII	110.5			F VII	112.976	300	
Mg VI	108.338	100		Ne VII	110.53	200		Na	113.061	100	N
Na VII	108.373	100		N VI	110.541	2		Si X	113.1	50	Q
Al V	108.388	150		Ne VII	110.56	350		Na VI	113.125	400	
Al V	108.406	150		Na	110.577	100	N	Al VIII	113.140	50	Q
Mg VI	108.441	10		Ne VII	110.62	1000		Mg VI	113.189	500	
Al V	108.445	50		Na VII	110.647	200		Mg V	113.217	200	Z
Al V	108.462	200		O VI	110.655	5		Mg V	113.279	10	Q
F VI	108.5	100	Q	Ne VII	110.67	27		Al VI	113.314	50	
Al V	108.530	20		O VI	110.721	20		Mg V	113.414	200	Z
Al IV	108.535	50		Na VI	110.750	200		Al VI	113.437	150	
Na VI	108.555	400		Na VII	110.778	300		Mg V	113.518	100	Z
Al V	108.617	50		Al XIII	110.783		P	Na V	113.574	10	
Na VI	108.678	10		Mg V	110.809	200		Cl XVII	113.601		P
Al V	108.708	200		Na V	110.817	200		Al VI	113.623	50	
Na VII	108.733	200		Na VII	110.817	200		Mg V	113.703	400	
Na VII	108.829	100		Si XIII	110.82		P	Al VI	113.756	50	
Al V	108.849	30		Mg V	110.859	400		F IX	113.780		P
Ne V	108.89	13		Na V	110.878	200		Mg V	113.823	100	Z
Al IV	108.907	50		Al XIII	110.882		P	F VI	113.840	10	
Al V	108.941	10		Na V	110.921	10		C VI	113.842		P
F VI	108.975	100		Mg V	110.939	200		Cl XVII	113.848		P
Al V	109.024	100		F V	110.95	25	Q	Ne V	113.86	30	
Ne VI	109.03	20		Si XIII	110.957	100	Q	F IX	113.867		P
F VI	109.040	150		Mg V	111.031	300		F IX	113.898		P
Ne VI	109.07	20		Mg V	111.091	300		C VI	113.899		P
Mg V	109.174	10		Ne VI	111.10	200		Li III	113.905	30	P
Ne X	109.178		P	F IX	111.143		P	Cl XVII	113.932		P
O VI	109.27	40	ZZ	Ne VII	111.152	220		Mg V	113.934	300	
Na X	109.28		P	Ne VI	111.16	500		Ne VI	113.95	10	P
Al VI	109.284	350		Mg VI	111.160	300		Na V	113.952	10	Q
Ne X	109.297		P	Al IV	111.196	100		Mg V	113.990	300	
Ne VI	109.31	30		Mg V	111.199	400		Mg V	114.029	200	
Ne X	109.338		P	Mg VI	111.199	400		Mg V	114.059	400	
Na X	109.36		P	Na VII	111.211	300		Ne VI	114.07	60	
Na VII	109.362	100		F IX	111.226		P	Ne VI	114.13	100	
Mg	109.420	100	N	Mg V	111.247	200		Mg V	114.199	300	

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F VII	114.2			F IX	117.777		P	C VI	120.528		P
O V	114.225	5	Z	F IX	117.809		P	Si	120.7	20	N
Mg V	114.226	300		Si V	117.853	1000		Na VI	120.931	300	
Ne VI	114.24	200		Na V	117.876	10		Na VI	120.973	200	
O VI	114.25	50	ZZ	Mg IX	117.880	10	Q	Na VI	121.004	100	
Mg V	114.285	300		Na VIII	117.909	10		Mg VI	121.025	500	
O V	114.295	5	Z	Na V	117.990	400		Ne VI	121.05	80	
Ne VI	114.30	45		O V	118.000	40		Si	121.1	20	N
Al IV	114.313	10		Mg V	118.083	500		Ne VI	121.10	100	
Mg V	114.324	300		Mg IV	118.164	90		Ne VI	121.15	100	
Mg III	114.34		A, Z	Si	118.2	20	N	Ne VI	121.19		
O V	114.358	5		S XVI	118.298		P	Na V	121.263	10	
Mg VI	114.412	10		Mg IV	118.424	100		Mg VI	121.290	300	
Mg V	114.498	10	Q	Mg IV	118.476	55		Mg IV	121.542	100	
Mg VI	114.624	10		Mg IV	118.487	60		Mg V	121.644	600	
Na VI	114.666	400		Al V	118.497	250		Ne VI	121.65	40	
Na V	114.700	100		Na VI	118.500	10		Na VI	121.773	400	
Mg VI	114.725	10		S XVI	118.507		P	Ne VII	121.774	260	
Al IV	114.737	50		S XVI	118.579		P	N VI	121.820	1	
Na V	114.738	100		Na VI	118.585	10		Mg IV	121.873	20	
Al XIII	114.778		P	F V	118.6	25	Q	Si XI	121.9	50	Q
Mg V	114.785	600		Mg V	118.603	100		Na VI	121.913	320	
Ar XVIII	114.848		P	Mg IV	118.737	80		Mg V	121.922	500	
Si X	114.9	20	Q	Ne V	118.74	12		Na VI	122.018	300	
Al XIII	114.937		P	Mg IV	118.792	80		Na VII	122.018	300	
Al XIII	114.990		P	Ne V	118.8	50		Mg V	122.034	400	
Mg V	115.013	600		Mg IV	118.810	160		F V	122.042	10	
Mg V	115.093	400		Mg V	118.810	500		O V	122.088	5	
Ar XVIII	115.165		P	Na VII	118.840	10		F VI	122.122	100	
Ar XVIII	115.274		P	Ne V	118.89	37		O V	122.133	40	
Ne VII	115.331	600		Na VII	118.902	10		F VI	122.169	10	
Na VII	115.361	10		Mg V	118.914	10	Q	Na VI	122.199	5	Q
Ne VII	115.392	600		Si V	118.961	1000		F VI	122.200	200	
Mg V	115.399	400		Al V	118.983	200		F VI	122.251	15	
Na VII	115.475	10		Ne V	119.01	66		Na VII	122.252	100	
Ne VII	115.522	700		Na VII	119.014	100		Na	122.330	10	N
Mg V	115.537	400		Na VII	119.100	10		O V	122.383	70	
Si	115.6	20	N	O V	119.102	70		N VI	122.445	5	
Na VI	115.729	200		F	119.2	65	N	Ne VI	122.49	200	
Na VI	115.780	10		Na VI	119.204	10		Si	122.5	50	N
O VI	115.822	360		Na VII	119.204	10		Ne V	122.52	200	
O VI	115.830	285		Si	119.4	20	N	Ar VIII	122.62	10	
Ne VII	115.955	330		Mg V	119.401	400		Ne VI	122.69	100	
F VI	116.094	10		Na VI	119.415	5	Q	Ar VIII	123.03	50	
O V	116.161	20		Mg V	119.447	400	Q	F VI	123.051	10	
P XV	116.214		P	Na VI	119.684	300		F VI	123.090	10	
Ne VII	116.27	66		Si XII	119.71		P	Si	123.1	50	N
O VI	116.350	160		Si XI	119.8	20	Q	Na VI	123.134	400	
O VI	116.421	220		Ne VI	119.92	100	Q	Mg IV	123.169	40	
Al IV	116.464	250		Mg V	119.978	10	Q	F VI	123.175	100	
P XV	116.487		P	F V	119.986	10		Mg IV	123.266	160	
P XV	116.576		P	F V	120.032	15		Mg IV	123.367	120	
Ne VI	116.58	100		Na V	120.040	100	Q	Mg IV	123.377	80	
O VI	116.666	5	F	Mg IV	120.086	10		Mg IV	123.401	60	
Ne VII	116.693	770		Ar VIII	120.09	100		Mg IV	123.417	140	
N VI	116.809	6		F VI	120.116	100		Si	123.5	50	N
Al IV	116.921	150		Ar VIII	120.16	50		Mg IV	123.508	100	
Mg VI	116.968	500		Ne VII	120.192	500		Mg IV	123.567	100	
O V	117.063	20		Na	120.220	100	N	Mg IV	123.590	140	
F V	117.1	140	Q, Z	Ne VII	120.274	44	P	Mg VI	123.590	100	
O V	117.181	30	Z	Mg VI	120.283	100		Al XII	123.610		P
Mg VI	117.226	300		Na	120.298	100	N	Mg IV	123.613	10	
Ne V	117.23	27		Si	120.3	20	N	F V	123.665	10	
Ne V	117.27	27		Mg XII	120.330		P	Mg IV	123.708	40	
O VI	117.327	20		O VII	120.331	220		Ne V	123.71	30	
Al IV	117.370	10	P	Ne VII	120.337	700		Mg IV	123.722	80	
F VI	117.4	115	Q	Ne VII	120.348	44	P	Na VI	123.744	400	
O VI	117.401	5		Na VI	120.355	10	Q	Mg IV	123.761	40	
Ne VI	117.48	27		Mg VI	120.415	10		F V	123.774	100	
Na VI	117.491	400		Ne VII	120.419	44	P	Na VI	123.868	300	
Mg VI	117.527	100		Na	120.430	10	N	F IX	123.885		P
Na VI	117.609	300		Mg XII	120.460		P	Mg IV	123.910	10	
F IX	117.685		P	C VI	120.464		P	Na VI	123.929	500	
Na VI	117.699	300		Ne VII	120.487	500		Mg IV	123.958	20	
Na V	117.703	10		Mg XII	120.504		P	Na VI	123.970	200	

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F IX	123.987		P	Ne	126.91	35	N	Al XII	130.06		P
F IX	124.021		P	Na V	126.920	10		Mg IV	130.086	200	
Al IV	124.030	400		F VI	126.923	500		Mg IV	130.118	180	
Na VI	124.059	400		Al XII	126.93		P	Mg XII	130.141		P
Ar XVIII	124.078		P	Mg IV	126.960	40		Al XII	130.21		P
Na VI	124.153	400		Na V	126.985	10		Mg IV	130.246	140	
Ne V	124.33	23		Mg IV	127.013	60		O	130.25	140	N
F VI	124.387	300		Na V	127.036	10		Ne VI	130.26	110	
Mg IV	124.417	120		Mg IV	127.161	20		Mg VI	130.294	200	
F VI	124.440	10		Mg IV	127.375	20		Mg IV	130.295	180	
F VI	124.474	10		Na V	127.444	400		N VI	130.340	25	
Mg IV	124.527	60		Na V	127.473	400		Mg IV	130.344	180	
Na VII	124.532	10		Si XI	127.6	20	Q	Mg IV	130.354	180	
Mg IV	124.541	140		F VII	127.653	400		Al IV	130.39		
Al IV	124.550	300		Ne VII	127.663	710		Ne VI	130.40	100	
O V	124.618	160		F VII	127.796	500		Al V	130.411	800	
Mg IV	124.640	100		Al XIII	127.798		P	N V	130.431	40	
Mg IV	124.652	160		Na VI	127.837	400		Mg IV	130.537	60	
Ar XVIII	124.677		P	Ne VI	127.84	50		Ne V	130.61	18	
Mg IV	124.763	100		Ne X	127.918		P	Mg IV	130.624	80	
Ne VI	124.77	23		Na	127.953	100	N	Mg VI	130.630	100	
Na VI	124.850	10		Al XIII	127.991		P	Ne V	130.68	16	
Ar XVIII	124.862		P	Si XI	128.0	20	Q	Na V	130.680	200	
Mg IV	124.872	120		Na V	128.025	400		Mg IV	130.700	20	
Mg IV	124.987	120		Na X	128.05		P	Mg VI	130.701	10	
Mg IV	124.999	100		Na V	128.051	400		Na V	130.723	100	
Ne VI	125.12	66		Al XIII	128.055		P	Ne V	130.74	30	
Na V	125.178	400		Ne VI	128.07	45		Ne V	130.77	16	
Mg VI	125.206	300		Ne X	128.076		P	Al V	130.847	1000	
Na V	125.216	400		Na	128.112	300	N	O	130.85	60	N
Na V	125.286	500		Ne X	128.129		P	Al V	131.002	900	
Na VI	125.383	10		Na X	128.16		P	N V	131.254	50	
F V	125.4	70	Q	O VII	128.18		P	Na V	131.345	300	
Si	125.4	20	N	Ne VI	128.18			Ne VI	131.36	54	
Na V	125.428	300		N V	128.229	1		Na V	131.413	200	
Mg VI	125.459	300		O V	128.246	20		Al V	131.438	900	
Na V	125.461	300		S XVI	128.300		P	Si XII	131.46		
Mg IV	125.462	100		O V	128.302	40		F V	131.516	10	
Li II	125.5		Z	O VII	128.412	150		Na V	131.635	300	
Al V	125.529	900		N V	128.430	1		F V	131.638	10	
Mg V	125.600	400		O V	128.445	5	Z	Si XII	131.64	50	
Mg VI	125.600	400		O VII	128.500	200		Al IV	131.647	150	
Mg IV	125.813	80		S XVI	128.546		P	O V	131.738	20	
Ne V	125.82	37		S XVI	128.631		P	O V	131.758	40	
Na V	125.899	200		N V	128.662	10		O V	131.812	70	
Ne V	125.9	20		Ne V	128.79	10		Ne V	131.99	45	
Mg XII	125.950		P	O V	128.817	1	Z	Si X	132.03		
Si X	126.0	20	Q	Cl XVII	128.823		P	Ne V	132.04	50	
Al V	126.068	800		N V	128.954	10		Si XI	132.08		
O V	126.082	5		Ne V	129.03	50		Ne V	132.11	18	
Na V	126.090	10		Na VI	129.040	200		Mg IV	132.123	100	
Mg XII	126.091		P	Cl XVII	129.140		P	Mg V	132.171	600	
O V	126.135	20		Cl XVII	129.248		P	F V	132.207	10	
Mg XII	126.139		P	Si XI	129.28			Na IV	132.211	10	
Na V	126.210	100		N V	129.337	20		O VI	132.219	110	
Mg V	126.280	400		Ne VI	129.36	50	Q	F V	132.310	100	
Na V	126.368	10		Si X	129.4	50	Q	O VI	132.312	160	
Mg VI	126.450	100		Na IV	129.464	10		N V	132.383	60	
Na V	126.458	10		F VI	129.5	150	Q	F V	132.389	10	Q
Mg VI	126.488	100		Ne VI	129.61		F, P	Al V	132.407	1	
Mg III	126.49		A, Z	Mg IV	129.711	100		F V	132.453	200	
Si XII	126.50		P	Mg XII	129.729		P	Na IV	132.465	10	
Ne VI	126.53	80	Q	Al IV	129.730	700		F V	132.484	300	
Mg V	126.544	200		O VI	129.785	450		Mg V	132.485	500	
Na V	126.557	200		N V	129.811	30		Mg IV	132.509	60	
Mg IV	126.602	20		Ne VI	129.83		F, P	F V	132.511	300	
Na V	126.608	100		Mg IV	129.857	320		Mg V	132.623	300	
Mg V	126.677	10		O VI	129.871	550		Al V	132.626	500	
Ne VI	126.73	35	Q	Ne VI	129.88		F, P	F V	132.699	100	
Si XII	126.77	50	P	Si XII	129.89	50		Na IV	132.740	10	
Na V	126.779	10		Na V	129.942	100		O VII	132.777	5	P
Na VII	126.779	10		Mg IV	129.966	220		O V	132.797	40	
Mg IV	126.799	80		Mg IV	129.975	180		Mg IV	132.814	400	
Na V	126.814	100		Si XII	130.02	20		F V	132.819	200	
Na VII	126.814	100		Mg XII	130.041		P	O V	132.845	70	

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O VII	132.874	8	P	Ne V	135.86	24		O V	140.030	1	
O V	132.875	20		Mg V	135.953	100		O V	140.052	5	
Al V	133.010	200		Ne VI	136.09	40	Q	O V	140.115	20	
F V	133.052	10		Mg V	136.128	10		Mg IV	140.119	200	
Cl VII	133.11			Ne V	136.21	20		Ne IV	140.13	15	
Na V	133.162	500		Ne VI	136.21	150		Na V	140.171	10	
Mg IV	133.197	180		Al V	136.249	50		Mg IV	140.173	340	
F V	133.208	100		Ne VI	136.28	110		Na IV	140.1811	40	
Al V	133.233	50		Ne VI	136.34	350		Na V	140.258	10	
Si XI	133.29			N V	136.429	80		F V	140.266	10	
C VII	133.31	110		Na IV	136.4295	40		Na IV	140.274	5	
O V	133.316	5		Ne VI	136.45	150		N V	140.356	160	
O V	133.335	20		Ne VI	136.48	150		N V	140.358		P
Na V	133.388	400		Li II	136.5		Z	F V	140.414	100	
O V	133.389	40		Na IV	136.5513	70		Mg IV	140.425	200	
Si XIV	133.473		P	N VI	136.604	2		Mg IV	140.474	220	
Ne VI	133.51	55		Na IV	136.6359	40		Li II	140.5		Z
O V	133.522	110		Al V	136.668	100		Mg IV	140.523	220	
O V	133.549	5		Na IV	136.7540	40		Mg IV	140.558	220	
O V	133.574	5		Na IV	136.8547	70		Si	140.7	50	N
F V	133.599	110		Si X	136.86			Ne V	140.72	50	
Ne VII	133.64	150		F V	136.902	300		Ne V	140.76	150	
F V	133.662	100		F V	136.955	10		F IV	140.781	1	Z
N VII	133.740		P	Na IV	137.0573	70		Ne V	140.79	150	
Si XIV	133.746		P	Na IV	137.1429	40		F IV	140.816	1	Z
Na VI	133.825	200		Mg V	137.234	600		Na VI	140.833	200	
Si XIV	133.835		P	Mg V	137.414	800		Mg IV	140.867	220	
N VII	133.874		P	O VI	137.43	80	ZZ	Mg IV	140.915	160	
N V	133.994	70		Mg	137.509	10	N	Ne VI	140.96	50	
Na VI	134.021	100		O VII	137.51	80		Mg IV	140.964	220	
Ne VII	134.12	44		Na VI	137.589	10		Na VI	141.040	10	
Na VI	134.135	10		Na IV	137.7117	110		F VI	141.154	200	
Na V	134.183	10		Mg V	137.748	700		C V	141.27		P
O V	134.205	5	Z	Mg V	137.814	10		Ne VII	141.29	30	
Na V	134.272	200		Mg V	137.880	600		Ne V	141.45	27	
O V	134.3	30	ZZ	Ar VIII	137.93	150		Si XI	141.5	50	Q
Ne	134.31	30	N	Na IV	137.9415	110		O V	142.122	5	
F V	134.407	400		Mg IV	137.966	120		Na IV	142.2315	110	
Si XI	134.47			O V	138.025	70		Na V	142.232	200	
O V	134.473	20		O V	138.051	110		Na IV	142.3593	160	
Ne V	134.48	27	Q	O V	138.110	160		Na V	142.415	10	
Na VI	134.532	300		F V	138.181	100		F V	142.422	100	Q
F V	134.539	500		C V	138.2		P	Ne V	142.44	37	
P XV	134.668		P	F V	138.256	10		Ne VI	142.44		
F VII	134.703	100		Mg IV	138.261	200		Ne V	142.48	27	
Si XI	134.74			Ne VI	138.39	30		Ne VI	142.52		
Mg XII	134.749		P	Mg IV	138.392	160		Ne V	142.58	18	
F IX	134.830		P	Ar VIII	138.44	250		Ne V	142.66	10	
Ne V	134.84	27		Ne VI	138.55	27		Na IV	142.6851	110	
P XV	134.868		P	Na	138.628	200	N	Ne V	142.72	50	
F VII	134.882	200		Ne VI	138.63	30		Ar XVIII	142.729		P
Mg XII	134.908		P	Mg IV	138.689	160		N V	142.797	1	
Ne IX	134.91		P	Na VI	138.693	200		Ne IV	142.93	15	
C VI	134.912		P	Si XI	138.72	50		Mg V	142.933	600	
P XV	134.935		P	Na V	138.812	200		N V	142.981	1	
F IX	134.949		P	Na V	138.917	300		Si X	143.03		Q
Mg XII	134.962		P	Mg IV	138.935	20		Ar XVIII	143.219		P
F IX	134.989		P	Na VI	138.970	25	Q	Ne V	143.22	50	
C VI	134.990		P	O V	139.028	220		N V	143.241	10	
Li III	134.996	65	P	Si XI	139.03			Na XI	143.243		P
Li III	135.001	35	P	Mg IV	139.117	20		Ne V	143.27	100	
Ne IX	135.02		P	Cl XVII	139.219		P	Ne V	143.34	150	
O V	135.175	5		Ne VI	139.31	27	Q	Na XI	143.372		P
Al X	135.231	10	Q	Si	139.4	50	N	Ar XVIII	143.387		P
F VI	135.397	300		C V	139.5		P	Ne V	143.41	36	
O V	135.523	220		Mg	139.705	10	N	Na XI	143.417		P
Al X	135.620	50	Q	F VI	139.758	500		Ne VI	143.52	30	
F V	135.621	1		F VI	139.800	600		N V	143.520	10	
Mg V	135.638	200		Cl XVII	139.817		P	F V	143.897	100	
Ne V	135.66	14		Na IV	139.867	200		Si XI	143.90		
F V	135.692	10		Na VII	139.867	200		N V	143.914	20	
Ne V	135.73	22		F VI	139.900	700		C V	143.94		
Na V	135.791	300		Na IV	139.9613	70		F V	143.965	15	
O VII	135.820	48		Mg IV	139.989	140		Ne V	144.01	45	
Na V	135.854	300		Cl XVII	140.002		P	Ne IV	144.02	10	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O VIII	144.039		P	N V	147.424	240		C V	150.55		P
O VIII	144.126		P	Ne VI	147.47	27		Si	150.6	50	N
Ne IV	144.15	10		Mg IV	147.497	80		Na IV	150.642	220	
O VIII	144.156		P	Mg IV	147.535	340		Na IV	150.6867	285	
Ne IV	144.28	5		Ne VI	147.58	80		Al XI	150.69		P
Na V	144.330	200		Si XI	147.60	100		Na IV	150.7097	110	
N V	144.392	30		Mg IV	147.629	160		Mg XI	150.83		P
Na V	144.546	200		Mg IV	147.749	220		Ne IV	150.93	5	
F V	144.637	100		Ne VI	147.78	50		Na IV	150.9424	110	
Na V	144.661	100		Si VI	147.8	50	Q	Na IV	150.9667	160	
F V	144.673	90		Mg IV	147.884	180		Na V	150.968	200	
Ne VI	144.71	27		Na V	147.897	200		F IV	150.977	100	
O V	144.734	5		F V	147.946	400		F IV	151.005	100	
Si XI	144.76	50		Mg IV	147.981	20		Na IV	151.0503	160	
O V	144.809	40		F V	148.002	500		F IV	151.079	1	
O V	144.837	70		F V	148.108	100		Si	151.1	50	N
Ne VI	144.88	45		N V	148.116	40		Na V	151.127	400	
N V	144.978	40		Mg IV	148.117	200		Na V	151.188	100	
Na IV	144.9794	70		Ne V	148.15	18		Ne V	151.23	66	
F V	145.177	100		Si XII	148.15			Na IV	151.2994	220	
O	145.203	1	N	N V	148.168	70		Na V	151.303	100	
Na IV	145.2046	5		O V	148.218	5	Q	Ne V	151.42	120	
Na IV	145.300	5		N V	148.328	10		O V	151.4470	160	P
F V	145.392	200		C V	148.35			Ne IV	151.46		
F VI	145.462	100		N V	148.387	40		O V	151.4772	200	P
Mg V	145.485	500		C V	148.5		P	O V	151.4782	100	P
F VI	145.489	100		Si XI	148.6	50	Q	O V	151.5465	250	P
S XVI	145.499		P	Na V	148.642	400		O V	151.5476	100	
F V	145.547	300		F VI	148.653	400		Si	151.7	50	N
F VI	145.585	100		Ne IV	148.66	5		Ar VII	151.70	50	
F VI	145.630	100		Ar VIII	148.73	100		Mg	151.808	10	N
O	145.677	5	N	Ne V	148.78	15		Ne IV	151.82	75	
F VI	145.691	300		Ne IV	148.79	15		B V	151.823		P
N V	145.742	50		Na V	148.856	300		Ar XI	151.86		
O VI	145.78	130	ZZ	Mg IV	148.904	20		B V	151.872		P
S XVI	145.816		P	Ne IV	148.94	20		Ar VII	151.88	100	
Na IV	145.8426	40		Mg IV	148.959	60		Mg V	152.019	10	
S XVI	145.924		P	O VIII	148.982		P	F V	152.035	50	
O VI	145.95		Q, ZZ	Na V	149.001	200		Mg V	152.149	300	
Na IV	146.0644	285		Mg IV	149.025	40		F V	152.174	50	
P XV	146.069		P	O V	149.038	5		Ne IV	152.23	75	
Mg V	146.083	600		O VIII	149.075		P	Ar VII	152.26	150	
Si XI	146.2	100	Q	O V	149.076	70		O IV	152.266	5	Z
Ne IV	146.26	10		O VIII	149.107		P	F V	152.339	200	
P XV	146.301		P	Ar VIII	149.33	150		O IV	152.346	20	Z
Na IV	146.3015	220		Cl VII	149.37			Mg V	152.384	100	
O V	146.347	40		Si X	149.4	50	Q	F V	152.391	300	
P XV	146.378		P	Mg IV	149.400	40		Si	152.4	50	N
Na VI	146.398	10		Cl VII	149.43			F V	152.511	400	
Na IV	146.3991	160		Na VI	149.442	10		Mg V	152.527	100	
Mg V	146.464	500		Mg IV	149.456	20		F V	152.563	200	
Mg IV	146.526	220		Mg V	149.49		P	Mg V	152.591	10	
F VI	146.576	200		Ne IV	149.59	10		F IV	152.997	1	
Mg XI	146.58		P	Ne V	149.60	18		O IV	153.086	1	Q, Z
F VI	146.613	300		Na VI	149.621	10		Si	153.1	50	N
Mg V	146.621	400		Mg V	149.89		P	F IV	153.102	10	
F VI	146.676	400		Ar XII	149.93		P	N V	153.136	180	
N V	146.716	30		Na XI	149.935		P	F IV	153.141	10	
F VI	146.718	200		Mg XII	150.039		P	O IV	153.151	20	Z
N V	146.767	60		Na XI	150.075		P	N V	153.192	280	
Mg IV	146.837	200		O VI	150.089	750		B V	153.321		P
Ne V	146.86	18		N V	150.116	70		B V	153.372		P
O V	146.920	1		Na XI	150.123		P	C V	153.53		
N V	146.921	30		O VI	150.124	650		N V	153.624	30	
Mg IV	146.954	400		N V	150.171	140		Ar XII	153.63		
Mg IV	147.006	220		Mg XII	150.232		P	F VI	153.678	200	
Mg IV	147.052	220		Mg XII	150.296		P	N V	153.683	60	
C V	147.1		P	Na IV	150.2981	360		F VI	153.741	300	
Si XI	147.1	50	Q	Al XI	150.31			Na IV	153.8432	40	
Ne V	147.13	150		F IV	150.335	10		F VI	153.880	400	
Mg IV	147.254	220		F IV	150.422	10		O V	153.952	110	
O V	147.263	110		N V	150.429	20		Ar XII	154.43		
Mg IV	147.321	200		Na IV	150.459	5		Na XI	154.475		P
Ne VI	147.33	18		N V	150.488	50		Ne IV	154.49	25	
Mg IV	147.406	360		Na IV	150.5427	220		Ne V	154.50	45	

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F VI	154.506	300		S XVI	158.067		P	F VI	161.257	100	
O IV	154.590	1	Z	Ne IX	158.07		P	N IV	161.286	2	Z
Si XIV	154.644		P	N V	158.088	360		Si XI	161.3	20	Q
Al XI	154.66			Si	158.1	50	N	F VI	161.308	300	
O IV	154.681	5	Z	Ne IV	158.11	10		F VI	161.341	90	
Mg XI	154.77		P	F IX	158.136		P	F VI	161.414	100	
Na XI	154.787		P	F IX	158.189		P	F VI	161.477	120	
Si XIV	154.844		P	Ne IX	158.22		P	Ar XIII	161.61		
Al XIII	154.866		P	Na VI	158.225	5		Mg III	161.655	50	
Na XI	154.886		P	C V	158.374		P	Al IV	161.688	700	
Si XIV	154.911		P	F IV	158.398	10		Si X	162.0	20	Q
Mg XI	154.95		P	C V	158.47			F V	162.013	200	
Na IV	155.0826	220		Si XI	158.47	20	P	F V	162.053	300	
Al XIII	155.139		P	Na VI	158.517	5		F V	162.082	300	
Al XIII	155.228		P	Mg III	158.522	20		F V	162.121	200	
Na IV	155.2398	220		F IV	158.537	400		Ne V	162.15	15	
Si	155.26		N	F V	158.537	400		F V	162.172	300	
Cl VII	155.32			Si IV	158.567	5	Z	F V	162.215	300	
Na IV	155.3486	110		Ne V	158.59	30		F V	162.270	400	
Na IV	155.368	5		F IV	158.601	100		N IV	162.374	2	Z
Na IV	155.4477	220		O IV	158.606	20	Z	Si	162.4	20	N
Na IV	155.4600	40		Ne IV	158.65	75		N IV	162.423	10	Z
B V	155.466		P	Na II	158.67		A, Z	Na IV	162.4479	650	
Li II	155.5			B V	158.703		P	O V	162.492	160	
Na IV	155.5104	285		Ne V	158.72	25		Ne	162.52	27	N
B V	155.517		P	B V	158.757		P	N V	162.556	480	
Na IV	155.6197	160		O V	158.792	20		N IV	162.816	1	
F IV	155.624	10	Z	O V	158.818	40		Cl XI	162.83		
F IV	155.673	10	Z	Ne IV	158.82	75		Ar XIII	162.96		
Na IV	155.6872	160		Ne V	158.82	23		F VI	163.138	200	
Na IV	155.7129	110		O V	158.858	5		Na IV	163.1895	450	
Na IV	155.7762	220		N V	159.862	40		Ar XII	163.23		
Cl VII	155.78			O V	158.899	20		Na IV	163.274	5	
Na IV	155.8276	110		Ar VIII	159.92	400		N IV	163.311	1	
O IV	155.911	5	Z	F IV	158.925	100		Na IV	163.343	5	
O V	156.119	20		O V	158.926	70		Si VII	163.4	50	Q
Ne V	156.14	18		N V	158.928	70		Si X	163.40		
O V	156.152	40		Ar XIII	159.08			F V	163.456	300	
Ne V	156.20	18		Ar VIII	159.18	250		F V	163.501	400	
O V	156.227	70		O IV	159.197	1	Z	F V	163.558	500	
C V	156.233	4		Mg III	159.198	20		Ne IV	163.56	60	
F VI	156.247	600		Si X	159.3	50	Q	Mg III	163.562	20	
Ne IV	156.48	25		O V	159.327	70		F V	163.596	200	
Na IV	156.5084	160		O V	159.343	110		Ne IV	163.60	10	
Na IV	156.5374	285		N IV	159.366	1	Z	Na V	163.616	300	
Si	156.6		N	O V	159.380	160		Na V	163.662	5	Q
Ne V	156.61	20		O V	159.411	40		Si X	163.67		
Na IV	156.7635	110		F V	159.558	1		Na IV	163.8396	360	
Na IV	156.7798	160		Si X	159.6	50	Q	O V	163.85	125	Q
O VIII	156.834		P	F V	159.658	10		Na V	163.930	200	
Ne IV	156.87	15		Mg III	159.741	40		N IV	163.949	10	
Na II	156.88		A, Z	Ne VI	159.82	30		B V	163.965		
Na IV	156.8800	220		N IV	159.833	1	Z	N IV	163.972	2	Z
O VIII	156.935		P	O V	160.0	1		F VI	164.015	100	
O VIII	156.970		P	Ne VI	160.3	18		Ne V	164.02	100	
Na V	157.036	200		O V	160.059	5		B V	164.022		P
Na IV	157.0841	285		Al IV	160.074	800		N IV	164.048	50	Z
C V	157.2		P	Cl XVII	160.116		P	Mg III	164.133	10	
Na V	157.209	300		O V	160.132	5		Ne V	164.15	100	
S XVI	157.285		P	Mg IV	160.228	280		O V	164.174	70	
Na V	157.511	200		Na XI	160.412		P	Ne V	164.29	80	
F V	157.515	100		N IV	160.451	1	Z	Mg III	164.394	80	
Na II	157.55		A, Z	Ne IV	160.47	50		Si X	164.42		
Na IV	157.5948	110		C V	160.53		P	Ne V	164.43	18	
Ne IV	157.63	25		Na XI	160.571		P	Ne V	164.48	18	
Si	157.7		N	Si XI	160.6	50	Q	Cl X	164.5		
Mg III	157.701	10		Cl XVII	160.606		P	Ar XII	164.51		
Na IV	157.7792	285		Na XI	160.624		P	O V	164.573	160	
Ne IV	157.78	15		Na II	160.66		A, Z	O V	164.588	110	
Ne IV	157.86	10		Cl XVII	160.774		P	F IV	164.612	200	
S XVI	157.882		P	Mg IV	160.802	220		O V	164.625	70	
F IX	157.979		P	Mg III	161.108	50		O V	164.656	220	
Mg III	157.981	10		F VI	161.174	120		Si X	164.69		
N V	158.024	240		N VI	161.223	14		O V	164.708	160	
Ne IV	158.06	25		N IV	161.256	2	Z	N IV	164.794	30	

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Ar XIII	164.82		P	N V	168.587	120		C V	173.281	10	
Na IV	164.8412	360		Ne V	168.60	14		Ne X	173.369		P
Si X	164.9	50		Ne V	168.73	40		Ne X	173.498		P
Na II	164.92		A, Z	Ne VI	168.73	40		B V	173.504		P
Ne VI	164.93	18		Li II	168.74			Ne X	173.542		P
Mg III	164.949	80		O V	168.759	20		B V	173.568		P
O V	164.986	70		Ne VI	168.85	27		F V	173.656	10	
Si XI	165.12			Na VIII	168.964	35	Q	F V	173.714	10	
Mg III	165.192	10		Si XI	169.0	50	Q	O IV	173.799	5	
O V	165.218	1		Ar XII	169.00			O IV	173.852	20	
O V	165.349	5		Mg III	169.1406	70		N VI	173.871	20	P
F IV	165.350	10		F IV	169.166	200	Z	O IV	173.916	40	
F IV	165.479	1		O IV	169.474	1		Ne V	173.93	500	
Ar X	165.53	400		F IV	169.481	100		N VI	173.958	30	P
P XV	165.680		P	F IV	169.502	100		O IV	173.969	5	
Si	165.7	50	N	O IV	169.582	5		Na IV	174.0047	160	
C V	165.91		P	F IV	169.610	100		Cl VII	174.04	150	
N IV	165.945	50		F IV	169.661	200		O IV	174.105	20	
P XV	165.970		P	Si	169.7	50	N	Ne IV	174.12		
F V	165.983	900		Mg III	169.7411	60		Cl XII	174.21		
Ne V	166.05	30		F IV	169.748	200		O IV	174.221	40	
P XV	166.065		P	F IV	169.790	300		Ne IV	174.30	15	
Cl XI	166.07			F IV	169.839	300		F V	174.49	300	
O V	166.112	70		N IV	170.074	200		F V	174.513	300	
O V	166.150	110		Si VII	170.13		Q	O V	174.560	40	
F V	166.177	1000		F IV	170.187	200		F V	174.568	300	
Si	166.2	50	N	N IV	170.208	50	Z	Cl VII	174.60	200	
O V	166.234	160		Mg X	170.21			N IV	174.602	200	
N IV	166.337	10	Z	O V	170.218	220		F V	174.698	400	
Na VI	166.367	40	Q	N IV	170.249	100	Z	Si	174.7	50	N
N IV	166.377	20	Z	N IV	170.463	50	Z	Ne IV	174.88	50	
Li II	166.39			Si	170.5	50	N	Ne IV	174.92	40	
F IV	166.444	200		N IV	170.505	100	Z	Si	175.0	100	N
N IV	166.496	20	Z	Ar X	170.63	200		F IV	175.033	10	
F IV	166.499	200		Na V	170.631	100		F IV	175.132	1	
N IV	166.540	75	Z	O VIII	170.692		P	Ne V	175.48	18	
Cl XI	166.63			F VIII	170.76		P	Na IV	175.4964	160	Z
O IV	166.741	1		Mg III	170.8050	150		C V	175.67		
N V	166.875	440		O VIII	170.810		P	Cl XII	175.71		
N V	166.946	520		F VIII	170.84		P	Na IV	175.7965	40	Z
N IV	167.074		P	O IV	170.847	1	Z	Si	175.8	50	N
O IV	167.115	1	Z	O VIII	170.851		P	Na IV	175.930	5	Z
O IV	167.145	5	Z	Na V	170.923	100		Ne IV	176.01	250	
Si	167.2	50	N	O IV	170.935	5	Z	F IV	176.367	400	
C V	167.218		P	O IV	170.988	20	Z	Si X	176.4	50	Q
Li II	167.27			F IV	171.066	300		F V	176.472	10	
C V	167.402	4		O IV	171.074	40		Ar VII	176.57	500	
Ne V	167.47	150		Na V	171.076	100		Na X	176.59		P
Na V	167.510	100		Ne VI	171.12	50	Q	Ar XII	176.62		
Ne V	167.61	30		O IV	171.123	70		F V	176.82		F, P
Ar XII	167.62			O IV	171.188	5		Si	176.9	50	N
Ne V	167.67	250		F V	171.214	10		O IV	177.0	10	Q, Z
N IV	167.709	150		F V	171.241	100		Cl XI	177.00		
Ne V	167.72	23		Ne VI	171.25	20	Q	F V	177.05		F, P
Si XIV	167.740		P	F V	171.302	200		N V	177.1		P, Z
Ne V	167.83	25		S VI	171.33	20		F V	177.11		F, P
F V	167.858	100		Mg III	171.3946	150		Cl XII	177.11		
Ne IV	167.92	25		Li II	171.582	100		N IV	177.119	100	Z
Ne V	167.92	25		Mg IV	171.655	500		N IV	177.142	80	Z
Si XIV	167.970		P	Mg III	171.8984	40		Ne IV	177.16	400	
O V	167.988	285		Cl XII	172.06			N IV	177.163	200	Z
Si X	168.0	50	Q	O V	172.169	750		N IV	177.182	100	Z
O V	168.007	110		N IV	172.171		P	Na II	177.24		A, Z
O V	168.046	70		Mg IV	172.311	400		S X	177.55	250	
Si XIV	168.048		P	Si VII	172.39	50	Q	O IV	177.562	5	Z
O V	168.076	70		Ne IV	172.49	200		O IV	177.594	5	Z
Na IV	168.093	750		Ne IV	172.53	250		N IV	177.602	100	Z
Ne IV	168.10	10		Ne IV	172.62	400		N IV	177.621	100	Z
O V	168.132	5		F IV	172.653	10		Na VI	177.637	30	
O IV	168.306	5		O VI	172.935	750		N IV	177.646	250	Z
Na IV	168.4110	650		F V	173.020	100		O IV	177.662	5	Z
F IV	168.450	200		O VI	173.082	900		O IV	177.693	20	Z
Si	168.5	20	N	Si XI	173.10	50	Q	O IV	177.762	20	Z
N V	168.514	50		F VI	173.145	100		Al X	177.80		
Na IV	168.5456	450		N VI	173.28		P	O IV	177.801	40	Z

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Cl XI	177.96			Mg XII	181.828		P	Mg II	184.68		A, Z
F IV	177.971	200		Cl XI	181.84			Ne V	184.73	100	
Li II	178.015	100		Mg X	181.86			Mg II	184.81		A, Z
Na VI	178.061	20		O IV	181.866	20		Ar XIII	184.90		
F IV	178.126	100		O IV	181.887	40		N VI	185.192	9	
Ar XII	178.15			N IV	181.895		P	N IV	185.237	50	
Na VI	178.244	15		N IV	181.943	10		N IV	185.257	150	
F V	178.434	500		O IV	181.994	70		Mg II	185.26		A, Z
Si	178.5	50	N	Si	182.0	50	N	Cl IX	185.26		
F IV	178.540	100		O IV	182.015	20		N IV	185.306	200	
N IV	178.547	1	Z	C VI	182.097		P	O IV	185.402	5	
F V	178.590	100		Mg XII	182.100		P	Ne IV	185.48	100	
F V	178.612	300		Na IV	182.1230	160		F IV	185.484	300	
Na XI	178.618		P	Na IV	182.1322	220		O IV	185.535	20	
F IV	178.670	300		Na X	182.16		P	N IV	185.568	3	
O V	178.715	70		Mg XII	182.189		P	Mg II	185.59		A, Z
F IV	178.724	100		O V	182.205	40		Si X	185.6	50	Q
Si XII	178.8	50	Q	C VI	182.230		P	N IV	185.623	5	
F IV	178.805	120		Mg III	182.2415	150		O V	185.745	450	
Na XI	178.810		P	N IV	182.275		P	N IV	185.853	75	Z
Na XI	178.875		P	Na IV	182.2885	160		Mg II	185.98		A, Z
Al V	179.003	5		N IV	182.323	20		Cl X	186.06		
P XV	179.084		P	Si	182.5	20	N	N V	186.063	520	
S IX	179.27	450	P	Na III	182.511	10		N V	186.149	620	
Ar VIII	179.40	500		O IV	182.706	70		N IV	186.218	50	Z
Al XIII	179.405		P	N IV	182.779		P	C V	186.329		P
N IV	179.554	2	Z	N IV	182.827	30		Ar XIII	186.38		
Al XIII	179.604		P	O IV	182.827	110		O V	186.442	1	
Al XIII	179.671		P	Ne IV	182.83			Mg II	186.47		A, Z
P XV	179.680		P	N IV	182.994	10	Z	Mg III	186.5149	200	
F IV	179.827	100		Mg III	182.9717	120		F IV	186.558	100	
P XV	179.865		P	F V	182.979	400		Ne IV	186.58	750	
F IV	179.907	1		F V	183.016	300		Si	186.6	50	N
F IV	179.943	200		N IV	183.146	5	Z	N IV	186.690	150	
Ne V	180.0			Ne IV	183.17	75		C V	186.697	30	
F IV	180.029	10		F V	183.208	10		N IV	186.709	250	
Mg IV	180.069	240		Ne IV	183.25	60		F V	186.715	400	
Ar VI	180.07	80		Si	183.3	50	N	C V	186.745	30	
Si	180.2	50	N	O IV	183.338	5		N IV	186.759	300	
Ar VIII	180.25	750		O IV	183.382	20		F V	186.788	400	
Ar XIV	180.29			N IV	183.402	35		Ne IV	186.79	25	
O IV	180.354	20		Ar XIV	183.41			Mg II	186.84		A, Z
S X	180.36	150		Mg IV	183.439	220		F V	186.842	500	
Ne IV	180.40	75		O IV	183.444	20		S XI	186.85	200	
O IV	180.480	40		N IV	183.450	50		O IV	186.870	20	
Mg IV	180.615	500		Ne VIII	183.5			F V	186.879	300	
Cl IX	180.71			Na III	183.515	10		Ne IV	186.92	75	
S X	180.72	350		Na III	183.556	30		O IV	186.935	40	
Ar VI	180.72	120		Na III	183.571	40		F V	186.968	400	
Mg IV	180.794	400		Ne V	183.72	18		O IV	186.978	5	
Cl XI	180.85			Na III	183.729	30		F V	187.008	400	
S XVI	180.864		P	Na III	183.747	40		Ne X	187.012		P
Si	180.9	50	N	Na V	183.806	30	Q	Ar XI	187.08		
N IV	180.928	5	Z	N VII	183.811		P	F IV	187.105	200	
Na III	181.023	30		N VII	183.894		P	N IV	187.123	10	
O IV	181.150	110		Mg IV	183.915	140		N IV	187.142	10	
O V	181.26	10	P	N VII	183.923		P	Mg X	187.17		
O IV	181.277	160		O VI	183.937	360		Mg II	187.19		A, Z
Mg IV	181.344	280		Na III	183.946	50		N IV	187.194	20	
S XVI	181.353		P	Na III	184.018	40		Mg III	187.1977	200	
Ne X	181.470		P	Mg II	184.09		A, Z	F IV	187.240	300	
Na III	181.476	30		O VI	184.117	450		Na X	187.25		P
F IV	181.521	400		Mg IV	184.120	80		Ne X	187.323		P
S XVI	181.521		P	Na III	184.193	40		Mg II	187.38		A, Z
F IV	181.571	400		N IV	184.200	50		Ne X	187.423		P
Mg X	181.60		P	Na III	184.206	40		Na X	187.49		P
Ne IV	181.61	100		N IV	184.247	75		F IV	187.916	100	
Ne X	181.610		P	Ar VIII	184.27	150		Ar XIV	187.95		
Ne IV	181.65	100		Mg II	184.31		A, Z	F IV	188.004	10	
F IV	181.655	200		Ar VIII	184.32	250		O IV	188.151	40	
Ne X	181.658		P	Na III	184.409	40		N VII	188.174		P
Si	181.7	50	N	N IV	184.437	1		Na IV	188.178	5	
N IV	181.746	400		N IV	184.485	2		O IV	188.185	1	
Na IV	181.7565	285		Si	184.5	50	N	O IV	188.210	1	
Na IV	181.7640	160		Ar XI	184.51			N VII	188.261		P

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N VII	188.291		P	Mg II	191.65		A, Z	Al XIII	194.601		P
Si	188.3	50	N	N IV	191.651	250		Ne IV	194.62	250	
O IV	188.405	5	Z	N IV	191.676	100		P IX	194.63	600	
Ne V	188.42	30	Q	O IV	191.680	20		N VII	194.633		P
O IV	188.494	1	Z	O IV	191.699	40		Na III	194.639	50	
Mg III	188.5296	100		N IV	191.702	400		Na III	194.684	60	
Mg II	188.54		A, Z	N IV	191.727	150		N VII	194.725		P
N IV	188.583	100		N IV	191.748	120		N VII	194.757		P
N IV	188.606	200		O IV	191.748	70		Cl VI	194.80	100	
N IV	188.656	250		Ar VII	191.76	150		Al XIII	194.831		P
F IV	188.656	200		Ne VI	191.77	20	Q	F VI	194.840	100	
S XI	188.68	225		Na III	191.808	20		Al XIII	194.908		P
N IV	188.743	100		N IV	191.868	150		Na III	194.979	50	
F IV	188.758	100		F V	191.892	300		Na III	195.044	30	
N IV	188.762	200		N IV	191.898	350		N IV	195.202	20	Z
N IV	188.818	300		N IV	191.951	350		Cl XIII	195.22		
Ar XI	188.82			F V	191.973	400		Cl VI	195.23	150	
F IV	188.834	10		Ne V	192.0			N IV	195.258	100	Z
Na III	188.858	30		Ar VII	192.04	250		Ne VIII	195.3		
Na III	188.873	40		Cl XI	192.06			Ne V	195.37	50	
Mg II	188.91		A, Z	O IV	192.138	70		Na III	195.532	60	
Mg II	189.01		A, Z	O IV	192.163	110		Ne V	195.55	30	
Mg II	189.23		A, Z	O IV	192.200	160		N IV	195.610	1	Z
Na III	189.348	50		O IV	192.231	40		Ne V	195.62	20	
N IV	189.365	1		S VI	192.27	20		Cl XI	195.69		
Mg II	189.37		A, Z	Mg II	192.40		A, Z	O IV	195.863	285	
N IV	189.386	5		N IV	192.533	10	Z	O IV	196.009	360	
N IV	189.437	10		Mg II	192.55		A, Z	Na III	196.054	50	
Na VI	189.473	10		Na IV	192.551	5		Cl VII	196.12	500	
Ar XI	189.57			Ar VII	192.64	350		S X	196.14	100	
F V	189.943	200		Ar XII	192.66			C IV	196.27	2	
Al V	189.977	2		O V	192.751	650		Cl XII	196.33		
S X	189.99	150		O V	192.799	750		O IV	196.349	20	Z
Cl XI	190.03			S X	192.80	50	P	F IV	196.351	400	
Na IV	190.1300	285		N IV	192.823		P	Cl VII	196.39	400	
N V	190.155	200		Mg II	192.84		A, Z	F IV	196.390	500	
N V	190.249	320		N IV	192.859	400		O IV	196.422	5	Z
Si XIV	190.266		P	N IV	192.888	100		F IV	196.448	600	
S XI	190.37	250		O V	192.906	900		F V	196.713	200	
Na IV	190.423	20		N IV	192.908	100		P VIII	196.75	850	
Na IV	190.4337	360		N IV	192.941	10	P	N IV	196.802	100	Z
Na IV	190.4453	450		O V	193.003	160		S X	196.83	200	
Si XIV	190.555		P	Mg II	193.09		A, Z	N IV	196.866	500	Z
Al V	190.569	10		N IV	193.139	200		F V	196.870	100	
Ne IV	190.57	125		N IV	193.160	300		N IV	196.921	200	
F V	190.571	600		N IV	193.214	350		N IV	196.944	400	
Cl VII	190.59	100		Mg II	193.31		A, Z	C IV	196.96	2	
N IV	190.625	200	Z	N V	193.4		ZZ	F IV	196.968	100	
Ne IV	190.65	75		Mg II	193.40		A, Z	N IV	197.000	400	
Si XIV	190.650		P	S X	193.49	150		C V	197.024	4	
Na IV	190.8273	360		Mg II	193.64		A, Z	P IX	197.04	200	
Na IV	190.8359	360		Si	193.67		N	Si XI	197.1		Q
F V	190.839	700		Ar XII	193.68	30		F IV	197.108	200	
Cl XI	190.94			Na III	193.804	50		N IV	197.230	500	
Ar XI	190.96			Na III	194.037	50		P IX	197.27	900	
Na IV	190.9992	285		N IV	194.083	75	Z	F IV	197.298	100	Q
Na III	191.000	50		Ar XI	194.09			N IV	197.343	2	Z
Na VI	191.205	10	Q	F V	194.108	300		Ne IV	197.6		
N IV	191.228	100	Z	Na III	194.121	40		F V	197.615	1	
S XI	191.26	250		Ne X	194.153		P	Mg II	197.76		A, Z
Cl VII	191.28	200		Na III	194.168	50		F V	197.780	10	
Mg II	191.30		A, Z	Ne IV	194.28	500		C IV	197.82	5	
Na III	191.307	40		Si XI	194.28		F, Q	Cl XII	197.82		
Ar XIV	191.35			Na III	194.292	50		O IV	198.031	70	Z
O V	191.400	1		Ne X	194.312		P	Cl XIII	198.40		
O V	191.460	5		B V	194.317		P	F V	198.476	100	
S VI	191.48	20		Na III	194.322	40		S VIII	198.550	50	
Na III	191.511	30		Ne X	194.365		P	N IV	198.740	150	
O V	191.550	20		Ar XIV	194.39			N IV	198.764	250	
Mg II	191.56		A, Z	B V	194.395		P	F V	198.765	1	
S VI	191.56	50		Na III	194.461	50		N IV	198.821	300	
O IV	191.583	20		Ne IV	194.48	200		Ne VIII	198.98		
Ne VI	191.59	20	Q	Na III	194.530	20		F IV	199.004	300	
O IV	191.607	40		Na III	194.550	50		C IV	199.04	10	
O IV	191.631	20		O V	194.593	360		F IV	199.086	300	

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N IV	199.087	200	Z	S IX	202.66	250	P	C IV	206.641	150	
N IV	199.159	450	Z	Na III	202.709	50		Ne IV	206.7		
Ne VIII	199.17			Na III	202.721	70		N IV	206.707	10	
Li I	199.23		Z	Na III	202.764	80		Na VI	206.871	10	Z
Li I	199.24		Z	O IV	202.885	15		Na III	206.874	60	
Li I	199.25		Z	Mg II	202.94		A, Z	Si X	207.1	50	Q
Li I	199.26		Z	F IV	202.989	10		O IV	207.183	40	
Li II	199.282	300		Si X	203.0	20	Q	O IV	207.239	60	
Li I	199.29		Z	O IV	203.044	25		Na III	207.297	100	
Li I	199.31		Z	Na III	203.055	80		P X	207.34	300	
Mg II	199.31		A, Z	C IV	203.057	50		O IV	207.348	15	
Cl XII	199.37			Mg I	203.15		A, Z	Cl X	207.41		
Li I	199.40		Z	F IV	203.152	100		Na III	207.460	60	
F IV	199.607	100		Na III	203.284	80		Li I	207.5		Z
Li I	199.61		Z	Na III	203.326	80		N IV	207.500	20	
F IV	199.761	500		Ar XIV	203.35			S X	207.53	200	
Na IV	199.7722	450		Mg II	203.42		A, Z	P X	207.67	700	
F IV	199.804	500		Mg II	203.53		A, Z	Si XI	207.7	50	Q
N IV	199.806	20	Z	N IV	203.642	50	Z	Na III	207.746	5	
F IV	199.849	500		N IV	203.694	50	Z	Cl VII	207.76	200	
N IV	199.857	50	Z	N IV	203.728	10	P, Z	O V	207.794	550	
F IV	199.934	500		N IV	203.780	50	Z	N IV	207.812	200	P, Z
Ne VIII	199.97			O V	203.783	330		Na III	207.885	70	
F IV	200.001	500		Cl X	203.80			Na III	207.996	50	
O VIII	200.005		P	O V	203.821	380		N IV	208.012	150	P, Z
Ne VIII	200.03			P X	203.83	150		N IV	208.066	400	Z
Ar VIII	200.03			O V	203.851	330		P IX	208.08	60	
F VIII	200.05		P	O V	203.890	420		Al VII	208.1		
F IV	200.089	700		Si	203.9	20	N	N IV	208.113	150	Z
Ar VIII	200.13			O V	203.935	330		N IV	208.131	250	Z
O VIII	200.162		P	Na IV	203.9577	285		N IV	208.150	400	Z
O VIII	200.215		P	S VI	204.19	50		N IV	208.185	100	P, Z
F VIII	200.24		A, Z	Mg I	204.22		A, Z	Si	208.2	20	N
Mg I	200.29		P, Z	Ne IV	204.27	75		F IV	208.254	900	
N IV	200.316			N V	204.3		P, ZZ	Ar XIV	208.31		
Li I	200.32		Z	Si	204.3	50	N	S X	208.33	200	
N IV	200.340	300	Z	N IV	204.302	150	Z	Na III	208.338	5	
C IV	200.68	25		Ne IV	204.53	125		Na III	208.343	5	
O IV	200.830	20	Z	Ar XIV	204.64			Ne IV	208.49	500	
F V	200.861	100		O IV	204.708	1		N III	208.510	30	Z
O IV	200.915	2		Ne IV	204.79	75		N IV	208.510	100	
O IV	200.966	2		N VII	204.891		P	F IV	208.549	200	
O IV	200.995	5		Ne IV	204.91	25		Na III	208.591	20	
Ne VIII	201.0			O IV	204.990	1	Z	N III	208.670	50	Z
F IV	201.011	600		N VII	204.993		P	Ne IV	208.73	500	
O IV	201.022	1		N VII	205.027		P	N III	208.730	50	Z
F IV	201.063	700		O V	205.105	150		Ne IV	208.90	400	
O IV	201.073	2		Ar XIII	205.24			Mg II	209.09		A, Z
O IV	201.098	2		P X	205.38	450		Cl XI	209.18		
F IV	201.101	600		Si	205.4	50	N	N V	209.274	800	
F IV	201.160	800		Cl X	205.40			N V	209.308	800	
F IV	201.222	600		Cl XIII	205.47			N IV	209.378	100	
F IV	201.465	400		Na IV	205.4869	450		Al VII	209.4		
Cl X	201.50			F V	205.552	400		N IV	209.407	300	
Ar XIII	201.69			Si XIV	205.719		P	Mg II	209.43		A, Z
Na III	201.845	20		Ar XIII	205.77			N IV	209.471	400	
N IV	201.988	100	Z	F V	205.778	300		Si IX	209.8	50	Q
Mg II	202.00		A, Z	O IV	205.842	1		Cl XIII	209.81		
Cl XIII	202.10			Ar XIII	205.94			Mg I	209.84		A, Z
Na III	202.149	60		N IV	205.940	200		N IV	209.842	150	
O V	202.161	300		Na IV	205.9546	360		Cl XI	209.93		
Na III	202.186	60		N IV	205.968	300		P V	209.964	12	
O V	202.191	300		O IV	206.002	2		N IV	209.976	100	Z
O V	202.224	300		Cl X	206.02			N IV	210.024	80	P, Z
Mg II	202.27		A, Z	N IV	206.028	500		N IV	210.028	200	Z
O V	202.283	300		P XV	206.028		P	N IV	210.056	50	P, Z
O V	202.334	300		Na IV	206.1533	285		Li II	210.07		F, P
O V	202.393	380		Si XIV	206.314		P	Cl X	210.08		
N IV	202.485	300	Z	F V	206.430	200		N IV	210.092	100	Z
Na III	202.494	80		P XV	206.456		P	N IV	210.111	100	Z
N V	202.5		ZZ	Si XIV	206.499		P	Si	210.2	50	N
Mg I	202.51		A, Z	Si XI	206.5	20	Q	Ne V	210.23		P
Cl X	202.54			F V	206.594	300		Li I	210.46		Z
N IV	202.595	500	Z	P XV	206.594		P	Ar XIII	210.46		
S VIII	202.605	50		C IV	206.6		ZZ	F IV	210.480	100	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
F IV	210.545	100		Na III	215.340	100		N III	219.168	250	Z
Mg XII	210.611		P	Ne IV	215.40	25		F III	219.277	1	
Mg XII	210.810		P	Na III	215.481	80		Mg I	219.28		A, Z
Mg XII	210.877		P	Ar XII	215.49			Cl XII	219.53		
Ar XIII	211.00			Na III	215.659	70		F III	219.588	0	
Si X	211.1	50	Q	F V	215.676	10		Ar VI	219.90	120	
F IV	211.152	10		Na III	215.683	70		P VII	219.91	450	
P IX	211.16	150		Ne IV	215.71	15		Mg I	220.03		A, Z
N V	211.3		P, ZZ	N IV	215.755	75		N IV	220.124	50	
N IV	211.405	400		Ne IV	215.84	75		N IV	220.280	400	
P IX	211.62	300		Na III	215.860	120		Mg I	220.33		A, Z
N IV	211.679	250		S XI	215.95	250		O V	220.352	800	
O IV	211.808	1	Z	Na III	215.964	10		Al XIII	220.741		P
Si XI	211.9	50	Q	O V	216.018	500		F IV	220.765	700	
N III	212.019	20	Z	Na III	216.118	120		Si X	220.8	50	Q
N III	212.049	50	Z	Ne X	216.194		P	N IV	220.885	2	Z
N III	212.087	80	Z	Mg I	216.22		A, Z	Ar VI	220.95	200	
S XII	212.127	20		Ne X	216.386		P	Al XIII	221.029		P
N III	212.359	50	Z	Si XI	216.4	50	Q	Al XIII	221.125		P
C IV	212.421	250		Ne X	216.450		P	Ar XV	221.15	200	
N III	212.465	100	Z	Na XI	216.473		P	S IX	221.27	100	P
Si	212.5	20	N	Mg I	216.68		A, Z	Cl XIII	221.38		
Ne IV	212.56	750		Na XI	216.744		P	S XII	221.429	30	
O IV	212.578	5		Si VIII	216.800	20		O IV	221.515	1	Z
S X	212.60			Ne IX	216.81		P	Al VI	221.535	50	
O IV	212.974	10		Na XI	216.833		P	O IV	221.648	70	Z
Si	213.0	20	N	Si VIII	216.918	100		N IV	221.729	300	Z
O IV	213.061	10		O IV	216.960	1		N IV	221.774	250	P, Z
N III	213.086	100	Z	Na III	217.043	5		N IV	221.789	450	Z
N III	213.164	200	Z	Na III	217.114	30		N IV	221.810	200	P, Z
N III	213.364	50	Z	Na III	217.198	20		N IV	221.854	250	Z
Si VI	213.4	50	Q	Mg I	217.21		A, Z	N IV	221.871	300	Z
Ar XIV	213.42			Ar XII	217.21			Mg I	222.03		A, Z
N IV	213.443	300	P, Z	P V	217.214	12		O V	222.235	200	
N III	213.447	100	Z	N IV	217.218	500		P VIII	222.36	200	
Mg I	213.53		A, Z	Ne IV	217.34	75		Ne IV	222.60	200	
S XI	213.55	125		Mg I	217.37		A, Z	Mg I	222.67		A, Z
F V	213.684	10	Q	Na	217.385	10	N	Cl XII	222.72		
F IV	213.848	700		Si VII	217.6	50	Q	O IV	222.763	25	
O IV	213.975	15		S XI	217.63	200		O IV	222.777	15	
P IX	214.00	50		Ne IV	217.64	75		C IV	222.791	350	
O IV	214.028	25		Na III	217.686	20		N IV	222.893	30	Z
F IV	214.062	700		Na III	217.757	5		O VII	222.98		Z
F IX	214.086		P	Cl XIII	217.77			N VII	223.000		P
O IV	214.152	40		Ne IV	217.78	75		N IV	223.066		P
Si	214.2	20	N	Si VII	217.826	350		Cl XII	223.11		
O IV	214.205	15		Ne IV	217.83	125		N VII	223.119		P
F IX	214.215		P	N IV	217.836	200	P, Z	N VII	223.158		P
Na III	214.233	70		N IV	217.895	500	Z	O VII	223.18		P
O IV	214.249	2		C IV	218.		ZZ	Ne IV	223.235	125	
F IX	214.259		P	N IV	218.044	150	Z	S IX	223.28	100	P
S VI	214.28	20		N IV	218.067	250	Z	N V	223.3		ZZ
O IV	214.290	2		N IV	218.079	100	P, Z	F IV	223.394	300	
N IV	214.291	250		N IV	218.088	400	Z	N IV	223.421	500	P, Z
N IV	214.414	50	Z	N IV	218.116	100	Z	Mg I	223.45		A, Z
P IX	214.47	350		Ne IV	218.13	100		F IV	223.456	200	
Na III	214.588	80		Ne IV	218.18	50		P VII	223.48	350	
Ne V	214.71		P	Mg I	218.19		A, Z	F IV	223.497	100	
Si VIII	214.756	100		S XII	218.193	30		Ne IV	223.601	125	
F III	214.804	3		N IV	218.250	400		Si IX	223.72	80	
N IV	214.843	10		Ar XII	218.29			O IV	223.728	1	
S XI	214.85	125		Si	218.3	50	N	Mg I	223.74		A, Z
Na III	214.860	60		Ne IV	218.34	75		O IV	223.841	1	
F III	214.862	3		N III	218.349	50	Z	C IV	223.9	2	
Na III	214.874	80		N III	218.378	70	Z	F V	223.999	1	
S XI	214.98	100		N III	218.416	100	Z	F IX	224.091		P
O V	215.040	380		Mg I	218.42		A, Z	Si VI	224.1	50	Q
Na III	215.047	80		Ne IV	218.48	100		Cl VII	224.14	300	
Na III	215.082	80		Ne IV	218.64	125		F IX	224.231		P
O V	215.103	420		Mg I	218.74		A, Z	Ar XII	224.25		
S XII	215.165	30		Ne IV	218.77	250		F IX	224.279		P
Na III	215.218	30		N III	218.949	100	Z	Ne IX	224.34		P
Na III	215.228	150		S XI	218.99	125		C IV	224.4		ZZ
O V	215.245	500		Mg I	219.04		A, Z	C IV	224.6	2	P
Na III	215.324	20		S XI	219.13	200		Cl XIII	224.60		

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N IV	224.629	450		Ar VIII	229.44	250		C IV	233.53	100	
S IX	224.77	450	P	Ar XVIII	229.708		P	O IV	233.561	90	
N III	224.873	50	Z	He II	229.736	6	P	O IV	233.596	40	
Si IX	225.033	800		P V	229.819	30		N III	233.599	80	Z
Cl VII	225.08	500		Na III	229.869	150		Si X	233.6	20	Q
N IV	225.110	300		O IV	229.896	1		N III	233.620	150	Z
F V	225.114	10	Q	Si	230.0	20	N	N III	233.696	300	Z
N IV	225.142	500		N IV	230.035	100	Z	N III	233.716	80	Z
Mg I	225.18		A, Z	O IV	230.040	1		N IV	233.762		P
N IV	225.212	800		F III	230.117	35		N IV	234.124	600	
S IX	225.25	50	P	He II	230.139	9	P	N IV	234.172	150	P
O IV	225.299	25		C IV	230.43	25		C IV	234.19	4	
N III	225.302	70	Z	F III	230.553	1		N IV	234.195	600	
C IV	225.49	4		N III	230.591	200	Z	N IV	234.203	180	P
Ne V	225.5			Na III	230.593	120		N IV	234.249	600	
Mg I	225.54		A, Z	F III	230.603	1		P XI	234.25	200	
N IV	225.741	50	Z	N III	230.626	300	Z	Mg III	234.2631	800	
N III	225.837	300	Z	N III	230.681	50	Z	Ne IV	234.319	125	
N III	226.030	120	Z	O IV	230.682	2		He II	234.347	40	P
O III	226.038	50		He II	230.686	12	P	S XII	234.48	75	
F III	226.055	6		Ne V	230.69		P	Ne VII	234.6		
F III	226.094	10		O IV	230.755	5		Cl XII	234.64		
N III	226.122	300	Z	N III	230.765	100	Z	Cl XI	234.67		
F III	226.169	20		N III	230.789	150	Z	Ne IV	234.704	125	
Mg I	226.26		A, Z	N III	230.861	250	Z	P X	234.84	150	
F V	226.341	200		N III	230.879	100	Z	Cl XI	234.84		
N III	226.520	50	Z	Ar VIII	230.88	350		P X	234.95	80	
S IX	226.60	100	P	C IV	230.9	2		O IV	234.988	10	
F V	226.608	90		F IX	230.987		P	Si VIII	235.221	10	
C IV	226.72	6		F III	231.011	6		P X	235.26	800	
N III	226.832	350	Z	O IV	231.031	10		Si VIII	235.563	20	
N III	226.910	400	Z	O IV	231.070	60		F V	235.840	100	
F IV	226.944	600		O V	231.070	380		N IV	236.068	550	
Si IX	227.007	800		O IV	231.101	40		O IV	236.071	2	
N IV	227.026	100		O IV	231.140	15		Ar XIII	236.27		
F IV	227.079	300		Ne IX	231.16		P	S IX	236.34		
P IX	227.08	200		O IV	231.200	40		Cl V	236.44	100	
F IV	227.101	500		O IV	231.239	40		Si XIV	236.616		P
C V	227.192	100		F IX	231.297		P	P XI	236.71	500	
S VI	227.20	200		O IV	231.299	60		O III	236.710	50	
F IV	227.211	400		F III	231.381	1		P X	236.95	100	
Si IX	227.30			F IX	231.396		P	N IV	236.954	150	Z
O V	227.372	300		P XI	231.40	100		Si XIV	237.044		P
N IV	227.446		P, Z	He II	231.454	17	P	Si XIV	237.181		P
O V	227.469	300		N III	231.465	100	Z	Cl V	237.23	200	
Cl XII	227.47			Ne IX	231.47		P	Be IV	237.261		P
N III	227.479	150	Z	N III	231.497	150	Z	Be IV	237.311		P
S XII	227.482	30		N III	231.540	200	Z	He II	237.331	70	P
O V	227.511	380		Mg III	231.7333	1000		Cl XI	237.42		
N III	227.515	250	Z	Si	231.74		N	N III	237.532	250	Z
O V	227.549	300		O V	231.823	380		N III	237.565	450	Z
P IX	227.62	300		N IV	232.112	100		N III	237.624	50	Z
O V	227.634	300		N IV	232.145	150		Cl XIV	237.70		
O V	227.689	300		N IV	232.223	200		N IV	237.873	200	
Cl XII	227.83			P IX	232.57	200		N IV	237.908	400	
S VI	227.84	200		He II	232.584	24	P	F IV	237.913	300	
Ar XVIII	228.022		P	N III	232.854	300	Z	F IV	237.955	400	
S X	228.167	40		Si VIII	232.864	10		N IV	237.991	500	
Ne V	228.2			F IV	233.159	200		N III	237.994	80	Z
P IX	228.24	100		Si VIII	233.159	10		F IV	238.012	300	
C IV	228.27	25		Cl XI	233.17			N III	238.034	200	Z
Cl XII	228.29			F IV	233.222	600		F IV	238.042	200	
F IV	228.496	1		F IV	233.297	200		N III	238.093	350	Z
F IV	228.552	10		N III	233.332	250	Z	F IV	238.099	100	
F IV	228.645	100		N III	233.368	400	Z	N III	238.134	100	Z
S X	228.70	350		N III	233.393	350	Z	C IV	238.200	100	
N III	228.762	150	Z	F IV	233.393	500		C IV	238.250	150	
N III	228.790	250	Z	N III	233.424	50	Z	O IV	238.360	400	
N III	228.844	25	Z	O IV	233.457	60		P X	238.45	300	
S IX	228.87	100	P	N III	233.459	150	Z	O IV	238.571	500	
O I/I	228.893	10		O IV	233.496	60		N IV	238.657	450	
O III	228.988	10		N III	233.498	50	Z	N IV	238.683	450	
Cl XIII	229.15			P X	233.51	60		N IV	238.694	400	
Ar XVIII	229.277		P	O IV	233.521	40		N IV	238.731	500	
He II	229.431	5	P	F IV	233.526	400		Al XIII	238.734		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N IV	238.769	500		Cl VI	243.88	150		F IV	249.228	100	
N IV	238.802	600		F IV	243.922	400		S VI	249.27	400	
Al VII	239.030	100		O III	244.049	100		N IV	249.316	300	Z
N IV	239.146	200		N IV	244.100	300		P VIII	249.33	400	
N IV	239.174	300		Si	244.3	50	N	O IV	249.365	15	
C IV	239.196	25		P VIII	244.56	500		Ar VII	249.38	100	
N IV	239.212	450		F III	244.701	6		Ar XIII	249.46		
N IV	239.243	180		F III	244.769	20		F IV	249.744	10	
Al XIII	239.328		P	C IV	244.907	500		Ar VII	249.886	250	
Al XIII	239.513		P	F III	245.005	10		N IV	250.121	300	
O IV	239.592	10		N III	245.021	200	Z	Al VIII	250.139	100	
Be IV	239.603		P	N III	245.115	400	Z	Ne VII	250.2		Q
N IV	239.616	500		O IV	245.62	2	P	C VI	250.234		P
N IV	239.632	300		C IV	245.775	200		C VI	250.317		P
Be IV	239.653		P	C IV	245.830	250		C VI	250.346		P
N IV	239.659	200		F III	245.866	3		P IX	250.38	550	
N IV	239.679	100		S XI	245.94	75		Na III	250.516	500	
N IV	239.708	100		Sr VI	246.004	800		N IV	250.566		P
P XI	239.71	200		Ne VII	246.1		Q	Si VIII	250.60		P
F IX	239.756		P	Si VII	246.12		P	Na XI	250.709		P
N IV	239.763	10		N III	246.206	400	Z	P IX	250.73	750	
S XI	239.81	150		N III	246.249	650	Z	Na XI	250.907		P
F IV	239.856	700		O III	246.265	150		Ar VII	250.940	350	
F IX	239.914		P	N III	246.311	100	Z	Si VIII	250.97		P
O IV	239.935	1		P VIII	246.32	350		Na XI	250.974		P
F IX	239.968		P	O IV	246.465	5	Z	F IV	251.026	1000	
F IV	240.017	700		O IV	246.503	10	Z	O IV	251.114	5	Z
O IV	240.079	5		O IV	246.563	15	Z	Ne III	251.12	200	
F IV	240.079	900		S XI	246.90	200		O IV	251.148	5	Z
F IV	240.146	700		O III	247.080	50		P VIII	251.23	400	
F III	240.231	3		S XI	247.12	250		Al VIII	251.347	10	
S XII	240.26	175		S XII	247.12	250		Na III	251.372	300	
F III	240.264	1		Mg II	247.14		A, Z	Ne III	251.54	200	
F IV	240.275	700		N IV	247.205	900		Mg V	251.584	100	
N IV	240.363	200		Ne VIII	247.3			Si	251.7	50	N
Al VII	240.368	125		C V	247.31			Ne III	251.72	200	
F IV	240.371	700		C IV	247.357	25		S VI	251.91	200	
C IV	240.5		ZZ	Al VIII	247.401	10		Si	252.4	20	N
F III	240.546	3		C IV	247.415	50		O IV	252.550	160	Z
F III	240.720	6		Ne IV	247.42	50		O IV	252.581	160	Z
F III	240.735	1		N V	247.561	85		Si VIII	252.79		
Al VII	240.770	200		P VIII	247.65	1000		S XI	252.93	25	
Cl VII	240.83	300		N V	247.706	100		O IV	252.948	40	
F III	240.857	1		Ne IV	247.81	40		P V	252.959	4	
Cl VII	240.87	200		S XI	247.83	75		O IV	253.082	60	
O III	240.979	100		P XI	247.95	100		S XI	253.36	50	
O III	241.037	100		Ne IV	248.00	40		O III	253.548	10	
F III	241.135	1		Be IV	248.015		P	S XI	253.62	150	
O III	241.819	50	Z	P VIII	248.06	400		Si X	253.772	70	
O III	241.875	50	Z	Be IV	248.068		P	P XI	253.90	150	
Ne IV	241.9			S XI	248.09	75		S X	254.00		
Ar XIII	241.90			N III	248.320	100	Z	P XI	254.04	90	
O IV	242.045	5		O III	248.320	50		F III	254.165	20	
O IV	242.140	10		N III	248.371	150	Z	F III	254.197	10	
O IV	242.183	1		N IV	248.383	500		C IV	254.3		ZZ
Ar XIII	242.22			N III	248.428	350	Z	N IV	254.338	100	Z
F V	242.324	300		N IV	248.433	500		F IV	254.491	200	
F V	242.439	200		Al VIII	248.456	55		P XI	254.54	70	
S XI	242.57	125		O V	248.459	330		F IV	254.595	100	
Cl XI	242.76			N IV	248.461	500		F IV	254.681	10	
S XI	242.82	175		Mg II	248.47		A, Z	O III	255.044	10	
Cl VI	242.89	250		N III	248.478	100	Z	S X	255.08	20	
Be IV	242.954		P	N IV	248.484	500		N IV	255.148	380	
Be IV	243.006		P	O III	248.538	50		O III	255.158	50	
He II	243.027	130	P	N IV	248.540	450		O IV	255.252	25	
S XII	243.06	200		N IV	248.563	500		Si V	255.3	50	Q
Cl VI	243.19	400		O III	248.574	60		O III	255.302	10	
Cl VI	243.21	100		O III	248.618	100		P V	255.587	80	
F III	243.357	3		N IV	248.654	450		F III	255.632	3	
F III	243.407	1		C V	248.661	200		F III	255.667	1	
F IV	243.736	200		Ar XIII	248.68			P V	255.674	50	
Ar XIV	243.74			C V	248.738	200		P V	255.681		P
Al VI	243.766	600		S VI	248.99	400		F III	255.723	35	
F IV	243.796	300		Si VI	249.124	700		F III	255.770	60	
Cl VI	243.85	600		O IV	249.223	10		F III	255.863	100	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Cl XVII	255.893		P	N VII	261.512		P	N III	266.613	200	
C VI	256.175		P	O VII	261.54		P	O IV	266.690	1	Z
Be IV	256.238		P	F III	261.713	100		Ne VIII	266.7		
C VI	256.261		P	F III	261.749	60		O IV	266.729	1	Z
C VI	256.291		P	S VI	261.81	50		N III	266.737	250	
Be IV	256.295		P	P XI	261.92	70		N III	266.805	200	
He II	256.317	320	P	Ne X	262.024		P	N III	266.847	200	
F III	256.358	35		O III	262.113	100		Na III	266.896	250	
Si X	256.37	300		N III	262.184	450		N III	266.930	400	
O III	256.425	100	Z	N III	262.233	800		O IV	266.932	40	
P IV	256.453	4		O III	262.289	10		O III	266.967	250	
O III	256.460	150	Z	B V	262.294		P	O IV	266.967	25	
O III	256.506	150	Z	Ne X	262.294		P	N III	266.974	200	
F III	256.526	3		N III	262.304	100		F IX	266.979		P
Si VIII	256.53			Cl XII	262.32			O III	266.985	350	
Si X	256.569	10		Ne X	262.384		P	O III	267.030	350	
S XIII	256.66	250		B V	262.427		P	O III	267.050	150	
F III	256.675	3		C IV	262.550	150		Na II	267.06		A
F III	256.723	1		Cl XII	262.60			Ne III	267.07	300	
F III	256.894	6		C IV	262.624	200		N III	267.075	300	
Cl XVI	257.147		P	O III	262.729	10		O III	267.121	200	
S X	257.16	100		N III	262.867	400	Z	F IX	267.170		P
Ne I	257.19		A, Z	O III	262.882	50		N III	267.199	500	
Si IX	257.255	50		N III	262.914	500	Z	F IX	267.234		P
Ar XIV	257.37			Si	262.98		N	C V	267.267	30	
Cl XII	257.43			Na II	263.06		A	Ne III	267.53	300	
N III	257.502	300	Z	Ne I	263.11		A, Z	Na II	267.61		A
Cl XVII	257.578		P	P X	263.22	80		Na III	267.645	700	
Ne I	257.68		A, Z	Na II	263.39		A	N III	267.661	250	
N III	257.953	500	Z	O III	263.692	150		Ne III	267.71	200	
Ar XIV	257.98			O III	263.728	200		N III	267.787	300	
Ne VII	258.0			O III	263.768	150		N III	267.848	300	
Si IX	258.073	20		F III	263.808	150		P XI	267.85	200	
O IV	258.116	5		Na II	263.81		A	Na III	267.874	500	
O IV	258.207	10		O III	263.818	250		Ne IX	267.9		
N IV	258.320	150		O III	263.861	150		N III	267.952	500	
Si X	258.347	120		O III	263.903	10		N III	267.966	50	
Si IX	258.36			B IV	264.02	5		Si	268.00		N
Ne I	258.48		A, Z	S X	264.24	200		N III	268.212	200	Z
N III	258.499	650	Z	O III	264.257	200		N III	268.255	300	Z
Al VII	259.036	262		O III	264.338	250		N III	268.314	400	Z
N III	259.189	700	Z	Na II	264.34		A	N III	268.347	350	
Al VII	259.207	345		P XI	264.34	150		O III	268.451	50	
C IV	259.471	300		P V	264.358	30		N III	268.473	600	
S X	259.52	150		O III	264.480	300		Na III	268.626	500	
C IV	259.542	350		Si	264.74		N	N III	268.703	500	Z
Si IX	259.75			Na II	264.76		A	N III	268.756	400	Z
N IV	259.824	450		Cl XIII	264.78			Cl XII	268.77		
Ne I	259.96		A, Z	N III	264.822	100		F IV	268.785	400	
N III	260.090	800	Z	N III	264.846	200		F IV	268.817	100	
C V	260.136	4		P V	264.911	50		Na II	268.88		A
C V	260.229	4		N III	264.945	400		Mg VI	268.986	650	
Ar VIII	260.25	200		N III	264.966	100		N III	269.072	150	
F III	260.307	20		C VI	264.970		P	F IV	269.076	300	
Ar VIII	260.33	300		C III	265.029	10	Z	P IV	269.117	40	
Ne VIII	260.34			C VI	265.061		P	N III	269.199	300	
F III	260.372	10		O IV	265.062	1	Z	Cl XII	269.21		
O IV	260.389	150		Na II	265.08		A	F IV	269.225	200	
N IV	260.447	600		C VI	265.093		P	Mg IV	269.282	40	
F III	260.496	10		N III	265.216	100		Mg VIII	269.295	10	Q
N IV	260.519		P	N III	265.232	500	Z	P X	269.47	300	
O IV	260.555	120		N III	265.271	500	Z	O IV	269.559	5	Z
P V	260.619	12		C III	265.287	10	Z	P X	269.64	100	
F III	260.782	3		Na II	265.30		A	Na II	269.993	10	
O III	261.027	200		N III	265.339	200		N III	270.004	400	
Al VII	261.044	330		O V	265.550	250		N III	270.073	400	
Si X	261.045	50		P X	265.62	70		N III	270.131		
P VIII	261.05	80		P X	265.79	150		N III	270.201	650	
Al VII	261.219	495		N III	265.852	100		F IV	270.225	600	
O VII	261.26		P	N III	265.978	200		C III	270.324	10	
N III	261.282	800	Z	Na II	266.06		A	Mg VI	270.394	750	
N VII	261.303		P	N III	266.132	300		N III	270.554	50	Z
Si IX	261.41			N V	266.196	120		C III	270.583	100	Z
N VII	261.460		P	N III	266.255	500		N III	270.613	150	Z
P IV	261.477	10		N V	266.379	150		F III	270.677	20	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N III	270.685	50	Z	Si VII	275.352	250		Al VII	280.994	150	
Ne VIII	270.8		Q	N IV	275.354	450		Al VII	281.153	12	
Na II	270.947	7		O III	275.366	150		F III	281.204	10	
O V	270.982	10		O III	275.513	200		Si VI	281.23		Q
N IV	270.994	650		Si VII	275.665	200		Si VI	281.3	50	Q
O VIII	271.011		P	P X	275.74	20		F III	281.343	20	
C III	271.014	100	Z	N III	275.829	400	Z	C III	281.390	200	Z
N III	271.077	200		N III	275.852	100	Z	Al V	281.394	900	
P X	271.11	30		N III	275.871	150	Z	S XI	281.40	175	
O VIII	271.139		P	N III	275.883	100	Z	Ar VI	281.43	120	
Be IV	271.148		P	P X	275.91	40		Na II	281.691	25	
O VIII	271.183		P	N III	275.931	50	Z	Na II	281.788	25	
N III	271.209	350		Cl XIV	276.13			Ar VI	281.92	160	
Be IV	271.212		P	Mg VII	276.145	200		N III	282.070	400	
Na II	271.373	5		N III	276.193	400		N III	282.209	700	
O III	271.403	50		Ne IX	276.2			O IV	282.213	2	
O III	271.523	50		N III	276.326	700		Ne VIII	282.27		
O III	271.611	10		Mg V	276.582	700		P IV	282.301	90	
Na XI	271.953		P	N IV	276.741	10		Al IX	282.407	240	
O IV	271.990	40		F III	276.780	35		Ar VI	282.42	240	
Si X	271.995	40		Si VII	276.839	200		Ne III	282.49	10	
O IV	272.076	40		Si VIII	276.839	200		Ar VI	282.56	40	
Na III	272.076	200		F III	276.897	20		Ne VIII	282.61		
O IV	272.127	60		Mg VII	277.007	300		Al VII	282.660	315	
O IV	272.174	25		Si VIII	277.054	200		Na II	282.709	35	
Na XI	272.182		P	Ne VIII	277.1			Na II	282.803	35	
Ne VIII	272.2			Cl XIII	277.17			Si	283.1	20	N
Ne I	272.21		A, Z	Si X	277.261	50		Ne III	283.15	300	
N IV	272.219		P	O III	277.385	350		Ar VI	283.16	120	
Na XI	272.259		P	O III	277.514	50		Ne III	283.17	600	
O IV	272.273	40		Cl XIII	277.59			F VIII	283.21		P
O IV	272.310	40		N III	277.813	150	Z	Na II	283.258	15	
Na III	272.449	200		N III	277.873	300	Z	P IX	283.26	200	
P V	272.513	12		N III	277.901	50	Z	N IV	283.419	500	
N III	272.523	400		N III	277.961	150	Z	N IV	283.476	700	
Si VII	272.641	200		Si X	278.107			S VI	283.50	300	
N III	272.654	650		P XII	278.26	350		N IV	283.583	900	
F III	272.712	20		Mg VII	278.406	400		N IV	283.599		P
F III	272.756	10		P IX	278.42	40		Ne IX	283.6		
F III	272.919	10		N III	278.436	200		Ne III	283.66	500	
Na III	273.089	30		Si VII	278.445	200		O VIII	283.678		P
Na III	273.103	20		N III	278.572	400		O VIII	283.817		P
P V	273.112	30		Si X	278.61	100		N III	283.850	30	P, Z
N IV	273.140	300		Al V	278.694	1000		O VIII	283.864		P
F III	273.206	6		C VI	278.937		P	Ne III	283.87	300	
N III	273.462	200	Z	Al VII	278.982	510		N III	283.882	180	Z
Na III	273.467	30		C VI	279.038		P	N III	283.898	180	Z
N III	273.503	100	Z	C VI	279.073		P	N III	283.937	50	Z
N III	273.524	450	Z	P IX	279.18	150		N III	283.977	200	Z
N III	273.562	200	Z	Al VII	279.187	440		N III	283.996	200	Z
F VIII	273.75		P	O IV	279.456	20	Z	C IV	284.		ZZ
Na II	273.940	12		O IV	279.631	150		Al IX	284.015	345	
N III	273.977	200		F III	279.689	100		N III	284.040	400	Z
Na II	274.023	12		O III	279.787	150		Si	284.2		N
C III	274.051	200		F IV	279.834	300		N III	284.277	100	Z
N III	274.108	400		O IV	279.933	200		N III	284.308	250	Z
Si VII	274.175	200		P V	279.965	50		Cl XIV	284.31		
N III	274.213	50	Z	F III	280.007	60		N III	284.336	400	Z
N III	274.258	160	Z	O III	280.030	100		N III	284.365	150	Z
F III	274.260	60		C III	280.043	300		Na III	284.94		Z
N III	274.276	100	Z	Si	280.1	50	N	P IX	285.37	450	
N III	274.316	200	Z	Al IX	280.114	175		Al VIII	285.467	50	
N III	274.337	200	Z	O III	280.116	50		N IV	285.561	600	
N III	274.374	400	Z	N IV	280.180		P	S XI	285.58	250	
N IV	274.451	250		O III	280.234	50		O IV	285.710	40	
Al XIII	274.532		P	O III	280.265	150		Al VII	285.822	360	
Na II	274.931	20		O III	280.328	50		S XI	285.83	200	
N IV	274.946		P	O III	280.412	50		O IV	285.834	60	
Al XIII	274.958		P	O III	280.483	50		N III	285.855	225	
Na II	275.003	20		C III	280.522	200	Z	Si VI	285.92		Q
N IV	275.016		P	P V	280.593	80		Al VIII	285.959	105	
Al XIII	275.095		P	Mg VII	280.744	300		Si	286.0	20	N
Na II	275.218	5		Al VII	280.745	100		N III	286.000	450	
O III	275.281	100		F III	280.802	1		O III	286.038	10	
Al VI	275.343	300		F III	280.905	3		Cl V	286.13	200	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Cl XIV	286.26			O VIII	292.874		P	Na II	300.202	160	
Al IX	286.364	215		F VIII	292.95		P	N IV	300.318	650	
He I	286.4	20	Z	Mg VI	293.026	200		O III	300.455	150	Z
O V	286.448	100		Ne IV	293.12	75		Al IX	300.560	125	
Ne IV	286.45	75		Mg VI	293.124	400		He I	300.6	100	Z
Ne VII	286.5			Cl VII	293.25	400		Na I	300.90		A, Z
Al VIII	286.61			Ne IV	293.43	50		Ne III	301.12	400	
P IX	286.70	10		Ne IV	293.65	25		C II'	301.206	200	
Si	286.9	50	N	Na VI	293.887	30		C II	301.243	300	
Ne IV	286.93	75		Ne IV	293.95	5		P IV	301.249	1	
Al VIII	287.083	165	Q	Ar VI	294.05	240		Si VI	301.25		Q
Si X	287.16	50		He I	294.1	150	Z	C III	301.279	100	
Ne IV	287.21	50		Ne IV	294.10	15		Na II	301.318	90	
Cl V	287.33	300		Ne IV	294.39	15		Na II	301.436	100	
N III	287.56	300	Z	O IV	294.650	5		P IV	301.460	4	
Al VIII	287.610	60		Si	294.7	50	N	Na I	301.57		A, Z
F IV	287.994	1		O IV	294.853	5		P IV	301.880	4	
F IV	288.078	10		Cl VII	294.90	500		Si	302.0	50	N
F IV	288.267	100		Cl XIV	295.05			Cl XIII	302.24		
C III	288.423	10		O IV	295.051	2		He I	302.4	150	P, Z
S XII	288.45	20		O IV	295.140	2		Si IX	302.42		P
Mg VI	288.652	10		He I	295.2	100	Z	Na II	302.446	60	
Ne IX	288.8			F III	295.369	6		Na VII	302.563	20	Q
Si XI	289.0	50	Q	P V	295.392	50		Na I	302.97		A, Z
Al VIII	289.07			Mg VIII	295.393	10	Q	N IV	303.006	150	
S VI	289.09	200		Mg IV	295.395	100		N IV	303.048	300	
Al VIII	289.12			F III	295.404	3		N IV	303.078	100	
C IV	289.143	450		O III	295.511	150		N IV	303.124	500	
S XVI	289.151		P	Si	295.6	50	N	N IV	303.162	100	
Si X	289.186	100		O III	295.619	250		N IV	303.191	10	
C IV	289.230	500		S XI	295.63	200		N IV	303.280	500	
O IV	289.292	10		O III	295.657	300		Si XI	303.318	60	
O IV	289.469	5		F III	295.703	35		S XIII	303.37	50	
N IV	289.479	300		O III	295.716	300		C IV	303.4		ZZ
P IX	289.49	500		O IV	295.874	5		O III	303.411	350	
O IV	289.590	2		F III	295.889	60		Ne X	303.429		P
B IV	289.64	5		O III	295.944	150		C III	303.432	400	
Al VIII	289.645	58		O III	296.012	200		N VI	303.45		
O IV	289.898	20		P V	296.085	80		O III	303.460	350	
O IV	289.933	5		Si IX	296.19	150		C III	303.468	100	
S VI	290.13	300		O III	296.22	50	Z	O VIII	303.511		P
F IV	290.147	400		N IV	296.418		P	O III	303.515	350	
S XVI	290.404		P	C IV	296.857	300		C VI	303.595		P
F IV	290.440	300		C IV	296.951	350		O III	303.621	350	
F IV	290.461	200		Ne VIII	297.12		P	Ne X	303.627		P
Cl XIV	290.51			Na V	297.482	30	Q	O VIII	303.669		P
F IV	290.608	230		N IV	297.595	500		Be IV	303.678		P
Si IX	290.63	20		Ar VII	297.62	150		O III	303.693	350	
S XVI	290.835		P	N IV	297.634	500		Ne X	303.694		P
F III	290.846	60		N IV	297.657	400		C VI	303.712		P
N III	290.865	200	Z	Ar VII	297.66	200		O VIII	303.722		P
N III	290.916	160	Z	Ar VII	297.70	300		N VI	303.75		
N III	290.930	400	Z	N IV	297.704	600		C VI	303.752		P
F III	290.945	35		N IV	297.770	600		Be IV	303.756		P
N III	290.965	100	Z	N IV	297.816	700		He II	303.7804	665	P
N III	291.023	160	Z	Si	297.9	50	N	He II	303.7858	335	P
N III	291.031	200	Z	Si IX	298.20		P	O III	303.799	450	
O IV	291.054	5	Z	Na I	298.33		A, Z	N III	303.825	50	Z
O IV	291.203	5	Z	Ne VIII	298.70			N III	303.856	180	Z
Si VII	291.22			Na I	298.83		A, Z	N III	303.880	180	Z
C III	291.3261	500		Ne VIII	299.13			N III	303.910	100	Z
Mg VI	291.348	300		P IV	299.258	1		N III	303.960	200	Z
Mg VI	291.458	200		O III	299.275	100	Z	N III	303.985	200	Z
S XI	291.59	200		O IV	299.499	10		Na VII	304.030	20	Q
S XI	291.83	0		S XII	299.50	175		N III	304.035	450	Z
Ar VI	292.15	200		O IV	299.620	5		N III	304.103	300	Z
Si X	292.220	60		N III	299.661	300		N III	304.203	200	Z
Ne VIII	292.38			P IV	299.672	1		P IV	304.364	4	
N III	292.447	450		O IV	299.710	5		He I	304.5	325	Z
O VIII	292.465		P	N III	299.818	550		N IV	304.733		P
Ne VIII	292.47			O IV	299.853	15		N III	304.786	100	Z
F VIII	292.52		P	S XIII	299.89	75		N IV	304.793		P
N III	292.595	750		N III	299.903	200	Z	N IV	304.800		P
O VIII	292.774		P	Si	300.02		N	P IV	304.805	4	
Si IX	292.83	80		Na II	300.153	160		N IV	304.811		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N III	304.812	250	Z	Na VI	311.921	400		Cl IV	320.88	100	
N III	304.837	110	Z	Al VI	312.237	300		O III	320.979	600	
N III	304.860	500	P, Z	Mg V	312.302	200		Mg IV	320.9943	1000	
N III	304.887	100	P, Z	C IV	312.422	750		Al IX	321.027	160	
Na I	304.89		A, Z	C IV	312.453	700		Mg VII	321.07		P
N IV	304.916		P	P IV	312.566	4		N III	321.079	220	
N III	304.921	100	Z	Na VI	312.608	300		N III	321.135	200	
N IV	304.927		P	S XIII	312.68	25		N III	321.162	500	
P IV	304.996	90		P X	312.77	40		P IV	321.172	10	
Al IX	305.055	165		P X	312.98	150		N III	321.198	100	
He I	305.4	175	P, Z	P IV	313.024	10		N III	321.261	200	
Si	305.5	50	N	Ne III	313.05	400		N III	321.278	220	
O III	305.596	400		Ne III	313.68	300		C III	321.372	10	
O III	305.656	450		Mg VIII	313.743	100		O IV	321.457	5	
O III	305.703	400		Na VI	313.748	500		Na I	321.57		A, Z
N III	305.761	250		Ne III	313.92	100		Si	321.81		N
O III	305.769	500		P IV	314.300	10		Mg VI	322.44		
He I	305.8	270	P, Z	Si VIII	314.31	50		N IV	322.506	700	
O III	305.836	400		N IV	314.324	20		P IV	322.544	1	Z
Si IX	305.85			C III	314.41	100		N IV	322.572	700	
O III	305.879	200		P IV	314.512	60		C III	322.5741	800	
N III	305.920	500		Mg VI	314.554	300		F III	322.647	20	
O IV	306.623	90		He I	314.6	30	Z	Ne III	322.66		P
O IV	306.884	60		C IV	314.6		ZZ	F III	322.675	10	
Al IX	306.91			Mg VI	314.676	400		N IV	322.722	700	
Na V	307.152	800		Si	314.7	50	N	Si	322.90		N
P IV	307.203	1		N III	314.715	450		Mg VII	323.12		P
Al VI	307.249	350		N III	314.850	800		N IV	323.178	600	
Al IX	307.26		P	N III	314.877	80		S XII	323.18		
S XIII	307.36	50		P IV	314.991	25		Na I	323.25		A, Z
P IV	307.648	4		Mg VIII	315.022	200		N III	323.263	600	Z
Si VIII	307.65	20		N IV	315.060	600		Mg IV	323.3076	800	
C IV	307.806	50	F	F III	315.219	150		Ne III	323.33		P
O III	308.051	50		F III	315.536	100		Cl VI	323.36	600	
Si VIII	308.26	50		P IV	315.570	150		Na I	323.40		A, Z
Na V	308.264	1000		P XI	315.65	80		N III	323.436	100	
O III	308.306	100		F III	315.747	60		N III	323.493	200	
P IV	308.402	4		Si VIII	316.202	100		P IV	323.502	10	
B IV	308.41	20		F III	316.484	20		Al VIII	323.52		
Na VI	308.500	25		Al IX	316.793	90		F IX	323.588		P
Na XI	308.500		P	F III	316.822	10		Na I	323.59	6	A, Z
Ne III	308.56	100		S XIII	316.84	50		N III	323.620	500	
Al VI	308.563	300		O III	316.967	150		N III	323.675	100	
P IV	308.615	10		F III	316.995	6		P IV	323.734	25	
Na XI	308.787		P	Mg VIII	317.029	100		F IX	323.858		P
Na XI	308.882		P	P XI	317.20	80		Al VIII	323.863	80	
S XIII	308.91	125		O III	317.24	50	Z	Na I	323.88	10	A, Z
Al VII	309.023	420		N IV	317.596	200		Cl VI	323.94	800	
P IV	309.060	25		Na VI	317.641	600		F IX	323.947		P
Al VII	309.072	475		F III	317.791	3		P IV	324.221	40	
He I	309.1	190	Z	F III	318.126	1		Na I	324.28	14	A, Z
Al VII	309.121	375		P X	318.28	250		Na I	324.51		A, Z
F X	309.20			Al IX	318.537	120		Ne II	324.570	20	
Al VI	309.597	400		Cl IV	318.75	100		Na I	324.90	22	A, Z
Al VI	309.851	300		Mg VII	319.016	400		Cl VI	325.16	1000	
C III	310.1697	700		C III	319.29	300		Na I	325.19	11	A, Z
P V	310.578	110		Cl IV	319.51	100		Al VIII	325.31		
P IX	310.70	60		Cl IV	319.62	300		P XI	325.31	30	
N III	310.746	50	Z	Na IV	319.6436	450		Ne II	325.393	10	
N III	310.803	100	Z	F IV	319.695	300		P XI	325.51	150	
Al VI	310.907	300		Na I	319.71		A, Z	C III	325.570	100	Z
N IV	310.962		P	F IV	319.740	10		Al VIII	325.596	155	Q
N III	311.007	350	Z	Mg VI	319.80			P IV	325.651	10	
N III	311.113	200	Z	Si VIII	319.829	100		N III	325.788	20	Z
C III	311.157	10		Cl IV	319.99	10		N III	325.841	50	Z
He I	311.2	30	P, Z	O III	319.996	150		Na I	325.86	25	A, Z
P V	311.342	150		F IV	320.004	200		Na I	326.32	17	A, Z
F III	311.413	20		F IV	320.192	100		P XI	326.45	10	
O IV	311.499	25		Cl IV	320.25	100		Ne II	326.542	40	
N III	311.550	300		He I	320.29	370	P, Z	Ne II	326.787	50	
N III	311.636	500		Na I	320.32		A, Z	C III	327.112	400	
O IV	311.682	40		P IV	320.462	4		Si IV	327.137		
N III	311.721	50		Mg VII	320.50			Na I	327.14		A, Z
O IV	311.726	10		P IV	320.701	10		C III	327.176	400	
Mg VIII	311.806	10		O III	320.720	100	Z	Si IV	327.181		

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P XII	327.25	50	P	N III	334.476	250	Z	N IV	345.062	600	
Ne II	327.262	30		P IV	334.538	60		Si VIII	345.10		
O IV	327.320	5		Na XI	334.584		P	N IV	345.111	150	
Ne II	327.355	20		Si VIII	334.94	50		N IV	345.207	200	
Na I	327.46		A, Z	Al VIII	334.951	215		N IV	345.261	250	
O IV	327.519	1		N IV	335.052	850		O III	345.309	500	
Ne II	327.626	20		P XII	335.09	150	P	O IV	346.374	15	
Na I	327.68		A, Z	Mg VIII	335.230	10		Na I	346.42		A, Z
C III	327.784	100	Z	F VII	335.38		P	P IV	346.490	4	
Ne I	327.97		A, Z	Si XII	335.7	20	Q, ZZ	Na I	346.68	26	A, Z
Ne II	328.090	20		Na I	335.73	16	A, Z	O IV	346.692	10	
Na I	328.14		A, Z	Na I	335.96	32	A, Z	N III	347.072	100	Z
Al VIII	328.200	10		P V	336.072	12		N III	347.148	200	Z
F IV	328.213	10		Ar V	336.56	150		P V	347.234	150	
S XII	328.39			Si	337.1	50	N	Si X	347.417	40	
Na I	328.40		A, Z	Ar VIII	337.26	100		Si X	347.644	200	
O III	328.448	500		Ar V	337.56	150		Si X	347.646	15	
P V	328.470	300		O VIII	337.979		P	Si X	347.693	15	
S VI	328.51	600		Ar V	338.00	300		Si X	347.695	100	
Al VI	328.67			He I	338.1	130	Z	C III	347.777	300	
O III	328.742	450		O VIII	338.169		P	C III	347.854	300	
P V	328.775	250		Ar VIII	338.22	10		P V	348.196	200	
Na I	328.89		A, Z	O VIII	338.233		P	N III	348.683	800	Z
Ne X	329.145		P	N III	338.349	500	Z	F II	348.795	1	Z
N III	329.242	50	Z	P XII	338.36	20		N III	348.816	800	Z
Na I	329.28		A, Z	Na I	338.38		A, Z	Mg VI	349.155	700	
N III	329.307	100	Z	Si VIII	338.47			P V	349.242	50	
Ne X	329.374		P	Ar V	338.43	100		O III	349.825	150	
Ne X	329.451		P	Na I	338.62		A, Z	Si IX	349.90	50	
Al VIII	329.551	40		N III	338.808	250	Z	O III	349.918	100	
Na I	329.58		A, Z	P IV	338.841	25		O III	349.961	50	
Na I	329.74		A, Z	N III	338.937	300	Z	C III	350.132	10	Z
P XV	329.775		P	Mg VIII	339.007	100		C III	350.35	200	Z
Ne II	330.146	5		Ar V	339.01	150		Si VIII	350.38		
Ne II	330.205	5		P IV	339.101	60		S XI	350.50	0	
Na I	330.21		A, Z	O IV	339.330	2		Na VII	350.645	500	
N III	330.26	300	Z	O IV	339.436	1		Ar V	350.88	150	
P XII	330.31	40		P IV	339.633	90		F VI	351.0		Q
C III	330.617	100		Ar V	339.89	150		Mg V	351.088	400	
Ne II	330.626	5		F VIII	340.0			P IV	351.808	1	
Na I	330.66		A, Z	N III	340.20	500	Z	N III	351.909		Z
C III	330.687	100		Al VIII	340.23			N IV	351.931	500	
Na V	330.718	10		Cl VII	340.23	750		N III	351.979	500	Z
P XV	330.781		P	Cl VII	340.30	900		N III	352.114	20	Z
Ne II	330.790	20		C III	341.143	500		Al VII	352.145	75	
Na I	330.95		A, Z	C III	341.179	600		Mg V	352.200	360	
Al VIII	330.982	65		C III	341.242	700		Ne II	352.2466 h	30	
Al VIII	331.01			O V	341.391	10		P XI	352.26	20	
Ne II	331.069	1		P V	341.549	30		Na VII	352.275	600	
P XV	331.088		P	Mg VIII	341.75			O V:1	352.39		P
Na I	331.16		A, Z	Mg V	341.790	10	Q	Mg VIII	352.46		
Si VI	331.2	50	Q	F III	341.921	10		Ne II	352.9561 h	90	
Ne II	331.515	2		Si IX	341.95		P	C III	353.000	300	
Cl IV	331.84	200		P XII	342.02	50		N IV	353.056	700	
Cl XII	331.94			Mg VIII	342.07			Mg V	353.091	600	
P V	332.02			Si	342.2	50	N	Ne II	353.2149 h	50	
Si	332.1	50	N	Na I	342.35	20	A, Z	P IV	353.236	10	
N III	332.150	350		N III	342.665	250	Z	Na VII	353.294	800	
N III	332.333	650		N III	342.741	300	Z	Mg V	353.300	300	
Na I	332.45		A, Z	Na I	343.16	18	A, Z	F II	353.423	2	Z
Na V	332.550	800		O V	343.168	3		P XI	353.60	20	
Na I	332.67		A, Z	Al VII	343.290	125		P V	353.763	4	
Al X	332.783	20		Si VIII	343.49			Al VII	353.769	140	
Si	332.8	20	N	Al VII	343.641	160		Mg VIII	353.86		
Al X	332.891	10		Na I	343.88	29	A, Z	Ar XVI	353.92	300	
Na I	333.07		A, Z	F III	343.893	35		Ne II	353.9349 h	30	
P IV	333.758	25		F III	343.934	3		N VII	354.039		P
Na XI	333.807		P	B IV	344.01	160		N VII	354.167		P
P XII	333.83	20		Na I	344.27		A, Z	N VII	354.210		P
Na V	333.910	900		F III	344.385	20		Mg V	354.224	360	
P IV	334.013	40		Na I	344.56	55	A, Z	Na VII	354.950	400	
Na XI	334.398		P	He I	344.7	30	Z	Ne II	354.9622 h	60	
Si	334.4	20	N	N IV	344.916	250		F IV	355.045	200	
Al VIII	334.40			N IV	345.025	200		O III	355.137	300	
N III	334.407	200	Z	Si IX	345.06	20		O III	355.293	150	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Mg V	355.329	400		N III	361.205	50	Z	C III	371.747	1000	
O III	355.333	250		F IV	361.208	10		C III	371.784	800	
Ne II	355.4541 st	20		Na VI	361.250	800		P IV	372.001	200	
O III	355.469	250		N III	361.288	200	Z	Na II	372.075	300	
N VI	355.57			Si XI	361.31	50	P	P IV	372.150	60	
Ne II	355.6559 st	40		Ne II	361.4326 st	90		P IV	372.256	10	
C VI	355.750		P	P IV	361.514	120		Cl V	372.59	200	
Ne II	355.839	1		Si IV	361.560			Cl V	373.17	200	
C VI	355.906		P	P IV	361.629	150		Ne X	373.387		P
Ne II	355.9476 st	40		Si IV	361.659			Si	373.4	50	N
C VI	355.958		P	P IV	361.802	40		Ne X	373.673		P
N VI	355.96			Si	361.9	50	N	Ne X	373.769		P
Mg VIII	356.000	10		P IV	362.133	60		Cl V	373.78	300	
Si X	356.051	40		S XI	362.34	0		O III	373.805	400	
Ne II	356.1290 st	40		P IV	362.412	4		Cl V	373.91	10	
P IV	356.364	10		Na VI	362.444	400		Mg VII	373.99		
Ne II	356.4410 st	30		Ne II	362.4554 st	60		O III	374.005	400	
Ne II	356.5405 st	30		N III	362.831	150		O III	374.075	500	
O III	356.558	10		N III	362.876	400		O III	374.165	400	
O III	356.625	50		N III	362.902	200		N III	374.204	500	
O III	356.725	100		N III	362.949	700		O III	374.331	400	
O III	356.768	10		N III	362.982	150		O III	374.436	400	
Ne II	356.7995 st	50		N III	363.004	30		N III	374.441	900	
Ne II	356.8769 st	20		P IV	363.467	10		Cl V	374.66	100	
Al VII	356.880	20		C III	363.7538	400		F IX	374.684		P
N III	357.238	250	Z	Mg VII	363.770	10		F IX	374.881		P
N III	357.324	450	Z	Na VI	363.774	200		F IX	374.948		P
Si X	357.47	50		C III	363.7852	500		Cl V	375.10	200	
Ne II	357.5355 st	40		C III	363.8598	600		F II	375.237	10	
P IV	357.708	60		P IV	363.933	4		F II	375.303	100	
Ne IV	357.831	250		Na VI	364.477	300		Na II	375.340	40	Q, Z
P IV	357.837	60		Si XI	364.50	50		F II	375.432	10	
Ne V	357.95	400		O III	364.739	150		F II	375.702	40	
P IV	358.132	60		O III	364.867	100		Na II	375.730	45	Q, Z
N III	358.278	50		O III	364.940	50		F II	375.784	10	
Si IX	358.29			Mg VII	365.230	200		F II	375.927	40	
Si XI	358.29			Si XI	365.42	100		B III	376.372	100	
Si X	358.30			Na	365.584	7	N	Na II	376.379	350	
N III	358.327	250		Ne V	365.61	1000		Mg V	376.665	100	
P IV	358.328	150		C III	365.778	100	Z	F II	376.684	10	
N III	358.356	250		F III	365.876	60		O II	376.693	10	
N III	358.401	80		Na VI	366.110	400		O II	376.745	10	
N III	358.469	260		C III	366.19	400	Z	Na	376.921	45	N
Ne V	358.48	500		Na VI	366.240	10		F VII	377.0		
N III	358.509	260		F III	366.391	35		O II	377.045	10	
Si XI	358.54	100	P	O IV	367.192	5		F II	377.133	1	
N III	358.578	600		F VII	367.53		P	N III	377.286	100	Z
Ne IV	358.721	1000		Na V	367.557	200		N III	377.380	100	Z
P IV	358.736	90		P V	367.588	12		N III	377.444	100	Z
C III	358.740	400		P IV	367.660	25		N III	377.540	250	Z
P XI	358.94	20		Mg VII	367.679	400		Na III	378.136	1000	
P IV	358.999	60		F VII	367.87			Na VII	378.22		
O III	359.016	400		Mg IX	368.071	100		P V	378.561	110	
O III	359.223	400		O VII	368.08		P	F III	378.580	10	
P IV	359.293	120		N IV	368.108	450		Si XIV	378.808		P
O III	359.384	350		Si XI	368.38	50	P	C III	379.065	100	Z
Ne V	359.39	500		B V	368.952		P	C III	379.254	10	
P IV	359.899	150		B V	369.037		P	Ne III	379.31	700	
Si	359.95		N	B V	369.067		P	O III	379.505	200	
Si VI	360.3	50	Q	C III	369.415	500		O III	379.575	150	
Na V	360.319	800		C III	369.472	200		O III	379.631	100	
P XI	360.36	20		Na V	369.743	300		F II	379.719	1	Z
Na V	360.367	800		Mg VII	369.85			O IV	379.780	15	
B V	360.394		P	N VII	370.590		P	Si XIV	379.812		P
B V	360.477		P	N III	370.640	300	Z	O IV	379.923	10	
B V	360.505		P	N VII	370.729		P	Na III	380.100	700	
C III	360.557	600		Al VII	370.753	35		Si XIV	380.118		P
P V	360.600	80		N VII	370.776		P	P IV	380.152	60	
C III	360.623	700		N III	370.794	350	Z	F II	380.896	100	Z
F IV	360.635	100		Mg VII	371.08			B IV	380.94	5	
C III	360.675	500		P IV	371.299	120		Al VIII	381.15		
Na IV	360.760	450		P IV	371.504	150		Na VII	381.300	300	
Si IX	360.9	50	Q	Si XI	371.61	100	P	B V	381.619		P
N III	361.061	100	Z	P IV	371.611	60		Al VII	381.674	55	
N III	361.143	50	Z	C III	371.694	1000		B V	381.710		P

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B V	381.742		P	O II	392.002	150		B V	401.838		P
F VII	381.80		P	Al VII	392.048	45		B V	401.873		P
F II	381.824	1	Z	F VII	392.16		P	Ne VI	401.93	250	
O VII	382.02		P	O II	392.322	150		Na I	402.97	100	A, Z
N VII	382.136		P	Al IX	392.425	80		O II	403.035	10	
O III	382.214	50		Cl V	392.43	500		O II	403.087	10	
N VII	382.446		P	P IV	392.901	60		Ne VI	403.26	100	
N VII	382.544		P	Si	393.15		N	O II	403.273	10	
O VII	382.60			F II	393.680	40		Na V	403.283	5	
Ar III	382.61	125		F II	394.207	10		Mg VI	403.315	800	
Mg VII	382.72			N V	394.228		P	O II	403.372	10	
O V	382.757	1		N V	394.348		P	Al X	403.55		
O III	382.903	50		F II	394.438	1		Ne X	404.102		P
Na	383.399	12	N	Si X	394.71			Si	404.30		N
Al VIII	383.70			Na	394.904	2	N	P IV	404.535	150	
Na XI	383.716		P	F VII	395.0			Ne X	404.692		P
Na VI	383.783	25	Q	Al X	395.36			Ne X	404.877		P
Al VIII	383.785	50		F III	395.443	6		O VI	405.		ZZ
Cl XV	383.96			Al IX	395.51		P	Ar	405.42	20	N
C IV	384.032	800		O III	395.558	600		N IV	405.550		P
Na XI	384.141		P	Al X	395.62		P	Si V	405.54		Q
C IV	384.178	850		P III	395.723	4	Z	F II	405.638	100	
Na XI	384.278		P	Si X	395.73			Ne II	405.8538 st	150	
Si	384.32		N	Ar III	395.92	50		F VI	406.12		
Al IX	384.95			F III	395.972	3		Cl III	406.27	100	
B IV	385.00	450		Al IX	396.05			Al X	406.31		
C III	385.043			P III	396.059	25	Z	F IX	406.443		P
Na VII	385.061	10		N III	396.186	450		Si	406.54		N
Na VII	385.254	10		F III	396.244	1		F IX	406.672		P
Si	385.4		N	Na VII	396.335	200		F IX	406.749		P
F VII	385.6			Ar III	396.37	200		B IV	406.84	5	
Al VII	386.066	95		N VII	396.504		P	N III	407.00		F, P
C III	386.2028	850		P III	396.605	40	Z	F II	407.041	200	
P IV	386.752	90		N VII	396.660		P	Ne II	407.1376 st	120	
Ne IV	387.141	700		F VII	396.7			N III	407.29		F, P
N IV	387.353	500		N VII	396.714		P	N III	407.35		F, P
N III	387.375	300	Z	P X	396.77	10		Cl XIII	407.48		
Si	387.39		N	Ar IV	396.87	160		F II	407.503	100	
O III	387.398	100		P III	396.940	4	Z	Cl III	407.51	10	
Ar III	387.45	100		O III	397.120	100		Si VIII	407.7		
O III	387.482	150		O III	397.231	50		Na IV	408.6836	650	
N III	387.483	500	Z	O III	397.310	10		F VIII	408.9		
Al VII	387.521	125		Si	397.47		N	Si	409.1		N
O III	387.639	200		Na VII	397.490	300		Ar	409.12	20	N
Mg VI	387.787	200		Ar III	397.67	50		C III	409.325	600	
Al VIII	387.970	100		Al X	397.76			Na IV	409.6142	450	
Mg VI	388.020	300		Ar III	398.17	125		O VIII	409.658		P
Ne IV	388.218	500		C III	398.42	200	Z	F VIII	409.7		
P IV	388.318	500		Ar IV	398.55	160		P IV	409.827	40	P
Si X	388.59			Si	398.65		N	O VIII	409.927		
S VI	388.94	600		N III	398.885	500	Z	Be IV	409.932		P
C III	388.9687	500		Ar III	398.91	50		O VIII	410.016		P
F VII	389.00		P	N III	399.045	600	Z	P V	410.029	150	
C III	389.0045	600		N III	399.060	60	Z	Be IV	410.064		P
C III	389.0898	700		Na VII	399.182	400		Ar	410.10	20	N
Ar XVI	389.14	300		Mg VI	399.289	600		Na IV	410.3715	1000	
Na	389.362	7	N	Al VIII	399.57			Na IV	410.5411	285	
Ar VIII	389.43			C III	399.612	600	Z	N III	411.056	350	Z
Ar III	389.49	25		Ar IV	399.63	120		Na VIII	411.145	100	
P V	389.496	250		C III	399.688	600	Z	Cl III	411.16	300	
Si X	389.57			Ne VI	399.82	50		N III	411.173	200	Z
P IV	389.698	90		Cl VI	399.94	250		N III	411.243	200	Z
C III	390.055	300		Cl VI	399.96	350		Na IV	411.3343	450	
N V	390.102		P	Cl VI	400.00	400		N III	411.361	400	Z
N V	390.116		P	Si V	400.15		Q	Cl III	411.37	400	
Ar VIII	390.12			Al X	400.43			C III	411.697	10	Z
Cl V	390.15	400		F II	400.582	10		Cl III	411.81	400	
P V	390.371	50		Mg VI	400.676	700		B III	411.810	300	
P V	390.699	300		Na V	400.722	1000		C III	411.9577	300	
O V	390.755	15		Na I	400.80	80	A, Z	Si IV	412.155		
S VI	390.86	800		Si	400.82		N	Na IV	412.2418	750	
N V	391.008		P	Al X	401.12			P IV	412.521	90	
N V	391.123		P	Ne VI	401.14	150		Si IV	412.939		
O II	391.912	50		Al X	401.183	10		O V	413.296	25	
O II	391.943	100		B V	401.738		P	N III	413.681	450	

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
N III	413.797	450		Ar I	428.8		A, Z	Si III	437.255		
Na VI	414.370	200		Mg VII	429.134	100		B V	437.256		P
P IV	414.604	120		P IV	429.475	10		O II	437.332	150	
O V	414.612	3		F III	429.512	250		C V	437.37		P
P IV	414.999	200		O II	429.557	100		B V	437.372		P
Si V	415.15		Q	O II	429.647	250		B V	437.413		P
Cl III	415.20	100		O II	429.716	200		Al IX	437.46		
Cl III	415.33	100		Ar	429.80	10	N	S V	437.48	100	P
Cl XV	415.50			O II	429.918	250		O II	437.683	150	
Na VI	415.505	400		Ne VI	429.95		P	Cl IV	437.83	400	
P IV	415.805	250		O II	430.041	300		Si IV	437.849		
Ar	415.86	20	N	F III	430.152	300		Al IX	438.09		
Ne V	416.20	800		O II	430.177	300		S V	438.19	100	
C III	416.769	500		Si IX	430.22		P	O V	438.197	1	
Ne V	416.82	250		F III	430.222	150		Ar	438.64	10	N
Ar	417.12	10	N	Mg VIII	430.467	10		Mg IX	438.69		
Na VI	417.595	600		N V	430.714		P	Si IV	438.734		
S XIV	417.61	300		F IV	430.759	900		C II	438.824		Z
P IV	417.828	4		Mg	430.767	10	N	C II	438.897	100	Z
F II	417.872	10	Z	N V	430.857		P	P IV	438.906	1	
O II	418.598	50		F II	431.914	300		Si IX	439.04		P
C III	418.609	200		Ar I	451.0		A, Z	Mg IX	439.180	10	
B IV	418.66	285		Mg VII	431.318	200		Cl IV	439.26	300	
N III	418.712	650		Ne IV	431.47	125		P III	439.509	4	
O II	418.812	10		F II	431.552	200		O V	439.517	15	
Na VI	418.828	30		F II	431.832	100		Al XIII	439.585		P
N III	418.919	500		Li III	431.977		P	S V	439.65	100	
Cl XIII	419.46			Li III	432.029		P	Mg VI	439.82		
C IV	419.525	650		Al IX	432.03			Ar	439.96	40	N
F IV	419.645	800		Al IX	432.66			O VI	440.		ZZ
C IV	419.714	700		F VII	432.81		P	Cl IV	440.25	200	
F IV	420.045	900		P V	433.056	80		Na VI	440.266	300	
Ne V	420.39	100		P V	433.173	50		Ne VI	440.404	100	
F IV	420.729	1000		Ne VI	433.176	400		O II	440.552	150	
N IV	420.769	500		Ne IV	433.24	250		Al XIII	440.587		P
Ne V	420.94	150		C III	433.3391	800		P III	440.590	10	
Al VI	421.46	5		Cl III	433.66	10		O II	440.598	100	
Na VI	421.465	100		Cl III	433.77	10		Ne VI	440.60	10	
Ne IV	421.609	750		P IV	433.838	4		Al XIII	440.894		P
Cl III	421.77	300		N III	433.911	300		Ar	440.91	30	N
Li III	421.854		P	N IV	433.930		P	Li III	440.976		P
Li III	421.903		P	N IV	434.000		P	F VII	441.0		
Cl III	421.99	300		N III	434.014	260		Li III	441.029		P
F II	422.013	40		N III	434.066	650		P VI	441.08	1	
Ne V	422.21	150		N IV	434.067		P	Si IX	441.13		P
Ne V	422.34	50		N IV	434.097		P	Mg IX	441.20		
F II	422.623	10		N III	434.129	150		Mg VI	441.22		
Cl III	422.71	100		N IV	434.235		P	Mg VIII	441.30		
F II	422.884	1		N III	434.246	260		Cl III	441.40	300	
C III	423.438			O III	434.256	200		N VII	441.538		P
Ar IV	423.48	10	Q	N III	434.280	300		N VII	441.729		P
Si III	423.817			N IV	434.302		P	Mg VIII	441.76		
Na VI	423.821	200		B III	434.627	100		N VII	441.792		P
Ar XV	424.01	120		O III	434.646	150		Ar	441.83	30	N
P IV	424.235	200		Mg VII	434.710	10		O II	442.001	200	
O II	424.577	10		P IV	434.817	10		O II	442.048	200	
N V	424.61	35		O III	434.840	100		O IV	442.705	2	
N V	424.75	40		Mg VII	434.923	200		O IV	442.873	1	
N IV	424.864		F, P	O III	434.975	500		Si VI	442.94	60	
P IV	424.983	10		Ar I	435.0		A, Z	Cl III	442.95	200	
Na	425.245	10	N	F II	435.636	200		O VI	443.		ZZ
O II	425.273	10		Ne VI	435.649	400		Ar I	443.1		A, Z
C II	425.326	10		Mg VI	436.06		P	Mg IX	443.40		
Na VII	425.493	100	Q	F II	436.281	100		Ar IV	443.40	80	
Li III	426.017		P	O II	436.510	50		O II	443.681	10	
Li III	426.067		P	P VI	436.53	3		P IV	443.803	200	
O II	426.526	50		F II	436.565	40		Si VI	443.81	20	
Si III	426.644			O II	436.649	10		Mg IX	443.981	10	
Si IX	427.06		P	Ar V	436.67	120		F VII	444.0		
Ar I	427.5		A, Z	Mg VIII	436.726	100		S XII	444.16		
B IV	427.70	5		Ar XII	436.8		P	P IV	444.245	1	
Ne III	427.84	300		N V	436.85	60		F VI	444.47		Q
N III	428.180	600		C V	436.94		P	Na VI	444.686	20	
N III	428.244	400		Na VI	436.946	10	Q	Ne II	445.0397 at	200	
Mg VIII	428.27			C II	437.102	100		Na V	445.046	500	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Mg VI	445.06		P	N III	456.077	600		N IV	463.740	650	
P IV	445.158	300		Al V	456.08	15		P IV	463.843	40	
Na V	445.190	600		Ne II	456.2749 st	10		Ar V	463.938	350	
O II	445.601	200		Ne II	456.3483 st	120		P VI	463.981	10	
O II	445.638	200		Ar VI	456.38	120		Si V	464.05	10	
S XIV	445.77	300	P	P VI	456.430	300		O II	464.194	100	
P IV	445.810	4		S XII	456.55			Ar VI	464.26	160	
Mg IX	445.97			Cl VII	456.56	50		F III	464.288	200	
Ar V	445.997	250		Al V	456.73	8		Cl IV	464.29	300	
P IV	446.121	1		P III	456.844	40		O II	464.310	50	
Ne II	446.2556 st	300		Ne II	456.8962 st	90		F V	464.367	400	
F VI	446.49		P	O II	456.997	50		Ne X	464.445		P
Ne II	446.5901 st	250		Al V	457.00	10		S VI	464.68	1000	
Ar V	446.949	400		Ar VI	457.01	200		O II	464.785	150	
Ar XII	447.0		P	Cl III	457.17	300		Cl IV	464.86	400	
O V	447.226	15		F II	457.179	600		Ne X	464.869		P
P VI	447.351	50		Cl III	457.24	200		Ne X	465.006		P
O V	447.356	25		Si VI	457.42	30		Ar	465.02	150	N
Ar V	447.53	200		Cl III	457.44	10		F III	465.113	250	
O VI	447.712	10		Ar VI	457.48	800		Ne VII	465.221	700	
Ne II	447.8150 st	180		P VI	457.498	60		Cl IV	465.35	300	
O VI	447.840	10		Si IV	457.818	250		F V	465.374	500	
N III	448.285	350	Z	P III	458.016	60		P VI	465.376	200	
Mg IX	448.29			Ar VI	458.04	40		Na VI	465.460	5	
N III	448.384	400	Z	Ar IV	458.1			N II	465.486		P
P IV	448.466	1		Ar V	458.12	150		O II	465.529	50	
N III	448.549	450	Z	Si IV	458.155	200		Ar VI	465.59	80	
P VI	448.850	80		Cl XIV	458.39			N II	465.592		P
P VI	448.928	60		O II	458.422	10		O II	465.760	100	
O VI	449.		ZZ	B III	458.72	100		N II	465.770		P
Ar V	449.065	900		Ar V	458.98	100		Ar II	465.8365 st	15	
P V	449.08	20		Ar VI	459.32	400		Mg VIII	465.972	10	Q
P III	449.462	10		P VI	459.347	100		F V	465.976	600	
Ar V	449.49	200		C III	459.462	900		P III	466.038	25	
N II	449.559	450		C III	459.521	950		Si III	466.129	80	
N V	450.072	50	P	Ar VI	459.60	100		Cl IV	466.13	300	
Ar V	450.08	50		C III	459.633	1000		Ar I	466.2		A, Z
N V	450.105	30	P	Ar V	459.73	50		Al V	466.24	8	
Ar XII	450.44	80	Q	Na V	459.897	600		C II	466.352	10	Z
P IV	450.448	10		C III	460.0487	800		C II	466.407	100	Z
P III	450.596	25		Ar VI	460.06	40		C II	466.491	200	Z
P VI	450.67	2		Ar VI	460.20	40		Ar III	466.53	250	
Mg VII	450.66			N IV	460.217		P	C II	466.547	10	Z
C III	450.7338	800		N IV	460.272		P	N II	466.558		P
P VI	450.900	100		N IV	460.394		P	Na VI	466.640	20	Q
Ar IV	451.20	15		Si V	460.68	1		N II	466.728		P
Ne VI	451.843	200		Ne II	460.7284 st	1000		N II	466.737		P
N III	451.869	450		Na V	461.051	850		Ar V	466.82	60	
Ar IV	451.87	45		F IX	461.084		P	N II	466.834		P
Si VI	452.17	100		C II	461.120	100	Z	P VI	466.864	120	
N III	452.226	900		Ar V	461.23	300		Ar VI	466.93	160	
P VI	452.59	30		Ar VI	461.23	300		N II	466.934		P
Ne VI	452.745	300		Si VI	461.30	200		F V	466.994	400	
P VI	452.835	10		F IX	461.370		P	N II	467.013		P
Ar IV	452.91	80		F IX	461.466		P	P VI	467.098	150	
N II	453.257	20		P IV	461.834	1		Cl IV	467.19	300	
N II	453.340	100		Ar VI	461.90	40		P III	467.255	60	
N II	453.624		P	Si V	461.97	3		Ar III	467.39	300	
P IV	453.707	40		Ar VI	462.007	1000		N III	467.432	500	Z
N II	453.793		P	P IV	462.050	1		P V	467.448	1	
Ne VI	454.072	300		Ar VI	462.15	160		Si V	467.64	1	
Si IV	454.112			P IV	462.185	10		N III	467.649	450	Z
P VI	454.537	20		Si VI	462.29	20	Q	N III	467.795	350	Z
Ne II	454.6535 st	150		Ne II	462.3908 st	500		O II	467.926	10	
Ar	454.76	20	N	Ar V	462.42	150		P III	468.039	60	
Cl XIV	454.84		P	P IV	462.625	4		Si V	468.345	25	
Si IV	455.065			Ar XIII	462.8		P	Ar	468.38	80	N
Cl VII	455.27	100		P IV	462.827	4		P VI	468.464	70	
Ne II	455.2738 st	200		P VI	462.926	100		Ar III	468.47	200	
P IV	455.466	4		Cl IV	463.01	300		P IV	468.502	25	
C III	455.5	0		P IV	463.060	10		P III	468.516	25	
Li III	455.598		P	Na V	463.263	1000		O II	468.766	100	
Li III	455.625		P	Al V	463.51	10		Si VI	468.78	100	
P XIII	455.67	10		P VI	463.605	60		C II	468.94	10	
Ar VI	455.81	80		P VI	463.735	30		P IV	468.953	4	

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Ar III	468.96	150		Al IV	476.27	20		C III	483.733	500	
P VI	469.052	60		Ar III	476.43	350		O II	483.752	200	
O V	469.150	3		N II	476.469		P	O II	483.976	250	
Al V	469.24	20		N II	476.656		P	O II	484.025	100	
F VI	469.48			Si V	476.88	15		Ar III	484.12	250	
Ar II	469.6301 st	30		N IV	476.909		P	P III	484.139	25	
Si V	469.71	10		Ar II	477.1048 st	120		P III	484.278	90	
Ne IV	469.773	700		F VI	477.55			Ar III	484.45	250	
Ne IV	469.820	1000		Si V	477.59	1		P III	484.518	40	
Ar III	469.83	200		P III	477.596	1		S III	484.58	50	
Ne IV	469.866	900		Al IV	477.60	5		F II	484.601	850	
Ne IV	469.921	700		Ar II	477.6068 st	30		P IV	484.757	1	
Ar III	469.97	200		C III	477.6246	300		P III	485.009	40	
O VI	470.		ZZ	Al IV	477.73	10		Mg VIII	485.06		P
P III	470.232	60		Al IV	478.26	30		O II	485.086	300	
O II	470.408	200		P VI	478.518	150		Ar III	485.15	300	
Si V	470.42			Al V	479.02	10		S III	485.22	50	
Ar XII	470.57	80	Q	Ar II	479.1678 st	30		P VI	485.269	4	
Ar IV	471.09	60		Ar II	479.2177 st	60		Al IV	485.28	40	
P III	471.146	90		Al IV	479.30	5		Ne II	485.3		P, Z
O IV	471.273	2		Ar VII	479.379	600		P III	485.453	60	
Al V	471.34	5		Na	479.385	2	N	P IV	485.453	120	
P III	471.467	25		Ar VII	479.49	100		O II	485.465	10	
O IV	471.603	1		P VI	479.648	5		O II	485.515	250	
Al V	471.74	5		Al IV	479.76	20		Ar III	485.52	200	
F II	471.921	10		F VI	479.85			O II	485.572	50	
F II	471.952	200		P VI	479.910	100		Mg VIII	485.59		
Ar IV	471.97	60		Al VIII	479.95		P	N II	485.602		P
F II	471.999	450		Ne V	480.41	250		O II	485.631	200	
O VI	472.		ZZ	P XIII	480.42			Ar	485.79	60	N
C V	472.21		P	P VI	480.439	50		N II	485.849	10	
N III	472.239	300		P IV	480.756	60		P IV	485.854	1	
N III	472.399	550		Ar II	480.8108 st	30		Cl IV	486.17	800	
F II	472.681	100		O III	480.955	200		Si V	486.22	10	
F II	472.711	300		Al IV	481.01	30		F III	486.430	10	
Ar II	472.8114 st	30		O V	481.136	60		Ar	486.60	300	N
P IV	472.96	80		Si	481.15		N	Na VII	486.740	400	
F II	473.015	200		P IV	481.177	40		Al III	486.8839	70	
Ar III	473.03	300		Si X	481.273			Al III	486.9124	30	
N II	473.180		P	Ne V	481.28	150		Ar III	487.03	350	
N II	473.289		P	Al IV	481.29	10		Ne V	487.07	30	
C III	473.410			O III	481.354	150		F III	487.223	6	
N II	473.473		P	Ne V	481.36	250		Ar II	487.2272 st	300	
Ar III	473.92	300		O III	481.381	100		P XI	487.43		
Ar VII	473.938	200		O II	481.587	200		F III	487.643	3	
Si V	473.95	5		O III	481.587	200		Ar III	487.99	350	
O VI	474.		ZZ	O II	481.635	10		Ne III	488.10	800	
P IV	474.159	10		O II	481.704	50		Al IV	488.36	100	
O VIII	474.302		P	O II	481.755	150		Ar III	488.45	350	
P III	474.433	1		N III	481.778	200		Si V	488.73	1	
Si V	474.45	10		Ar III	481.85	300		Ar II	488.7926 st	270	
N VI	474.48		P	P VI	481.878	5		Ne III	488.87	700	
N II	474.493	10		C VI	481.965		P	Ne V	488.94		
O VIII	474.498		P	N III	482.030	500		Ar II	488.9615 st	120	
N II	474.546	10		Al IV	482.08	100		Ar II	489.1953 st	240	
O VIII	474.566		P	P VI	482.083	4		Ne III	489.50	1000	
N II	474.602	10		C VI	482.093		P	Na VI	489.580	500	
Ar XII	474.7		P	Li III	482.112		P	Ne III	489.64	400	
N II	474.706	20		C VI	482.137		P	P V	489.695	30	F
Al V	474.75	8		Li III	482.174		P	Si VI	489.81	80	
N II	474.787	20		P VI	482.355	2		Mg VIII	489.82		P
N II	474.891	200		Ar II	482.4451 st	15		Ar XIII	490.2		P
O VI	475.		ZZ	Al IV	482.48	10		Ne III	490.31	700	
P V	475.598	375		Ar III	482.55	400		Al VIII	490.35		P
Al V	475.63	8		P III	482.971	25		Mg VIII	490.36		P
Si V	475.63	15		Ne V	482.99	500		F IV	490.568	700	
N II	475.647	100		Al VIII	483.10		P	Ar II	490.6495 st	290	
Ar VII	475.656	400		P III	483.210	60		Ar II	490.7012 st	70	
N II	475.698	200		Na VII	483.216	200		Al IV	490.73	20	
Ar VII	475.73	100		Na VII	483.328	300		Al IV	490.88	40	
N II	475.757			P VI	483.340	40		F IV	491.001	1000	
N II	475.803	250		Al IV	483.55	20		P IV	491.008	90	
N II	475.884	100		C III	483.567	300		Mg VIII	491.045	10	Q
Ar II	475.9054 st	180		C III	483.618	400		Ne III	491.05	900	
Al IV	476.13	5		Si VI	483.68	40		Ar III	491.12	200	

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Na VI	491.240	300		F III	500.953	10		N V	510.096		P
Na VI	491.340	600		O VI	501.		ZZ	Na V	510.102	10	P
S XIII	491.44			Ar VII	501.07	120		N II	510.152		P
O III	491.714	10		Ar II	501.1897 st	60		He I	510.2586		F
P V	491.872	12		Ar II	501.3872 st	15		Si III	510.414		
P V	491.944	4		F III	501.425	6		Ar II	510.5509 st	30	
Na VII	491.950	400		Al IV	501.62	5		Ar II	510.5564 st	200	
O III	491.980	50		Si V	501.68	1		Si IV	510.70	43	
Ar III	492.23	150		F III	501.804	6		N II	510.758	250	
Al IV	492.31	20		Ar II	502.0276 st	15		B III	510.777	200	
Na VIII	492.329	10		P III	502.123	40		B III	510.865	300	
Ar II	492.4083 st	150		Ar II	502.1629 st	60		Si III	511.096		
Ar IV	492.64	50		F III	502.280	3		Al III	511.1384	250	
Ar II	492.6454 st	30		Ar	502.42	40	N	Al III	511.1907	150	
C III	492.6500	700		F III	502.511	6		Na V	511.193	100	
Al IV	492.78	25		F III	502.713	6		F VI	511.33		
Na VIII	492.79			P III	503.538	60		Ar III	511.51	300	
Al VIII	493.29		P	Ar II	503.6503 st	60		C III	511.5225	1000	
C III	493.341	500		C VI	504.499		P	Ar III	511.57	180	
C III	493.364	500		Na VI	504.541	30		N V	511.804	30	P
C III	493.396	500		C VI	504.638		P	N V	511.865	40	P
C III	493.464	500		C VI	504.685		P	Ar V	511.89	25	
C III	493.519	500		Ar II	504.8117 st			C V	511.94		P
C III	493.587	700		Si VI	504.95		Q	Si III	511.994		
Na VI	494.160	300		O VI	505.		ZZ	P VI	512.066	100	
Na VI	494.382	700		Ar II	505.0121 st	30		He I	512.0982	70	
F VII	494.4			P IV	505.387	60		Si III	512.219		
Ar II	494.6676 st	15		N II	505.411		P	B V	512.384		P
O VI	495.		ZZ	Ar	505.45	60	N	He I	512.5183		F
N V	495.180		P	He I	505.5001	4		B V	512.539		P
N V	495.356		P	N II	505.536		P	C V	512.54		P
Ar IV	495.55	80		Si V	505.58	1		Si III	512.557		
Na VIII	495.76		P	He I	505.6840	6		B V	512.591		P
Na VIII	496.249	100		N II	505.746		P	Si III	512.661		
Ar II	496.6436 st	15		He I	505.9122	8		Ar III	512.77	180	
Ar II	496.6592 st	15		N II	505.986	100	Z	Si III	512.772		
Al IV	496.66	10		N II	506.054	200	Z	Si III	513.245		
P III	496.795	90		N II	506.153	300	Z	F II	513.644	300	
Ar	496.91	40	N	F V	506.159	300		N II	513.849		
C V	497.09		P	He I	506.2000	10		Ar V	513.91	50	
Na VI	497.273	5		C V	506.31		P	F V	513.969	150	
F IV	497.375	60		He I	506.5702	15		F V	514.082	100	
Al IV	497.47	15		C III	506.63	10		Si V	514.177	10	
N IV	497.696		P	F III	506.674	3		Ar II	514.3100 st	210	
F IV	497.830	100		He I	507.0576	20		Na V	514.350	10	
C III	497.910	100		O III	507.391	800		O VIII	514.512		P
N VI	497.98		P	Si IV	507.45	148		O VIII	514.737		P
O VI	498.090	10		O III	507.683	850		O VIII	514.814		P
N IV	498.106		P	He I	507.7178	30		F II	514.944	600	
P III	498.180	120		F V	508.075	400		Si IV	515.118	150	
N IV	498.323		P	O III	508.182	900		O II	515.498	250	
O VI	498.431	100		Si XI	508.32		Q	He I	515.6165	100	
Al IV	498.61	5		F III	508.386	400		Ar	515.62	20	N
F IV	498.796	150		Ar III	508.44	450		O II	515.640	200	
F IV	498.907	35		N II	508.484	10		N V	515.741		P
P IV	498.968	4		F III	508.506	6		N V	515.757		P
F IX	499.109		P	Ar III	508.61	300		Na	515.952	100	N
Si XII	499.40	33		He I	508.6431	40		Na VI	516.00		Q
C III	499.425	700		N II	508.668			Si IV	516.348	200	
C III	499.462	800		Ar III	508.68	180		He I	516.3592		F
C III	499.530	900		N II	508.697	150		C II	516.652	10	Z
C III	499.583	700		N II	508.794		P	Na	516.715	5	N
F IX	499.697		P	N II	508.928	10		C II	517.07	100	Z
Na VIII	499.78			N II	509.006	15		Ar V	517.25	25	
O II	499.871	100		Ar	509.02	200	N	S III	517.39	111	
F IX	499.882		P	F VI	509.26			Si	517.5		N
Ar II	499.9192 st	0		O V	509.415	15		Si V	517.82	60	
P XI	499.98		P	N III	509.586	400		O II	517.937	200	
S III	499.98	300		P VI	509.619	100		S XIII	518.05		P
Al IV	500.29	30		N V	509.896		P	O II	518.242	250	
O II	500.343	50		N III	509.897	350		B III	518.244	460	
S II	500.36	210		P IV	509.964	25		B III	518.271	230	
Al IV	500.42	10		Be III	509.99	25		N IV	518.600		P
S XIII	500.42			He I	509.9979	50		Ar II	518.9088 st	150	
Ar II	500.8016 st	30		Si III	510.079			P IV	519.171	40	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
S IV	519.30	200		N II	529.637	250		Cl V	536.53	300	
Ar II	519.3269 st	300		N II	529.722	250		Al V	536.73	5	
Ar VIII	519.43	150		N II	529.867	400		Ar V	536.75	400	Q
O VI	519.610	200		Ar III	529.90	450		Ne IV	536.97	5	
P IV	519.718	40		N III	530.037	200		Cl V	537.01	400	
O VI	519.723	200		N III	530.268	250		He I	537.0296	400	
N VI	519.88			C II	530.274	300		Ar II	537.1396 st	150	
P IV	519.930	1		N II	530.343		P	He I	537.3309		F
P IV	519.973	4		C II	530.359	400		Al IV	537.34	5	
S IV	520.11	200		Al IV	530.42	2		Ar II	537.4193 st	30	
P IV	520.246	40		C II	530.454			Cl V	537.46	300	
C VI	520.298		P	Ar II	530.4954 st	450		Ar III	537.46	300	
C VI	520.605		P	P IV	530.534	4		Cl IV	537.61	900	
Si XII	520.67	17		C II	531.721	5	Z	O II	537.830	450	
C VI	520.704		P	C II	531.742	5	Z	Cl II	538.0062	100	
N VI	520.72			P IV	531.758	4		Cl V	538.03	500	
P IV	520.751	1		C II	531.917	1	Z	C III	538.0801	900	
Si III	520.79	10		P IV	532.312	1		Cl IV	538.12	600	
S IV	520.83	300		Ar III	532.41	350		C III	538.1487	950	
Si III	520.92	20		Al IV	532.49	1		Ar XII	538.2		P
N IV	520.934		P	C II	532.659	100	Z	O II	538.256	500	
S IV	521.03	100		Cl VII	532.7		Q	Si III	538.28	315	
S X	521.1		P	C II	532.705	200	Z	Cl II	538.3083	140	
Si III	521.149			Ar II	533.0794 st	30		C III	538.3120	1000	
P IV	521.246	4		Si III	533.226			O II	538.318	350	
Si III	521.510			P IV	533.297	90		Ar	538.41	40	N
Ne IV	521.741	125		N II	533.511	350		Cl IV	538.60	400	
Ne IV	521.820	125		Si III	533.530			Cl V	538.68	400	
N IV	521.845		P	P V	533.541	12		S X	538.7		P
Si III	521.861			N II	533.581	400		Ar III	538.79	300	
S IV	521.99	200		Si III	533.592			He I	538.8956		
P IV	522.02	10		N II	533.650	350		Al V	538.90	3	
Ar V	522.09	150		P V	533.672	4		Cl V	538.98	300	
He I	522.2128	160		N II	533.729	500		O VI	539.		ZZ
F III	522.285	10		N II	533.815	350		O II	539.086	400	
S IV	522.54	200		C II	533.935	100		Ar	539.19	30	N
F VII	522.6		P	Si III	534.189			Si X	539.44		
Ar II	522.7924 st	450		Ar III	534.26	50		Cl V	539.44	10	
F III	523.662	60		Si III	534.276			O II	539.547	400	
He I	523.7238		F	Si III	534.339			Ne IV	539.73	15	
Ar V	524.19	250		F VII	534.4			C VI	539.781		P
O III	524.47			P III	534.416	40	Z	Ar	539.79	50	N
S III	524.56	62		O II	534.59			S III	539.83	167	
F V	524.594	200		P V	534.627	110		O II	539.853	350	
Ar II	524.6803 st	450		N II	534.637		P	F V	539.91		Q
O VI	525.		ZZ	S III	534.70	135		C VI	539.938		P
F V	525.292	300		Na	534.714	10	N	Li III	539.957		P
O III	525.795	900		Cl IV	534.73	800		C VI	539.991		P
P IV	525.932	90		N II	534.872		P	Ar XII	540.0		P
Al IV	525.95	20		P III	534.960	10	Z	Cl II	540.0270	100	
N II	525.983		P	Al IV	534.98	15		Li III	540.034		P
N II	526.118		P	P V	534.986	80		Cl II	540.3330	115	
F V	526.297	400		Cl IV	535.04	400		Ar II	540.8066 st	30	
N II	526.345		P	Cl II	535.047	7		Cl II	540.9047	100	
Ar VIII	526.46	250		Ar II	535.0711 st	15		He I	540.9354		F
Ar II	526.4969 st	210		N VII	535.197		P	Ne IV	541.127	400	
Al IV	526.81	5		F VI	535.207	60		Al V	541.161	3	
Ar VIII	526.87	50		C III	535.2885	850		Cl V	541.28	300	
S IV	527.20	68		P III	535.349	90	Z	Ar II	541.3019 st	60	
N IV	527.259		P	Cl V	535.46	200		Si V	541.36	5	
Ar V	527.69	300		N VII	535.467		P	Al IV	541.86	5	
S II	527.88	98		N II	535.553		P	Ar XII	542.0		P
B III	528.25	10		P III	535.560	40	Z	Ne IV	542.073	500	
Al IV	528.26	5		Ar III	535.58	350		Cl V	542.23	800	
Ar II	528.6511 st	30		Cl IV	535.67	700		Cl V	542.30	600	
P IV	528.672	60		F VII	535.7			Cl V	542.40	300	
Na VI	528.730	10		O IV	535.85		Q	N IV	542.412		P
P IV	528.834	150		Si V	535.86	5		P V	542.572	520	
O V	529.167	30	P	Cl V	535.92	200		O IV	542.859	2	
O V	529.242	20	P	Si IV	536.07	120		Cl V	542.87	400	
O V	529.272	15	P	N IV	536.082		P	Ar II	542.9123 st	300	
N II	529.355	250		Cl IV	536.15	600		P III	542.980	4	
N II	529.413	250		P III	536.169	25	Z	O IV	543.03		Q, Z
N IV	529.430		F, P	Al IV	536.36	3		S III	543.03	200	
N II	529.491	250		P III	536.491	40	Z	O IV	543.118	5	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Ar II	543.2032 st	450		O III	551.23			Al III	560.3173	500	
C II	543.257	200		Si X	551.32			Al III	560.4331	200	
P III	543.300	1		Cl II	551.333	20		C II	560.4367 ST	500	
C II	543.444	300		P III	551.337	10		C II	560.4386 ST	40	
Ar II	543.508	20		Ar VI	551.37	320		Ar XVI.	560.54		P
Al V	543.572	20		Si V	551.597	20		Cl III	560.64	100	
P III	543.584	10		P III	551.607	1		P IV	560.799	10	
Ar II	543.7305 st	270		Cl IV	551.64	100		Si IV	560.980	5	
Cl V	543.82	100		P III	551.741	1		Ar IV	561.06	20	Q
Ne IV	543.891	750		C II	551.874	10		Si V	561.204	10	
P III	543.909	4		Cl VI	551.99	500		Ne VII	561.378	200	
Al V	544.29	50		Cl IV	552.02	700		Al V	561.40	30	
P III	544.492	4		P III	552.045	1		Cl III	561.53	700	
Na	544.509	30	N	P IV	552.045	4		Cl II	561.5930	140	
Si V	544.719	30		Cl VI	552.05	100		Cl III	561.68	700	
Ar VI	544.73	160		F V	552.06		Q	Cl II	561.714	25	
P III	544.887	4		P III	552.573	10		Ne VII	561.728	400	
P V	544.923	600		Al IV	552.67	15		Cl III	561.74	700	
Cl V	545.11	1000		Cl III	552.91	200		O V	561.959	7	
P III	545.464	10		P III	553.689	1		O VI	562.		ZZ
Al IV	545.97	10		Ar II	553.1263 st	60		O V	562.080	15	
Mg VII	545.98			Cl IV	553.30	600		Ar	562.18	30	N
S III	545.99	121		O IV	553.330	900		Cl II	562.2867	110	
Ar II	546.1768 st	240		Ar III	553.47	450		C II	562.338	150	Z
Cl V	546.33	600		O IV	554.075	950		C II	562.367	150	Z
Al V	546.60	40		N IV	554.137		P	Cl II	562.3684	170	
F II	546.852	600		Ne VI	554.2			Ar VIII	562.46		
O III	547.13			Cl IV	554.21	100		C II	562.473	150	Z
C II	547.140		Z	O III	554.275	10		C II	562.497	150	Z
C II	547.153	10	Z	Ar	554.50	120	N	Si V	562.498	50	
Ar II	547.1650 st	270		O IV	554.514	1000		C II	562.562	300	Z
C II	547.277	5	L	Cl IV	554.62	700		Cl II	562.5662	170	
S III	547.28	126		C III	554.63	200		Ar VIII	562.61		
C II	547.291	5	Z	Mg VII	554.89			Cl II	562.6651	140	
Si IV	547.40	157		S XI	555.0		P	Ne VI	562.71	10	
Ar II	547.4605 st	360		O II	555.056	250		Al V	562.730		
Cl V	547.63	1000		O II	555.121	250		Ne VI	562.80	150	
N II	547.818	10		N IV	555.126		P	Ne VII	562.992	200	
F II	547.874	450		O IV	555.261	900		Be IV	563.193		P
Ar II	547.9960 st	120		Cl IV	555.49	100		Be IV	563.275		P
Cl II	548.088	15		Cl VI	555.49	1000		Be IV	563.304		P
F II	548.322	300		Cl VI	555.58	150		Cl II	563.6169	160	
P XII	548.38			Ar VI	555.64	160		S IV	564.00	119	
Al IV	548.43	2		Ar II	555.7659 st	90		Cl III	564.29	400	
F II	548.516	200		Si V	555.944	40		Si V	564.403	60	
Mg VII	548.54			Cl II	555.955	5		Cl III	564.51	200	
Ar II	548.7808 st	210		Cl III	556.23	600		Ne VII	564.529	200	
Ar VI	548.91	200		Cl III	556.61	700		C II	564.565	40	Z
N II	549.027		P	Si V	556.670	55		Cl II	564.5782	160	
Cl IV	549.22	500		Ar II	556.8169 st	360		C II	564.582	40	Z
P IV	549.221	25		Ar III	556.89	300		C II	564.608	100	Z
Be III	549.31	10		Ar	557.04	40	N	C II	564.635	50	Z
C II	549.3195 ST	300		Ar XII	557.1		P	C II	564.663	200	Z
C II	549.3785 ST	400		Cl III	557.12	700		C II	564.698	40	Z
C II	549.5110 ST	500		Cl II	557.5192	60		Cl II	564.7775	140	
C II	549.5700 ST	300		Cl II	558.14	100		Cl II	564.9716	140	
P III	549.995	25		Mg VII	558.22			Cl II	565.1082	80	
Cl IV	550.02	400		Ar III	558.32	250		Cl III	565.27	300	
Al XI	550.03	2		Cl III	558.39	100		Si III	565.289	20	
Si V	550.123	90		Ar V	558.48	250		Ar	565.31	20	N
P III	550.157	25		Ne VI	558.59	50		Cl III	565.48	400	
Cl II	550.188	25		Ne VII	558.61	400		Cl VI	565.48	400	
P III	550.343	40		S X	558.9		P	C III	565.5280	700	
Cl VI	550.36	250		Cl II	559.3057	185		Si III	565.698	40	
Ar II	550.4810 st	120		Cl II	559.4065	160		Cl II	565.7376	170	
P III	550.614	10		Ar	559.48	40	N	S IV	565.81	55	
Cl IV	550.71	300		Cl II	559.5279	170		Cl II	565.8366	160	
P III	550.770	4		Si IV	559.533	2		Ar XII	565.9		P
Ar II	550.9045 st	30		N II	559.762	10		O V	566.232	7	
P III	550.944	40		Ne VII	559.947	300		C III	566.48	400	
O VI	551.		ZZ	Cl II	560.091	8		Si III	566.546		
Cl IV	551.12	200		Ar II	560.2232 st	270		Si III	566.613	160	
Si V	551.131	120		Si V	560.227	100		Cl VI	566.63	200	
S IV	551.17	200		C II	560.2394 ST	400		Si V	566.72	50	
Si X	551.20			F V	560.24		Q	Cl II	566.8002	160	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al V	566.847	20		P III	574.869	1	Z	Cl II	582.4268	50	
P V	566.904	1		P III	575.217	1	Z	Ne I	582.4691 st		
Cl II	567.3397	25		O II	575.28			Ne I	582.5064 st		
Cl VI	567.48	100		Cl II	575.4019	160		Ne I	582.5982 st		
F III	567.636	150		Al V	575.473	50		Cl VI	582.6		
F III	567.686	400		Cl III	575.58	300		Ne I	583.1261 st		
F III	567.752	300		F IV	575.643	10		Ar II	583.4371 st	300	
F III	567.801	150		Al IV	575.89	20		Al IV	583.59	70	
P V	567.810	1		Ar XII	576.0		P	N IV	583.601		P
Si III	567.878			Ne I	576.0052 st			O VIII	583.689		P
Ar XII	567.9		P	F IV	576.265	15		Ne I	583.6893 st		
P III	568.038	120		F IV	576.359	10		O VIII	583.976		P
P IV	568.038	250		Cl VI	576.42	200		F VIII	584.0		
Si V	568.054	90		Be IV	576.567		P	Cl II	584.067	6	
Al XI	568.15	1		Si V	576.614	5		O VIII	584.071		P
S IV	568.21	270		S IV	576.65	97		Al V	584.334	10	
Cl II	568.2952	10		Be IV	576.652		P	He I	584.3340	1000	
Ne V	568.42	400		Be IV	576.682		P	Cl II	584.611	20	
Al V	568.492	60		Ar II	576.7364 st	300		Cl II	584.7718	170	
Al V	568.629	20		Ne I	576.8650 st			Cl II	584.8829	170	
N IV	569.450		F, P	C II	576.8748	100		Si V	584.903	20	
Ne V	569.76	250		Si V	576.89	1		S III	585.03	101	
Ne V	569.83	500		C II	577.0859	200		Al IV	585.13	5	
Cl II	569.8349	140		Ne I	577.1090 st			Ne I	585.2472 st		
P III	569.853	200		Ar III	577.15	150		C III	585.261	600	
Cl VI	570.03	400		Ne I	577.1692 st			Ne I	585.3042 st		
Al V	570.364	100		Cl VI	577.44	100		C III	585.417	800	
Cl VI	570.53	200		Ne I	577.4886 st			Al IV	585.44	3	
Ar V	570.61	80		S V	577.55	165		Cl II	585.484	10	
F IV	570.640	800		Ne I	577.6047 st			C III	585.496	500	
Cl VI	570.88	10		Al IV	577.66	10		C III	585.608	600	
Si V	571.158	20		F IV	577.734	35		Al V	585.61	20	
F IV	571.304	800		Ne I	577.9749 st			S IV	585.62	105	
Cl VI	571.38	100		S XI	578.0		P	C III	585.666	600	
F IV	571.391	900		Cl II	578.007	25		O III	585.71		
Cl VI	571.44	10		Ne I	578.0715 st			Ar VII	585.75	750	
Al IV	571.61	20		Ar II	578.1071 st	270		N IV	586.104		P
Al V	571.76	15		Ne I	578.1270 st			Cl II	586.2442	220	
Cl II	571.9033	200		Si V	578.255	20		Ne I	586.3140 st		
S IV	571.92	88		Al IV	578.32	5		Cl II	586.3828	200	
Cl II	572.0083	170		Ar III	578.39	200		Cl II	586.4528	100	
Ar II	572.0136 st	270		Ne I	578.5129 st			Cl III	586.87	400	
N II	572.069			Ar II	578.6043 st	270		Cl II	587.0041	125	
Ne V	572.11	250		Ne I	578.6056 st			Ar VI	587.01	40	
Si V	572.110	5		Ne I	578.6185 st			Cl III	587.08	300	
Cl II	572.1215	40		Ne I	578.8224 st			Al IV	587.11	5	
Ne V	572.34	800		Cl II	579.1982	40		Cl II	587.1616	140	
F IV	572.663	1000		Ar III	579.21	150		Ne I	587.2128 st	35	
Cl III	572.69	400		Ne I	579.4722 st			Cl III	587.30	400	
O III	573.24			Ne I	579.4888 st			S IV	587.48	106	
Ar II	573.3619 st	1		Al V	579.53	2		Si IV	587.53	104	
Ar III	573.47	200		Al V	579.73	5		Cl II	588.0413	140	
Si III	573.538			Ne I	579.7711 st			F III	588.060	3	
F IX	573.554		P	Ne I	579.8411 st			F III	588.208	6	
Na	573.639	5	N	P III	579.944	120		Al V	588.371	4	
P IV	573.760	10		S III	580.17	210		Cl II	588.7857	185	
F III	573.886	20		Ar II	580.2631 st	360		F I	588.84		Z
F III	573.935	1		O II	580.400	300		Cl II	588.8564	140	
Si III	573.951			Al IV	580.41	40		Ar VI	588.92	200	
Si III	573.961			Cl VI	580.44	200		P IV	589.161	200	
F IX	573.976		P	Ne I	580.5119 st			Ne I	589.1792 st	35	
O III	574.065	1		Ne I	580.6893 st			Al IV	589.39	20	
F IX	574.114		P	Ne I	580.7137 st			S IV	589.60	25	
C III	574.2809	1000		Si XI	580.85	1		Ar VI	589.78	80	
Cl II	574.2946	220		O II	580.967	350		Cl II	589.9001	160	
F III	574.384	10		Ne I	581.1219 st			Ne I	589.9113 st	35	
Cl II	574.4088	280		S II	581.13	50		Ne I	590.0108 st		
Cl III	574.41	300		Al IV	581.18	10		Al V	590.078	8	
Al V	574.499	5		Si V	581.473	50		F I	590.25		Z
N II	574.650	500		Cl II	581.797	9		Cl II	590.2491	170	
Al V	574.77	8		P III	581.831	200		Cl II	590.935	9	
Si III	574.799			Al IV	581.91	100		Al V	590.98	10	
Si III	574.814			Be III	582.078	90		Cl III	591.12	300	
O III	574.82		Q	N II	582.156	400		N IV	591.180		P
Si III	574.824			Al V	582.395	10		He I	591.4117	40	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Cl III	591.43	400		Al IV	603.83	2		O IV	617.005	150	
Al IV	591.62	60		Ar III	604.15	500		O IV	617.036	275	
Cl III	591.65	400		O V	604.416	80		O II	617.051	300	
P V	591.714	1		Cl IV	604.59	500		N I	617.265	3	A, Z
P IV	591.816	10		Cl VII	604.783	1000		O II	617.3161	150	
Ne I	591.8303 st	70		Ar XII	605.0		P	Na	617.415	7	N
Cl III	591.96	200		Al V	605.03	8		Cl II	617.6293	220	
Al V	592.24	4		Cl VII	605.05	50		O IV	617.786	10	
Al IV	592.42	2		N II	605.437		P	Cl II	618.0539	260	
P V	592.712	4		Ne IV	605.60	10		O IV	618.107	15	
Cl II	593.2888	140		F II	605.670	850		Ar	618.63	200	N
Ar VI	594.10	100		Cl III	605.86	100		Ne I	618.6716 st	170	
Cl II	594.3484	80		Si III	605.873			Cl II	618.920	25	
Al IV	594.38	40		N II	605.902		P	Cl III	619.03	100	
Cl II	594.4756	170		N II	606.080		P	Ar	619.04	200	N
Al IV	594.55	30		Cl III	606.10	200		Ne I	619.1023 st	120	
Cl III	594.64	400		F II	606.286	700		N VII	619.601		P
Cl II	594.8000 ST	600		Cl III	606.35	500		N IV	619.663		P
N IV	594.895		P	Ne IV	606.53	25		N VII	619.798		P
Cl II	595.0219 ST	700		F II	606.804	1000		N I	619.847	4	A, Z
Cl II	595.0245 ST	70		F II	606.922	600		N VII	619.865		P
Si IV	595.84	123		Al IV	607.04	10		Na	619.876	10	N
Ne I	595.9200 st	100		Cl IV	607.09	300		Cl II	619.9798	250	
Cl III	595.99	300		F IV	607.37			Ar	620.05	20	N
Cl III	596.24	400		F II	607.472	700		Cl II	620.2958	280	
Be IV	596.365		P	F II	608.063	850		Al V	620.460	15	
Be IV	596.455		P	Si II	608.17	75		O IV	620.66		Q
Be IV	596.487		P	O IV	608.398	800		Cl III	621.03	300	
S III	596.53	198		P IV	608.613	40		Ar	621.05	20	N
O III	596.56			P IV	608.741	40		Cl II	621.1369	210	
Ar VI	596.69	160		Cl IV	608.90	400		Cl III	621.28	400	
Ar II	597.7000 st	360		C III	609.04	400		O III	622.00		
O III	597.818	750		Ne IV	609.17	5		Al V	622.02	10	
Cl VII	598.211	600		C III	609.275	600		C III	622.13	200	
Cl II	598.3026	100		Cl III	609.67	400		Cl II	623.0617	185	
Cl II	598.4179	100		O III	609.705	300		Al V	623.39	10	
Ne I	598.7056 st	75		Mg X	609.79	23		S III	623.57	196	
Ne I	598.8908 st	35		O IV	609.829	850		Na	623.704	5	N
Al IV	598.95	10		Cl III	609.90	10		Al V	623.749	20	
Ar XII	599.2		P	O III	610.043	350		Cl III	623.77	300	
Cl II	599.2056	220		O III	610.746	400		Ar IV	623.77	250	Q
S IV	599.41	104		O III	610.850	300		N I	624.059	4	A, Z
O III	599.598	900		Si XI	610.87		P	Cl VI	624.11		
N II	599.644		P	S IV	611.07	322		P IV	624.129	1	
Cl IV	599.73	200		S IV	611.72	370		O IV	624.617	750	
N II	599.819		P	N I	611.998		A, Z	Mg X	624.95	12	
Ne I	600.0365 st	70		Cl IV	612.07	400		Si III	624.997		
N IV	600.061		P	Ar II	612.3715 st	300		O IV	625.130	800	
F III	600.104	10		N I	612.378		A, Z	Si IV	625.34	111	
N II	600.115		P	Cl II	612.738	3		He I	625.563		F, P
C II	600.251	100	Z	N I	612.883	1	A, Z	S IV	625.70	151	
C II	600.337	100	Z	O II	613.11			P IV	625.724	40	
C II	600.353	300	Z	Si III	613.21	293		Si IV	625.77	120	
F III	600.390	6		Ar	613.40	20	N	O IV	625.852	850	
C II	600.503	100	Z	N I	613.500	2	A, Z	O IV	626.49		Q
C II	600.518	100	Z	S IV	614.06	164		S	626.53	103	N
O II	600.585	300		Cl XVI	614.25		P	Si IV	626.58	152	
P III	600.757	25		P V	614.352	1		Cl II	626.7339	260	
P III	601.094	10		N I	614.364	2	A, Z	Ne I	626.8232 st	200	
C VI	601.098		P	Na XI	614.606		P	C IV	627.1	0	
P III	601.212	1		Ar	614.69	10	N	O V	627.225	7	
C VI	601.287		P	Al IX	615.01		P	O V	627.351	25	
C VI	601.352		P	Cl II	615.3233	120		P IV	627.374	120	
He I	601.4041		F	P V	615.421	4		Al V	627.400	25	
N III	601.468	100		Na XI	615.604		P	Cl II	627.533	15	
Cl IV	601.50	500		N I	615.627		A, Z	O V	627.636	40	
O IV	601.57		Q, Z	Ne I	615.6283 st	170		Cl II	627.662	10	
Cl II	601.8086	40		Na XI	615.910		P	Be IV	627.808		P
N III	601.878	10		O II	616.291	350		S VI	627.9	10	
Cl II	602.029	2		O II	616.363	200		Be IV	627.908		P
Ne I	602.7263 st	170		Cl II	616.4631	100		Be IV	627.942		P
Ar II	602.8584 st	300		O II	616.6	3		S IV	628.03	226	
P IV	602.945	1		P V	616.668	12		N V	628.744	70	
Ne IV	603.00	10		O IV	616.952	350		N V	628.874	50	
Al IX	603.65		P	P V	616.952	12		P IV	629.008	350	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al V	629.062	25		F IV	639.13		Q, Z	Al V	651.204	100	
N II	629.167	300		Cl V	639.23	300		C II	651.211	150	
Cl II	629.228	6		N II	639.368		P	C II	651.234	150	
Cl V	629.35	300		Cl II	639.4578	200		C II	651.269	400	
Cl II	629.387	8		Al V	639.518	50		C II	651.304	300	
N II	629.447	200		Al V	639.712	30		C II	651.345	800	
N II	629.670			Cl III	639.76	100		C II	651.389	150	
O V	629.730	1000		P IV	639.869	200		F III	651.622	3	
Ne I	629.7388 st	200		N II	640.121		P	Si III	651.668	80	
P IV	629.914	400		S II	640.41	50		B II	652.0		
Si III	629.97	188		S II	640.93	50		Si III	652.223	120	
Si V	630.129	50		Cl III	640.93	100		S IV	652.52	300	
F III	630.137	150		O II	641.20			P IV	652.836	120	
F III	630.198	200		Cl III	641.30	100		S IV	653.00	300	
Ar VII	630.31	100		Ar VII	641.32	100		Cl III	653.01	200	
F III	630.327	2		Ar III	641.36	250	P	Ar XII	653.2		P
F III	630.346	1		B II	641.5			Si III	653.332	160	
Cl III	630.38	100		C II	641.593	250	Z	P IV	653.528	90	
Cl II	630.6835	110		C II	641.627	250	Z	Si V	653.550	60	
Cl III	630.75	100		C II	641.771	300	Z	S IV	653.56	400	
Cl III	631.01	100		C II	641.800	300	Z	Al V	653.66	5	
N I	631.624	8	A, Z	S II	641.81	100		Cl IV	653.70	400	
Ar	631.68	60	N	Ar III	641.81	600		F III	653.833	6	
P IV	631.779	50		Na VI	641.87		Q	Cl II	653.8556	220	
Cl II	631.8314	200		C II	641.888	650	Z	S IV	653.98	300	
O VIII	631.936		P	Na	642.524	7	N	F V	654.029	700	
F VIII	632.0			F V	643.14		P	O V	654.207	7	
O VIII	632.519		P	Cl II	643.2069	140		S IV	654.42	160	P
O VIII	632.703		P	Ar III	643.25	450	P	P IV	654.569	90	
B II	632.8			Ar XII	643.5		P	O V	654.712	15	
F VIII	632.8			Ar XII	643.9		P	Si III	654.78	111	
Na VI	632.90	10		F VI	643.969	10		Si V	654.819	40	
Cl V	633.19	400		O II	644.148	600		P IV	654.839	150	
Ar VII	634.21	100		Al III	644.3339			O V	655.039	40	
Si III	634.255			Ar VII	644.39	100		Cl II	655.1427	260	
Cl II	634.2568	220		Na	644.400	30	N	Al V	655.300	10	
Cl II	634.6222	200		N II	644.634	650		S IV	655.55	400	
S II	634.81	328		N II	644.837	750		Al V	655.564	65	
P IV	634.928	60		S III	644.92	217		P IV	655.778	120	
Ar V	635.12	150		F VI	644.999	10		S IV	655.89	200	
N II	635.197	400		N II	645.178	850		P IV	656.029	4	
Al IV	635.31	1		Al III	645.3063			F III	656.121	400	
Cl V	635.32	400		Si V	645.39	90		S IV	656.30	100	
P IV	635.501	90		S X	645.4		P	P IV	656.583	120	
Al V	635.64	8		S III	645.59	244		Cl III	656.77	200	
Cl II	635.8802	280		Si IV	645.759	150		F III	656.869	500	
P IV	635.915	90		Al V	646.009	25		Cl II	656.8795	60	F, P
C II	635.9945 ST	300		F VI	646.042	5		Ar XIII	656.98		
Al V	636.008	10		F VI	646.360	35		Cl III	657.17	200	
P IV	636.124	60		Cl II	646.7435	140		F V	657.227	500	
C II	636.2511 ST	400		F VI	647.307	10		Si V	657.267	50	
O V	636.34			S II	647.50	152		F V	657.333	800	
Al V	636.552	30		N I	647.505	14	A, Z	S IV	657.34	500	
Na V	636.579	10	Q	F V	647.666	150		Cl II	657.9335	130	
Cl II	636.6244	320		F V	647.766	400		P IV	658.125	25	
S II	636.65	253		F V	647.868	500		S X	658.2		P
Al V	636.708	90		F V	647.967	150		S V	658.26	300	
Ar III	636.82	150		Si V	648.052	80		F III	658.329	600	
Ar XII	636.9		P	Si V	648.312	50		Al V	658.42	1	
Ar VII	637.05	200		P IV	648.482	350		Al V	658.56	60	
Cl II	637.0691	260		F VI	648.496	10		O III	658.578	50	
Ar III	637.28	1000		S VI	648.63	100		P IV	659.185	40	
P IV	637.398	120		Ar	649.03	50	N	Ar XII	659.2		P
Ar VII	637.47	50		Si V	649.23	5		Na	659.378	5	N
Al V	637.675	30		Si V	649.404	60		O III	659.538	10	
P IV	637.817	90		Cl II	649.6718	185		Cl II	659.8107	320	
Al V	637.984	80		P IV	649.69	20		S V	659.85	400	
Al X	637.99		P	Ar XII	650.0		F, P	Si III	659.93	175	
S III	637.99	177		S VI	650.43	100		Si V	660.057	400	
Al V	638.147	30		Si V	650.866	10		Si III	660.09	338	
Na VI	638.21	10		Cl II	650.8935	320		Ar XII	660.1		P
Cl II	638.2909	300		Cl II	650.944	125		N II	660.286	750	
Si III	638.40	133		Ar XII	651.04	10	Q	P V	660.316	1	
Na	638.832	5	N	F VI	651.082	5		Al V	660.36	70	
N II	639.082		P	Si V	651.104	100		S IV	660.94	300	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al V	660.964	100		Al V	669.92	10		S IV	675.5		
C IV	661.0	5		Si III	669.95	152		Be II'	675.593	150	
S X	661.0		P	Cl III	669.95	200		Si V	675.657	200	
P IV	661.228	40		Al X	670.06			Al V	675.938	20	
Be III	661.322	40		Al III	670.0676	100		S III	675.95	268	
S IV	661.42	600		O I	670.091	5	A, Z	O I	676.033	5	A, Z
Si V	661.509	50		O I	670.237	20	A, Z	F IV	676.119	800	
P V	661.566	4		N II	670.296	220		P III	676.132	1	
Cl II	661.6588	170		Cl III	670.38	300		O I	676.183	10	A, Z
Al V	661.803	50		Ar	670.39	20	N	S V	676.21	100	
Cl II	661.8394	360		O I	670.425	5	A, Z	Ar II	676.2424 st	360	
Ar II	661.8489 st	540		O I	670.425	5	A, Z	P III	676.264	40	
Cl II	662.1637	320		N II	670.515	120		Si V	676.332	10	
P IV	662.219	60		Al V	670.546	20		Al V	676.380	65	
Cl IV	662.45	300		S III	670.80	271		O I	676.487	5	A, Z
O V	662.928	3		N II	670.884	100		S V	676.511	150	
Cl II	663.0723	440		Ar II	670.9455 st	600		Al V	676.595	45	
S V	663.16	500		O I	670.952	10	A, Z	O I	676.763	2	A, Z
Cl II	663.6432	320		Al V	670.977	50		Cl V	676.79	300	
S IV	663.70	300		N II	671.016	500		Al V	676.838	40	
Al V	663.72	5		Al III	671.1184	200		B III	677.004	500	
Ar	663.93	10	N	Ar XII	671.2		F, P	Al III	677.0819		
Si III	664.24	346		Cl VI	671.37	400		B III	677.147	600	
Si V	664.259	250		N II	671.386	500		F IV	677.149	700	
P IV	664.277	25		P IV	671.400	90		F IV	677.219	900	
Ar II	664.5622 st	300		O I	671.406	30	A, Z	Al V	677.248	55	
Cl II	664.7199	320		N II	671.411	650		S V	677.34	100	
Al V	664.804	50		N II	671.630	500		Al V	677.377	20	
S IV	664.82	300		Si V	671.651	100		Si V	677.531	40	
Ar	664.93	50	N	O I	671.669	5	A, Z	S III	677.75	200	
Cl II	665.1679	200		Si III	671.718	40		Ar II	677.9518 st	300	
Cl II	665.2295	220		Si V	671.72			O V	677.968	7	
Cl II	665.5316	140		N II	671.773	500		Si III	678.055	40	
Al V	665.675	90		Cl II	671.8436	260		S V	678.08	200	
F III	665.809	10		Ar II	671.8513 st	900		Al III	678.1548		
Al V	665.938	90		S X	671.9		P	Al III	678.1564		
Ar II	666.0108 st	450		N II	672.001	500		Si IX	678.2		P
Cl II	666.0246	220		C V	672.06		P	S III	678.46	200	
Cl II	666.0502	220		O I	672.090	10	A, Z	Si V	678.566	40	
S IV	666.11	400		N VII	672.133		P	O V	678.612	15	
Cl II	666.1465	260		S VI	672.2			F IV	678.991	700	
F III	666.258	6		Si III	672.293	80		S III	679.11	200	
F IV	666.662	1		N VII	672.364		P	O V	679.136	25	
O I	666.663	2	A, Z	O I	672.404	5	A, Z	O I	679.202	20	A, Z
O I	666.838	5	A, Z	Cl IV	672.43	10		F IV	679.214	1000	
O I	667.006	10	A, Z	N VII	672.439		P	Ar II	679.2183 st	300	
Ar XII	667.1		P	P III	672.496	1	Z	Cl V	679.26	300	
Al V	667.156	70		S IV	672.70	171		Al V	679.373	100	
F V	667.218	35		Ar II	672.8562 st	240		Ar II	679.4005 st	450	
F V	667.315	15		O II	672.948	400		Al V	679.659	10	
Cl II	667.4825	170		O I	673.052	30	A, Z	Mg VIII	679.77		
O I	667.487	10	A, Z	Al V	673.104	40		Al V	679.909	30	
N IV	667.653		P	P III	673.104	1	Z	O I	679.948	20	A, Z
Al V	667.944	50		Cl III	673.13	300		O I	680.146	5	A, Z
Ar XII	668.0		P	S X	673.2		P	Al V	680.15	1	
F III	668.195	6		Al V	673.325	70		Si V	680.181	1	
O I	668.211	10	A, Z	O I	673.421	5	A, Z	O I	680.256	5	A, Z
O V	668.225	3		Si III	673.477	100		P IV	680.306	120	
Al V	668.26	1		Cl III	673.60	100		S V	680.33	300	
Cl VI	668.30			Ar XI	673.68		F, P	Al V	680.41	40	
O I	668.307	2	A, Z	O II	673.768	350		Al V	680.44	10	
O I	668.509	5	A, Z	S XV	673.85		P	Al V	680.586	50	
O I	668.720	20	A, Z	P V	673.899	450		Ar	680.60	20	N
Cl IV	668.77	200		Si V	674.007	250		S III	680.69	200	
O I	668.832	2	A, Z	Si IV	674.02	246		F I	680.698	2	Z
O I	668.928	2	A, Z	Al V	674.269	20		O I	680.866	5	A, Z
S II	669.13	207		S V	674.41	424		S V	680.94	500	
O I	669.371	20	A, Z	Na VI	674.510	15	Q	S III	680.95	200	
O I	669.526	5	A, Z	Al V	674.53	15		Al V	680.955	5	
O V	669.628	40		P IV	674.724	1	Z	Ar	681.15	10	N
F III	669.648	10		Al V	674.88	10		O V	681.192	70	P
Al V	669.720	25		Al V	675.20	15		Al V	681.22	40	
S II	669.77	186	Q	Ar	675.28	20	N	O V	681.238	100	P
P VI	669.792	200		Al V	675.336	30		S X	681.3		P
Si V	669.888	100		O I	675.463	30	A, Z	O V	681.332	150	P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
S III	681.50	100		P III	689.986	4		S III	700.29	300	
S V	681.68	300		Ar XII	690.1		P	Si V	700.46	1	
Na IX	681.72	10		P III	690.125	40		Al V	700.473	30	
Na	681.896	7	N	O III	690.13			Al V	700.690	40	
Cl V	681.92	400		Ar III	690.17	400		Si V	700.733	40	
Cl II	682.0516	380		Si VI	690.35	90		O I	701.014	5	A, Z
Al V	682.496	15		C III	690.526	700		Cl II	701.0721	160	
C IV	682.5	5		P III	690.650	25		Si V	701.095	30	
F I	682.577	2	Z	Si III	690.689	40		Ar	701.11	150	N
B IV	682.60		P	P III	690.787	10		Al V	701.315	5	
S III	683.07	50		Cl II	690.9645	280		Si VI	701.89	90	
Cl V	683.17	400		Ar II	691.0373 st	150		O III	702.332	800	
Ar IV	683.28	400		N III	691.187	100		Cl II	702.5714	280	
Al V	683.31	25		N III	691.388	50		S III	702.78		
Be IV	683.318		P	S V	691.74	100		S III	702.82		
B IV	683.39		P	Na	691.799	12	N	O III	702.822	800	
Be IV	683.434		P	Al IV	691.82	30		O III	702.899	850	
S III	683.47	100		O III	691.88			N IV	703.191		P
Be IV	683.474		P	S IV	692.25	103		Si V	703.586	30	
Al II	683.529	2		Cl II	692.4620	50		O III	703.850	900	
P IV	683.571	10		S VI	692.5			Ar II	704.5237 st	270	
Al V	684.402	60		N I	692.70	35	A, Z	Al V	705.127	70	
Cl IV	684.49	10		Cl II	692.7820	185		Ar V	705.35	150	
Al V	684.58	1		Ar II	693.3018 st	180		S III	705.54	193	
Al V	684.74	5		Si II	693.41	348		S II	705.62	50	
Ar	684.81	100	N	S V	693.52	200		Mg IX	705.72	1	P
O II	684.84			Si V	693.581	50		O II	705.762	100	
Cl II	684.8623	320		Cl II	693.5947	380		P V	705.833	12	
N III	684.996	700		N II	693.774		P	O III	706.224	150	
S III	685.35	50		Al V	693.896	60		O III	706.298	100	
N III	685.513	750		B II	693.947	200		F V	706.43		
O I	685.544	55	A, Z	B V	694.125		P	S VI	706.48	600	
Al V	685.58	5		N II	694.169		P	Na	706.677	7	N
O III	685.74			B V	694.252		P	P V	707.241	30	
N III	685.816	800		Na IX	694.27		P	O III	707.315	200	
S V	686.15	100		B V	694.296		P	Si V	707.420	60	
Al V	686.169	10		Ar XII	694.4		P	Cl II	707.4581	370	
S II	686.20	130		F V	694.40			Si III	707.54	110	
O I	686.284	30	A, Z	S II	694.71	50		S II	707.86	50	
N III	686.335	700		O III	694.73			Al IV	708.34	10	
C II	686.416	120	Z	F II	694.801	10		Si VI	708.394	60	
C II	686.488	80	Z	Ar	694.85	100	N	S IV	708.78	182	
Ar II	686.4883 st	180		Ar IV	694.85	100	Q	P III	708.812	4	
O I	686.603	10	A, Z	Si V	695.208	10		Cl II	709.1616	300	
Al V	686.827	60		Si V	695.532	60		Ar V	709.20	250	
S V	686.93	100		Ar III	695.54	300		Cl XI	709.5		F, P
C II	687.0526 ST	800		Al III	695.8289	500		Cl II	710.5210	250	
O I	687.202	20	A, Z	Si V	696.113	50		S III	710.98	387	
C II	687.3453 ST	1000		Cl II	696.1386	340		Si II	711.34	0	Z
C II	687.3521 ST	110		Al III	696.2170	400		S III	711.55	197	
S III	687.59	167		Si IX	696.4		P	C V	711.59		P
Cl II	687.6575	380		S V	696.612	315		Si II	711.83	1	Z
S X	687.8		P	Ar II	697.4890 st	150		Al IV	712.43	10	
Al V	687.81	1		Al V	697.491	60		F III	712.524	1	
O I	687.997	5	A, Z	O I	697.532	40	A, Z	F V	712.64		
S V	688.04	50		Ar III	697.74	100		Cl II	712.6792	370	
Cl II	688.1424	260		Al V	697.751	40		S VI	712.68	400	
Si IV	688.194	1		Ar II	697.9418 st	180		S VI	712.84	300	
Si IV	688.200			Ar	698.08	20	N	Cl II	712.9584	100	
O I	688.245	5	A, Z	Si V	698.096	20		Ar XIII	713.45		F, P
Ar IV	688.39	300		Al V	698.218	50		N V	713.518	85	
Si IV	688.395			O I	698.297	20	A, Z	O IV	713.61		Q, Z
P III	688.420	10		Cl II	698.4482	160		Ar VIII	713.812	500	
Al V	688.531	25		Si V	698.617	20		N V	713.860	120	
P III	688.549	40		O I	698.631	10	A, Z	Be II	714.		A, ZZ
S IV	688.89	186		S III	698.73	200		Cl II	714.0521	360	
O III	688.93			Ar II	698.7745 st	270		Al II	714.695	20	
Cl V	688.93	400		Si V	698.93	5		C III	714.879	100	
Ar IV	689.01	500		Na VI	699.093	20		Cl V	715.55		
Mg VIII	689.55			Ar IV	699.41	240		Cl II	715.5874	360	
Na	689.605	20	N	Al II	699.489	10		Ar V	715.60	200	
Al V	689.76	1		Ar III	699.72	50		Ar V	715.65	150	
S V	689.84	100		S III	700.15	300		P III	715.677	4	Z
Al V	689.927	60		Ar VIII	700.245	1000		Cl XII	715.8		F, P
Al II	689.936	5		Ar IV	700.28	320		O V	715.955	15	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O V	716.137	15		Li III	728.908		P	Al IV	737.27	200	
Cl V	716.19			Cl II	728.9513	500		Si V	737.301	50	
Ar	716.42	10	N	C VI	728.978		P	Ar II	737.4537 st	60	
Cl II	716.5138	70		Li III	729.039		P	O I	737.495	20	A, Z
O V	716.553	40		Cl II	729.3406	380		O I	737.614	10	A, Z
P III	716.739	60		Cl II	729.5235	340		O I	737.614	10	A, Z
S V	716.83	277		S III	729.53	400		O I	737.683	10	A, Z
P III	716.912	25	Z	P VI	729.568	500		O I	737.779	30	A, Z
P VI	716.98	400		Al IV	730.22	60		O I	737.779	30	A, Z
Cl II	717.1519	340		Cl VI	730.31	200		O I	737.873	10	A, Z
Cl II	717.5327	130		S III	730.78	300		O I	737.995	10	A, Z
C V	717.58		P	Ar II	730.9297 st	360		S III	738.47	400	
Ar II	718.0898 st	450		Cl II	730.9424	380		O I	738.537	20	A, Z
O II	718.484	850		P VI	731.35	80		O I	738.644	10	A, Z
O II	718.562	800		B II	731.357	100		O I	738.644	10	A, Z
Cl II	719.2703	340		B II	731.442	100		P VI	738.71	5	
Na VII	719.491	15	Q	Al IV	732.35	3		O I	738.906	5	A, Z
S X	719.7		P	S III	732.38	500		Cl II	738.9117	140	
Na	719.891	7	N	Mg III	732.625	20		O I	739.085	20	A, Z
N IV	720.244		P	F I	732.960	1		O I	739.188	30	A, Z
N IV	720.327		P	S III	732.98	50		O I	739.188	30	A, Z
N IV	720.510		P	S III	733.34	50		Mg III	739.276	40	
Si VI	720.547	40		Na VI	733.743	15		Al IV	739.31	5	
S IV	720.85	119		Si V	733.855	50		P VI	739.48	400	
Ar	720.94	10	N	Cl VI	733.89	150		O I	739.499	10	A, Z
S X	721.0		P	O I	733.987	5	A, Z	Al III	739.6707		
Mg III	721.592	4		F III	734.047	6		P III	739.673	60	
S II	721.64	224		S III	734.05	100		Cl X	739.7		F, P
P VI	721.76	100		O I	734.251	10	A, Z	O V	739.810	15	P
F IV	722.028	500		O I	734.251	10	A, Z	P III	739.833	25	
Ar II	723.3605 st	900		O I	734.368	5	A, Z	O V	739.847	7	P
Cl VI	724.13	150		Mg III	734.441	60		F III	739.851	20	
S III	724.29	300		O I	734.544	10	A, Z	Al IV	739.93	5	
Al IV	724.62	7		O I	734.544	10	A, Z	O I	739.940	20	A, Z
P V	724.688	1		F I	734.642	1		O II	739.949	100	
O I	724.830	40	A, Z	P V	734.65	1		Ar VIII	740.0		P
O I	724.932	30	A, Z	O I	734.746	5	A, Z	O I	740.053	10	A, Z
S IV	725.00	207		F III	734.767	3		O I	740.053	10	A, Z
Ar V	725.11	100		F I	734.795	1		P III	740.178	90	
Cl II	725.2717	440		O I	734.913	20	A, Z	P XIV	740.25		P
Cl XI	725.3		F, P	O I	734.913	20	A, Z	Ar II	740.2691 st	450	
Mg III	725.347	7		O I	735.092	5	A, Z	O I	740.313	1	A, Z
Ar II	725.5485 st	540		O I	735.092	5	A, Z	Al IV	740.44	100	
Be III	725.586	40		F I	735.154	1		O II	740.838	10	
Cl II	725.6570	320		O I	735.234	10	A, Z	Al III	740.9514		
O I	725.665	30	A, Z	S III	735.25	400		Al III	740.9550		
Al III	725.6826	200		O I	735.367	20	A, Z	S III	741.0	228	
Be II	725.71	100		O I	735.367	20	A, Z	O I	741.055	30	A, Z
Si V	725.737	20		F I	735.469	1		O I	741.177	40	A, Z
O I	725.748	20	A, Z	O I	735.616	10	A, Z	O I	741.177	40	A, Z
S VI	725.8			O I	735.760	5	A, Z	Al II	741.182	25	
S III	725.86	3		O I	735.760	5	A, Z	O II	741.293	1	
O I	726.035	10	A, Z	O I	735.840	5	A, Z	O I	741.625	20	A, Z
O VIII	726.095		P	Ne I	735.8962 st	1000		O I	741.914	20	A, Z
O I	726.104	10	A, Z	O I	735.960	20	A, Z	Mg III	741.932	20	
O VIII	726.512		P	O I	735.960	20	A, Z	F III	741.955	35	
B V	726.582		P	O I	736.092	10	A, Z	Ar VIII	742.0		P
Al IV	726.63	30		O I	736.092	10	A, Z	O I	742.062	10	A, Z
O VIII	726.649		P	Al IV	736.11	5		O I	742.062	10	A, Z
B V	726.719		P	O I	736.225	10	A, Z	S VI	742.16	140	
B V	726.767		P	O I	736.225	10	A, Z	S V	742.2		
P IV	726.811	25		S III	736.25	200		O I	742.280	10	A, Z
Al III	726.9152	300		O I	736.460	5	A, Z	O I	742.471	5	A, Z
F VIII	727.0			Mg III	736.563	30		O IV	742.64		Q
Cl VI	727.54	150		O I	736.629	10	A, Z	F III	742.699	60	
Ar	727.58	10	N	O I	736.734	30	A, Z	Al IV	742.947	20	
S II	727.71	128	Q	O I	736.734	30	A, Z	O V	743.42		
C V	728.1	0		Cl VI	736.76	150		Be II	743.58	300	
Mg III	728.337	20		F VII	736.8			Ne I	743.7195 st	400	
P VI	728.34	60		O I	736.824	10	A, Z	O I	743.929	30	A, Z
C VI	728.623		P	O I	736.824	10	A, Z	Ne X	744.013		P
S III	728.69	300		O I	736.910	10	A, Z	O I	744.051	40	A, Z
Al IV	728.71	60		F I	736.987	2		O I	744.128	30	A, Z
O V	728.733	100		O I	737.019	5	A, Z	P VI	744.21	150	
C VI	728.890		P	O I	737.083	10	A, Z	Cl II	744.2627	40	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Mg III	744.342	40		Al IV	750.52	40		B III	758.476	100	
N IV	744.566		P	O I	750.573	5	A, Z	B III	758.673	200	
N IV	744.737		P	F I	750.610	3		O V	758.678	700	
O I	744.794	55	A, Z	O I	750.637	10	A, Z	C II	759.09		F, P
F III	744.818	20		Mg III	750.745	12		O I	759.200	10	A, Z
O I	744.899	10	A, Z	P IV	750.775	1		P III	759.200	4	
S IV	744.907	160		F I	750.885	1		Na	759.225	60	N
Ar II	744.9247 st	450		O I	750.956	10	A, Z	O I	759.262	20	A, Z
F V	744.95			P IV	751.069	90		P III	759.318	1	
Ne X	745.008		P	Mg III	751.121	40		S IV	759.34	141	
O I	745.011	10	A, Z	Mg II	751.207	40		O V	759.441	640	
N IV	745.020		P	Al IV	751.41	40		C II	759.46		F, P
Na	745.157	50	N	O I	751.47	2	A, Z	P III	759.473	4	
O I	745.159	10	A, Z	P IV	751.651	90		C II	759.53		F, P
Ar XII	745.2		P	Al IV	751.68	2		O I	759.593	10	A, Z
Cl IV	745.21	400		O I	751.75	1	A, Z	S X	759.9		P
O I	745.287	5	A, Z	F I	751.861	4		C V	760.18		P
Ne X	745.314		P	P IV	751.944	60		O V	760.228	580	
Ar II	745.3222 st	360		O V	752.019	3		Ar IV	760.44	120	
O I	745.628	5	A, Z	O IV	752.150	5		O V	760.445	775	
Cl II	745.6368	50		O III	752.762	200		S IV	760.62	255	
F I	745.767	2		F I	752.884	4		Mg III	760.981	7	
N II	745.841	500		Mg III	753.247	12		S X	761.0		P
P VI	745.91	10		F I	753.303	4		O V	761.128	640	
O I	745.945	5	A, Z	Ar II	753.3654 st	15		P III	761.200	10	
Be III	746.228	30		O I	753.52	2	A, Z	Ar IV	761.47	200	
Ar XI	746.36		F, P	P VI	753.564	30		Ar II	761.5791 st	60	
F I	746.400	1		Cl II	753.6251	250		Al IV	761.761		
Al IV	746.43	5		P IV	753.646	1		O V	762.003	700	
F I	746.627	3		S IV	753.764	160		Ar II	762.2000 st	180	
Al IV	746.71	20		O I	753.94	1	A, Z	O I	762.26	2	A, Z
Cl III	746.86	100		F I	754.148	2		N VII	762.521		P
N II	746.984	650		F VII	754.2			Mg III	762.756	12	
Al IV	747.35	40		Ar IV	754.21	160		P III	762.757	25	
Cl III	747.42	100		F V	754.359	35		N VII	762.806		P
Cl II	747.5649	100		F V	754.490	60		P III	762.852	1	
Cl III	747.60	100	P	Cl II	754.5869	280		N VII	762.901		P
N II	747.606		P	Ar II	754.8239 st	210		P III	763.031	40	
F I	747.999	2		Ar VI	754.93	100		C V	763.07		P
F I	748.134	1		Ar IV	755.21	120		N III	763.340	700	
N V	748.195	120		Si II	755.362	2	Z	O III	763.81		Q
Ar II	748.1982 st	210		F I	755.603	2		P V	764.157	1	
N V	748.291	150		Cl VI	755.63		P	N III	764.357	750	
F I	748.338	2		O I	755.790	40	A, Z	N V	764.833		P
N II	748.369			P III	756.171	60		N V	764.896		P
O I	748.380	40	A, Z	O I	756.243	40	A, Z	Ar XII	765.1		P
S IV	748.400	220		Cl VI	756.34		P	N IV	765.148	750	
C V	748.43		P	O I	756.354	30	A, Z	S II	765.62	244	
F I	748.580	4		O I	756.410	40	A, Z	Mg III	765.655	20	
Al IV	748.63	2		P IV	756.510	300		Na	765.788	20	N
O I	748.632	30	A, Z	O I	756.56	1	A, Z	P IV	765.958	10	
O I	748.680	30	A, Z	Cl IV	756.56	100		Al IV	765.97	6	
F I	748.709	2		Cl II	756.632	12		S X	766.3		P
O I	748.93	1	A, Z	O I	756.676	20	A, Z	Al IV	766.31	3	
F I	748.946	3		O I	756.704	10	A, Z	Na	766.429	20	N
Al IV	749.07	60		Mg III	756.808	7		O III	767.03		Q, Z
S IV	749.24	141		C V	756.87		P	Ar VI	767.06	200	
O I	749.253	40	A, Z	F V	757.037	100		Cl XII	767.2		F, P
B V	749.432		P	O I	757.059	10	A, Z	Ar VI	767.71	100	
O I	749.517	10	A, Z	O I	757.149	10	A, Z	Al IV	767.747	100	
Mg IX	749.55			O I	757.15	2	A, Z	Be III	767.75	10	
O I	749.586	10	A, Z	F V	757.158	35		P VI	768.787	70	
O I	749.628	10	A, Z	O I	757.254	20	A, Z	Al IV	769.13	10	
C V	749.66		P	Na	757.331	40	N	Ar III	769.15	600	
B V	749.737		P	O I	757.627	10	A, Z	S X	769.2		P
O I	749.742	10	A, Z	P III	757.629	90		O I	769.23	5	A, Z
O I	749.795	10	A, Z	Cl VI	757.82		P	O I	769.3528	22	A, Z
B V	749.837		P	P III	757.878	4		O I	769.4083	30	A, Z
O I	749.894	5	A, Z	Na	757.892	45	N	O IV	769.78		Q
Si IV	749.941	300		N III	758.09		P	S VII	769.8		
O I	749.99	1	A, Z	Ne IV	758.32	15	Q	O I	770.2600	10	A, Z
O I	750.19	2	A, Z	P III	758.333	10		O I	770.2907	2	A, Z
S IV	750.228	285		O I	758.347	20	A, Z	O I	770.3464	10	A, Z
P IV	750.284	120		S IV	758.35	233		C IV	770.379	25	
F I	750.418	1		O I	758.412	30	A, Z	Ne VIII	770.409	1000	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N IV	770.678		P	Ar I	778.756	19	A, Z	P III	784.227	25	
O I	770.6986	10	A, Z	S X	778.8		P	O I	784.37	5	A, Z
O I	770.70		A, Z	Ar I	778.814	21	A, Z	Ar	784.38	30	N
O I	770.793	55	A, Z	Ar I	778.879	22	A, Z	C III	784.393	300	
B II	770.8		Z	Ar I	778.952	23	A, Z	P II	784.46	1	
Cl II	771.0246	60		Cl II	778.9924	60		O V	784.795	7	
O I	771.056	90	A, Z	Ar I	779.034	25	A, Z	P II	784.81	5	
N III	771.544	500		Si IV	779.04	101		Ar I	784.845	57	A, Z
O I	771.729	30	A, Z	Ar I	779.126	25	A, Z	Ar XII	784.9		P
N III	771.901	550		Si VI	779.19	20		Ar I	784.90		A, Z
O I	771.967	40	A, Z	F I	779.192	2		P III	784.913	4	
O I	772.147	5	A, Z	Ar I	779.230	27	A, Z	Na	785.088	40	N
Ar XII	772.2		P	Ar I	779.350	29	A, Z	P III	785.373	60	
O I	772.344	20	A, Z	F I	779.365	6		Si VI	785.57	5	
P IV	772.382	10		Ar I	779.486	11	A, Z	P IV	785.590	1	
N III	772.385	600		Ar I	779.49		A, Z	Na	786.009	30	N
Ar	772.41	10	N	Ar I	779.645	11	A, Z	Ne IV	786.14	5	
Ar IV	772.49	10	Q	Ar I	779.65		A, Z	P II	786.18	5	
F VII	772.7			O IV	779.734	200		P III	786.252	60	
N III	772.891	450		S X	779.8		P	Si VI	786.343	10	
N III	772.955	400	P	O IV	779.821	400		Na VII	786.35		
Cl VI	774.04		P	Ar I	779.828	11	A, Z	Cl VI	786.44		
S III	774.40	232		Ar I	779.84		A, Z	Na	786.477	35	N
O V	774.518	520		F I	779.910	5		S V	786.48	800	
Cl II	774.7916	250		O IV	779.912	500		Ar I	786.506	63	A, Z
Al VIII	774.8			F I	779.972	2		P II	786.52	5	
O III	775.03			O IV	779.997	200		Ar I	786.59		A, Z
Na IV	775.065	10	Q, Z	Ar I	780.044	13	A, Z	Ar I	786.923	0	A
O I	775.252	40	A, Z	Ar I	780.05		A, Z	Ar I	786.929	0	A
P V	775.254	1		F I	780.134	1		Ar I	786.938	0	A
O I	775.321	55	A, Z	Ne IV	780.25	15		Ar I	786.947	2	A
Be II	775.362	400		Ar I	780.300	13	A, Z	Ar I	786.955	3	A
Si VI	775.71	20		Ar I	780.31		A, Z	Ar I	786.964	3	A
N II	775.965	1000		Ne VIII	780.324	500		Ar I	786.973	4	A
O I	776.159	30	A, Z	F I	780.390	15		Ar I	786.984	6	A
O I	776.206	30	A, Z	Na	780.422	12	N	Ar I	786.994	9	A
S X	776.33		F, P	F I	780.519	10		Ar I	787.006	10	A
P IV	776.353	300		Ar I	780.606	15	A, Z	Ar I	787.017	12	A
O I	776.569	20	A, Z	Ar I	780.62		A, Z	Ar I	787.030	14	A
Na	776.668	20	N	F I	780.713	5		Ar I	787.044	17	A
Cl IV	776.91	10		N II	780.9		P	Ar I	787.058	21	A
F I	776.926	4		Ar I	780.975	21	A, Z	Ar I	787.074	22	A
F I	777.010	5		Ar I	780.99		A, Z	Ar I	787.090	24	A
B V	777.401		P	Na	781.171	12	N	Ar I	787.108	25	A
F I	777.531	4		S VII	781.3			Ar I	787.128	25	A
B V	777.556		P	Ar I	781.427	23	A, Z	Ar I	787.148	25	A
Cl II	777.5623	440		Ar I	781.45		A, Z	Cl II	787.15	100	
B V	777.610		P	F I	781.654	3		Ar I	787.170	26	A
N V	777.712	35		P III	781.742	90		Ar I	787.194	28	A
Na VII	777.83			Na	781.752	20	N	Ar I	787.220	29	A
F I	778.059	6		Ar I	781.992	24	A, Z	Ar I	787.249	29	A
N V	778.172	40		Ar I	782.02		A, Z	Ar I	787.280	30	A
S X	778.2		P	Si VI	782.03	10		Ar I	787.312	32	A
Ar I	778.224	1	A, Z	P III	782.358	4		Ar I	787.322	10	A
Ar I	778.237	1	A, Z	F I	782.378	10		Ar I	787.349	32	A
Ar I	778.247	1	A, Z	F I	782.575	2		Ar I	787.361	10	A
Ar I	778.260	2	A, Z	P II	782.59	5		Ar I	787.389	33	A
Ar I	778.273	2	A, Z	S XI	782.68		F, P	Ar I	787.403	12	A
Ar I	778.286	3	A, Z	Ar I	782.705	31	A, Z	Ar I	787.434	34	A
Ar I	778.302	4	A, Z	P II	782.72	1		Ar I	787.450	12	A
Ar I	778.319	4	A, Z	Ar I	782.74		A, Z	Ar I	787.482	36	A
Ar I	778.335	5	A, Z	P III	782.886	25		Ar I	787.500	13	A
Ar I	778.354	6	A, Z	P II	782.90	1		S X	787.51		F, P
Ar I	778.379	8	A, Z	Na	782.900	30	N	Ar I	787.535	36	A
Ar I	778.396	8	A, Z	P III	782.972	60		Ar I	787.557	14	A
Na	778.413	40	N	F I	782.976	5		Cl II	787.5805	700	
Ar I	778.420	9	A, Z	Ar	783.14	250	N	Ar I	787.595	39	A
Ar I	778.447	11	A, Z	N III	783.24		P	Ar I	787.619	15	A
Ar I	778.474	13	A, Z	P III	783.575	10		Ar I	787.661	39	A
Ar I	778.504	14	A, Z	Ar I	783.627	43	A, Z	Ar I	787.688	14	A
Ar I	778.537	14	A, Z	Ar I	783.67	120	A, Z	O IV	787.711	850	
Ar I	778.572	14	A, Z	S X	783.7		P	Ar I	787.736	40	A
Ar I	778.612	17	A, Z	P II	783.71	5		Ar I	787.763	16	A
Ar I	778.655	18	A, Z	P III	783.746	150		Ar I	787.819	38	A
Ar I	778.703	18	A, Z	P III	784.119	10		Ar I	787.850	17	A

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Ar I	787.913	36	A	S IV	791.62	213		P IV	799.326	25	
Ar I	787.948	19	A	Ar I	791.811	30	A	Ar I	799.518	2	A, F
Ar I	788.020	37	A	P VI	791.860	250		Ar I	799.616	5	A, F
Ar I	788.059	20	A	F I	791.875	12		B IV	799.66	20	
Ar I	788.141	36	A	O I	791.9732	55	A, Z	C II	799.660	500	Z
O I	788.18	2	A, Z	Ar I	792.033	1	A, F	C IV	799.7	100	
Ar I	788.185	24	A	Ar I	792.059	3	A, F	Si VI	799.723	30	
Ar I	788.280	41	A	Ar	792.08	10	N	C II	799.928	25	Z
Ar I	788.329	28	A	O I	792.2330	20	A, Z	C II	799.944	350	Z
P VI	788.359	100		Cl II	792.2628	550		S II	800.04	50	
Na	788.369	25	N	Ar I	792.3207 st	43	A	Si III	800.066	100	
Ar I	788.440	59	A	Ar I	792.367	7	A	Mg IV	800.409	80	
Ar I	788.496	29	A	O I	792.5063	26	A, Z	S IV	800.47	400	
O V	788.577	3		Ar I	792.513	28	A	Ar IV	800.57	200	
P IV	788.580	10		F I	792.536	10		B IV	800.6		P
Ar I	788.623	40	A	Ar I	792.632	25	A	Cl VII	800.641	150	
Ar I	788.629	34	A	Cl II	792.694	15		Be IV	800.739		P
Ar I	788.686	30	A	Si VI	792.86	5		Ar I	800.864	2	A, F
Cl II	788.7408	700		O I	792.9381	40	A, Z	Be IV	800.892		P
P IV	788.797	4		O I	792.9671	40	A, Z	Ar I	800.914	3	A, F
Ar I	788.827	41	A	Ar I	793.025	35	A	Si VI	800.926	30	
Ar I	788.841	36	A	Ar I	793.115	1	A, F	Be IV	800.945		P
Ar I	788.863	30	A	Ar I	793.151	4	A, F	Ar IV	801.09	400	
Ar I	788.902	34	A	F I	793.237	1		P II	801.35	1	
S III	788.98	400		Cl II	793.3424	700		Ar I	801.3577 st	51	
Cl II	788.9860	550		Cl II	793.4574	630		Ar I	801.3937 st	41	
Ar I	789.031	39	A	Ar I	793.586	1	A, F	Ar IV	801.41	400	
Ar I	789.077		A, F	Ar I	793.598	2	A, F	Ar IV	801.91	200	
Cl II	789.0997	280		Ar I	793.750	42	A	Ar I	802.190	7	A, F
Ar I	789.113	30	A	Ar I	793.781	42	A	Na	802.197	20	N
Ar I	789.140	18	A	Ar I	794.291	27	A	P II	802.20	1	
Na	789.177	20	N	F I	794.417	10		O IV	802.200	200	
Ar I	789.257	34	A	Al II	794.475	20		O IV	802.255	150	
Ar I	789.387		A, F	Ar I	794.574	2	A, F	Ar I	802.8590 st	20	
Ar I	789.425	33	A	Ar I	794.619	4	A, F	Al IV	802.875	10	
Ar I	789.440	29	A	C II	794.964	10	Z	Cl II	802.8911	140	
Ar I	789.568	23	A	Ar I	794.964	5	A, F	Mg IV	803.072	40	
Na VIII	789.6			C II	795.134	100	Z	P III	803.093	25	
Ar I	789.625	1	A, F	Ar I	795.212	1	A, F	S VI	803.20	176	
Ar I	789.756		A, F	Ar I	795.236	3	A, F	Si II	803.234	3	
Ar I	789.803	36	A	Cl II	795.3537	600		Ar	803.59	20	N
Ar I	789.813	34	A	Ar I	795.430	49	A	P III	803.813	10	
Ar I	789.962	9	A	Ar I	795.4474 st	30	A	Ar I	803.981	3	A, F
F I	790.006	7		F I	795.774	2		P VI	803.989	150	
Ar I	790.046	2	A, F	P III	795.835	90		S IV	803.99	400	
O IV	790.109	750		P VI	795.846			Ar I	804.138	7	A, F
O IV	790.199	900		P III	796.020	10		Cl X	804.2		F, P
Ar I	790.208		A, F	Ar I	796.0955 st	30	A	O I	804.267	90	A, Z
Ar I	790.210		A, F	F VII	796.1		P	Ar	804.59	60	N
Ar I	790.266	36	A	P III	796.223	120		O I	804.775	40	A, Z
Ar I	790.270	45	A	Na	796.301	20	N	O I	804.848	55	A, Z
S V	790.36	110		P VI	796.52	40		Si III	804.95	141	
Ar I	790.451	22	A	Ar I	796.599	2	A, F	P III	805.056	1	
S X	790.5		P	Ar	796.62	10	N	Si II	805.101	10	
P IV	790.508	150		P VI	796.66	40		S VI	805.15	126	
Ar I	790.535	2	A, F	O II	796.661	500		Si III	805.20	141	
Na	790.546	70	N	Ar I	796.665	4	A, F	O I	805.295	55	A, Z
Ar I	790.559	4	A, F	S III	796.69	400		Ar I	805.560	4	A, F
Ar I	790.768		A, F	Ar I	796.918	3	A, F	O I	805.745	10	A, Z
Ar I	790.771		A, F	F I	796.982	3		P III	805.765	1	
Ar I	790.840	60	A	S IV	797.17	217		O I	805.810	70	A, Z
P IV	790.844	25		P VI	797.203	500		Ar I	806.119	4	A, F
N IV	791.045		P	Ar I	797.595	53	A	P VI	806.14	20	
Ar I	791.059	29	A	O IV	797.62			Ar I	806.186	5	A, F
N IV	791.095		P	Ar I	797.7457 st	38	A	O I	806.231	20	A, Z
S X	791.1		P	Cl II	797.8455	320		C II	806.384	500	
Ar XII	791.1		P	Ar I	797.8818 st	15	A	Ar I	806.4711 st	100	
N IV	791.167		P	Na	798.013	15	N	C II	806.533	200	
Ar I	791.202	1	A, F	Ar I	798.1721 st	26	A	C II	806.568	500	
Ar I	791.222	2	A, F	S IV	798.28	300		C II	806.676	250	
Ar I	791.478		A, F	Na VI	798.320	10		C II	806.686	150	
Ar I	791.482		A, F	P IV	798.803	60		C II	806.830	300	
O I	791.5136	30	A, Z	S II	798.92	50		C II	806.860	300	
Ar I	791.551	42	A	Ar I	799.1316 st	10		Ar I	806.8689 st	60	
Ar I	791.566	30	A	S II	799.14	50		F I	806.970	150	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P III	807.107	1		Ar I	820.1236 st	80		Ar XII	834.0		P
Ar I	807.2184 st	30		Si II	820.516	20		O I	834.12	1	A, Z
N II	807.222		P	P III	820.552	1		O I	834.25	1	A, Z
Ar	807.46	30	N	Ar	820.56	20	N	O I	834.34	1	A, Z
N II	807.603		P	Si II	820.63	3	Z	Ar I	834.3918 st	150	
Ar I	807.6529 st	40		Cl VII	820.7		Q	Cl II	834.4229	320	
Si VI	807.94	5		Si II	820.9210	3		O II	834.462	750	
P II	808.25	50		Ar	820.98	50	N	Cl II	834.6463	550	
B II	808.7			Mg III	821.369	4		Cl IV	834.66	300	
S II	808.70	327		Si II	821.450	2	Z	Cl II	834.7223	440	
Na	809.413	15	N	F IV	821.694	1		Cl IV	834.84	500	
F I	809.607	125		Ar I	821.999	6	A, F	Ar V	834.88	200	
S IV	809.668	160		Si III	822.004			Cl IV	834.97	500	
C II	809.677	400	Z	Ar V	822.161	200		Ar I	835.0021 st	100	
C II	809.693	30	Z	N IV	822.299		P	O III	835.096	700	
P VI	809.710	400		Si II	822.8613	5		O III	835.292	800	
C II	809.747	30	Z	P IV	823.179	650		S X	835.4		P
C II	809.764	300	Z	Ar XVII	823.25		P	O I	835.44	2	A, Z
Ar I	809.9266 st	50		N IV	823.273	100		O I	835.60	2	A, Z
Mg IV	809.975	40		Si III	823.408	180		Ar V	835.79	50	
P II	810.00	30		Mg III	823.788	7		Ar V	836.13	100	
Na VI	810.183	25	Q	F VII	824.5			N II	836.187	10	
P II	810.24	100		Ar I	824.603	8	A, F	N II	836.279	1	
P IV	810.595	25		P II	824.66	30		N II	836.289	0	
O I	810.6650	10	A, Z	P IV	824.730	700		S III	836.31	400	
O I	811.0512	20	A, Z	S III	824.88	400		S IV	836.34	400	
P II	811.10	20		Al IV	824.911	150		N II	836.616	5	
Mg IV	811.276	80		Ar I	825.141	12	A, F	N II	836.627	2	
Ar I	811.282	5	A, F	Ar I	825.3460 st	120		N II	836.837	2	
Al IV	811.341	1		N IV	825.4		P	O I	837.27	2	A, Z
O I	811.4968	10	A, Z	N VII	825.668		P	O I	837.40	2	A, Z
Ar I	811.552	10	A, F	F VII	825.8			S IV	837.48	400	
O I	811.7064	10	A, Z	N VII	826.252		P	O I	837.63	1	A, Z
P II	811.85	30		Al IV	826.287	200		O I	837.76	1	A, Z
O I	812.0936	5	A, Z	Ar I	826.3649 st	120		Al V	838.156	80	
O I	812.1594	5	A, Z	Si II	826.42	1	Z	Al IV	838.398	30	
P V	812.843	4		N VII	826.437		P	Cl II	839.2972	770	
Cl VII	812.960	100		F VII	826.54			Cl II	839.6001	900	
P II	813.10	40		Al V	826.826	30		O I	839.83	2	A, Z
P V	813.241	1		S III	826.97	240		O I	839.96	2	A, Z
P II	813.768	5		Ar V	827.052	250		Ar IV	840.03	600	
P IV	814.386	1		Ar V	827.35	150		P II	840.04	1	
Na VI	814.515	15		Cl II	827.85	100		O I	840.33	1	A, Z
P V	814.732	12		Na VI	827.909	5		Mg IV	840.366	40	
Mg IV	814.873	60		P IV	827.932	800		O I	840.49	1	A, Z
Ar I	814.942	4	A, F	F VII	828.1		P	Si III	840.74	111	
Si XIII	815.00		P	S V	828.46	164		S II	840.75	216	
Si IV	815.049	500		Ar	828.86	40	N	Cl IV	840.81	400	
Ar I	815.087	5	A, F	S XI	829.32		F, P	Cl IV	840.93	600	
S IX	815.14		F, P	Cl II	829.8029	280		Al IV	841.050	1	
Ar	815.14	30	N	Al IV	829.828	50		P II	841.21	20	
Ar I	815.429	9	A, F	O I	829.98	2	A, Z	Cl II	841.4191	850	
P III	815.559	25		Na	830.105	20	N	Be II	842.025	500	
F IV	815.629	10		O IV	830.506	10		Be II	842.031	250	
Na	815.631	20	N	N IV	830.6		P	Mg IV	842.087	60	
P III	815.736	10		O IV	831.070	15		S III	842.27	127	
Si IV	815.952	220		Cl IV	831.43	400		P IV	842.689	10	
Ar I	816.2320 st	120		Na	831.529	30	N	Ar I	842.8051 st	100	
Ar I	816.4640 st	70		Ar I	831.738	5	A, F	P IV	842.867	90	
O I	816.766	90	A, Z	O I	831.83	1	A, Z	C VI	843.473		P
O I	816.862	90	A, Z	Na V	831.868	5	Q	O I	843.59	2	A, Z
Si V	817.257	50		Al IV	831.939	10		C VI	843.668		P
Al IV	817.473	50		Ar I	832.025	7	A, F	Si II	843.7192	20	
P IV	817.684	60		F II	832.035	10		C VI	843.734		P
O I	817.777	55	A, Z	O I	832.42	1	A, Z	O I	843.75	2	A, Z
P IV	817.786	60		O I	832.42	1	A, Z	Ar IV	843.77	800	
O I	817.835	55	A, Z	O II	832.762	700		S II	843.82	200	
C III	817.950			O III	832.927	700		P II	844.01	20	
Na VI	818.096	10		O I	833.10	1	A, Z	Ar I	844.100	12	A, F
Si IV	818.129	550		O I	833.20	1	A, Z	P IV	844.148	10	
C III	818.181			S X	833.3		P	O I	844.33	1	A, Z
O I	818.236	55	A, Z	O II	833.332	750		Na	844.341	12	N
Si II	818.590	2		P III	833.492	4		Si III	844.39	222	
O I	819.27	10	A, Z	P III	833.668	1		Si VI	844.39	20	
Si II	819.49	0	Z	O III	833.742	800		P IV	844.420	120	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O I	844.53	1	A, Z	N I	857.77	2		Cl II	868.5774	380	
Al IV	844.564	200		S V	857.87	500		Mg IV	868.635	20	
Al V	844.582			C II	858.0918 ST	500		Na	868.738	30	N
P III	844.646	200		P III	858.135	90		N I	868.860	8	
P IV	844.646			N II	858.376	100		Al IV	868.994	1	
Al IV	844.949	50		C II	858.5590 ST	900		Cl II	869.0127	220	
P I	845.038	150		N I	858.80	2		Ar	869.24	10	N
P V	845.370	12		O I	859.31	20	A, Z	N I	869.413	4	
P III	845.664	250		O II	859.32			N I	869.424	4	P
Ar	845.68	150	N	N I	859.35	3		N I	869.482		P
Si II	845.7684	40		O I	859.35	10	A, Z	N I	869.546	6	
P IV	845.969	150		P III	859.362	25		P V	869.683	12	
P III	846.108	200		P III	859.406	200		Ar I	869.7542 st	150	
S III	846.12	125		O I	859.59	2	A, Z	N I	869.878	4	
N IV	846.215		P	P III	859.652	500		N I	869.925		P
P V	846.299	4		P III	859.729	250		P V	869.974	4	
P IV	846.415	200		N I	859.76	2		N I	870.029	5	
P III	846.456	120		N I	860.004		P	P IV	870.148	25	
P IV	846.701	25		N I	860.15	4		Al IV	870.154	5	
P IV	847.019	250		N II	860.205			N I	870.367	3	P
P III	847.669	300		O II	860.30			N I	870.37	3	P
P IV	847.669			S V	860.46	500		Ar III	871.10	500	
F III	847.962	10		P IV	860.479	120		O I	871.16	1	A, Z
Al IV	847.995	10		Si IV	860.551	20		P V	871.394	600	
P III	848.016	200		Si IV	860.560			P V	871.446		
Si II	848.0700	5		N I	860.85	4		Na	871.473	12	N
P III	848.465	120		Al IV	860.937	150		Mg III	871.720	40	
P III	848.639	150		Si IV	861.118	5		O III	871.77		
F III	848.915	3		N I	861.15	1		S IX	871.79		F, P
S V	849.24	600		P IX	861.3		F, P	N III	871.870	25	
O I	849.45	1	A, Z	P IV	861.531	90		Cl II	872.1338	220	
O I	849.48	2	A, Z	O I	861.56	40	A, Z	N III	872.143	10	
O I	849.61	5	A, Z	P II	861.61	10		Si V	872.25	5	
P IV	849.799	350		Mg IV	861.991	20		Al IV	872.626	20	
Si II	850.1409	10		N I	862.14	5		P II	872.84	5	
P IV	850.392	200		Al IV	862.455	10		Cl II	872.8505	320	
Al IV	850.447	80		O I	862.678		P, Z	S V	873.0		
Ar IV	850.60	1000		P X	862.7		F, P	Mg III	873.580	20	
O I	850.68	5	A, Z	N I	862.91	5		Si V	873.832	250	
F III	850.707	3		N I	862.99	3	P	Cl II	874.2790	220	
Cl II	850.7509	140		P V	863.095	4		P V	874.568	1	
Mg V, I	850.9		P	P IV	863.300	150		N I	874.934	4	
P IV	851.091	90		Mg IV	863.698	40		Si VI	874.99	5	
Cl II	851.6917	700		O I	863.857		P, Z	N I	875.067		P
F III	851.700	6		B II	864.08	10		P IV	875.087	200	
Na VI	851.740	5		Mg VII	864.2		P	N I	875.100	10	
S V	852.18	500		O I	864.370		P, Z	P IV	875.143	120	
Mg IV	852.232	40		Cl II	864.6198	320		P IV	875.175	90	
P III	852.686	250		Na VI	864.625	10		N I	875.277		P
S IV	852.76	300		N I	864.868	5		Ar III	875.53	450	
Si IV	853.10	300		P IV	865.026	90		N I	875.598	2	
Si III	853.11	159		Be II	865.3		ZZ	N I	875.656	6	
P III	853.355	60		Cl IV	865.3			N I	875.721	6	
Ar I	853.361	12	A, F	P II	865.44	100		N I	875.791	6	
Al IV	853.393	100		P V	865.446	450		Ar I	876.0577 st	180	
P IX	853.7		F, P	N I	865.65	5	P, Z	N I	876.066	7	
P III	854.232	90		B V	865.719		P	Si III	876.16	164	
Mg IV	854.407	80		Mg IV	865.722	60		N I	876.172	6	
Ar I	854.705	13	A, F	S II	865.87	50		N I	876.238		P
Na VI	854.790	20	Q	B V	865.907		P	Mg III	876.312	7	
S V	854.80	700		Mg III	865.935	4		N I	876.331		P
P III	854.845	90		N I	865.95	3	P	N I	876.645	6	
Mg IV	854.936	40		B V	865.972		P	Al IV	876.803	80	
Al III	855.0340	400		S II	866.23	100		N I	876.987	5	
Ar XII	855.4		P	Mg IV	866.735	80		P IV	877.476	700	
P III	855.624	350		Ar I	866.8000 st	180		Mg IV	877.486	40	
Ar	855.71	10	N	P IV	866.807	150		O I	877.7983	70	Z
P III	855.722	10		S II	867.15	100		O I	877.8787	55	Z
Al V	856.394	50		S II	867.50	100		Si III	877.92	109	
P III	856.717	1		Na VI	867.537	5		O I	878.2007	20	Z
Al III	856.7457	500		P VI	868.135	150		O I	878.25	10	A, Z
P III	856.934	40		Ar	868.20	10	N	O I	878.62	1	A, Z
P III	856.985	120		O II	868.21			Ar III	878.73	600	
Al IV	857.198	50		P IV	868.336	60		Mg III	878.847	7	
Mg IV	857.289	80		O I	868.41	1	A, Z	O I	878.9720	20	Z

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O I	879.0194	20	Z	Si VI	890.041	100		P IV	902.722		
O I	879.1001	70	Z	Mg IV	890.354	40		N-	902.763	25	N
Si III	879.233	19		Mg IV	890.604	40		S V	902.80	100	
P III	879.264	150		S IV	890.68	292		Mg IV	902.812	60	
O I	879.5507	30	Z	F VII	890.786	5		P III	902.822	120	
F III	879.59	6		Mg IV	891.006	40		Mg III	902.923	7	
Ar III	879.62	400		O II	891.29			S X	903.0		P
S IV	879.73	191		Si III	891.479			P III	903.022	40	
Ar I	879.9466 st	180		Si VI	891.97			Cl XVI	903.18		P
P IV	880.022	1		Si II	892.0007	200		P IV	903.191	1	
Mg III	880.107	7		Al III	892.0242	400		P III	903.575	50	
O I	881.47	1	A, Z	Ar	892.07	10	N	C II	903.6235 ST	600	
P III	881.815	25		O I	892.11	2	A, Z	F IV	903.64	35	
P III	882.028	1		Mg IV	892.218	40		F III	903.96	3	
F III	882.136	3		P IV	892.460	40		C II	903.9616 ST	800	
B II	882.543	300		Ar	892.74	10	N	N II	903.962		P
P III	882.626	90		P IV	892.804	90		C II	904.1416 ST	1000	
B II	882.681	300		Si V	892.993	150		Si V	904.48		
Si V	882.735	200		P IV	893.235	40		C II	904.4801 ST	600	
P III	882.848	40		Si V	893.277	60		P X	904.6		F, P
O I	882.8895	40	Z	S IV	893.41	91		F III	904.657	3	
F VII	883.110	10		P IV	893.451	120		N II	904.855		P
Cl V	883.13	400		Ar	893.50	50	N	Ar	904.89	80	N
Al IV	883.138	50		Cl II	893.5483	440		F III	905.048	6	
Ar III	883.18	450		Mg IV	893.869	40		F IV	905.14		Q
Si III	883.398	100		Al III	893.8874	50		Al II	905.152	20	
P III	883.467	1		A. III	893.8969	450		N I	905.223	6	
S V	883.59	200		Na	893.899	25	N	F IV	905.224	60	
S V	884.46	200		Ar I	894.3102 st	150		N II	905.286		P
C III	884.516	800		Cl V	894.34	400		N I	905.411	2	P
Si VI	884.64	10		S III	894.46	248		Si V	905.414	5	
Mg II	884.6967			Si VI	894.490	70		P III	905.517	120	
Mg II	884.7189			Si VI	894.737	40		Si II	905.71	0	Z
P IV	884.724	25		Mg III	894.744	7		N I	905.787	11	
N III	884.76		P, Z	Cl V	894.91	100		N I	905.839	12	
P III	885.073	1		Ar	894.97	10	N	N I	905.916	11	
N I	885.380	5	P	Na	895.054	20	N	S V	905.92	200	
N I	885.387	5		Nc VII	895.18			Si V	905.963	5	
P IV	885.468	40		Si IV	895.228			Si II	906.126	0	Z
N I	885.527		P	Mg III	895.324	12		Si VI	906.18	5	
Ar VII	885.55		P	Si IV	895.558			N I	906.206	11	
N I	885.656	10	P	Cl II	895.9539	420		N I	906.433	13	
N I	885.668	5	P	Mg III	896.640	4		F III	906.577	3	
N I	885.704		P	Si V	897.227	40		Si II	906.586	1	Z
S V	885.77	100		S IV	897.81	286		Cl II	906.6153	380	
N I	885.973	6		Si V	897.856	80		N I	906.617	12	
P IV	886.101	60		Mg III	898.207	12		P III	906.660	25	
Mg III	886.158	7		Si VI	898.281	40		N I	906.730	12	
N I	886.226	9		O III	898.957	400		S II	906.87	300	
Si VI	886.243	60		Na	899.342	20	N	P II	906.89	5	
N I	886.332	8		Si II	899.4063	10		P II	906.987	10	
N I	886.428	8		Si VI	899.427	40		Si II	907.033	0	Z
N I	886.465		P	P III	899.767	1		N I	907.069	2	P
N I	886.517		P	Si IV	899.86	582		N I	907.275		P
N I	886.829	6		Al XII	899.93		P	N I	907.337	7	
N I	886.840		P	P III	899.963	60		Mg II	907.3752		
N I	887.016	4		Ar IV	900.36	200		Mg II	907.4115		
N I	887.375	4	P	N IV	900.516		P	N I	907.485		P
Ar III	887.40	500		N II	900.724		P	P II	907.56	40	
N I	887.457	11		Si VI	900.834	60		P III	907.590	90	
S VII	887.7			Na	900.904	30	N	Si II	907.762	0	Z
S IV	887.90	204		S V	900.93	200		P III	907.809	120	
N I	888.022	10		Si V	901.168	70		P III	908.032	120	
Cl II	888.0256	440		Ar IV	901.17	400		N IV	908.057		P
Si VI	888.050	10		N II	901.398		P	N I	908.2332	3	
N I	888.372	8		S X	901.4		P	P III	908.266	10	
Si VI	888.72	20		P IV	901.521	1		P II	908.38	1	
Na VI	888.784	5		N II	901.626		P	Si II	908.461	1	Z
S V	888.93	89		Si VI	901.637	200		N I	908.7958	1	
P IV	888.947	120		Si II	901.7359	20		F IV	908.837	100	
Si V	888.999	3		Ar IV	901.80	80		F IV	908.958	150	
Si VI	889.227	50		Si VI	902.209	100		S II	909.15	121	
Si II	889.7228	100		F III	902.239	3		Si II	909.209	3	Z
Cl II	889.8173	220		F III	902.425	3		P III	909.581	4	
Mg III	889.888	20		P VIII	902.6		F, P	N I	909.6976 ST	9	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Mg III	909.730	7		Cl V	914.5			H I	920.963	9	P
P III	909.818	90		O I	914.513	10	A	O I	921.005	10	A
Cl II	910.25	10		H I	914.576	2	P	O I	921.247	2	A
N I	910.2785 ST	6		O I	914.588	10	A	O IV	921.296	120	
F III	910.334	6		F III	914.836	3		Si V	921.31		
S II	910.49	300		O I	914.854	2	A	O IV	921.366	150	
P III	910.548	60		Cl II	914.8574	185		Al II	921.367	75	
F III	910.645	6		O I	914.918	5	A	O I	921.575	2	A
N I	910.6456 ST	5		H I	914.919	2	P	Si V	921.583	70	
P II	910.88	5		C VI	914.996		P	P III	921.849	250	
Al II	910.916	10		O I	915.100	5	A	O I	921.860	10	A
Mg IV	911.011	20		O I	915.199	2	A	Si V	921.862	10	
Na	911.067	25	N	O I	915.199	2	A	N IV	921.992	720	
F III	911.164	20		Na	915.217	20	N	O I	922.0081	70	Z
P III	911.379	1		C VI	915.222		P	Si VI	922.063	90	
O I	911.463	2	A	S II	915.27	185		O I	922.0727	20	Z
O I	911.463	2	A	C VI	915.298		P	O I	922.200	5	A
Al II	911.497	10		O I	915.321	5	A	O I	922.46	5	A, Z
O I	911.538	5	A	H I	915.329	2	P	N IV	922.519	700	
O I	911.538	5	A	O I	915.381		P	Na	922.829	25	N
O I	911.611	5	A	O I	915.499	2	A	D I	922.899		P
O I	911.611	5	A	N II	915.612	700		N IV	923.057	680	
P III	911.629	40		Si IV	915.67	219		H I	923.150	10	P
O I	911.692	5	A	O I	915.821	10	A	O I	923.200	10	A
O I	911.692	5	A	H I	915.824	3	P	N IV	923.220	800	
S III	911.77	20		O I	915.877	10	A	O IV	923.567	200	
O I	911.786	5	A	N II	915.962	700		O IV	923.433	120	
O I	911.786	5	A	O I	915.991	5	A	O I	923.549		P
Na	911.815	20	N	N II	916.012	800		N IV	923.675	700	
O I	911.898	5	A	N II	916.020	600		O I	923.790		P
O I	911.898	5	A	P VI	916.139	100		S IV	924.08	212	
Al II	911.946	40		Si III	916.42	206		O I	924.135		P
O I	912.012	10	A	O I	916.420	10	A	S VII	924.2		
O I	912.012	10	A	H I	916.429	3	P	N IV	924.283	720	
F III	912.090	6		Si V	916.500	30		Si VI	924.290	100	
O I	912.155	10	A	O I	916.526		P	Cl II	924.3022	100	
O I	912.155	10	A	N II	916.701	1000		Cl II	924.5764	75	
O I	912.318	10	A	N II	916.710	800		Si VI	924.62	50	
O I	912.318	10	A	O I	916.816	10	A	F III	924.716	6	
Cl II	912.3468	220		O I	916.960	5	A	P IV	924.710	1	
Si II	912.375	5	Z	O I	916.960	5	A	O I	924.952	5	A
Si II	912.459	5	Z	P III	917.120	300		Si VI	925.03	5	
O I	912.48	1	A, Z	H I	917.181	4	P	Be II	925.20	100	
O I	912.500	10	A	O I	917.185	5	A	O I	925.442	5	A
O I	912.500	10	A	O I	917.315	5	A	Si V	925.565	30	
O I	912.723	20	A	Ar	917.72	10	N	P VI	925.852	150	
O I	912.723	20	A	O I	918.039	10	A	D I	925.974		P
S II	912.74	300		H I	918.170	5	P	H I	926.226	20	P
Si V	912.827	30		O I	918.149	5	A	O I	926.295	10	A
O I	912.843	10	A	Cl IX	918.2			O I	926.809	5	A
Ar	912.91	10	N	O I	918.221	5	A	O I	926.903	5	A
P III	912.936	10		O I	918.293		P	Cl II	926.9588	340	
O I	912.964	20	A	P IV	918.497	200		O I	927.394		P
O I	912.964	20	A	P III	918.665	350		P II	927.771	10	
Si II	913.012	10	Z	O I	918.724	2	A	F IV	927.837	10	
O I	913.127	5	A	S II	918.82	300		S IV	928.06	100	
O I	913.250	20	A	F IX	918.912		P	Si II	928.297	5	Z
O I	913.250	20	A	Mg IV	919.025	80		P II	928.550	10	
Si II	913.264	3	Z	Si VI	919.034	30		O III	928.82		Q
F III	913.303	3		S II	919.24	100		Si II	929.206	1	Z
O I	913.483	10	A	H I	919.351	7	P	Si V	929.389	100	
P II	913.59	10		O I	919.376	5	A	Si IV	929.39	153	
O I	913.590	10	A	O I	919.559	5	A	O I	929.5168	10	
O I	913.644	10	A	O I	919.658	10	A	P II	929.642	10	
O I	913.644	10	A	Al II	919.672	30		Mg IV	929.774	60	
Ar	913.80	10	N	Ar II	919.7810 at	1000		Si II	929.810	20	Z
O I	913.815	10	A	P IV	919.799	90		S IV	930.16	104	
Si II	913.853	20	Z	F IX	919.904		P	Si II	930.242	0	Z
P III	913.971	300		O I	919.908	5	A	O I	930.2566	5	
O I	913.997	20	A	O I	919.971	2	A	D I	930.495		P
O I	914.057	10	A	F IX	920.210		P	H I	930.748	30	P
O I	914.057	2	A	Si V	920.305	5		O I	930.8862	5	
O I	914.293	5	A	Al II	920.317	50		Cl III	930.94	100	
Si II	914.476	2	Z	D I	920.712		P	Si II	931.200	5	Z
Ne VI	914.5			Al II	920.716	50		O I	931.4820	5	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O I	931.6282	5		C II	945.977	100	Z	Cl VI	955.6		
Si II	931.667	5	Z	P VI	946.00	30		N I	955.8814	5	
Ar II	932.0537 st	1000		Na VI	946.064	20	Q	Al II	955.977	125	
Ar I	932.058	15	A, F	C II	946.198	200	Z	Si V	956.292	50	
O I	932.2249			S I	946.3		A, Z	P VI	956.359	80	
Al II	932.408	20		Mg II	946.7032	80		Na	956.676	20	N
Al II	932.938	40		Mg II	946.7694	90		Si V	957.265	3	
Cl II	932.9780	220		Ar I	946.816	15	A, F	S X	957.5		P
S VI	933.38	400		Cl III	946.97	100		Si V	957.649	80	
Al II	933.408	50		Si V	947.108	10		S II	957.88	100	Q
Al II	933.938	75		Si V	947.359	2		Na	958.020	20	N
Al II	934.015	100		C IV	948.098	50		Na	958.450	30	N
Ar	934.84	20	N	N IV	948.155	100		F I	958.524	500	
Al II	935.020	100		C IV	948.214	25		He II	958.675	13	P
O I	935.1930	90	Z	N IV	948.244	200		Si V	958.709	60	
Al II	935.275	100		N IV	948.540	250		He II	958.724	22	P
Si III	936.056	25		N VII	948.584		P	Si V	959.33	5	
Si III	936.058	2		Cl III	948.67	100	P	N I	959.4936	5	
Si III	936.060	1		O I	948.6855	10		O I	959.80	1	A, Z
Si III	936.077	18		Na	948.887	20	N	N I	960.2017		
Si III	936.079	2		N VII	949.004		P	Na	960.686	20	N
Si III	936.100	12		Cl VII	949.1		P	Cl VI	961.0		
Si IV	936.15	217		N VII	949.141		P	P II	961.04	1	
Cl III	936.28	100		Si VIII	949.2		F, P	Cl II	961.4997	440	
Mg IV	936.288	40		Cl VI	949.2			Al V	961.54	2	
O I	936.6295	10		He II	949.305	9	P	Si V	961.633	30	
Si II	937.41	300		He II	949.354	17	P	Si VI	961.766	40	
D I	937.548	40	P	D I	949.485	70	P	S	962.	10	N
S II	937.69	300		H I	949.743	70	P	P II	962.13	5	
S X	937.7		P	Be II	949.75	100		O III	962.47		
H I	937.803	40	P	Si V	949.842	100		P II	962.57	5	
O I	937.8405			Si IX	949.9	4	F, P	F III	962.580	6	
Si V	937.973	5		O I	950.1121	5		F III	963.322	3	
O I	938.0200	5		Si V	950.224	20		P II	963.59	1	
F III	938.538	1		P IV	950.655	1000		Si V	963.666	40	
O I	938.6249			O I	950.7327	2		P II	963.81	5	
Si V	938.753	70		O I	950.8846	10		P III	963.962	60	
Si III	939.093	140		N I	951.0791	5		N I	963.9904 ST	25	
Si VI	939.10			N I	951.2947	3		P II	964.09	10	
P V	939.20	1		Al V	951.55	40		P III	964.224	90	
O I	939.2346			F I	951.871	500		N I	964.6258 ST	23	
Cl III	939.31	10		Si V	951.94	5		Si V	964.861	10	
P III	939.576	40		P VIII	952.1		F, P	P II	964.95	10	
P III	939.730	60		S I	952.2		A, Z	S I	965.0		A, Z
O I	939.8412	5		N I	952.3037 ST	18		N I	965.0415 ST	23	
Si V	940.61	5		O I	952.3778	2		P II	965.43	20	
S I	941.0		A, Z	N I	952.4151 ST	14		Na	966.112	25	N
Ar I	941.288	14	A, F	N I	952.5231 ST	10		P II	966.52	10	
P IV	941.363	1		P III	952.559	25		Si V	966.607	300	
P V	941.692	4		Na	952.570	25	N	Si V	967.193	250	
Si II	942.20	159		Al II	952.630	75		Si V	967.338	100	
N V	942.278		P	P III	952.822	10		Na VI	967.480	20	
Si V	942.294	80		O I	952.9413	2		P IV	967.741	10	
N V	942.380		P	Al II	953.182	100		O III	967.80		
He II	942.490		P	Cl III	953.40	200		Si III	967.946	180	
He II	942.538		P	N I	953.4150	25		P III	968.034	25	
C III	943.218			N I	953.6548	27		P II	968.17	1	
Cl III	943.22	100		S X	953.8		P	P III	968.175	90	
Si V	943.335	10		Si V	953.84	3		Al V	968.25	40	
Be II	943.481	30		N I	953.9698	30		P III	968.262	40	
Be II	943.540	70		N I	954.1040	30		S II	968.37	50	
P III	944.016	10		Na	954.299	20	N	Si VI	968.655	60	
Cl VII	944.1		P	Al II	954.305	125		Al V	969.26	30	
P III	944.178	1		Al V	954.49	40		P II	969.38	5	
Si VIII	944.4		F, P	S I	954.7		A, Z	S I	969.5		A, Z
S VI	944.52	500		Si VI	954.70	5		Na	969.865	30	N
Al V	944.62	60		F I	954.825	1000		Cl I	969.917	10	
Li II	944.73	5		Al II	954.847	100		O III	970.25		
P III	945.000	40		Si V	955.059	20		P IV	970.694	4	
P III	945.151	60		P VI	955.170	150		Si V	970.720		
C I	945.191	20	Z	N I	955.2647 ST	4		P III	971.137	10	
Na VI	945.223	5		N IV	955.335	1000		P III	971.236	60	
C I	945.338	50	Z	N I	955.4376 ST	4		O II	971.26		
Mg IV	945.342	20		N I	955.5292	3		O I	971.7381	15	
C I	945.579	75	Z	F I	955.545	750		He II	972.088	18	P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
He II	972.138	32	P	Be II	984.048	150		P III	995.705	40	
O I	972.143		P	Si V	984.236	80		S II	996.00	200	
Si III	972.21	182		Cl I	984.2864	7		P III	996.332	1	
P II	972.24	5		Cl I	984.3230	8		Cl I	996.5402	3	
D I	972.272	140	P	B II	984.673	100		Cl I	996.5591	3	
F I	972.401	20		Cl I	984.939	2		F III	996.616	3	
P III	972.439	40		Cl IV	984.95	700		F IV	996.62		
H I	972.537	130	P	Na VI	985.190	5		Cl I	997.1064	4	
P III	972.545	25		Cl IV	985.75	400		Si III	997.389	320	
P II	972.807	30		Al II	985.989	100		Ne VI	997.4		
P III	972.821	60		Si IX	986.1		F, P	Cl I	997.5099	4	
Cl IV	973.21	500		P IV	986.569	1		Cl I	997.5375	4	
Be II	973.213	150		Al II	986.571	125		P V	997.617	250	
O I	973.2342	9		S III	986.60	114		Mg XI	997.71		P
Be II	973.276	350		Cl I	987.599	1		P III	997.999	200	
Si VI	973.57	5		Al II	987.777	150		Cl I	998.294	2	
O I	973.640		P	Si V	987.809	250		Cl I	998.3723	9	
P V	973.793	50		Cl I	987.885	2		Ar VI	998.43	30	
O I	973.8852	3		Cl I	987.916	1		Cl I	998.4319	9	
F I	973.895	350		Cl I	988.410	2		F IV	998.86	15	
Na VI	974.034	10		O IV	988.523	25		Si VI	998.884	60	
O I	974.070		P	O IV	988.571	40		F IV	999.14	60	
O I	974.292		P	O I	988.5778			Si V	999.28	30	
P II	974.36	5		O IV	988.628	40		Cl I	999.3638	8	
N II	974.563		P	O I	988.6549	4		Cl I	999.4929	5	
P III	974.761	90		Si VI	988.664	30		O I	999.4974	40	Z
N II	975.012		P	O IV	988.713	40		Ne VI	999.6		P
O I	975.04		P, Z	O I	988.7734	20		S VI	999.6		
O I	975.574		P	Cl I	988.9436	5		F IV	999.79	15	
Si V	975.8			Al II	989.052	75		P VI	999.870	500	
Si V	975.825	250		Cl I	989.484	2		Cl I	1000.113	2	
Al V	976.05	2		Al II	989.648	100		Ar VI	1000.16	40	
F I	976.217	100		Cl I	989.6543	4		N I	1000.183	6	Z
O I	976.4481	10		Cl I	989.713	1		Cl I	1000.278	2	
Cl I	976.452	1		N III	989.790	900		P V	1000.381	150	
F I	976.505	40		Si II	989.8730	100		S I	1000.4		A, Z
Si V	976.73	5		S I	989.9		A, Z	S II	1000.48	200	
C III	977.020	1000		Si V	990.083			S II	1000.75	65	Q
P III	977.121	4		O I	990.1269	4		F IV	1000.89	1	
P II	977.258	1		O I	990.2043	10		Si VI	1001.09	5	
P III	977.355	1		Cl I	990.4591	5		Ar II	1001.29	1	Q
Cl IV	977.56	600		Cl II	990.5327	160		Li III	1001.347		P
F I	977.745	100		Si VI	990.59	50		Li III	1001.428		P
P III	977.886	120		Na	990.613	45	N	Cl I	1001.4491	3	
Cl IV	977.90	400		Cl I	990.629	2		Li III	1001.457		P
O I	977.9594	6		O I	990.8010	5		P IV	1001.811	1	
Si V	978.167	70		Al II	990.862	125		P IV	1001.875	1	
Na	978.207	50	N	F III	991.102	3		P IV	1001.950	1	
Cl I	978.2844	13		S XV	991.47		P	Ar III	1002.10	150	
P III	978.442	1		N III	991.514	700		F IV	1002.33	5	
S III	978.56	212		N III	991.579	1000		Cl I	1002.3464	20	
P IV	978.614	25		Cl I	991.640	2		Cl I	1002.8952	3	
O I	978.6170	2		S II	991.73	142		Cl I	1003.191	2	
B II	978.938	10		Ne II	992.253	30		O III	1003.35		P
O I	979.272		P	He II	992.338	27	P	F IV	1003.45	10	
P III	979.312	4		He II	992.391	48	P	P III	1003.598	250	
N III	979.842	400		Cl I	992.679	1		Cl I	1003.8093	5	
S III	979.85	224		Si II	992.6826	200		F IV	1004.59	5	
N III	979.919	450		S X	992.7		P	Cl I	1004.6776	8	
Cl I	979.963	1		Cl I	992.9098	8		Cl III	1005.28	500	
Si V	980.310	200		Cl I	992.9470	5		Si III	1005.349	60	
Cl I	980.5061	3		Ne VI	993.0			P VI	1005.35	200	
O I	980.792		P	Cl I	993.007	2		Si III	1005.353	5	
P III	980.892	4		Na	993.054	40	N	Si III	1005.357	1	
Cl I	980.9191	4		F IV	993.19	10	P	Si III	1005.374	40	
Si V	980.955	70		F III	993.281	6		Si III	1005.378	5	
P VI	980.99	200		B I	993.380		A, Z	Si III	1005.403	30	
O V	981.		ZZ	Si III	993.519	200		Cl I	1005.956	1	
B- II	981.4		ZZ	Ne II	993.884	60		N III	1006.015	300	
Cl I	981.879	2		Cl I	994.1414	3		Ne VI	1006.1		
S III	982.00	252		Si III	994.787	260		S II	1006.15	270	Q
Cl I	982.285	2		F III	994.899	6		Na	1006.185	30	N
P III	982.452	1		Cl I	994.9965	4		P IV	1006.229	120	
F III	983.927	1		F IV	995.12	1		Cl I	1006.3957	3	
Be II	983.984	50		P III	995.232	1		Cl I	1006.495	1	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Si VII	1006.60		F, P	Al IV	1024.248	150		N I	1034.67	0	P
S II	1006.95	35	Q	P III	1024.656	25		Si II	1034.967	0	Z
Si VI	1006.96	5		P III	1024.844	4		N I	1035.00	1	P
Cl I	1007.1647	8		Al V	1024.91	50		P III	1035.102	4	
Si V	1007.295	20		B IV	1025.10	20		Cl I	1035.2148	30	
Cl I	1007.3626	3		Li III	1025.127		P	P III	1035.294	25	
F IV	1007.64	10		P III	1025.140	4		P IV	1035.517	500	
F IV	1007.74	5		Li III	1025.211		P	Si III	1035.657	60	
F IV	1007.88	5		Li III	1025.241		P	Li II	1036.		
O III	1007.90		Q	He II	1025.246	42	P	N IV	1036.16	400	
Cl I	1008.3859	5		Cl I	1025.2821	7		Be II	1036.299	550	
O III	1008.56		P	He II	1025.302	77	P	Be II	1036.319	250	
Mg IV	1008.763	80		D I	1025.443	320	P	C II	1036.3367 ST	800	
Cl III	1008.78	600		Cl I	1025.5528	22		Cl I	1036.5734	5	
S III	1009.03	112		P IV	1025.563	570		C II	1037.0182 ST	1000	
O II	1009.04			P IV	1025.678	4		Si III	1037.053	140	
Cl I	1009.1857	4		H I	1025.722	300	P	N I	1037.382	5	
F IV	1009.34	10		O I	1025.7618	25		Mg IV	1037.395	100	
Na	1009.428	30	N	Cl I	1025.8444	8		Cl I	1037.5871	27	
C II	1009.858	400		Mg II	1025.9681	140		O VI	1037.614	750	
C II	1010.083	600		Mg II	1026.1133	120		N I	1037.64	1	P
C II	1010.371	1000		Mg IV	1026.406	100		Ar IV	1037.93	40	
P IV	1010.417	25		P IV	1026.418	10		C VI	1038.056		P
Ne VI	1010.6			O I	1026.476		P	N I	1038.28	3	P
O II	1010.63			P IV	1026.874	10		C VI	1038.339		P
B I	1010.902		A, Z	Be II	1026.890	200		N I	1038.366		P
B I	1011.058		A, Z	Be II	1026.959	400		C VI	1038.434		P
Cl II	1011.6472	60		Al IV	1027.08	5		N I	1038.73	1	P
Cl I	1011.8492	10		Cl I	1027.1785	10		Cl I	1038.7779	25	
S III	1011.91	180		Cl I	1027.3386	15		N I	1038.90	1	P
P IV	1012.108	1		Al IV	1027.343	500		O I	1039.2304	20	
Cl I	1012.1505	6		O I	1027.4307	15		Al IV	1040.340	30	
S III	1012.49	300		Si V	1028.06	2		Cl I	1040.3475	30	
Ar VI	1012.67	10		P IV	1028.096	500		C III	1040.715		
S X	1012.8		P	O I	1028.145		P	O I	1040.9425	12	
F IV	1012.90	5		O I	1028.1571	5		Cl I	1041.1480	15	
Cl I	1013.6635	30		Al V	1028.17	5		P VI	1041.404	250	
S II	1014.09	50		Cl I	1028.1739	6		O I	1041.6876	4	
S II	1014.42	200		Cl I	1028.4075	8		Cl I	1041.7148	4	
P VI	1014.675	100		P III	1028.603	4		Cl I	1042.169	800	
Cl III	1015.02	700		Cl I	1028.6162	15		O III	1042.63		
P II	1015.47	100		N I	1028.68	2	P	Cl I	1042.7793	8	
S III	1015.51	200		P III	1028.797	40		O I	1042.86		F, Z
Cl I	1015.5139	6		O I	1028.870		P	P VI	1042.942	400	
S III	1015.76	100		Cl I	1029.2023	3		N I	1043.080	8	
Cl I	1016.3558	3		Cl I	1029.3432	7		N I	1043.166	8	
O IV	1016.39			N I	1029.50	1	P	N I	1043.739	6	
C III	1016.5	25		N I	1030.446		P	N I	1043.845	6	
S III	1016.85	253		P IV	1030.517	570		Cl I	1043.9857	7	
P IV	1016.931	4	Z	N I	1030.76	2	P	N I	1043.991	6	
Si VI	1017.48	40		S II	1030.87	100		Al IV	1044.064	200	
Li II	1017.88	5		Cl I	1030.8845	10		N I	1044.069		P
Al IV	1017.940	30		P III	1031.107	10		N I	1044.087	8	
Al IV	1018.168	100		Si III	1031.169	140		N I	1044.171		P
N V	1018.973		P	P III	1031.295	1		N I	1044.188	7	
Si V	1019.084	30		S II	1031.34	100		Mg IV	1044.366	100	
N V	1019.288		P	Cl I	1031.3486	20		N I	1044.606		P
Cl I	1019.3644	4		Al IV	1031.39	100		N I	1044.633	8	
S II	1019.53	200		Cl I	1031.5070	15		P III	1044.963	4	Z
Si V	1019.792	20		N I	1031.62	2	P	P III	1045.089	1	Z
Cl I	1019.9400	9		Cl I	1031.6704	6		F III	1045.236	3	
Si V	1020.09	5		O VI	1031.924	850		F IV	1045.24	5	
Al V	1020.52	20		N I	1032.18	1	P	O IV	1045.384	15	
Si II	1020.6988	25		F VI	1032.34			Si IV	1045.500		
S III	1021.10	100		Si III	1032.851	60		P IV	1045.550	4	
Ar XII	1021.2		F, P	P VI	1033.049			P V	1045.631	30	
S III	1021.32	200		P IV	1033.111	500		S II	1045.74	65	Q
Cl I	1022.0478	3		P II	1033.41	100		Al IV	1045.766	200	
Al IV	1022.082	200		N I	1033.42	3	P	P VI	1045.944	250	
Al IV	1022.362	100		N I	1033.70	0	P	P III	1046.052	25	Z
Cl I	1022.4143	15		F III	1033.898	1		O IV	1046.316	25	
P IV	1023.182	40		Si III	1033.920	160		P III	1046.333	40	Z
F III	1023.270	3		Na	1034.162	45	N	P III	1046.739	60	Z
Si II	1023.7002	50		Si III	1034.287	80		Si IV	1047.271		
Al IV	1023.93	5		N I	1034.37	2	P	P III	1047.283	90	Z

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O I	1047.376		P	Al V	1057.36	1		N I	1067.953		P
S II	1047.56	35	Q	Si II	1057.503	15	Z	Na	1068.016	40	N
B I	1047.647		A, Z	Si II	1057.690	2	Z	N I	1068.221		P
B I	1047.695		A, Z	F IV	1058.10	10		Al V	1068.26	250	
B I	1047.825		A, Z	O V	1058.149	15		N I	1068.321		P
S II	1047.86	35	Q	Al VIII	1058.4		F, P	N I	1068.376		P
B I	1047.867		A, Z	F IV	1058.50	10		N I	1068.477	13	
Al II	1047.889	150		Al IV	1058.901	500		Si V	1068.48	40	
P III	1048.120	4	Z	O V	1058.998	7		N I	1068.512	8	P
Be II	1048.147	200		Na	1059.066	35	N	N I	1068.612	8	P
N V	1048.20	40		Al V	1059.14	2		N I	1068.644	4	P
Ar I	1048.2199 st	1000		Al IV	1059.396	150		Ne II	1068.649	70	
Be II	1048.220	400		F IV	1059.63	35		N I	1068.668	2	P
P IV	1048.277	1		Al V	1059.65	5		N I	1068.681	10	P
S II	1048.43	35	Q	F IV	1059.73	1		N II	1068.962		P
Al IV	1048.515	700		O V	1059.930	7		N I	1069.110	8	
Al II	1048.559	170		Li III	1060.330		P	N I	1069.206	9	
B II	1048.70	1		O V	1060.380	7		N I	1069.374	7	
F III	1048.898	3		Li III	1060.420		P	Al IV	1069.437	600	
S II	1049.06	35		Li III	1060.452		P	N I	1069.468	6	
P III	1049.083	1	Z	Al IV	1061.135	40		N II	1069.626		P
O I	1049.115		P	Al IV	1061.429	500		F III	1069.636	6	
Si VII	1049.16		F, P	O IV	1061.780	25		N I	1069.990	11	
B V	1049.409		P	O IV	1061.952	25		N I	1070.012		P
P IV	1049.647	200		O IV	1062.133	40		N I	1070.111		P
N V	1049.65	50		O IV	1062.271	40		F III	1070.623	20	
B V	1049.675		P	O IV	1062.434	10		N I	1070.821	1	
B V	1049.764		P	S IV	1062.671	360		N I	1070.834		P
Si I	1049.82		A, Z	O IV	1062.840	10		N I	1070.935		P
P III	1049.825	90		Al V	1063.27	3		Cl II	1071.0358	950	
Si V	1049.915	10		C II	1063.285	5		S II	1071.04	51	
Al II	1049.923	190		C II	1063.313	5		P VI	1071.215	600	
F IV	1049.96	1		N II	1063.350		P	Al IV	1071.241	100	
Si I	1050.30		A, Z	N II	1063.362		P	N I	1071.441		P
P III	1050.491	60		Al V	1063.53	10		P IV	1071.656	1	
N IV	1050.602		P	Ar VII	1063.55			Al III	1071.730		
P III	1050.810	120		P IV	1063.677	1		Al III	1071.757		
Cl I	1051.3787	9		Cl II	1063.8311	775		Cl II	1071.7667	770	
N I	1051.868	7		N II	1064.142		P	S II	1071.83	50	
N I	1051.956	5		N II	1064.153		P	O III	1072.02		
N I	1052.082	9		N II	1064.220		P	P III	1072.533	40	
N I	1052.215	9		Al V	1064.24	70		P III	1072.661	10	
Cl I	1052.4631	4		N II	1064.443		P	S IV	1072.990	450	
N I	1052.834	8		Si V	1064.450	70		Al V	1073.02	200	
N I	1052.909	6		P IV	1064.612	120		F IV	1073.22	5	
S V	1053.	10		P II	1064.80	150		P III	1073.383	60	
N I	1053.088	11		Al IV	1064.891	600		S IV	1073.520	70	
N I	1053.184	8		N II	1064.947		P	Ne II	1073.781	50	
N I	1053.184	8		N II	1064.958		P	F IV	1074.10	1	
S II	1053.21	35	Q	Si I	1065.		A, Z	Ne II	1074.313	10	
N I	1053.231		P	P IV	1065.237	25		Si VI	1074.36	50	
N I	1053.33	5	P	F III	1065.268	60		Si VI	1074.98	5	
N I	1053.496		P	P IV	1065.544	90		F IV	1075.05	5	
N I	1053.656	7		C II	1065.8913 ST	700		Cl II	1075.2293	700	
N I	1053.744	7		C II	1065.9199 ST	100		Al V	1075.28	10	
N I	1053.988	12		C II	1066.1332 ST	500		Ne II	1075.688	20	
Al VII	1054.0		F, P	F III	1066.251	6		O III	1076.60		
P IV	1054.114	60		Al IV	1066.567	500		Al V	1076.73	30	
Si I	1054.17		A, Z	Si IV	1066.629	550		F IV	1076.86	5	
N I	1054.333	20	P	P IV	1066.652	40		S III	1077.13	800	
N I	1054.430		P	Ar I	1066.6599 st	500		Al V	1077.35	40	
Al II	1054.603	100		Ne II	1066.764	30		P IV	1077.640	4	
Si I	1054.81		A, Z	N I	1066.992	10		O II	1078.29		
N V	1054.871		P	N I	1067.092		P	N IV	1078.708	300	
N V	1055.238		P	Na	1067.165	35	N	Cl II	1079.0796	700	
Al II	1055.280	125		N I	1067.206		P	O II	1079.23		
O V	1055.451	40		N I	1067.308	8		Al V	1079.41	30	
P VI	1055.542	350		N I	1067.386	10		P IV	1079.416	1	
Mg IV	1055.752	80		N I	1067.399	1	P	Si VI	1079.809	30	
Al II	1056.661	150		N I	1067.493		P	Cl I	1079.8821	30	
Si I	1056.67		A, Z	N I	1067.616	15		P IV	1080.096	10	
Al VII	1056.8		F, P	O IV	1067.810	120		Na	1080.885	45	N
Si II	1056.899	2	Z	Al V	1067.87	80		O IV	1080.965	60	
Si II	1057.050	30	Z	N II	1067.877		P	P VI	1081.078	150	
Ar XII	1057.2		F, P	Cl II	1067.9442	550		Na	1081.079	30	N

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O IV	1081.645	10		Si III	1092.940			S II	1102.32	300	
P IV	1081.835	4		Si III	1092.969			C I	1102.409		P
Na	1081.836	35	N	S I	1092.99		A, Z	Al IV	1102.417	200	
B II	1081.875	300		Si III	1093.105			N I	1102.509		P
B II	1082.073	300		Si III	1093.133			C I	1102.550		P
F V	1082.313	100		Al V	1093.22	8		Cl XI	1102.6		F, P
Si II	1082.400	2		Si III	1093.293			C I	1102.666		P
Si III	1083.210	120		P IV	1093.324	120		Cl I	1102.755	40	
P IV	1083.375	1		Na	1093.447	25	N	C I	1102.81		P
O IV	1083.382	10		P III	1093.606	40		C I	1102.97		P
Si V	1083.54	10		F III	1094.277	3		Cl I	1103.069	50	
Na	1083.594	20	N	S I	1094.3		A, Z	P IV	1103.129	10	
O IV	1083.613	10		F III	1094.660	6		C I	1103.185		P
P VI	1083.986	80		Al V	1094.75	10		C I	1103.36		P
N II	1083.990	400		Cl I	1094.7686	60		N I	1103.362		P
Si II	1084.144	3		F III	1095.095	10		N I	1103.468		P
O IV	1084.189	40		Cl I	1095.1483	55		P IV	1103.590	60	
N II	1084.562	150		S I	1095.59		A, Z	C I	1103.60		P
N II	1084.580	750		Cl I	1095.6619	55		Si	1103.60		A, Z
Cl I	1084.6671	40		Cl I	1095.7971	60		C I	1103.629		P
Be IV	1084.700		P	N I	1095.942	13		C I	1103.828		P
Be IV	1084.827		P	N I	1096.046			Al V	1103.85		
Be IV	1084.871		P	N I	1096.220		P	C I	1103.865		P
P IV	1084.874	4		N I	1096.325	11		N I	1104.008		P
He II	1084.913	73	P	S II	1096.57	200		P IV	1104.108	40	
He II	1084.975	132	P	S I	1096.6		A, Z	C I	1104.157		P
Na	1085.003	40	N	N I	1096.749	13		C I	1104.165		P
Cl I	1085.1709	40		N I	1096.769		P	Al IV	1104.285	70	
F III	1085.297	3		F I	1096.8		ZZ	C I	1104.374		P
Cl I	1085.3035	45		Cl I	1096.8098	45		C I	1104.421		P
Si V	1085.318	90		N I	1096.874		P	N IV	1104.542		P
Al IV	1085.331	5		N I	1096.945		P	C I	1104.543		P
N II	1085.529			N I	1097.237	21		Al IV	1104.617	20	
N II	1085.546	400		Si V	1097.308	20		C I	1104.627		P
N II	1085.701	1000		S I	1097.31		A, Z	C I	1104.644		P
Al V	1085.92	70		Cl I	1097.3692	50		C I	1104.942		P
N IV	1086.084		P	N I	1097.492		P	C I	1104.957		P
N IV	1086.269	50		N I	1097.716		P	C I	1104.966		P
N IV	1086.691	100		S I	1097.74		A, Z	Si	1105.		A, Z
P IV	1086.944	120		P IV	1097.790	40		C I	1105.142		P
Na	1087.238	20	N	N I	1097.821		P	O I	1105.20		P, Z
P IV	1087.537	10		P III	1097.916	25		C I	1105.329		P
Na	1087.701	15	N	S I	1097.96		A, Z	Al IV	1105.402	50	
Ne II	1087.789	40		N I	1097.995	8		C I	1105.472		P
F V	1087.820	35		Cl I	1098.0682	40		C I	1105.477		P
Na	1087.895	25	N	N I	1098.097	17		C I	1105.532		P
Cl I	1088.062	60		P IV	1098.186	120		C I	1105.732		P
F V	1088.387	150		N I	1098.261	17		Al IV	1105.738	400	
Al V	1088.52	100		N I	1098.625	12		C I	1105.757		P
P IV	1088.614	150		Al IV	1098.718	200		Si V	1105.831	60	
Na VI	1088.636	20		N I	1098.759	6		C I	1106.063		P
Al V	1088.67	500		S II	1098.91	220		C I	1106.076		P
Na	1088.699	50	N	N I	1098.952	9		Al V	1106.20	20	
S IV	1088.83	10	P	N I	1099.042	8		C I	1106.250		P
Al VIII	1089.6		F, P	S I	1099.1		A, Z	C I	1106.263		P
P XIV	1089.92		P	N I	1099.150	13		Si V	1106.338	150	
Al V	1090.14	300		N I	1099.263	8		Al V	1106.41	70	
Cl I	1090.2706	55		Al IV	1099.461	300		C I	1106.450		P
Ne II	1090.628	50		Cl I	1099.5230	40		N.	1106.547	6	Z
Cl I	1090.7386	40		S IV	1099.53	177		C I	1106.781		P
Cl I	1090.9815	45		P IV	1099.581	90		C I	1106.800		P
F IV	1091.35	10		S I	1099.87		A, Z	C I	1107.146		P
P IV	1091.442	200		N I	1100.3593	50		C I	1107.347		P
P IV	1091.874	25		N I	1100.4649	15		Cl I	1107.5282	70	
C II	1091.937	100	Z	Na III	1100.49	100		Al V	1107.55	20	
P VI	1091.97	33		Al V	1100.60	10		C I	1107.591		P
Cl I	1092.1287	40		Si V	1100.865	30		C IV	1107.600	50	
C II	1092.232	10	Z	P IV	1101.070	40		C I	1107.679		P
P IV	1092.428	10		S I	1101.2		A, Z	C I	1107.703		P
C II	1092.431	10	Z	N I	1101.297	45		C I	1107.908		P
Cl I	1092.4366	45		Cl I	1101.3381	50		C IV	1107.933	100	
F IV	1092.45	5		Al IV	1101.34	20		S IV	1108.01	107	
S I	1092.62		A, Z	P IV	1101.599	60		C I	1108.109		P
C II	1092.726	200	Z	P IV	1101.784	40		C I	1108.260		P
Si III	1092.915			Cl I	1101.9362	40		C I	1108.283		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Si III	1108.368	280		C I	1117.132		P	P V	1128.007	700	
C I	1108.441		P	C I	1117.205		P	C I	1128.079		P
C I	1108.462		P	C I	1117.337		P	C I	1128.252	50	
Si IV	1108.48	200		C I	1117.542		P	C I	1128.287		P
C I	1108.484		P	C I	1117.581	20		N III	1128.300		F, P
C I	1108.488		P	Si III	1117.65	110		Si IV	1128.325		
C I	1108.794		P	C I	1117.674		P	Si IV	1128.340	650	
C I	1108.804		P	C I	1117.724	50		Al V	1128.62	2	
C I	1108.8113	15		C I	1117.866		P	C I	1128.631		P
C I	1108.816		P	Si VI	1117.91	100		Si IV	1128.68	116	
P VI	1108.82	100		Al V	1117.93	50		C I	1128.686	20	
Si VI	1108.85	40		P V	1117.978	900		C I	1128.752	100	
C I	1109.031		P	F II	1118.017	10		C I	1128.903	20	
C I	1109.233		P	C I	1118.070		P	Si VI	1128.99	30	
F III	1109.262	3		Al III	1118.173			C I	1129.030	100	
C I	1109.565		P	C I	1118.180	50		C I	1129.141	200	P
C I	1109.605		P	Al III	1118.202			P IV	1129.154	25	
C I	1109.634		P	F III	1118.320	10		C I	1129.161		
C I	1109.676		P	Al III	1118.353			C I	1129.196		
C I	1109.836		P	C I	1118.408		P	C I	1129.405	20	
C I	1109.878		P	C I	1118.491		P	Al V	1129.43	80	
Si III	1109.965	320		P IV	1118.551	570		Al V	1129.62	60	
P IV	1110.126	10		Si V	1118.807	200		C I	1129.624	50	
C I	1110.169		P	Al IV	1118.824	600		B I	1129.701		A, Z
C I	1110.198		P	F III	1118.854	3		C I	1129.749	20	
C I	1110.211		P	Al V	1119.39	30		F II	1129.758	200	
C I	1110.2948	60		F III	1119.673	6		B I	1129.881		A, Z
C I	1111.010		P	Al V	1119.94	10		C I	1129.924	50	
Si IV	1111.08	100		Si V	1120.780	10		Al V	1130.00	2	
P IV	1111.167	120		C I	1121.452		P	C I	1130.171	20	
C I	1111.421		P	C I	1121.658		P	P II	1130.925	10	
Al V	1111.48	100		Al V	1121.79	20		Si VI	1130.983	100	
C I	1111.624		P	C I	1121.998		P	S II	1131.05	200	
F III	1111.782	3		Si V	1122.0			N IV	1131.488		P
C I	1111.957		P	C I	1122.098	20		P IV	1131.488	120	
C I	1112.003		P	P III	1122.118	4		S II	1131.65	200	
C I	1112.058	10		Si IV	1122.13	166		Ne II	1131.724	90	
Na X	1112.10		P	C I	1122.260	50		C I II	1131.794	6	
F II	1112.110	10		Na III	1122.30	10		Al V	1131.84	10	
P IV	1112.121	4		C I	1122.334	100	P	Ne II	1131.846	100	
B IV	1112.20	70		P IV	1122.376	40		Li II	1131.884	15	
C I	1112.269		P	Si III	1122.42	200		C I II	1131.888	3	
F II	1112.302	100		C I	1122.438	20	P	C I II	1132.1919	100	
C I	1112.472		P	Si IV	1122.486	550		N IV	1132.225		P
F III	1112.507	6		C I	1122.644		P	C I II	1132.2939	40	
Al V	1112.51	20		Al V	1122.66	50		Al II	1132.726	35	
C I	1112.806		P	C I	1122.725	50		C I I	1132.8528	45	
C I	1112.825		P	C I	1122.794	20		S I	1132.88		A, Z
P IV	1112.842	10		Al V	1122.88	200		S	1133.	100	
Si III	1113.15	135		C I	1122.985		P	N IV	1133.117	200	N
Si V	1113.213			C I	1123.107	20		Si III	1133.18	226	
Si III	1113.228	360		F III	1123.126	20		Si III	1133.35	163	
F III	1113.244	3		N IV	1123.8		P	Na	1133.390	160	N
F III	1113.463	20		C I II	1123.8445	15		Al VI	1133.6		F, P
C I	1113.793		P	C VI	1124.164		P	F II	1133.714	100	
C I	1113.996		P	C I II	1124.2757	125		S V	1133.93	64	
C I	1114.332		P	S II	1124.39	100		C I I	1133.9341	50	
C I	1114.380		P	C VI	1124.747		P	P III	1133.975	10	
C I	1114.457	50		C VI	1124.930		P	C I II	1134.04	100	
P V	1114.550	50		P II	1124.945	10		N I	1134.1651	560	
C I	1114.628		P	S II	1125.00	100		P III	1134.201	25	
P IV	1114.685	40		C I II	1125.0403	50		N I	1134.4147	550	
Be III	1114.69	10		Na	1125.502	50	N	P IV	1134.481	90	
C I	1114.832		P	Al IV	1125.613	500		F IV	1134.78	35	
Al V	1115.04	10		C I II	1125.9030	140		S I	1134.98		A, Z
C I	1115.168		P	C I II	1125.959	3		N I	1134.9801	780	
C I	1115.225		P	Al IV	1126.001	5		N IV	1135.244	150	
P V	1115.413	12		S III	1126.55	50	P	C I	1135.3310	50	
F II	1115.946	40		P IV	1126.658	40		S I	1135.37		A, Z
Li III	1116.240		P	S III	1126.85	100		Be IV	1135.424		P
Li III	1116.339		P	N III	1126.900		F, P	Be IV	1135.561		P
Li III	1116.374		P	Si II	1127.442	20	Z	Be IV	1135.609		P
Na VI	1116.780	15		C I XI	1127.9		F, P	F II	1135.938	10	
P IV	1116.985	120		Si II	1127.907	40	Z	C I II	1136.1849	10	
C I	1117.000		P	N III	1127.931		F, P	N IV	1136.241	100	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P IV	1136.396	40		S I	1143.66		A, Z	C I	1157.186	20	
P IV	1136.528	60		P II	1143.71	1		Na	1157.291	40	N
Cl II	1136.5905	50		N I	1144.16	2	P	C I	1157.330	50	
S III	1136.60	95		Cl I	1144.2909	60		Si	1157.40		A, Z
Al IV	1136.821	400		Si III	1144.306	160		C I	1157.405	150	
Ne V	1137.0			Si III	1144.959	120		C I	1157.770	350	
Na	1137.020	60	N	P II	1145.01	1		C I	1157.910	730	
Si V	1137.267	80		Si III	1145.122	150		C I	1158.019	750	
P IV	1137.281	120		Si III	1145.149	13		F III	1158.073	6	
S IV	1138.12	100		Si III	1145.16	1		Si III	1158.102	140	
F III	1138.182	6		Si III	1145.177	80		C I	1158.132	400	
Si I	1138.35		A, Z	Si III	1145.19	10		Al II	1158.210	100	
C I	1138.383	20		Si III	1145.22	50		C I	1158.324	100	
O III	1138.545	100		N I	1145.27	2	P	C I	1158.397	100	
C I	1138.557	30		Cl I	1145.3941	30		C I	1158.492	20	
C I	1138.595	20		Si III	1145.669			C I	1158.674	100	
Si V	1138.752	80		F IV	1145.89	10		C I	1158.732	100	
Si I	1138.79		A, Z	N I	1145.90	1	P	F III	1158.781	10	
C II	1138.9358 ST	200	Z	Ne V	1146.1			C I	1158.907	50	
C I	1138.946	50		Na	1146.157	60	N	C I	1158.967	200	
Li II	1139.		P, ZZ	P IV	1146.331	1		P II	1159.08	80	
C I	1139.093	100		Si V	1146.583	200		Si V	1159.095	400	
N I	1139.14	1	P	Si IV	1146.78	128		C I	1159.126	2	
Cl II	1139.2145	280		N I	1147.42	4	P	N I	1159.193	4	
P IV	1139.222	10		Na	1147.967	60	N	F III	1159.227	20	
Al V	1139.25	1		Si VI	1148.630	90		N I	1159.273	1	
C I	1139.300	20		N I	1148.77	4	P	N I	1159.344	3	
C II	1139.3317 ST	300	Z	P IV	1149.190	4		N I	1159.8172	4	
C I	1139.426	50		N I	1149.39	2	P	N I	1160.171	1	
C II	1139.4720 ST	10	Z	Al IV	1149.450	200		Si III	1160.330	120	
F VI	1139.496	100		O III	1149.603	50		N I	1160.39	3	P
C I	1139.514	20		P II	1149.96	70		Al IV	1160.42	1	P
C I	1139.650	20		Si	1149.99		A, Z	N I	1160.476	1	
C I	1139.766	150		F IV	1150.07	10		N I	1160.713	2	
C I	1139.793		P	Al V	1150.30	300		Si	1160.78		A, Z
C I	1139.812	150		Al V	1150.67	10		N I	1160.9370	2	
C I	1139.865	50		Si	1150.82		A, Z	N I	1161.118	2	
C I	1140.005	50		Al IV	1150.870			Si	1161.35		A, Z
C I	1140.223	20		O III	1150.882	100		Si	1161.57		A, Z
C I	1140.357	100		B I	1151.207		A, Z	Si III	1161.579	160	
Si III	1140.545	120		B I	1151.221		A, Z	Si	1161.72		A, Z
C I	1140.574	20		B I	1151.422		A, Z	P IV	1161.87	40	
C I	1140.641	150		B I	1151.485		A, Z	Al IV	1161.885	300	
N I	1140.74	2	P	Si V	1151.905	250		Cl VIII	1161.9		
P II	1141.00	5		N I	1152.15	4	P	Si	1161.97		A, Z
N I	1141.19	1	P	O I	1152.1512	10		S III	1162.52	100	
C I	1141.327	20		N I	1152.63	1	P	Al III	1162.588	10	
Al V	1141.39	1		P II	1152.81	50		Al III	1162.621	5	
Si III	1141.580	140		Si VI	1152.862	70		O VIII	1163.426		P
N I	1141.60	2	P	Al V	1152.89	30		N I	1163.8835	150	
C II	1141.6246 ST	300		Na III	1153.04	40		Si	1163.98		A, Z
C II	1141.6574 ST	30		N I	1153.453	2		N I	1164.0016	30	
C I	1141.678	20		O III	1153.773	150		N I	1164.2064	60	
C II	1141.7445 ST	200		P II	1153.99	120		O IV	1164.320	25	
F III	1141.857	3		N I	1154.19	3	P	N I	1164.3246	95	
Al IV	1142.058	200		Si I	1154.27		A, Z	O VIII	1164.416		P
F IV	1142.07	5		Al IV	1154.730	250		O IV	1164.545	40	
B I	1142.105		P, Z	Al V	1154.90	10		O VIII	1164.727		P
B I	1142.269		A, Z	Si III	1154.998	120		Al V	1165.42	350	
Si III	1142.282	120		P II	1155.00	40		Na	1165.548	60	N
B I	1142.304		A, Z	S III	1155.41	200	P	N I	1165.5943	40	
F III	1142.332	10		C I	1155.809	50		C III	1165.698	10	
Si VI	1142.43	50		Be II	1155.9		ZZ	N I	1165.717		P
N I	1142.70	2	P	Si III	1155.957	120		N I	1165.8358	15	
P II	1142.88	20		Si	1155.99		A, Z	C III	1165.870	100	
Al II	1142.953	100		C I	1156.028	150		F III	1165.961	10	
Be II	1142.956	250		C I	1156.199	20		N I	1166.003		P
Be II	1143.039	500		Si	1156.26		A, Z	S III	1166.13	50	
Si	1143.07		A, Z	Al IV	1156.263	150		Li II	1166.63	5	
Na	1143.185	60	N	C I	1156.389	100		Cl I	1167.1479	100	
N I	1143.31	1	P	C I	1156.560	200		Si	1167.3		A, Z
F IV	1143.35	5		C I	1156.765	20		Al IV	1167.36	150	
F III	1143.354	1		Si III	1156.782	80		F V	1167.372	1	
N I	1143.6458	15		P II	1156.96	50		N I	1167.4484	350	
N I	1143.6508	30		Al II	1157.088	125		N I	1167.502		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
O IV	1167.532	10		F III	1177.988	3		B IV	1190.56	5	
N I	1167.743		P	Si III	1178.004	160		N I	1190.688	2	
N I	1167.862		P	Na	1178.256	130	N	N I	1190.855	6	
Si I	1168.04		A, Z	F III	1178.642	3		N I	1190.923	8	
N I	1168.2154	50		Na	1178.777	60	N	N I	1191.019	12	
N I	1168.3344	200		P IV	1179.022	90		P IV	1191.055	40	
N I	1168.4167	60		F III	1179.035	6		Al V	1191.20	8	
Al V	1168.48	250		Cl II	1179.1097	50		N I	1191.603	2	
N I	1168.5358	300		Na	1179.212	60	N	Mg VI	1191.64	1	F
N IV	1168.599	150		Cl I	1179.2927	250		Al II	1191.8:1	190	
C IV	1168.873	150		S I	1179.30		A, Z	C I	1191.838	120	
B IV	1168.90	450		Al II	1179.354	125		Al IV	1191.907	200	
C IV	1168.990	200		Cl II	1179.4619	100		N I	1191.925	8	
N IV	1169.063	100		Na	1179.623	40	N	Al IV	1192.212	150	
O IV	1169.160	2		Al IV	1179.666	20		C I	1192.218	70	
N IV	1169.478	50		Al V	1179.86	20		Si III	1192.228		
Cl VIII	1169.6			Na	1180.153	60	N	Si III	1192.258		
N I	1169.6933	80		Na III	1180.40	160		Si III	1192.293		
Al VI	1169.9		F	F III	1181.061	10		C I	1192.451	120	
Na	1170.046	35	N	P III	1181.224	25		N I	1192.563	4	
N I	1170.1572	10		S I	1181.59		A, Z	Cl II	1192.6978	4	
N I	1170.220	6		F III	1181.909	3		N I	1192.718	4	P
N I	1170.2766	80		Si III	1182.018	60		C I	1192.83	3	
N I	1170.4165	5		F III	1182.427	3		C I	1193.009	700	
N I	1170.432	7		P III	1182.868	10		C I	1193.031	300	
N I	1170.485		P	N III	1183.030	350		C I	1193.240	850	
N I	1170.499	3		Na	1183.109	70	N	C I	1193.264	150	
Si I	1170.5		A, Z	N I	1183.278		P	Si II	1193.2894	200	
N I	1170.536		P	N I	1183.400		P	C I	1193.393	350	
Si I	1170.6740	20		Na	1183.498	50	N	C I	1193.679	500	
N I	1170.815	2		Al V	1183.62	120		N I	1193.735		P
B IV	1170.86	70		F III	1184.039	3		Al V	1193.76	50	
S	1171.	50	N	P III	1184.043	1		C I	1193.996	120	
N I	1171.0834	60		N I	1184.235		P	Si III	1194.02	400	
Be IV	1171.254		P	N I	1184.357		P	C I	1194.064	350	
P IV	1171.316	60		Na	1184.421	70	N	Al V	1194.10	10	
N I	1171.418	6		N III	1184.514	400	P	C I	1194.229	120	
N I	1171.502	3		N I	1184.984		P	C I	1194.301	120	
Be IV	1171.558		P	P III	1185.015	1		Si III	1194.40	300	
Si V	1171.559	100		Al V	1186.18	100		C I	1194.406	200	
Al IV	1171.59	5		P IV	1186.295	10		C I	1194.488	350	
Be IV	1171.657		P	P III	1186.304	10		Si II	1194.5001	250	
N I	1171.722	4		P III	1187.542	25		C I	1194.615	250	
Si V	1171.857	300		P IV	1187.542	25		Si V	1194.74	200	
N I	1171.904	5		B IV	1187.60	5		P III	1194.792	40	
N I	1172.42	3	P	Ar IV	1187.80	40		P III	1194.945	25	
Si III	1172.529	80		Cl II	1187.9150	140		S I	1195.		A, Z
S IV	1172.58	107		P III	1187.934	1		Al V	1195.37	200	
Na	1172.698	50	N	Cl II	1187.963	5		N IV	1195.400		P
Si I	1172.7		A, Z	N IV	1188.006	360		P III	1195.410	60	
Na	1172.969	40	N	Cl II	1188.3235	80		N IV	1195.567		P
P IV	1172.996	4		Al V	1188.67	15		N IV	1195.852		P
P IV	1173.094	4		Cl I	1188.7515	50		B IV	1196.06	5	
P IV	1173.189	4		Cl I	1188.7743	130		S X	1196.26	1	F
Al V	1173.47	200		Si VI	1188.829	50		Si III	1196.436		
Al IV	1173.719	10		C I	1188.833	200		Si III	1196.470		
Si III	1174.369	100		N I	1188.971	14		Be II	1197.094	330	
Si III	1174.432	120		C I	1188.992	500		Be II	1197.188	670	
C III	1174.933	800		C I	1189.065	200		Si II	1197.3936	100	
Al IV	1174.967			Al II	1189.185	125		P IV	1197.82	40	
C III	1175.263	700		C I	1189.249	250		Ar IV	1197.84	40	
Si I	1175.28	50	A, Z	N I	1189.249	14		C I	1197.877	1	
C III	1175.590	600		C I	1189.447	500		Cl II	1197.9053	75	
C III	1175.711	1000		C I	1189.631	700		Li II	1198.082	700	
C III	1175.987	700		Al IV	1189.711	50		Na	1198.237	25	N
S I	1176.0		A, Z	Mg VII	1189.84	1	F	Si III	1198.297		
C III	1176.370	800		C I	1190.021	35		Al IV	1198.500	400	
N I	1176.5097	350		N I	1190.031	5		C IV	1198.58	50	
N I	1176.6304	180		Al II	1190.052	150		Na	1198.767	40	N
Na	1176.794	160	N	Mg VI	1190.07	2	F	S V	1199.18	18	
Ar XIII	1177.20		F, P	S III	1190.17	200		P IV	1199.243	150	
Na	1177.238	60	N	C I	1190.253	35		N I	1199.5490 ST	1000	
Na	1177.426	60	N	Ar IV	1190.35	80		Na	1199.941	35	N
Al II	1177.437	125		Si II	1190.4157	100		Na	1200.079	30	N
N I	1177.6948	320		N I	1190.494	6		N I	1200.2238 ST	950	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al V	1200.56	20		Be III	1214.32	10		O I	1225.181		P
Si XIII	1200.62		P	F III	1214.368	3		O I	1225.182		P
N I	1200.7113 ST	700		Cl II	1214.3851	35		N IV	1225.192	150	
S III	1200.97	400		S I	1214.66		A	Al IV	1225.236	10	
Cl I	1201.3527	100		B V	1214.752		P	N I	1225.374	20	
F III	1201.358	3		Be IV	1214.845		P	N IV	1225.719	200	
P IV	1201.642	10		F III	1214.864	0		P VI	1225.770	900	
S III	1201.71	200		Li III	1214.945		P	F II	1225.854	40	
Al V	1202.00	10		B V	1214.947		P	N I	1226.060		P
S I	1202.04		A	S I	1214.98		A, Z	N I	1226.143		P
S III	1202.10	50		Be IV	1215.000		P	F II	1226.161	10	
S I	1202.61		A	B V	1215.014		P	F II	1226.267	40	
P IV	1203.41	40		Be IV	1215.053		P	S II	1226.70	100	
S I	1203.44		A	Li III	1215.060		P	Si II	1226.814	50	
Si VI	1204.05	80		He II	1215.095	143	P	N I	1226.833	8	P
P IV	1204.30	40		Li III	1215.100		P	Si II	1226.887	20	
S V	1204.30	4		He II	1215.171	260	P	Si II	1226.986	40	
S I	1204.35	500	A	He II	1215.175	30	P	S I	1227.089	4	
F III	1204.380	6		D I	1215.3376	330	P	N I	1227.241	7	
Al IV	1204.722	1		D I	1215.3430	670	P	S II	1227.45	100	
S I	1205.59		A	S I	1215.45		A	N I	1227.586		P
S I	1206.13		A	H I	1215.6683	670	P	Si II	1227.604	100	
P IV	1206.422	200		H I	1215.6737	330	P	S I	1227.692	5	
Si III	1206.510	600		P III	1215.886	60		N I	1227.793	8	
Si III	1206.533	600		S	1216.	100	N	P IV	1227.839	60	
Si V	1206.612		P	Mg VII	1216.06		F, P	Al IV	1228.310	300	
S I	1207.04		A	Si II	1216.117	10		Si IV	1228.349		
Si V	1207.052		P	P III	1216.127	120		N I	1228.4067	265	P
Si III	1207.517	180		S I	1216.45		A	N I	1228.4125	225	P
Si VI	1207.66	200		Al IV	1216.715	300		Si II	1228.437	10	
S I	1207.76		A	S I	1217.05		A	Si II	1228.617	25	
Al II	1208.352	150		S I	1217.27		A	Si II	1228.746	150	
B II	1208.36	1		Na	1217.472	45	N	F II	1228.763	40	
Al IV	1208.401	10		O I	1217.6477	40	Z	N I	1228.7852	225	P
P IV	1208.419	40		Si VI	1217.65	10		N I	1228.7911	325	P
B II	1208.546	40		S I	1218.30		A	N I	1228.907		P
B II	1208.825	10		O V	1218.406	3		Si VI	1229.01	300	
S I	1208.86		A	Si VI	1218.50	100		Mg IV	1229.066	80	
Al II	1209.191	100		S I	1218.51		A	N I	1229.174	14	
F II	1209.345	40		S I	1218.571	2		Si II	1229.388	200	
S I	1209.87		A	S I	1218.595	10		Mg III	1229.389	4	
Al II	1210.082	125		S I	1218.95		A, Z	S I	1229.608	10	
S I	1210.18		A	Mg IV	1218.992	160		Ne II	1229.688	70	
F III	1210.349	3		F III	1219.032	150		Ne II	1229.832	90	
Si III	1210.456	200		Al IV	1219.171	300		Al IV	1229.908	40	
P III	1210.601	40		P IV	1219.495	40		C IV	1230.046	100	
Si IV	1210.652			S I	1219.67		A	B II	1230.160	300	
Mg IV	1210.967	160		S I	1220.162	5		S I	1230.374	2	
O IV	1211.043	5		Al IV	1220.546	400		S I	1230.473	4	
P IV	1211.052	120		Mg IV	1220.900	180		C IV	1230.511	150	
S I	1211.22		A	Na III	1221.12	100		N I	1230.5434	40	P
S I	1211.38		A	S I	1221.13		A	N I	1230.5492	40	P
F III	1211.585	6		F II	1221.235	100		Si IV	1230.795		
P IV	1211.612	60		P III	1221.471	40		P II	1231.18	50	
Al IV	1211.724	40		F II	1221.536	40		Si II	1231.406	5	
Si IV	1211.757			S I	1221.753	6		N I	1231.5756	120	P
Al II	1211.898	150		S IV	1222.18	88		N I	1231.5815	120	P
Al II	1211.953	125		Si II	1222.288	0		S I	1233.132	1	
P IV	1211.984	90		S I	1222.33		A	N I	1233.238	4	P
Si III	1212.011	40		Si II	1222.635	5		Si II	1233.354	5	
Si III	1212.247			S I	1222.799	1		S II	1233.36	50	
F III	1212.255	6		P IV	1223.098	40		S I	1233.922	3	
F III	1212.321	1		Na III	1223.44	80		S II	1234.14	300	
S I	1212.66		A	Cl II	1223.7814	200		N I	1234.300		P
S I	1212.82		A	Si II	1223.907	20		F III	1235.316	10	
S X	1213.00	3	F	Si II	1224.252	20		Na II	1235.40	80	
O IV	1213.035	60		S I	1224.424	1		Si III	1235.431	140	
Be III	1213.12	20		S I	1224.479	7		Si V	1235.453		P
O IV	1213.196	40		S I	1224.544	7		S I	1235.624	7	
F III	1213.353	20		Na III	1224.73	80		Mg IV	1235.873	200	
Al V	1213.48	50		N IV	1224.960	50		Si II	1235.920	10	
S I	1213.99		A	Si II	1224.972	10		S I	1236.632	4	
Na	1213.998	30	N	S I	1224.99		A	Mg IV	1236.936	220	
S I	1214.295	1		N I	1225.027	21		P IV	1237.165	10	
S I	1214.318	7		O I	1225.180		P	Al IV	1237.187	900	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P III	1237.252	1	Z	C I	1249.004	10		F III	1264.870	3	
Li II	1237.287	10		C I	1249.405	20		Na	1264.891	12	N
F III	1237.308	6		P II	1249.82	200		Si II	1265.0010	100	
Si II	1237.36	3		Mg II	1249.932	80		Al IV	1265.03	1	
Al IV	1237.744	10		Si II	1250.089	100	Z	Na III	1265.66	40	
S I	1238.340	5		C I	1250.423	30		C I	1266.270	20	
N V	1238.821	1000		Si II	1250.433	150	Z	C I	1266.415	100	
P IV	1238.958	90		S II	1250.50	300		C I	1266.517	15	P
Ne II	1239.018	80		S I	1250.814	12		C I	1266.604	10	P
Ne II	1239.167	60		Si II	1251.164	200		Al II	1266.648	150	
P IV	1239.276	60		C I	1251.176	40		F III	1266.867	150	
S I	1239.33		A	Al IV	1251.235	150		P II	1267.06	5	
P IV	1239.587	120		Si V	1251.390	600		C I	1267.596	50	
Mg III	1239.827	4		Si V	1251.639	450		Si V	1267.638	550	
Mg II	1239.9252	250		C I	1252.208	12		F III	1267.711	200	
P IV	1240.181	40		P IV	1253.099	1		C I	1268.051	2	
Al IV	1240.206	600		Al V	1253.11	3		F III	1268.27	3	
Mg II	1240.3947	200		S I	1253.297	20		Ar II	1268.483	100	
Al IV	1240.861	700		Li II	1253.324	5		F III	1268.573	35	
P IV	1241.246	40		S I	1253.325	40		Na	1268.947	25	N
C I	1241.293	1		C I	1253.467	50		S I	1269.2086	50	
C I	1241.472	1		P I	1253.74	6		Al IV	1269.209	20	
P I	1241.49	1		Al V	1253.76	2		F III	1269.368	20	
C I	1241.617	1		S II	1253.79	500		F III	1269.559	60	
Si I	1241.905	30		C I	1254.513	15		C I	1270.144	3	
P I	1242.02	3		Na	1254.813	30	N	N IV	1270.280	250	
Na	1242.048	15	N	Al III	1254.933			C I	1270.408	2	
P IV	1242.050	60		Al III	1254.969			S I	1270.7821	100	
C I	1242.278	6		Ne III	1255.03	200		F III	1271.075	10	
P IV	1242.436	1		P III	1255.116	60	Z	Mg II	1271.2588	80	
F III	1242.585	3		Si I	1255.276	10	Z	Mg III	1271.784	2	
Na	1242.650	20	N	Al III	1255.284			Mg II	1271.9402	90	
N V	1242.804	800		Na	1255.354	25	N	S I	1272.0749	30	
C I	1243.14	7		Ne III	1255.68	500		N IV	1272.160	200	
N I	1243.1711	50	P	Cl VI	1256.0			F III	1272.463	3	
N I	1243.1786	700	P	Al IV	1256.083	40		Mg II	1272.7212	80	
N I	1243.3058	600	P	S I	1256.093	22		N IV	1272.74	100	
Si VI	1243.31	50		C III	1256.47	100		Al IV	1272.763	1000	
N I	1243.3133	50	P	Si I	1256.490	40	Z	F III	1272.795	6	
P I	1243.37	3		C I	1256.498	200		Mg II	1273.4232	110	
Na	1243.427	30	N	Na IV	1256.68	20	Q, Z	N IV	1273.47	150	
C I	1243.518	8		P III	1256.926	40	Z	N IV	1273.716	100	
N IV	1243.73			Ne III	1257.19	600		C I	1274.109	50	
C I	1243.784	2		C I	1257.565	20		Si II	1274.300	3	
O V	1243.801	3		Al IV	1257.624	900		C I	1274.624	3	
Mg IV	1243.840	140		P III	1257.702	4	Z	C I	1274.756	20	
F III	1243.888	6		P III	1257.917	40	Z	Mg III	1274.831	100	
C I	1243.998	7		P III	1258.457	25	Z	C I	1274.984	150	
C I	1244.127	4		Si I	1258.795	50	Z	N II	1275.038	300	
Na	1244.511	20	N	Al II	1258.858	125		C I	1275.146	2	P
C I	1244.535	10		P III	1258.904	10	Z	N II	1275.251		
N IV	1244.92	50		P III	1259.311	4	Z	N II	1275.275		
C I	1244.996	5		S II	1259.53	500		C I	1275.288	12	
C I	1245.183	9		P III	1259.685	1	Z	Si II	1275.662	5	
P I	1245.19	6		P III	1260.322	1	Z	Al IV	1275.731	5	
C I	1245.538	5		Si II	1260.4212	500		Si V	1276.007	600	
Si V	1245.737	500		C I	1260.613	200		N II	1276.201	200	
Cl VI	1245.77			C I	1260.736	250		C I	1276.220	20	P
C I	1245.943	10		C I	1260.927	200		N II	1276.225		
C I	1246.180	4		C I	1260.996	150		C I	1276.287	50	
N IV	1246.51	100		C I	1261.122	250		F III	1276.352	3	
Si II	1246.738	100		C I	1261.426	250		C I	1276.483	100	
C I	1246.862	30		C I	1261.552	500		Na II	1276.597	30	
S I	1247.160	45		C I	1261.719	30		C I	1276.750	200	
P I	1247.31	2		F III	1261.859	6		N II	1276.750	100	
C III	1247.383	600		Al III	1262.248			C I	1277.041	5	
C I	1247.867	15		Al III	1262.440			S I	1277.199	40	
C I	1248.009	30		Al IV	1262.544	300		Si VI	1277.20	500	
S I	1248.045	22		S I	1262.8596	70		S I	1277.216	90	
P I	1248.20	1		Mg III	1263.375	7		C I	1277.245	300	
Ne IX	1248.28		P	F III	1263.987	6		C I	1277.282	700	
Si II	1248.426	150		Al IV	1264.181	800		C I	1277.513	100	
Mg II	1248.511	60		P II	1264.47	30		C I	1277.550	1000	
P I	1248.61	1		Al V	1264.67	10	P	C I	1277.723	250	
Al IV	1248.790	700		Si II	1264.7374	1000		C I	1277.954	70	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P II	1278.094	5		F III	1294.279	1		N IV	1306.909		P
Al IV	1278.265	50		Si III	1294.543	340		F III	1306.991	6	
P IV	1278.33	10		P II	1294.64	150		Al IV	1307.762	60	
P IV	1278.38	10		Na	1294.696	15	N	P IX	1307.8		F, P
P I	1278.57	3		F III	1294.83	1		Mg II	1307.8754	120	
F III	1278.810	60		Na	1295.164	30	N	Mg IV	1307.9	120	
Cl	1279.056	100		Si I	1295.6526	110		Na II	1307.936	10	
Cl	1279.229	150		Si I	1296.1738	70		Al V	1308.16	5	
Cl	1279.498	70		C III	1296.33	200		Si I	1308.2		A, Z
P VI	1279.814	500		N IV	1296.600	250		Mg II	1308.2809	120	
Cl	1279.890	250		Si IV	1296.61	200		Mg III	1308.654	2	
Al V	1280.01	8		Si III	1296.726	280		C III	1308.70	200	
Si	1280.0991	50		Ar XIII	1296.87		F, P	Si II	1309.2769	200	
Cl	1280.135	200		F III	1296.940	20		Si I	1309.3		A, Z
Ar II	1280.225	100		F III	1297.188	60		Mg II	1309.4434	140	
Cl	1280.333	700		F III	1297.537	100		Si II	1309.458	20	
Si III	1280.354	120		F III	1297.757	1		N IV	1309.557	200	
Cl	1280.404	75		Na II	1297.856	12		Si II	1309.77	2	
Cl	1280.597	200		P IV	1298.022	40		P II	1309.87	250	
Mg III	1280.702	2		Ne II	1298.046	80		Na	1310.078	45	N
Cl	1280.847	250		F III	1298.072	6		F III	1310.117	3	
Na II	1281.308	15		Na II	1298.142	15		Cl	1310.187	10	
F III	1282.240	10		P IV	1298.573	40		Si I	1310.1940	100	
Na	1282.348	15	N	Si III	1298.891	300		Mg III	1310.271	2	
Ar II	1282.620	100		P IV	1298.931	25		N I	1310.5401	200	
P I	1282.96	6		Si III	1298.960	360		Mg III	1310.633	7	
F III	1283.098	6		Na II	1299.018	30		Cl	1310.637	200	
Al IV	1283.484	40		F III	1299.055	3		P II	1310.70	600	
P I	1283.89	6		N II	1299.788		P	Mg III	1310.720	2	
F III	1284.105	7		N II	1299.814		P	Cl II	1310.8921	50	
N IV	1284.218	150		Na	1299.895	60	N	N I	1310.9429	150	
P II	1284.31	5		N II	1300.035		P	N I	1310.9495	25	
Ar II	1284.793	100		F III	1300.466	3		Na II	1311.158	10	
P I	1284.80	3		Si III	1300.703			Si II	1311.265	2	
Na II	1285.117	12		Si I	1300.91		A, Z	P IV	1311.349	1	
Na	1285.384	30	N	Al V	1301.13	10		Cl	1311.363	1000	
Si V	1285.457	400		Si III	1301.146	280		Mg IV	1311.650	240	
Na II	1285.686	25		Na II	1301.782	15	Q	Cl	1311.924	200	
P I	1285.84	2		P II	1301.87	200		Mg IV	1311.930	140	
Si V	1286.17	100		Al IV	1302.13	100		F III	1311.963	1	
P I	1286.44	9		O I	1302.1685	1000		Na II	1312.026	30	
SVI	1286.8		P	Si I	1302.3370	100		Si VI	1312.11	50	
Cl	1287.609	5		F III	1302.599	6		Al IV	1312.135	20	
Al V	1287.70	500		Si I	1302.8633	80		Cl	1312.247	100	
Cl	1287.805	1		Si I	1303.1105	80		Al V	1312.43	10	
Cl	1288.037	200		Si III	1303.320	320		Na II	1312.587	20	
Al V	1288.23	100		Si I	1303.4295	85		Si III	1312.590	260	
Cl	1288.422	500		F III	1303.624	6		F III	1312.763	1	
Cl	1288.710	100		F III	1303.871	35		Cl	1312.853	3	
Cl	1288.917	100		Na II	1303.957	15		N I	1312.866		P
Na II	1289.213	60		F III	1304.358	20		N I	1313.071		P
SVI	1289.3		P	Si II	1304.3720	100		Si I	1313.2493	60	
P II	1289.57	30		P II	1304.4	200		Cl	1313.387	100	
Cl	1289.891	50		Na II	1304.546	15		Cl	1313.464	300	
O VI	1289.9		P	Al IV	1304.547	30		Cl	1313.629	3	P
Cl	1289.977	300		P II	1304.68	150		Mg III	1314.50		
S	1290.	50	N	F III	1304.705	1		P III	1314.728	60	
P III	1290.074	1		N II	1304.769		P	N I	1315.429		P
Al IV	1290.486	20		N II	1304.795		P	Cl	1315.918	200	
Si VI	1290.49	100		O I	1304.8576	600		N I	1316.035		P
Cl	1291.304	100		F III	1305.008	0		N I	1316.2906	2	
CVI	1291.389		P	Al IV	1305.21	1		F III	1316.401	15	
Si V	1291.390	450		Ar XI	1305.38		F, P	Na	1316.530	12	N
F III	1291.565	1		P II	1305.48	350		F III	1316.531	35	
CVI	1291.806		P	Si II	1305.590	50	Z	Si I	1316.5423	160	
Al	1291.81	10	N	F III	1305.697	3		Si I	1316.6183	120	
Al V	1291.91	30		F III	1305.870	35		F III	1317.744	3	
CVI	1291.943		P	Si I	1305.8834	95		B V	1317.768		P
P III	1292.348	4		O I	1306.0286	200		P IX	1317.9		F, P
Al V	1292.44	200		F III	1306.04	60		F III	1317.975	6	
Cl II	1293.134	6		F III	1306.122	20		B V	1317.993		P
Al V	1293.51	30		Al IV	1306.432	200		S	1318.	10	N
Ne II	1293.902	70		Mg III	1306.59			B V	1318.070		P
Na II	1293.974	60		Na II	1306.618	20		Mg III	1318.078	12	
Mg V	1294.01		F, P	Mg II	1306.7139	110		N I	1318.500		P

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N I	1318.8224	5		Si VI	1330.27	90		N III	1345.7?	200	P, Z
N I	1318.8293	12		F III	1330.490	6		C IV	1346.		ZZ
P III	1318.901	25	P	Ar XIII	1331.52		F	N III	1346.18	200	P, Z
N I	1318.9981	150		Mg IV	1331.592	140		N II	1346.413		
N I	1319.0048	80		P IV	1331.981	90		N II	1346.441	10	
Al IV	1319.57	1		F II	1332.042	100		Mg III	1346.46		
Si V	1319.601	500		Mg III	1332.310	4		Mg IV	1346.543	500	
N I	1319.6693	50		F II	1332.512	100		Mg IV	1346.633	300	
N I	1319.6760	250		P III	1332.600	4		Si II	1346.873	100	
Na II	1319.815	30		F III	1333.139	60		P III	1346.93	200	P, Z
Mg III	1320.022	4		F II	1333.588	200		P IV	1346.945	1	
F III	1320.203	3		S I	1333.792	2		Na	1347.210	35	N
F III	1320.451	1		F III	1334.292	3		Cl I	1347.2397	550	
Al	1320.71	10	N	Mg III	1334.359	30		P III	1347.46	10	P, Z
P III	1320.941	25		C II	1334.5323 ST	800		N III	1347.52	10	P, Z
P III	1321.259	25		P III	1334.808	500		Na II	1347.543	45	
F II	1321.515	10	Z	N I	1335.182		P	Mg III	1348.342	7	
P III	1321.681	90		C II	1335.6627 ST	100		P III	1348.45	10	Z
P III	1322.188	1		P IV	1335.705	200		P IV	1348.479	4	
Na II	1322.295	12		C II	1335.7077 ST	1000		Si II	1348.543	100	
P III	1322.707	1		Cl I	1335.7257	250		Ar II	1348.751	100	
F III	1323.311	3		Mg III	1335.951	2		P III	1349.12	200	P, Z
S I	1323.5153	180		S VI	1336.1	100	P	Mg III	1349.132	12	
S I	1323.5220	45		Na	1336.112	25	N	Mg III	1349.365	2	
C II	1323.8617 ST	30		N I	1336.394		P	Na	1349.602	15	N
C II	1323.9059 ST	300		Cl II	1336.5928	125		Na	1349.876	25	N
C II	1323.9513 ST	450		Cl II	1336.6431	85		Si II	1350.057	150	
N IV	1323.98	100		Cl II	1336.6895	65		Mg III	1350.156	12	
C II	1323.9955 ST	30		Na III	1336.76	350		Al II	1350.178	150	
R II	1324		Q	Mg IV	1336.850	200		Al V	1350.518	400	
N III	1324.188		P, Z	F III	1337.196	6		Si II	1350.520	20	
Cl XII	1324.3		F, P	Na III	1337.358	350		Si II	1350.658	20	
N III	1324.361	90	P, Z	P III	1337.500	40		S III	1351.	10	
N III	1324.40	150	P	P III	1337.702	120		Ar II	1351.333	100	
Ar II	1324.51	30	Q	Al IV	1337.898	400		Mg IV	1351.620	260	
Mg V	1324.58	0	F, P	Na III	1337.995	100		Cl I	1351.6568	350	
F III	1325.214	6		Na II	1338.575	35		Na II	1351.799	12	
P III	1325.465	40		O IV	1338.612	200		F IV	1351.924	10	
N IV	1325.685	50		F III	1339.337	6		Si V	1351.990	100	
Na III	1325.70	150		Al V	1340.52	10		Mg IV	1352.020	320	
N I	1326.5639	10		Na III	1340.674	400		Na II	1352.118	35	
N I	1326.5707	50		Na	1340.689	35	N	Si II	1352.635	100	
S I	1326.6432	160		Na II	1341.369	35		C I	1352.745	1	
F III	1326.926	20		Si III	1341.465	160		Mg III	1352.80		
N IV	1326.964	20		Si III	1341.496			Al III	1352.810	100	
F II	1327.058	200		Mg IV	1342.163	300		Al III	1352.816	5	
Al XII	1327.14		P	Si III	1342.351			Al III	1352.858	70	
Mg III	1327.512	4		Na III	1342.390	450		Al V	1352.871		
P III	1327.531	25		Si III	1342.392	140		Be IV	1352.873		P
P IV	1327.670	25		Na II	1342.401	20		Na III	1352.9	650	
Si III	1327.703			Si III	1342.432			Be IV	1353.061		P
Na II	1327.742	50		Na III	1342.729	500		Be IV	1353.125		P
N I	1327.9170	25		O IV	1342.992	120		P IV	1353.303	120	
N I	1327.9238	15		S III	1343.25	50		Si II	1353.718	100	
F II	1328.108	300		N II	1343.338	200		Al IV	1353.745	150	
S III	1328.12	50		Si III	1343.388	120		Al V	1353.745		
Na II	1328.497	12		O IV	1343.512	275		Mg III	1353.804	7	
S III	1328.52	50		N II	1343.574			Mg III	1353.915	2	
Si III	1328.806			F II	1343.603	300		C I	1354.288	500	
P IV	1328.826	10		S III	1343.61	50	P	N III	1354.698		F, P
C I	1328.8332 ST	150		P III	1343.81	70	P, Z	Ar II	1354.915	200	
P IV	1329.070	120		P III	1343.957	90		P III	1354.923	25	
C I	1329.0863 ST	150		F II	1344.037	200		Na III	1355.281	550	
C I	1329.1001 ST	200		Cl II	1344.188	3		O I	1355.5977	100	
C I	1329.1230 ST	110		Cl II	1344.258	2		Mg IV	1355.651	80	
C III	1329.187			F II	1344.295	100		N III	1355.794		F, P
P III	1329.318	10		Cl II	1344.298	1		C I	1355.844	750	
Na	1329.354	30	N	P III	1344.327	650		Mg IV	1356.108	260	
C I	1329.5775 ST	600		Si VI	1344.40	80		Cl VII	1356.3		
Mg III	1329.583	60		P VI	1344.735			Na VI	1356.9		F, P
C I	1329.6005 ST	200		P III	1344.845	300		S I	1356.97		A, Z
F III	1329.704	1		N II	1345.076			C I	1357.134	300	
F III	1329.892	6		N II	1345.313	100		Ar II	1357.435	20	
Al V	1330.06	400		N II	1345.340			C I	1357.659	100	
P IV	1330.075	25		Mg IV	1345.643	160		C I	1358.188	85	

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
N I	1318.8224	5		Si VI	1330.27	90		N III	1345.78	200	P, Z
N I	1318.8293	12	P	F III	1330.490	6		C IV	1346.		ZZ
P III	1318.901	25		A ⁺ XIII	1331.52		F	N III	1346.18	200	P, Z
N I	1318.9981	150		Mg IV	1331.592	140		N II	1346.413		
N I	1319.0048	80		P IV	1331.981	90		N II	1346.441	10	
Al IV	1319.57	1		F II	1332.042	100		Mg III	1346.46		
Si V	1319.601	500		Mg III	1332.310	4		Mg IV	1346.543	570	
N I	1319.6693	50		F II	1332.512	100		Mg IV	1346.633	300	
N I	1319.6760	250		P III	1332.600	4		Si II	1346.873	100	
Na II	1319.815	30		F III	1333.139	60		P III	1346.93	200	P, Z
Mg III	1320.022	4		F II	1333.588	200		P IV	1346.945	1	
F III	1320.203	3		Si I	1333.792	2		Na	1347.210	35	N
F III	1320.451	1		F III	1334.292	3		Cl I	1347.2397	550	
Al	1320.71	10	N	Mg III	1334.359	30		P III	1347.46	10	P, Z
P III	1320.941	25		C II	1334.5323 ST	800		N III	1347.52	10	P, Z
P III	1321.259	25		P III	1334.808	500		Na II	1347.543	45	
F II	1321.515	10	Z	N I	1335.182		P	Mg III	1348.342	7	
P III	1321.681	90		C II	1335.6627 ST	100		P III	1348.45	10	Z
P III	1322.188	1		P IV	1335.705	200		P IV	1348.479	4	
Na II	1322.295	12		C II	1335.7077 ST	1000		Si II	1348.543	100	
P III	1322.707	1		Cl I	1335.7257	250		Ar II	1348.751	100	
F III	1323.311	3		Mg III	1335.951	2		P III	1349.12	200	P, Z
Si I	1323.5153	180		S VI	1336.1	100		Mg III	1349.132	12	
Si I	1323.5220	45		Na	1336.112	25	P	Mg III	1349.365	2	
C II	1323.8617 ST	30		N I	1336.394		P	Na	1349.602	15	N
C II	1323.9059 ST	300		Cl II	1336.5928	125		Na	1349.876	25	N
C II	1323.9513 ST	450		Cl II	1336.6431	85		Si II	1350.057	150	
N IV	1323.98	100		Cl II	1336.6895	65		Mg III	1350.156	12	
C II	1323.9955 ST	30		Na III	1336.76	350		Al II	1350.178	150	
B II	1324.		Q	Mg IV	1336.850	200		Al V	1350.518	400	
N III	1324.188		P, Z	F III	1337.196	6		Si II	1350.520	20	
Cl XII	1324.3		F, P	Na III	1337.358	350		Si II	1350.658	20	
N III	1324.361	90	P, Z	P III	1337.500	40		S III	1351.	10	
N III	1324.40	150	P	P III	1337.702	120		Ar II	1351.333	100	
Ar II	1324.51	30	Q	Al IV	1337.898	400		Mg IV	1351.620	260	
Mg V	1324.58	0	F, P	Na III	1337.995	100		Cl I	1351.6568	350	
F III	1325.214	6		Na II	1338.575	35		Na II	1351.799	12	
P III	1325.465	40		O IV	1338.612	200		F IV	1351.924	10	
N IV	1325.685	50		F III	1339.337	6		Si V	1351.990	100	
Na III	1325.70	150		Al V	1340.52	10		Mg IV	1352.020	320	
N I	1326.5639	10		Na III	1340.674	400		Na II	1352.118	35	
N I	1326.5707	50		Na	1340.689	35	N	Si II	1352.635	100	
Si I	1326.6432	160		Na II	1341.369	35		C I	1352.745	1	
F III	1326.926	20		Si III	1341.465	160		Mg III	1352.80		
N IV	1326.964	20		Si III	1341.496			Al III	1352.810	100	
F II	1327.058	200		Mg IV	1342.163	300		Al III	1352.816	5	
Al XII	1327.14		P	Si II	1342.351			Al III	1352.858	70	
Mg III	1327.512	4		Na III	1342.390	450		Al V	1352.871		
P III	1327.531	25		Si III	1342.392	140		Be IV	1352.873		P
P IV	1327.670	25		Na II	1342.401	20		Na III	1352.9	650	
Si III	1327.703			Si III	1342.432			Be IV	1353.061		P
Na II	1327.742	50		Na III	1342.729	500		Be IV	1353.125		P
N I	1327.9170	25		O IV	1342.992	120		P IV	1353.303	120	
N I	1327.9238	15		S III	1343.25	50		Si II	1353.718	100	
F II	1328.108	300		N II	1343.338	200		Al IV	1353.745	150	
S III	1328.12	50		Si III	1343.388	120		Al V	1353.745		
Na II	1328.497	12		O IV	1343.512	275		Mg III	1353.804	7	
S III	1328.52	50		N II	1343.574			Mg III	1353.915	2	
Si III	1328.806			F II	1343.603	300		C I	1354.288	500	
P IV	1328.826	10		S III	1343.61	50	P	N III	1354.698		F, P
Cl I	1328.8332 ST	150		P III	1343.81	70	P, Z	Ar II	1354.915	200	
P IV	1329.070	120		P III	1343.957	90		P III	1354.923	25	
Cl I	1329.0863 ST	150		F II	1344.037	200		Na III	1355.281	550	
Cl I	1329.1001 ST	200		Cl II	1344.188	3		O I	1355.5977	100	
Cl I	1329.1230 ST	110		Cl II	1344.258	2		Mg IV	1355.651	80	
C III	1329.187			F II	1344.295	100		N III	1355.794		F, P
P III	1329.318	10		Cl II	1344.298	1		C I	1355.844	750	
Na	1329.354	30	N	P III	1344.327	650		Mg IV	1356.108	260	
Cl I	1329.5775 ST	600		Si VI	1344.40	80		Cl VII	1356.3		
Mg III	1329.583	60		P VI	1344.735			Na VI	1356.9		F, P
Cl I	1329.6005 ST	200		P III	1344.845	300		Si I	1356.97		A, Z
F III	1329.704	1		N II	1345.076			C I	1357.134	300	
F III	1329.892	6		N II	1345.313	100		Ar II	1357.435	20	
Al V	1330.06	400		N II	1345.340			C I	1357.659	100	
P IV	1330.075	25		Mg IV	1345.643	160		C I	1358.188	85	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Si II	1404.170	1		Be III	1421.26	100		Mg IV	1434.866	260	
Si II	1404.478	6		Mg III	1421.538	20		Na	1435.054	10	N
Mg IV	1404.663	320		Na II	1421.889	7		Be III	1435.17	10	
Na II	1404.675	90	Q	Cl IV	1421.97	100		Mg III	1435.550	40	
Al IV	1404.751	300		Mg III	1422.118	7		Na II	1435.776	10	
S IV	1404.77	70		Al IV	1422.176	200		Si III	1435.776	160	
O IV	1404.812	15		Be III	1422.86	50		Ne II	1436.086	90	
P IV	1405.013	150		Na II	1422.996	12		P IV	1436.114	1	
Mg III	1405.170	80		Si V	1423.36	60		Si III	1436.166	140	
Ne II	1405.373	80		Ne II	1423.564	80		Na III	1436.21	240	
S IV	1406.06	30		Li III	1423.739		P	F III	1436.687		
Na	1406.850	15	N	F III	1423.831	10		Si III	1436.724	80	
F II	1407.135	200		S IV	1423.89	0		S I	1436.9675	125	
Na	1407.308	25	N	Li III	1423.892		P	Mg IV	1437.51	300	
O IV	1407.386	25		Li III	1423.944		P	Mg IV	1437.61	340	
Mg III	1407.880	40		F III	1424.64	3		Mg IV	1437.8		
P IV	1408.055	10		F II	1424.737	1		Si III	1438.228	40	
Si II	1409.073	10		F III	1424.74	1		Mg IV	1438.244	300	
Mg IV	1409.336	360		Si III	1424.775	40		N IV	1438.37	150	
Si I	1409.3369	125		Al IV	1424.995	250		Si II	1438.576	2	
Al IV	1409.490	100		S I	1425.0301	300		Si III	1438.702	40	
Ne II	1409.747	60		Li I	1425.11		ZZ	Si II	1438.931	4	
Si II	1409.90	2		S I	1425.1882	90		Al III	1439.311		
F III	1409.982	10	P	S I	1425.2190	65		Si III	1439.391	40	
F III	1410.096	15	P	P I	1425.29	30		Al III	1439.726		
Si II	1410.219	20		Na II	1425.499	7		Mg III	1439.770	4	
Na II	1410.374	12		Mg IV	1425.597	160		P I	1440.24	15	
F II	1410.618	100		Al V	1425.64	80		Si VIII	1440.63	0	F, P
P V	1410.795	4		Na II	1426.048	7		Be III	1440.77	20	
Ne II	1411.306	10		Be I	1426.117	125		Na III	1440.775	350	
P I	1411.31	24		P IV	1426.180	1		Si III	1440.908		
Na II	1411.536	7		C III	1426.22	10		Cl IV	1440.95	10	
P I	1411.75	2		C III	1426.45	400		Ne II	1441.188	40	
N I	1411.9318	150		C III	1426.80	100		Cl II	1441.4697	220	
N I	1411.9395	30		Cl IV	1426.89	100		Cl II	1441.5265	220	
N I	1411.9494	300		Na III	1427.27	10		Cl II	1441.5793	220	
P IV	1412.076	25		Mg IV	1427.710	220		Cl II	1441.6021	125	
Al IV	1412.24	10		P I	1427.77	1		Si III	1441.732	100	
Al V	1412.772	100		C III	1427.85	300		Al IV	1441.825	700	
Si I	1412.8726	100		P I	1428.05	1		F III	1442.192	3	
Cl IV	1413.39	100		C III	1428.17	200		P I	1442.76	15	
Mg IV	1413.868	120		C III	1428.50	200		Na II	1442.907	30	
B I	1413.940		A, Z	Ne II	1428.579	90		Mg III	1443.738	60	
Ne II	1413.956	70		C III	1428.66	10		Nr III	1444.194	500	
Si I	1414.365	2		Na	1428.889	7	N	S I	1444.2967	30	
Ne II	1415.716	70		C III	1428.95	100		P I	1445.66	3	
Cl II	1415.7360	100		C III	1429.10	10		Na III	1445.731	350	
Na	1415.762	10	N	Mg IV	1429.166	140		Si VIII	1445.78	9	F, P
Cl II	1415.8503	50		P III	1429.184	25		Al V	1445.87	400	
Cl II	1415.9323	20		Na VI	1429.430	10	Q	P I	1446.01	12	
S IV	1416.93	10		Al	1429.57	10	N	N IV	1446.114	250	
Si II	1416.972	10	Z	P I	1429.77	12		Ne II	1446.183	20	
Al IV	1417.558	100		Na II	1429.963	10		Mg III	1446.254	40	
O V	1417.740	3	P	P I	1430.13	150		P I	1446.33	3	
Si II	1417.781	5	Z	Na	1430.166	7	N	Si III	1447.196	120	
O V	1417.908	7		P III	1430.410	40		Mg III	1447.260	30	
Si II	1418.110	0	Z	P I	1430.73	30		Mg IV	1447.395	280	
Ne II	1418.375	90		Na II	1431.015	7		P I	1447.50	60	
Mg IV	1418.378	180		Mg III	1431.136	100		Al IV	1447.512	800	
O V	1418.393	15		Na II	1431.228	15		P V	1447.827	375	
Na III	1418.559	450		P I	1431.50	1		Na III	1447.85	100	
Na II	1418.579	20		C I	1431.597	100	Z	Si V	1447.95	40	
Ne II	1418.687	20		Al IV	1431.935	600		Mg IV	1448.217	160	
Ne II	1418.745	80		Al V	1431.961			S I	1448.2290	125	
O V	1419.009	7		C I	1432.105	75	Z	Mg IV	1448.456	160	
Na II	1419.311	15	Q	C I	1432.530	50	Z	Cl II	1448.4940	15	
Si V	1419.484	70		Mg IV	1432.767	200		Na III	1448.73	150	
F II	1419.485	10		Al IV	1432.97	10		Cl II	1448.9013	15	
P III	1419.740	1		S I	1433.2800	225		Ne II	1449.132	40	
P I	1420.08	30		S I	1433.3105	100		Na III	1449.311	600	
Na II	1420.216	12		Si III	1433.690	120		Al IV	1449.70	10	
Cl X	1420.84		F, P	Si V	1434.17	60		C I	1450.07	1	
Na III	1420.885	500		Si II	1434.400	1		P I	1450.38	9	
Li II	1420.891	60		Si II	1434.542	2		N I	1450.592		P
Na	1420.909	25	N	Si V	1434.86	40		C I	1450.73	3	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
N I	1450.816		P	Ar III	1465.78	150	P	P I	1476.11	9	
N I	1451.000		P	B I	1465.801	20	A, Z	Na	1476.301	10	N
C I	1451.448	2		Cl II	1465.9037	125		Na	1476.673	10	N
Mg IV	1451.457	40		Na III	1465.926	450		O III	1476.89	600	
N I	1451.741		P	Al IV	1466.24	15		Si II	1476.928	1	
Ar II	1451.379	100		P III	1466.286	1		Mg III	1477.416	2	
N I	1451.925		P	P III	1466.536	10		C III	1477.68	300	
C I	1452.338	10		Mg IV	1466.635	220		Cl II	1477.6980	140	
P II	1452.89	300		P IV	1466.787	90		Mg II	1478.0037	250	
Na III	1452.911	400		Mg III	1467.188	12		Cl II	1478.0495	109	
P I	1453.01	45		C I	1467.402	350		C III	1478.05	200	
F IV	1453.14	1		P IV	1467.427	150		F III	1478.224	3	
C I	1453.357	4		P I	1467.58	9		Mg IV	1478.240	300	
Mg IV	1454.171	100		C I	1467.668	8		C III	1478.30	100	
Ne II	1454.390	5		C I	1467.877	30		Cl II	1478.4781	160	
C I	1454.599	2		P IV	1467.898	90		F III	1478.879	1	
Al V	1454.65	30		Ar III	1467.92	150	P	Mg II	1480.8797	200	
Na	1454.976	15	N	Na III	1468.00	550		C I	1480.998	15	
Al V	1455.265	300		Ar III	1468.07	100	P	C I	1481.118	65	
Ar II	1455.484	100		C I	1468.410	100		Al IV	1481.26	10	
Si V	1455.83	50		Mg IV	1468.868	80		C I	1481.451	12	
Na II	1455.969	12		B I	1469.015		A, Z	Mg IV	1481.490	320	
C I	1456.149	15		B I	1469.070		A, Z	Na II	1481.578	15	
Na IV	1456.943	220		C I	1469.119	10		Si I	1481.665	170	
F III	1457.145	3		B I	1469.297		A, Z	Si I	1481.712	100	
Mg IV	1457.212	200		P I	1469.71	3		C I	1481.7635	450	
Si III	1457.253	100		Al IV	1470.024	30		Mg IV	1481.840	180	
F III	1457.441	1		C I	1470.094	100		Mg III	1482.67		
C I	1457.468	10		C I	1470.447	8		C I	1482.716	20	
Na II	1457.939	100		N III	1470.68	4	P, Z	Mg II	1482.8903	300	
Al IV	1457.956	600		Mg IV	1470.777	240		Si I	1483.039	280	
C I	1458.078	7		Na II	1470.916	10		Si I	1483.233	125	
C I	1458.114	8		N III	1470.98	40	P, Z	Ne II	1483.502	60	
Mg III	1458.172	20		Cl II	1471.06	200		Na II	1483.507	15	
F III	1458.802	6		P II	1471.198	10		P IV	1484.507	500	
C I	1459.0317	300		Al IV	1471.303	40		Cl II	1484.66	10	
Mg IV	1459.39	200	P	N III	1471.63	60	P, Z	Na II	1484.677	15	
C I	1459.41	5		Si II	1471.775	2	Z	Si II	1484.873	15	
F III	1459.503	10		Si I	1471.832	25		Si II	1485.024	90	Z
Mg IV	1459.521	260		P IV	1471.926	60		Si II	1485.224	30	
Mg IV	1459.605	300		Ne II	1472.121	20		Cl II	1485.3814	125	
Na	1459.748	15	N	C I	1472.231	60		Mg IV	1485.421	220	
Ar II	1459.878	100		Si I	1472.503	4		Na	1485.443	20	N
Al IV	1460.168	250		Na	1472.642	7	N	P II	1485.49	250	
Ar III	1460.17	200	P	Mg IV	1472.963	200		Si II	1485.513	100	Z
Ar III	1460.32	100	P	Si I	1472.972	225		Si I	1485.622	150	
C I	1460.455	10		Si I	1473.019	120		Na II	1485.987	25	
C I	1460.53	4		P II	1473.129	10		Al V	1486.05	300	
Ne II	1460.716	30		C I	1473.242	40		Na	1486.300	25	N
F III	1460.750	1		C I	1473.473	5		N IV	1486.496	100	
Na	1460.775	10	N	P III	1473.492	4		Mg III	1486.624	12	
P III	1460.906	1		P I	1473.65	6		Al IV	1486.887	700	
Na II	1461.153	350		F III	1473.820	3		F III	1486.913	3	
C I	1461.854	7		Na	1473.826	12	N	Si I	1487.150	200	
Na II	1462.160	10		Mg XI	1473.84		P	Mg IV	1487.265	20	
Mg III	1462.305	20		Ne II	1473.894	10		Na III	1487.438	250	
F III	1462.313	6		Si I	1473.995	350		P IV	1487.788	400	
Ne II	1462.744	40		Si II	1474.304	1		P I	1488.01	60	
F II	1462.842	1	Z	Si I	1474.380	125		P IV	1489.098	300	
Ar II	1463.155	200		Ar II	1474.537	100		Na	1489.261	50	N
C I	1463.3360	600		Si I	1474.572	60		S XI	1489.65		F, P
C I	1463.552	40		Si II	1474.649	15		P II	1489.834	10	
F III	1463.808	3		Na	1474.687	12	N	Mg IV	1490.433	320	
Ar II	1464.176	100		C I	1474.748	15		P I	1491.36	150	
Cl II	1464.3649	140		Mg III	1474.898	4		Be I	1491.765	250	
Cl II	1464.7860	200		P IV	1475.013	40		Li I	1491.87		ZZ
Cl XII	1464.9		F, P	Si II	1475.188	5		Mg IV	1491.968	240	
C I	1465.023	20		Na	1475.411	15	N	P III	1492.048	40	
Ar II	1465.153	100		Na	1475.530	15	N	Na	1492.371	20	N
Al V	1465.392	10		Al V	1475.64	600		C I	1492.575	30	
Si V	1465.531	700		F III	1475.787	3		N I	1492.6254	620	
B I	1465.548	30	A, Z	P III	1475.939	1		C I	1492.738	60	
Ar III	1465.62	100	P	Ne II	1475.959	80		N I	1492.8195	100	
B I	1465.663	40	A, Z	Mg II	1475.9998	200		Li II	1492.931	300	
P III	1465.766	4		F III	1476.043	1		Li II	1492.973	500	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P I	1492.99	120		P I	1504.72	6		Si II	1516.910	60	Z
Li II	1493.036	100		Si V	1504.76	30		Si I	1517.035	1	A
F II	1493.091	450		F III	1504.785	600		Si I	1517.130	1	A, Z
Mg III	1493.097	12		P IV	1504.970	10		Si I	1517.169	1	A, Z
F II	1493.235	300		B I	1505.171		A	Si I	1517.207	1	A, Z
Cl I	1493.273	10		B I	1505.517		A	Si I	1517.214	1	A, Z
F II	1493.311	200		P I	1505.84	2		Si I	1517.264	1	A, Z
P I	1493.34	45		Si III	1506.060	120		Si I	1517.306	1	A, Z
Cl I	1494.522	25		F III	1506.300	500		Si I	1517.369	1	A, Z
Mg IV	1494.624	180		Na II	1506.407	80	F	Si I	1517.426	1	A, Z
P III	1494.667	25		P II	1506.44	30		Si I	1517.490	1	A, Z
N I	1494.6751	400		O V	1506.623	60	P	Si I	1517.554	1	A, Z
F III	1494.680	100		P I	1506.63	21		Mg IV	1517.596	100	
Na II	1494.729	20		O V	1506.709	80	P	Na	1517.604	30	N
Al IV	1494.791	800		O V	1506.762	100	P	Si I	1517.624	1	A, Z
Na	1494.943	20	N	F III	1506.767	300		Si I	1517.703	1	A, Z
P II	1494.990	10		B I	1506.820		A	Si I	1517.782	1	A, Z
B V	1495.016		P	Mg III	1506.826	7		Si I	1517.867	5	A, Z
Na II	1495.212	45	Q	Na II	1506.914	60		Si I	1517.963	5	A, Z
B V	1495.298		P	P II	1506.975	10		Na	1518.042	30	N
B V	1495.392		P	P I	1506.98	18		Si I	1518.069	5	A, Z
Mg IV	1495.482	280		P IV	1507.067	60		Si I	1518.107	5	A
N V	1495.5	40		B I	1507.168		A	F III	1518.137	3	
Mg IV	1495.985	120		Al IV	1507.442	300		Si I	1518.187	5	A, Z
Na II	1496.011	40		Na	1507.869	35	N	Si II	1518.221	5	Z
P III	1496.295	25		Al V	1508.37	700		Si I	1518.307	5	A, Z
P II	1496.44	5		Mg IV	1508.516	160		Si I	1518.434	5	A, Z
P III	1496.932	10		P I	1508.74	9	F	Na II	1518.505	35	
Cl II	1497.2715	10		Si II	1508.741	3		Si I	1518.594	5	A, Z
Mg IV	1497.388	180		Na IV	1508.754	285		Na	1518.664	25	N
Na II	1497.731	45	Q	Mg IV	1508.821	280		Si I	1518.720	5	A, Z
Si I	1498.850	2		B I	1508.872		A	Si I	1518.763	5	A, Z
F III	1498.933	300		Na	1508.981	30	N	Si I	1518.926	5	A, Z
Si I	1498.942	1		Si II	1509.101	100		Na	1519.005	40	N
Ne II	1499.006	40		Cl VII	1509.2		Q	Al IV	1519.07	400	
F III	1499.425	150		B I	1509.229		A	Si I	1519.125	5	A, Z
Cl II	1499.4764	30		Cl II	1510.3849	100		S XI	1519.16		F, P
P I	1499.51	24		Na	1510.518	35	N	B I	1519.246		A
P IV	1499.602	90		Cl	1510.668	25		Si I	1519.364	5	A, Z
P III	1499.855	10		Mg IV	1510.670	280		Si I	1519.584	10	A, Z
Na	1500.006	25	N	Na II	1510.701	35		B I	1519.598		A
Cl II	1500.0065	185		Cl	1510.981	100		Na II	1519.629	60	
Mg IV	1500.118	120		Na	1511.040	40	N	Si I	1519.857	10	A, Z
Si III	1500.241	240		B I	1511.465		A	S	1520.	50	N
Cl II	1500.2465	100		B I	1511.816		A	N VII	1520.076		P
Cl II	1500.7415	50		Al IV	1511.88	100		Si I	1520.157	5	A, Z
Cl II	1500.9869	200		Cl	1511.907	25		Si I	1520.189	5	A
P III	1501.093	1		S	1512.	10	N	Si I	1520.202	5	A
Si III	1501.150			Si II	1512.072	50		Si I	1520.291	5	A, Z
Cl II	1501.1520	140		Be II	1512.269	555		Si I	1520.324	5	A, Z
Si III	1501.191	200		Cl II	1512.3604	125		Si I	1520.353	5	A, Z
Na	1501.427	35	N	Be II	1512.407	1000		Si I	1520.389	5	A, Z
Mg IV	1501.513	180		Be II	1512.419	110		Si I	1520.423	5	A, Z
P III	1501.575	90		P II	1512.87	5		Si I	1520.463	5	A, Z
Si III	1501.780			Na II	1513.102	70	Q	Si I	1520.503	10	A, Z
S V	1501.799			Cl	1513.150	50		Si I	1520.540	5	A, Z
P I	1501.81	60		Al IV	1513.20	10		Si I	1520.586	5	A, Z
Si III	1501.827			Na	1513.487	50	N	Si I	1520.637	5	A, Z
Si III	1501.870	180		Si III	1513.533	40	Q, Z	Si I	1520.685	5	A, Z
Na II	1501.995	25		Si II	1513.570	30	Z	F III	1520.716	3	
S	1502.	500	N	Na	1513.953	35	N	Si I	1520.732	5	A, Z
F III	1502.014	400		Na	1514.21		N	Si I	1520.796	5	A, Z
P I	1502.17	24		Na	1514.241	30	N	Si I	1520.859	5	A, Z
P III	1502.228	350		Na	1514.632	30	N	Si I	1520.892	5	A, Z
Na	1502.661	30	N	F II	1514.789	100		Si I	1520.926	5	A, Z
Na IV	1502.85	360		B I	1514.816		A	Mg IV	1520.967	280	
Mg IV	1502.942	200		F II	1515.034	40		Si I	1520.996	10	A, Z
P I	1503.12	3		P I	1515.10	6		N VII	1521.061		P
Cl II	1503.2483	160		B I	1515.168		A	Si I	1521.073	10	A, Z
Na	1503.439	35	N	Na II	1515.229	30		Si I	1521.156	10	A, Z
P I	1503.48	3		Na II	1515.709	30		Si I	1521.246	10	A, Z
Na IV	1503.8		F, P	P IV	1515.751	25		Si I	1521.338	15	A, Z
P III	1504.177	300		Na	1516.219	25	N	N VII	1521.368		P
P I	1504.37	36		P IV	1516.316	4		Si I	1521.415	5	A
P III	1504.663	250		P IV	1516.879	40		Si I	1521.445	5	A, Z

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
Si I	1521.559	10	A, Z	Si I	1524.723	5	A, Z	Si I	1528.144	5	A
F II	1521.590	10	Z	Si I	1524.742	10	A, Z	Si I	1528.185	5	A
P II	1521.62	300		Si I	1524.767	5	A, Z	P III	1528.194	1	
Si I	1521.686	10	A, Z	Si I	1524.830	5	A	Si I	1528.238	10	A
Si I	1521.820	10	A, Z	Si I	1524.852	5	A	Si I	1528.250	5	A
Si I	1521.840	10	A, Z	Si I	1524.873	5	A	Si I	1528.277	10	A
Si I	1521.907	5	A	Ca II	1524.8894	50		Si I	1528.328	10	A
Si I	1521.970	5	A, Z	Si I	1524.970	5	A	Si I	1528.372	15	A
Si I	1522.036	1	A	Si I	1524.989	1	A	Si I	1528.426	5	A
Si I	1522.052	1	A	P III	1525.010	10		Si I	1528.485	10	A
P II	1522.11	4		Si I	1525.056	5	A	Na	1528.532	20	N
Si I	1522.111	1	A	Si I	1525.091	5	A	Si I	1528.564	5	A
Si I	1522.131	10	A, Z	Cl II	1525.1345	50		Cl II	1528.5691	220	
Si I	1522.169	1	A	Si I	1525.191	1	A	Si I	1528.596	15	A
Si I	1522.231	5	A	Si I	1525.236	10	A, Z	P III	1528.654	25	
Si I	1522.280	5	A	Si I	1525.254	5	A, Z	Si I	1528.726	1	A
Si I	1522.315	10	A, Z	B I	1525.281	1	A	Na II	1528.742	50	
Si I	1522.345	1	A	Si I	1525.285	10	A, Z	Si I	1528.871	15	A
P II	1522.392	10		Na III	1525.301	350		Si I	1528.890	5	A
Si I	1522.433	10	A, Z	Na II	1525.311	30		Cl II	1528.9839	160	
Si I	1522.482	1	A	Si I	1525.381	5	A	Si I	1529.004	15	A
Si I	1522.510	15	A, Z	Si I	1525.421	5	A	Si I	1529.022	15	A
Si I	1522.557	1	A	Si I	1525.579	1	A	Si I	1529.061	15	A
P II	1522.59	5		P II	1525.58	1		Si I	1529.202	15	A
P III	1522.607	25		Si I	1525.619	5	A	Na	1529.208	15	N
Si I	1522.642	1	A	B I	1525.637	1	A	Si I	1529.229	5	A
Si I	1522.734	15	A, Z	Si I	1525.707	1	A	Si I	1529.268	5	A
Si I	1522.829	1	A	Cl II	1525.7274	100		Cl IV	1529.28	10	
Si V	1522.944	400		Si I	1525.758	5	A	Na IV	1529.3		F, P
Si I	1522.960	5	A, Z	Si I	1525.792	5	A	Si I	1529.307	10	A
Si I	1522.983	15	A, Z	P III	1525.795	25		Si I	1529.396	15	A
Si I	1523.043	5	A	Si I	1525.832	5	A, Z	Si I	1529.440	10	A
Si I	1523.109	5	A	Si I	1525.851	5	A, Z	Si I	1529.464	15	A
Si I	1523.122	1	A	Si I	1525.886	15	A, Z	Si I	1529.532	20	A
Si I	1523.174	1	A	Si I	1525.983	15	A	Si I	1529.561	10	A
F II	1523.197	100		Cl IX	1526.0			Si I	1529.647	15	A
Si I	1523.200	5	A	Na	1526.021	15	N	Na III	1529.67	20	
Si I	1523.235	1	A, Z	Si I	1526.035	10	A	Si I	1529.686	10	A
Si I	1523.259	10	A, Z	Si I	1526.054	5	A	Si I	1529.746	1	A
Si I	1523.308	1	A	Al V	1526.14	1000		Si I	1529.778	15	A
Na	1523.388	30	N	Si I	1526.141	10	A	Si I	1529.826	5	A
P II	1523.44	10		Si I	1526.253	15	A	Si I	1529.870	15	A
Si I	1523.458	5	A	Si I	1526.456	1	A	Si I	1529.914	1	A
Si I	1523.543	5	A, Z	Si I	1526.506	10	A	Na II	1530.307	50	
Na III	1523.548	250		Si I	1526.549	1	A	Si I	1530.311	1	A
Si I	1523.568	10	A, Z	Si I	1526.585	15	A	Si I	1530.325	10	A
F II	1523.583	40		Si I	1526.609	1	A	Si I	1530.412	1	A
Si I	1523.620	5	A	Si II	1526.7076	500		Cl II	1530.4783	35	
Si I	1523.701	1	A	Si I	1526.766	10	A	P III	1530.492	10	
Si I	1523.732	1	A	Na III	1526.883	300		Si I	1530.544	1	A
Si I	1523.776	1	A	Si I	1526.894	10	A	P I	1530.58	12	
Si I	1523.806	5	A	Na	1526.900	20	N	Si I	1530.602	10	A
Si I	1523.856	5	A	S	1527.	10	N	Si I	1530.638	5	A
Si I	1523.895	1	A, Z	Si I	1527.027	5	A	Si I	1530.657	10	A
Si I	1523.915	15	A	Si I	1527.185	10	A	Si I	1530.676	4	P
F II	1523.925	10		Si I	1527.223	10	A	Si I	1530.690	15	A
Si I	1523.966	1	A	Si I	1527.222	5	A	Cl II	1530.7333	100	
Si I	1523.986	1	A	Si I	1527.301	10	A	Si I	1530.738	15	A
Si I	1524.011	5	A	Si I	1527.316	10	A	Si I	1530.787	15	A
Si I	1524.067	5	A	Si I	1527.343	10	A	Si I	1530.867	15	P
Si I	1524.130	5	A	Si I	1527.367	10	A	Si I	1530.875	20	A
B I	1524.170		A	Si I	1527.399	20	A	Si I	1530.929	20	A
Si I	1524.192	10	A	Si I	1527.460	5	A	Cl VII	1531.0		Q
Si I	1524.242	1	A	Si I	1527.522	5	A	Si I	1531.002	20	A
Si I	1524.269	5	A	F III	1527.524	1		Si I	1531.070	15	A
Si I	1524.279	5	A, Z	Na II	1527.555	15		Si I	1531.116	15	A
Si I	1524.292	5	A, Z	Si I	1527.555	5	A	Si I	1531.185	1	A
Si I	1524.316	10	A, Z	Si I	1527.588	15	A	Si I	1531.276	10	A
Si I	1524.345	10	A	Si I	1527.771	1	A	Si I	1531.373	10	A
Si I	1524.417	5	A	P IV	1527.836	40		Si I	1531.410	1	A
Si I	1524.478	1	A	Si I	1527.941	1	A	Si I	1531.491	5	A
B I	1524.530		A	Na II	1527.985	20		Na	1531.497	20	N
Si I	1524.535	5	A	Si I	1527.989	15	A	Si I	1531.602	25	A
Si I	1524.621	5	A	Si I	1528.035	1	A	Si I	1531.676	5	A
Si I	1524.690	1	A	Si I	1528.072	10	A	C III	1531.83	200	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Si I	1531.904	10	A	Si I	1536.085	20	A	Si I	1542.432	25	A
Si I	1532.018	5	A	F III	1536.113	150		Na III	1542.46	450	
Si I	1532.077	10	A	Si I	1536.257	1	A	Na IV	1542.46		
B I	1532.094		A	Si I	1536.285	15	A	Cl X	1542.8		F, P
Cl IV	1532.10	100	P	Si I	1536.366	10	A	Cl II	1542.9423	220	
Al IV	1532.16	300		P II	1536.39	700		P II	1543.09	400	
Si I	1532.210	5	A	Si I	1536.473	15	A	Si I	1543.158	5	A
Si I	1532.252	1	A	Si I	1536.624	1	A	P I	1543.26	45	
Si I	1532.295	10	A	Si I	1536.672	1	A	B I	1543.398		A
Si I	1532.316	5	A	Si I	1536.699	1	A	Si I	1543.593	1	A
Si I	1532.446	15	A	Si I	1536.763	10	A	P II	1543.61	150	
B I	1532.451		A	Si I	1536.830	10	A	Si I	1543.631	5	A
P I	1532.490	20	A	Si I	1536.852	5	A	Na	1543.665	12	N
P II	1532.51	700		Si I	1536.953	10	A	Si I	1543.710	15	P
Al III	1532.600			Si I	1537.016	15	A	Si I	1543.724	35	A
Si I	1532.603	10	A	Si I	1537.786	15	A	B I	1543.763		A
Si I	1532.624	15	A	Si I	1537.59	15	A	Cl II	1543.9084	200	
Si I	1532.646	30	A	Cl IV	1537.25	300	P	Cl I	1543.960	60	
Si I	1532.815	5	A	Si I	1537.797	25	A	Ar II	1544.177	200	
Si I	1532.871	5	A	Si I	1537.322	10	A	Si I	1544.184	15	A
Si I	1532.929	15	A	Si I	1537.382	10	A	Si I	1544.266	10	A
Si I	1532.976	1	A	Si I	1537.474	20	A	F III	1544.276	3	
Si I	1533.036	10	A	Si I	1537.524	15	A	Si I	1544.540	10	A
P III	1533.063	10		P III	1537.527	4		Si I	1544.591	15	A
Si I	1533.166	1	A	Al IV	1537.540	800		Si I	1544.676	10	A
Na	1533.176	10	N	Si I	1537.618	25	A	Ar II	1544.711	200	
Si I	1533.205	5	A	Si I	1537.696	5	A	Cl II	1544.9822	160	
Cl IV	1533.21	100	P	Si I	1537.714	5	A	Si I	1545.025	10	A
Si IV	1533.220			Si I	1537.935	25	A	Si I	1545.045	10	A
P IV	1533.401	10		Si I	1538.109	15	A	Si I	1545.099	10	A
Si I	1533.410	80	P	Si I	1538.271	5	A	Si I	1545.163	15	A
Si II	1533.4320	1000		Si I	1538.380	10	A	Cl IV	1545.19	200	
Si I	1533.508	10	A	Si I	1538.410	10	A	Cl I	1545.249	40	
Si I	1533.672	15	A	Si I	1538.876	20	A	Si I	1545.575	25	A
Si I	1533.717	15	A	Si I	1538.922	10	A	Si I	1545.612	20	A
Si I	1533.791	5	A	Si I	1539.057	5	A	Si I	1545.664	1	A
B I	1533.806		A	Al V	1539.124	500		Si I	1545.749	15	A
Si I	1533.937	10	A	Na III	1539.145	350		P I	1545.95	45	
Si I	1533.972	5	A	Si I	1539.236	20	A	Si I	1546.007	5	A
Si I	1534.112	20	A	Cl IV	1539.24	200	P	Si I	1546.098	5	A
Na II	1534.163	10		Si I	1539.384	5	A	P I	1546.32	9	
B I	1534.166	15	A	Si I	1539.537	15	A	B I	1546.423	20	A
Si I	1534.184	20	A	Si I	1539.689	9	P	Si I	1546.559	1	
Si I	1534.236	10	A	Si I	1539.705	25	A	Si I	1546.590	30	A
Si I	1534.255	10	A	Si I	1539.738	5	A	Si I	1546.674	25	A
P III	1534.291	1		Al II	1539.830	340		Na II	1546.722	12	
Si I	1534.299	5	A	Na II	1539.895	12		B I	1546.789	30	A
Si I	1534.364	10	A	Si I	1540.131	15	A	Si I	1546.869	5	A
Si I	1534.431	15	A	Si I	1540.152	10	A	Na II	1547.066	15	
Na IV	1534.475	650		Si I	1540.239	5	A	Si I	1547.079	10	A
Al III	1534.489			Si I	1540.286	15	A	Si I	1547.129	20	A
Na II	1534.538	25		Si I	1540.354	15	A	Si I	1547.214	10	A
Si I	1534.547	15	A	Si I	1540.544	20	A	Ar II	1547.356	100	
Si I	1534.618	1	A	Na	1540.688	7	N	Si I	1547.362	25	A
Si I	1534.707	25	A	Si I	1540.707	30	A	Si I	1547.373	1	
P I	1534.73	15		Si I	1540.783	30	A	Si I	1547.452	20	A
Na II	1534.737	12		Si I	1540.963	40	A	Si I	1547.731	5	A
F III	1534.754	60		Si I	1540.978	10	A	Si I	1547.943	15	A
Si I	1534.778	25	A	Si I	1541.064	5	A	Si I	1548.048	10	A
Si I	1534.818	?	A	C III	1541.115			C IV	1548.202	1000	
Si I	1534.883	10	A	Si I	1541.178	5	A	P I	1548.43	180	
Si I	1534.928	1	A	Na III	1541.19	20		Si I	1548.518	20	A
Si I	1534.932	20	P	Si I	1541.198	10	A	N V	1548.647		P
Si I	1534.996	20	A	Si I	1541.322	25	A	Si I	1548.649	15	A
Si I	1535.266	10	A	Si I	1541.397	20	P	Na III	1548.68	160	
F III	1535.269	100		Si I	1541.415	20	A	Si I	1548.716	25	A
Si I	1535.472	15	A	Cl I	1541.510	40		Si I	1548.978	15	A
Si I	1535.537	5	A	Cl I	1541.569	20	A	Cl IV	1549.15	200	
Si I	1535.604	1	A	Si I	1541.620	15	A	N V	1549.336	85	P
Si I	1535.634	5	A	P I	1541.69	30		Na II	1549.352	20	
Si I	1535.705	15	A	Si I	1541.758	10	A	F III	1549.492	3	
Si I	1535.896	15	A	Cl I	1542.1766	160		Na II	1549.507	20	
P II	1535.90	1000		Si I	1542.185	15	A	Si I	1549.536	10	A
Si I	1535.931	10	A	Si I	1542.270	15	A	Na	1550.095	15	N
Si I	1536.035	5	A	P II	1542.29	1000		Al IV	1550.192	500	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na II	1550.348	20		B I	1558.701	5	A	Si I	1567.7263	8	
Si I	1550.369	5	A	Si I	1558.773	20	A	Si I	1567.808	15	A
Si I	1550.630	15	A	Al V	1558.92	150		Ar II	1567.987	400	
P V	1550.768	1		Si I	1559.004	20	A	Si I	1568.1963	10	
C IV	1550.774	950		Al IV	1559.03	500		Si I	1568.6182	3	
Mg III	1550.82			B I	1559.071	10	A	Na II	1568.673	10	Q
Si I	1550.958	20	A	Ar II	1559.072	300		Ne II	1569.015	40	
P I	1551.04	105		N I	1559.086		P	Al V	1569.25	50	
Si I	1551.240	25	A	N I	1559.298		P	Na II	1569.264	20	
Cl IV	1551.27	100		Si I	1559.362	30	A	Si I	1569.3185	8	
P I	1551.42	45		P IV	1559.407	90		Al II	1569.385	100	
P IV	1551.420	10		Si I	1559.705	25	A	Si I	1570.026	25	A
Si I	1551.454	10	A	S	1560.	50	N	P III	1570.215	1	
Na II	1551.793	20		Si I	1560.072	30	A	Si I	1570.5175	3	
Si I	1551.856	20	A	Si I	1560.093	20	A	Si I	1570.808	20	A
Si I	1551.9323	1		Ar II	1560.191	400		Na	1571.205	7	N
Na II	1551.934	20		N I	1560.224		P	Si I	1571.321	25	A
Si I	1552.022	10	A	C I	1560.3095	250		Ar II	1571.391	100	
Si I	1552.180	15	A	Al II	1560.35	1		Si I	1571.4058	10	
Na II	1552.203	20		Si I	1560.406	15	A	Si I	1571.796	35	A
Si I	1552.209	45	A	N I	1560.436		P	S	1572.	100	N
Si I	1552.490	1	P	C I	1560.6832	500		Al IV	1572.54	100	
P II	1552.51	5		C I	1560.7079	200		Fg III	1572.712	400	
Si I	1552.515	5	A	Si I	1560.7425	8		Si I	1572.718	30	A
P II	1552.94	1		Si I	1560.934	5	A	Si I	1572.9245	1	
Si I	1552.948	25	A	F III	1560.939	60		Si I	1572.947	5	A
Cl II	1552.9947	160		Si III	1560.974		P	Al II	1573.003	3	
Al IV	1553.00	50		N I	1561.258			B I	1573.301	30	A
F III	1553.023	250		C I	1561.3407	400		Si I	1573.3483	1	
S IX	1553.18		F, P	C I	1561.3668	400		Na II	1573.430	10	
Si I	1553.370	30	A	C I	1561.4382	1000		Si I	1573.6350	10	
P II	1553.392	1		P IV	1561.700	60		B I	1573.679	50	A
P IV	1553.401	90		Si I	1561.822	30	A	Si I	1573.8840	25	
P II	1553.82	10		Si I	1562.0065	4		Na II	1574.110	12	
Si I	1553.883	5	A	Si I	1562.0531	1		Si I	1574.126	10	A
P V	1554.001	4		F III	1562.234	100		N III	1574.32	25	
Si I	1554.029	10	A	Si I	1562.286	5	A	Ar II	1574.401	100	
Si I	1554.297	5	A	Si I	1562.436	10	A	Si I	1574.625	5	A
Si I	1554.476	1	A	Ar II	1562.442	200		Na II	1574.664	7	
Si I	1554.700	30	A	Si II	1562.451	10		Si I	1574.7456	1	
Si I	1554.808	1	A	Si II	1562.845	15		Ne V	1574.77		F, P
P I	1554.84	3		Na III	1562.870	550		Si I	1574.810	10	A
Si I	1555.233	10	A	Ar II	1563.043	100		Si I	1574.8435	30	
P I	1555.25	6		Si I	1563.364	25	A	Si I	1574.847	45	A
Si I	1555.463	15	A	Al II	1563.580	1		B I	1574.868		A, Z
Si I	1555.514	20	A	Na III	1563.61	150		Ar II	1574.993	600	
Si I	1555.660	25	A	F III	1563.726	250		Na	1575.039	10	N
Al II	1555.943	1		Si II	1563.765	10		Si I	1575.1268	10	
Si I	1555.946	0	P, Z	Si I	1563.886	15	A	P I	1575.18	9	
Si I	1556.043	5	A	Si II	1564.066	5		N III	1575.21	60	
Si I	1556.160	20	A	Al IV	1564.164	700		P I	1575.47	3	
P I	1556.18	2		Si I	1564.6138	8		N III	1575.65	40	
Na II	1556.370	15		Cl II	1565.0503	220		Na II	1575.749	15	
Si I	1556.527	30	A	Cl II	1565.1142	210		Ar II	1575.815	300	
Si I	1556.547	20	A	Cl II	1565.1732	210		Na II	1576.118	12	
Na II	1556.753	12		Cl II	1565.201	210		C III	1576.48	300	
Al IV	1556.88	1		Na III	1565.294	500		N III	1576.54	25	
P IV	1557.054	60		Si I	1565.322	20	A	Si I	1576.825	40	A
Cl II	1557.2538	100		Ar II	1565.377	100		Ar II	1576.898	300	
Al IV	1557.254	1000		Si I	1565.395	15	A	Si I	1577.042	30	A
Ar II	1557.305	100		F III	1565.539	250		C III	1577.30	200	
Si I	1557.382	20	A	Na	1565.838	12	N	F III	1577.652	1	
Si I	1557.416	10	A	Si I	1565.861	10	A	C III	1577.89	200	
Ne II	1557.487	30		F III	1566.070	200		Na III	1577.90	450	
Na	1557.557	7	N	Na	1566.262	12	N	Al V	1577.90	300	
F III	1557.592	300		B I	1566.286	10	A	Si I	1578.258	25	A
Cl II	1558.0222	140		Cl II	1566.2958	210		Si I	1578.478	25	A
Cl II	1558.1445	220		Si I	1566.303	10	A	Mg IV	1578.537	140	
Si I	1558.238	25	A	B I	1566.660	20	A	Na II	1578.807	12	
Cl II	1558.3023	100		Ar II	1566.811	100		Ar II	1578.812	300	
Si I	1558.349	10	A	P II	1566.961	100		Mg	1579.05	10	N
Si I	1558.453	15	A	Si I	1567.212	5	A	Na III	1579.117	400	
Cl II	1558.4726	50		F II	1567.435	40		Na	1579.180	15	N
F III	1558.641	200		Si I	1567.465	5	A	Al V	1579.38	10	
Na II	1558.678	7		Ne II	1567.526	70		Na	1579.408	12	N

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
Na	1579.993	20	N	Si I	1590.5763	15		B I	1600.373		A
Na IV	1580.233	360		O III	1590.61	400		B I	1600.455	70	A
Si I	1580.3001	12		Si I	1591.1232	20		Al III	1600.642		
Na IV	1580.500	450		Si I	1591.24			Ar II	1600.694	600	
Si I	1580.684	5	A	Na II	1591.321	15		B I	1600.761	120	A
Ar II	1580.770	200		O III	1591.33	600		C I	1600.821	5	
Al II	1580.919	1		N II	1591.361		P	B I	1600.846	1	P
Ar II	1580.960	100		C III	1591.44	200		Cl II	1601.2082	170	
Na II	1581.162	25		Na II	1591.712	7		Si I	1601.459	5	A
Na II	1581.835	20		Ar II	1591.939	1		Cl II	1601.4864	170	
Al IV	1582.040	900		Si I	1592.0200	20		Ne IV	1601.50		F, P
Cl II	1582.0909	100		N II	1592.124		P	Ne IV	1601.68		F, P
Na IV	1582.121	70		Ne V	1592.27		F, P	O I	1601.731		P
Na IV	1582.182	550		Mg III	1592.360	60		Cl II	1601.7970	125	
Na IV	1582.326	450		Si I	1592.4234	60		Cl II	1602.0105	200	
Cl II	1582.3581	125		N I	1592.61	20	P, Z	Al V	1602.03	20	
Na IV	1582.613	285		Al VI	1592.62	40	Q	Ar II	1602.554	200	
Si V	1582.737	200		Si I	1592.736	4		Al IV	1602.77	300	
Cl II	1583.1677	50		Si I	1593.177	1	A	Cl II	1602.8157	35	
Si I	1583.683	1		P IV	1593.466	4		Ar II	1602.891	200	
P I	1583.73	24		Al V	1593.54	20		Na III	1602.91	100	
Ar II	1583.833	100		Ar II	1593.587	200		C I	1602.9715	200	
Na IV	1583.84	110	P	N II	1593.596		P	Ar II	1603.075	400	
Si I	1583.958	25	A	Si I	1593.978		P	Cl II	1603.2362	125	
Na IV	1583.977	550		Si I	1594.147	15	A	Ar II	1603.442	400	
Si I	1584.0207	8		Si I	1594.5655	70		Ne II	1604.004	80	
Si I	1584.089	6	P	Na	1594.752	2	N	Ar II	1604.082	500	
Na IV	1584.141	650		Ar II	1594.799	100		Ne II	1604.091	70	
Na II	1584.173	20		N II	1594.822		P	Cl II	1604.1806	170	
Si I	1584.3455	12		Si I	1594.832	10	A	Si V	1604.25	80	
O III	1584.45	400		Si I	1594.9493	70		Si V	1604.47	60	
Al IV	1584.460	800		P I	1595.08	6		Al VII	1604.6		F, P
Al II	1584.708	4		Si V	1595.44	30		O IV	1604.620	5	
Si I	1584.855	30	A	Al V	1595.46	20		Na	1604.888	25	N
F II	1585.056	40		P I	1595.72	1		O IV	1604.901	10	
F III	1585.593	3		Ar II	1595.737	100		Cl II	1604.9999	185	
Ar XIII	1585.94		F, P	Si I	1595.7552	30		Cl II	1605.2479	125	
Si I	1585.9580	3		Al II	1596.059	112		Al III	1605.766	700	
Si I	1586.1372	15		P I	1596.06	3		Si I	1605.8370	20	
Mg III	1586.237	200		Ar II	1596.151	100		Al VII	1605.9		F, P
P I	1586.25	3		Na IV	1596.304	40		Ar II	1606.197	300	
Ar II	1586.261	200		Na IV	1596.367	160		Al IV	1606.646	400	
Na IV	1586.78	40	P	O V	1596.375	80		Ar II	1606.926	400	
Si I	1586.7913	20		Ne II	1596.397	30		C I	1606.960	50	
P I	1586.88	2		Na IV	1596.401	360		Mg IV	1607.108	320	
Si I	1586.8920	3		Al V	1596.95	60		Ar II	1607.180	100	
Na IV	1586.990	650		Si V	1596.98	50		Al IV	1607.31	1	
Na IV	1587.048	450		Cl II	1597.5117	45		Na	1607.514	45	N
Na	1587.087	30	N	Si I	1597.700	10	A	Mg IV	1607.514	200	
B I	1587.340		A, Z	Si I	1597.720	50	A	B I	1607.645		A, Z
B I	1587.385		A, Z	Si I	1597.7357	20		Si V	1607.73	40	
B I	1587.451		A, Z	Mg IV	1597.738	80		B I	1607.733		A, Z
B I	1587.500		A, Z	Si I	1597.9620	60		B II	1607.75	10	
B I	1587.596		A, Z	P I	1597.97	3		B I	1607.820		A, Z
B I	1587.653		A, Z	Ne II	1597.971	80		B I	1607.890		A, Z
B I	1587.747		A, Z	Na III	1598.177	500		B I	1607.932		A, Z
Si I	1587.7620	15		Ar II	1598.575	100		C I	1608.438	70	
Na	1587.807	5	N	Si I	1598.674	1	A	Ne II	1608.512	30	
O III	1587.87	400		Ar II	1598.722	200		Si I	1608.9157	25	
Si I	1588.731	25	A	P I	1598.76	3		Si V	1609.11	80	
Na IV	1588.87	40		Cl II	1598.78	50		Si V	1609.28	80	
Si III	1588.950	40		Ar II	1598.880	100		Si V	1609.43	50	
Na II	1588.983	7		Ar II	1599.130	100		F II	1609.798	10	
P IV	1589.042	90		P I	1599.25	15		Si V	1610.29	40	
Si I	1589.1733	15		Cl II	1599.3909	125		P V	1610.499	450	
Al IV	1589.275	400		Al II	1599.410	20		Mg IV	1610.799	140	
Ar II	1589.465	500		Ar II	1599.607	100		Si I	1610.829	5	A
Si I	1589.6339	7		Al III	1599.639			Na III	1610.97	80	
Al V	1589.87	350		Cl II	1599.69	50		Cl II	1611.0049	140	
O III	1590.01	800		Al III	1599.697			Mg IV	1611.215	300	
N II	1590.141		P	F III	1599.926	10		P I	1611.29	30	
P III	1590.180	10		Cl II	1599.9306	125		P IV	1611.300	40	
Ar II	1590.233	200		F III	1600.041	25		Al III	1611.814	100	
Si I	1590.4768	20		Ne II	1600.080	40		Al III	1611.874	800	
N II	1590.562		P	Ar II	1600.133	400		F III	1613.186	60	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
C I	1613.378	80		B II	1623.582	450		Si I	1633.9851	90	
Na III	1613.77	160		S IV	1623.62	50		Na	1634.057	15	N
C I	1613.804	80		O VII	1623.63	100		P I	1634.10	21	
Na IV	1613.948	450		B II	1623.771	300		Mg I	1634.515		A
P I	1614.19	30		P I	1623.83	75		Si IV	1634.607	70	
S XI	1614.47	0	F	P I	1623.99	30		Mg I	1634.7		
C I	1614.522	50		S IV	1624.00	200		N II	1634.996		P
Si I	1614.5665	30		B II	1624.018	600		P IV	1635.128	4	
Si I	1614.6309	25		Na III	1624.07	240		Na	1635.194	20	N
P I	1614.67	3		Mg IV	1624.136	120		P III	1635.766	60	
P I	1614.87	9		B II	1624.16	400		P I	1635.79	9	
P IV	1615.078	150		B II	1624.340	450		Mg III	1635.946	4	
Cl II	1615.1372	125		P I	1624.43	2		Na	1635.948	10	N
P IV	1615.162	150		P I	1624.67	3		P I	1636.20	9	
P IV	1615.382	1		Mg I	1625.22		A	Mg I	1636.465		A
P IV	1615.681	4		P I	1625.40	30		Mg I	1636.6		
P I	1615.79	36		Mg I	1625.50		A	Al IV	1636.822	500	
Ar II	1615.807	50		Si I	1625.5320	35		Si III	1636.990	20	
Na IV	1615.922	550		Al II	1625.627	125		Si I	1637.0106	4	Z
Si I	1615.9488	50		Si I	1625.7051	70		Si I	1637.128	5	A
Si I	1615.990	5	A	P IV	1625.7	60		Na	1637.293	10	N
N V	1616.185	100	P	P I	1625.80	75		P III	1637.379	40	
P I	1616.20	120		Mg I	1625.81		A	S	1638.	10	N
Al II	1616.415	10		Mg III	1626.093	4		Si I	1638.2823	2	Z
N V	1616.426	150	P	Mg I	1626.151		A	O VII	1638.30	60	
Si I	1616.5794	70		Mg I	1626.36		A	Mg IV	1638.522	80	
Si V	1616.81	40		Na II	1626.372	20		P I	1638.68	3	
Ar II	1616.972	100		Mg I	1626.549		A	P I	1638.89	15	
Cl IV	1617.38	100	P	Mg I	1626.79		A	Mg I	1638.890		A
Mg IV	1617.627	100		Mg I	1627.000		A	Cl IV	1638.95	10	
Al IV	1617.81	400		Si I	1627.0498	20		Al IV	1639.055	800	
P IV	1617.833	4		Ar II	1627.085	20		P I	1639.09	24	
Na	1617.896	10	N	Mg I	1627.27		A	Mg I	1639.1		
Al IV	1617.93	200		N II	1627.349	33		Na	1639.260	12	N
Si I	1618.0054	8		N II	1627.376	100		O IV	1639.430	15	
P I	1618.11	45		Mg I	1627.514		A	O IV	1639.842	10	
Al II	1618.399	50		Al IV	1627.536	600		O VII	1639.87	20	
Na IV	1618.570	650		Si I	1627.7459	30		Be IV	1639.959		P
P III	1618.632	150		Mg I	1627.82		A	Be IV	1640.224		P
P III	1618.907	200		P I	1627.86	9		Si I	1640.267	1	Z
P I	1618.93	36		P IV	1628.065	1		Be IV	1640.312		P
Cl II	1618.9917	185		Mg I	1628.104		A	Ar II	1640.343	100	
Si I	1619.0455	8		Mg I	1628.46		A	He II	1640.345	333	P
B V	1619.205		P	Al IV	1628.58	50		He II	1640.474	600	P
Cl II	1619.3179	100		Mg I	1628.786		A	He II	1640.490	70	P
Cl II	1619.3922	50		Ar II	1628.825	100		P IV	1640.58	120	
Si I	1619.5266	15		N II	1628.896	20		Mg IV	1640.892	180	
N V	1619.617	100	P	N II	1628.922	33		Al IV	1641.05	300	
N V	1619.743	150	P	N II	1628.932	25		Si I	1641.085	7	
B V	1619.785		P	N II	1629.079	100		Al IV	1641.20	200	
C V	1619.80		P	P I	1629.17	60		Si I	1641.296	10	
B V	1619.970		P	S IV	1629.20	200		O I	1641.305		
C III	1620.07	300		Mg I	1629.21		A	Al IV	1641.55	50	
C III	1620.33	200		Si I	1629.404	15	A	Mg I	1641.957		A
Si I	1620.4049	60		Si I	1629.439	50	A	Mg I	1642.2		
C III	1620.59	10		Mg I	1629.579		A	Mg III	1642.826	20	
C III	1620.68	100		P I	1629.59	15		Cl IV	1643.40	100	
P I	1621.33	9		Mg I	1629.6		P	O V	1643.617	250	P
Al V	1621.36	10		N II	1629.832	10		O V	1643.718	200	P
Al IV	1621.68	350		Ar II	1629.834	100		Al II	1644.235	100	
Si I	1621.838	1	A	Si I	1629.9477	100		Al IV	1644.47	200	
Na II	1621.940	12	Q	Mg I	1630.509		A	Al II	1644.809	100	
N V	1621.966	35	P	Na	1630.579	1	N	C III	1645.03	100	
P I	1622.08	3		Mg I	1630.6			P III	1645.886	25	
Na II	1622.347	12		Si I	1631.170	35	A	Mg I	1645.921	0	A
Cl IV	1622.86	200		P IV	1631.499	4		Na	1646.018	12	N
Si I	1622.8806	90		Mg I	1631.609		A	Al IV	1646.15	200	
Si III	1622.892			Si I	1631.623	10	A	Mg I	1646.3		
Si III	1622.913			Mg I	1631.7			Na X	1646.90		P
Si III	1623.055			Mg I	1632.924		A	P III	1647.513	90	
P IV	1623.155	1		Mg I	1633.1		P	Al IV	1647.79	1	
P III	1623.294	150		Si I	1633.224	30	A	Cl IV	1648.04	10	
Si I	1623.3663	8		Si I	1633.3277	40		F III	1648.608	6	
F III	1623.402	250		Na III	1633.64	80		Mg III	1648.822	4	
Si I	1623.4971	10		P I	1633.69	2		F II	1650.200	1	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Ar II	1650.535	100		Cl II	1669.29			Si I	1680.935	1	A, Z
Na V	1650.654	20		Ar III	1669.30	250		Ne II	1681.035	50	
F III	1650.764	250	Q	Mg I	1669.51			Si I	1681.074	5	A, Z
Na III	1650.97	20		Na III	1669.52	60		F III	1681.182	150	
F III	1650.974	20		Mg IV	1669.574	220		F III	1681.478	10	
Si I	1651.0279	25		Cl II	1669.67	220		Si I	1681.639	1	A, Z
Mg I	1651.163	10	A	Ar III	1669.67	350		Li II	1681.667	400	
Cl IV	1651.21	100		Na	1669.817	20	N	Ne II	1681.683	120	
Na	1651.601	5	N	Cl II	1670.1742	170		Si I	1681.802	5	A, Z
Mg I	1651.7			F III	1670.388	500		Al II	1681.809	80	
Mg IV	1651.837	40		Ne II	1670.737	20		Si I	1682.448	1	A
Mg III	1652.218	12		Al II	1670.787	400		Si I	1682.6734	70	
F III	1652.288	3		Na IV	1670.79			P III	1682.944	10	
F III	1652.416	60		P I	1671.07	210		Mg IV	1683.003	500	
Na II	1652.921	20		Si I	1671.1168	40		Si I	1683.1189	3	
P I	1652.97	30		P I	1671.49	105		Cl III	1683.18	10	
Li II	1653.076	150		P I	1671.68	540		Mg I	1683.406	100	A
Li II	1653.132	250		F III	1671.870	35		Si I	1683.423	1	A
Li II	1653.212	50		Na II	1671.886	35		S III	1683.49	20	
Ar II	1653.322	100		P I	1672.05	105		Si I	1683.590	1	A
Si I	1653.3760	40		Na IV	1672.330	110		Si I	1683.643	10	A
P I	1653.68	24		F III	1672.341	3		Si I	1683.722	1	A
P IV	1653.891	40		P I	1672.48	270		Si I	1683.787	1	A
P IV	1654.199	25		Si I	1672.5961	80		Si I	1683.851	1	A
P IV	1654.918	25		Si IV	1672.612			F III	1683.991	6	
Si I	1655.017	15	A	Al IV	1672.722	20		Si I	1684.235	1	A
P IV	1655.191	4		P III	1672.850	25		Si I	1684.408	1	A
Na IV	1655.468	550		Ar III	1673.14	50		Si I	1684.546	5	A
N V	1655.876	40	P	Ar III	1673.24	150		Si I	1684.674	5	A
N V	1656.065	25	P	Si III	1673.315	140		P III	1684.705	60	
C I	1656.2665	350		Ar III	1673.43	350		Si I	1684.815	10	A
C I	1656.9282	300		P IV	1673.612	10		Si I	1684.959	5	A
S	1657.	10	N	Na II	1673.649	15		Si I	1685.092	5	A
C I	1657.0078	1000		P I	1673.94	3		Mg I	1685.13		
C I	1657.3797	300		P III	1674.184	25		Si I	1685.307	1	A
C I	1657.9070	300		Ne II	1674.290	60		P X	1685.5		F, P
Na II	1657.918	60		P I	1674.61	690	ZZ	Si I	1685.505	1	A
C I	1658.1222	350		Li I	1674.76			Si I	1685.628	1	A
Mg I	1658.312	20	A	Si I	1675.2053	200		Si I	1685.864	1	A
Na III	1658.71	40		Ar III	1675.58	350		Si I	1685.910	1	A
Mg IV	1658.851	300		Ar III	1675.64	200		P I	1685.99	360	
Mg I	1659.0			Mg III	1675.710	2		N I	1685.992		P
P X	1659.2		F, P	N II	1675.726	150		Ar II	1686.076	50	
Mg III	1659.244	12		N II	1675.755	300		Si I	1686.233	0	P
Si I	1660.4748	15		Si I	1675.859	1	A, Z	Al II	1686.250	100	
O III	1660.803	20		N II	1675.920	100		Si I	1686.372	5	A
F III	1661.025	1		P III	1675.924	90		Cl VII	1686.4		P
Si II	1661.059	3	Z	Si I	1675.943	1	A, Z	Si I	1686.591	5	A
Be I	1661.478	1000		Si I	1676.025	1	A	Al III	1686.676		
F III	1661.505			Si I	1676.060	1	A, Z	Si I	1686.8185	100	
Si II	1661.633	1	Z	Si I	1676.160	1	A, Z	Si I	1686.993	1	A
Ar II	1662.253	100		Si I	1676.280	1	A, Z	Mg III	1687.091	250	
B I	1662.608	50	A	Si I	1676.408	1	A, Z	Si I	1687.0923	20	
B I	1663.031	100	A	Si I	1676.550	1	A, Z	Si I	1687.192	5	A
Mg III	1663.287	4		Si I	1676.8207	15		Ar XII	1687.25		F, P
B I	1664.25	5		Si I	1677.054	1	A, Z	N I	1687.252		P
Si I	1664.5111	35		P III	1677.083	60		Si I	1687.299	1	A
Si I	1664.76	5		Si I	1677.247	1	A, Z	Si I	1687.457	1	A
O III	1666.153	250		F III	1677.397	600		Si I	1687.521	1	A
Si I	1666.3762	60		Si I	1677.465	1	A, Z	Cl II	1687.53	100	
F III	1666.652	150		Si I	1677.663	1	A	Si I	1687.5305	450	
Si I	1666.6875	500		Si I	1677.705	1	A, Z	Si I	1687.595	5	A
B I	1666.850	150	A	P III	1678.12	10		N IV	1687.60	50	
Si II	1667.267	0	Z	Si I	1678.276	5	A, Z	N IV	1687.82	100	
B I	1667.272	200	A	Si I	1678.613	5	A, Z	Si I	1687.929	10	A
Si I	1667.6288	70		Na III	1678.74	20		S IV	1688.	50	
Ne II	1668.057	40		Si I	1678.991	5	A, Z	Si I	1688.016	5	A
Cl VII	1668.2		P	O III	1679.06	400		N IV	1688.11	150	
Mg I	1668.419	50	A	Si I	1679.413	5	A, Z	P III	1688.311	60	
Si I	1668.5204	70		Mg III	1679.470	4		Si I	1688.352	5	A
Na II	1668.569	35		P I	1679.71	900		Ne II	1688.356	180	
Na IV	1668.588	285		Mg IV	1679.960	360		P I	1688.64	9	
Cl II	1668.9739	50		S	1680.	10	N	Na III	1688.942	550	
P III	1669.044	4		Si I	1680.322	1	A, Z	Al III	1688.958		
Ar III	1669.10	50		Si I	1680.444	5	A, Z	Si I	1688.962	5	A

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P I	1689.25	105		Na	1699.314	25	N	Si I	1710.744	1	
Si I	1689.2902	60		N III	1699.336	90	P	Si II	1710.826	10	
Si I	1689.326	5	A	Mg IV	1699.654	300		Ar II	1710.909	50	
Ar II	1689.470	50		Si I	1699.7162	10		Ka III	1711.124	500	
Si I	1689.487	1	A	Si I	1699.931	1	A	Si II	1711.296	20	
Cl III	1689.50	100		N III	1699.963	60	P	Si I	1711.595	20	A
Si I	1689.536	5	A	N III	1700.027	25	P	P V	1712.212	1	
Si I	1689.969	15	A	Si I	1700.137	25	A	Al I-	1712.43	200	
Si I	1690.020	10	A	Si I	1700.15	1	A	Na III	1712.482	450	
Si I	1690.069	1	A	F II	1700.185	10		Ar II	1713.218	200	
P I	1690.17	30		Si I	1700.4193	90		Si I	1713.408	45	A
Si I	1690.491	5	A	Si I	1700.573	20	A	Si I	1713.616	1	A
Si I	1690.7889	60		Si I	1700.6360	80		Si I	1713.810	10	A
P I	1690.90	9		F II	1700.691	10		Si I	1713.837	35	A
Si I	1691.055	1	A	F II	1700.767	10		Si I	1713.858	10	P
Si I	1691.352	5	A	F II	1700.831	40		Si I	1714.182	5	A
Si I	1691.612	1	A	Si I	1700.862	1	A	Mg III	1714.783	12	
Na III	1691.70	20		B III	1701.			S IX	1715.45	2	F
P I	1691.75	60		Mg IV	1701.262	240		Al IV	1716.28	5	
Si I	1691.802	1	A	Ar II	1701.358	100		F III	1716.990	250	
P IV	1691.81	40		Na IV	1701.97	1000		Na III	1718.48	10	
Si I	1691.949	10	A	Na III	1701.970	400		Si I	1718.514	20	A
Si I	1692.024	5	A	F II	1701.993	40		P I	1718.55	60	
Si I	1692.189	1	A	N IV	1702.006	250		N IV	1718.551	1000	
P I	1692.48	15		F II	1702.130	200		Ar II	1718.680	100	
Si I	1692.609	20	A	Ar II	1702.188	100		P I	1719.00	30	
Si I	1692.640	5	A	N V	1702.267	50	P	P I	1719.31	90	
Mg IV	1692.675	340		Mg IV	1702.367	200		Ar II	1719.346	200	
Si I	1692.875	20	A	Na IV	1702.409	450		Al II	1719.440	340	
P III	1693.03	100		Si I	1702.6978	1		Na III	1719.60	10	Q
Si I	1693.2934	125		Na IV	1702.735	160		Si I	1720.189	15	A
Si I	1693.4681	60		Si I	1702.811	10	A	C II	1720.456	10	
Si I	1694.010	5	A	Si I	1702.8694	70		C II	1721.012	100	
P I	1694.06	300		Na IV	1702.995	220		Si I	1721.199	1	A
Si I	1694.137	1	A	Mg III	1703.108	7		Al II	1721.244	255	
Ne II	1694.481	40		N V	1703.218	60		Al II	1721.271	365	
P I	1694.50	120		Mg IV	1703.357	320		Si I	1721.326	10	A
Si I	1694.542	5	A	Si I	1703.480	5	A	C II	1721.682	200	
Ne II	1694.600	80		Na IV	1703.53	360		Si I	1721.841	10	A
Si I	1694.671	10	A	Mg III	1703.731	20		Mg III	1722.041	100	
N III	1694.786	1	P	Si I	1704.055	5	A	C II	1722.238	10	
Ne II	1694.786	90		Si I	1704.195	1	A	Si IV	1722.534	400	
Ne II	1694.878	60		Mg III	1704.368	4		Si I	1722.562	45	A
Si I	1695.025	1	A	Si I	1704.4416	100		P V	1722.856	50	
Si I	1695.070	1	A	Si I	1704.492	5	A	Ne II	1723.389	20	
Si I	1695.133	5	A	Si I	1704.560	30	A	Si I	1724.243	40	A
P I	1695.35	45		F II	1704.696	10		Si I	1724.477	10	A
Si I	1695.5074	90		F II	1704.834	40		N II	1724.653		P
Si I	1695.66	1	A	Si II	1704.967	2		Al II	1724.952	255	
Si I	1695.771	1	A	Si I	1704.986	5		Al II	1724.984	365	
Si I	1695.891	20	A	Si I	1705.115	3		N II	1725.028		
Si I	1695.982	1	A	Si I	1705.755	35	A	Ar II	1725.147	100	
Si I	1696.065	15	A	Si I	1705.866	5	A	N III	1725.315	4	Z
Si I	1696.2065	200		Si I	1705.967	1	A	Ar II	1725.549	50	
N III	1696.560	10	P	Ar II	1705.980	100		Si I	1725.791	5	A
S IV	1696.69	150		Si I	1706.360	10		F III	1726.665	200	
N IV	1696.86	150		P I	1706.41	180		N III	1726.776	4	Z
P III	1696.92	100		Si I	1706.994	30	A	Si IV	1727.377	300	
Si I	1696.994	1	A	Mg I	1707.056	150	A	N III	1727.426	60	Z
N III	1697.156	4	P	Si I	1707.1148	8		Si I	1727.444	30	A
Mg III	1697.282	250		Si I	1707.132	8		P I	1727.85	15	
P IV	1697.612	40		P I	1707.57	120		Na III	1728.273	550	
Si I	1697.652	5	A	Si I	1707.589	5	A	N III	1728.318	4	Z
Si I	1697.818	1	A	Si I	1707.750	5	A	Na III	1728.923	50	
Si I	1697.9409	250		O V	1707.996	160		Ar II	1729.075	100	
Cl XII	1698.0		F, P	P I	1708.03	3		Ar II	1729.259	100	
Si I	1698.209	1	A	P VIII	1708.4		F, P	F II	1729.669	1	
Si I	1698.403	5	A	Si I	1708.417	5	A	Si I	1729.923	20	A
Si I	1698.606	15	A	P I	1708.45	12		N III	1729.945	250	Z
Mg IV	1698.784	400		P I	1708.90	3		N III	1730.04	400	Z
N III	1698.999		P	Si I	1709.502	25	A	F II	1730.119	10	
N IV	1699.03	200		N II	1709.663		P	Si I	1730.492	10	A
Si I	1699.122	1	A	P V	1710.065	4		Ne II	1730.645	80	
Si I	1699.155	5	A	Mg I	1710.07			Na III	1730.71	0	
Na III	1699.293	500		Si I	1710.579	15	A	Mg III	1730.733	40	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
P III	1730.758	10		F III	1747.114	150		F III	1761.444	6	
Mg III	1730.778	7		F II	1747.389	450		P I	1761.67	30	
N III	1730.863	10	Z	Si I	1747.4141	40		Mg III	1761.74		
F II	1731.047	40		Mg III	1747.561	200		Al II	1761.975	190	
Na III	1731.113	500		Mg I	1747.790	200	A	N III	1762.09	25	Z
N III	1731.561	10	Z	N III	1747.848	450	P	Na III	1762.13	10	
Mg III	1731.786	20		F III	1747.881	10		Al IV	1762.424	200	
Al III	1731.836			F III	1748.023	3		N III	1762.426	4	Z
Si V	1731.868	20		Si I	1748.616	5	A	N III	1762.592	4	Z
Cl II	1731.9759	100		N III	1748.646	25	P	Al I	1762.892	100	Z
N III	1732.089	10	Z	F III	1748.806	3		Si I	1762.999	1	
P V	1732.315	12		Mg III	1748.932	500		N III	1763.16	10	Z
N II	1732.428			Mg IV	1749.480	240		F III	1763.206	150	
Si I	1732.453	10	A	N III	1749.674	25		O III	1763.22	700	
F III	1732.945	100		F III	1749.766	35		Na II	1763.325	7	
F III	1733.200	6		Si I	1749.8076	3		N III	1763.51		Z
Si I	1733.344	15	A	Al II	1750.612	60		N II	1763.639	100	
Ar II	1733.372	100		F III	1750.640	10		Si I	1763.6607	80	
Al IV	1734.24	40		Mg II	1750.6637	400		Ar II	1763.669	50	
Al III	1734.243			Ar II	1750.694	50		Ne II	1763.727	20	
Al III	1734.253			Ne II	1751.216	60		Mg III	1763.805	30	
F II	1734.494	10		N III	1751.218	300	P	N III	1763.84	60	Z
Si I	1734.718	50	A	F III	1751.276	6		Na II	1763.841	30	
Mg II	1734.8523	400		N III	1751.657	500	P	Al II	1763.869	255	
P III	1734.867	40		Ar II	1751.679	200		C I	1763.909	120	
P II	1734.88	1		Ne II	1751.698	80		Al II	1763.952	315	
Ar II	1735.378	50		C I	1751.8277	800		S	1764.	10	N
F III	1735.417	35		Na III	1752.06	20		N III	1764.218	4	Z
Mg IV	1736.067	260		N III	1752.160		P	O III	1764.48	700	
Si I	1736.539	25	A	Na II	1752.185	12		N III	1764.79	4	Z
Ar II	1736.834	100		Si I	1752.624	10	A	Ne II	1765.015	30	
Si I	1737.269	5	A	Na III	1752.65	60	Q	Si I	1765.0296	90	
Ne II	1737.341	50		F III	1752.694	1		N II	1765.140	50	
Mg II	1737.6283	500		Si I	1753.101	20	A	C I	1765.366	50	
Na I, I	1737.711	400		Mg II	1753.4744	500		Si I	1765.6215	50	
F III	1738.041	200		F III	1753.518	60		Al I	1765.632	200	Z
Ne II	1738.736	80		Mg I	1753.84			N II	1765.680		P
Mg III	1738.835	600		N III	1753.986	4		Al II	1765.815	190	
S IV	1739.03	50		Al IV	1754.120	20		Ne II	1765.898	70	
Mg III	1739.475	7		P I	1754.40	90		Si I	1765.945	10	A
Al II	1739.738	50		Be III	1754.69	50		Cl VIII	1766.0		
Si I	1739.993	5	A	Na III	1754.97	10		N III	1766.059	25	Z
Si I	1740.2988	20		Li II	1755.331	100		Si I	1766.0627	100	
N II	1740.310	400		Al IV	1755.431	100		N II	1766.079	100	
Si I	1740.597	20	A	Na III	1755.475	200		O III	1766.34	400	
Na III	1741.33	20		Ar II	1755.819	100		Si I	1766.3541	50	
P IV	1741.345	4		P I	1755.85	9		Al I	1766.381	200	Z
N I	1742.7189	50		P I	1756.65	9		Na III	1766.700	160	
N I	1742.7306	350		P III	1756.798	40		Cl II	1767.2027	200	
Ar XI	1742.86		F, P	Na II	1756.817	10		Na III	1767.21	10	
Ne II	1742.869	70		Ne II	1756.835	80		Cl VI	1767.7		
N II	1743.197	200		Mg III	1757.176	4		Al II	1767.731	225	
N II	1743.228			Si I	1757.2827	3		O III	1767.78	1000	
Na II	1743.309	15		P I	1757.47	60		P III	1767.818	25	
Si I	1743.8941	20		P III	1757.626	60		Ne II	1767.900	10	
Mg III	1743.947	4		Mg III	1757.888	20		F III	1768.038	200	
Ne II	1744.277	50		P I	1757.95	60		Ar II	1768.043	100	
Ne II	1744.416	80		Ne II	1758.105	70		Ne II	1768.085	10	
Mg IV	1744.674	280		Ne II	1758.555	80		O III	1768.24	900	
F II	1744.745	200		Ne II	1758.590	20		P I	1768.45	60	
Mg III	1745.009	2		F III	1758.956	150		Na II	1768.603	7	
N II	1745.046			Na II	1759.572	30		P I	1768.94	45	
N II	1745.076			Si I	1759.5831	10		Al I	1769.133	200	Z
N I	1745.2482	150		F III	1759.792	3		O III	1769.32	400	
N II	1745.256			P I	1759.91	30		Si I	1769.461	5	A
N I	1745.2600	50		Al II	1760.104	210		F III	1769.529	6	
Si I	1745.3475	25		O III	1760.12	700		Si I	1769.7859	70	
S IV	1745.42	100		C II	1760.3954 ST	450		Na	1769.878	30	N
F II	1745.550	300		P I	1760.40	45		F III	1770.092	400	
Si I	1745.646	5	A	O III	1760.42	500		Si I	1770.6295	125	
Si I	1745.916	5	A	C II	1760.4735 ST	100		Ar II	1770.658	100	
Na III	1746.39	10		Si I	1760.600	1	A	Si I	1770.659	10	P
F III	1746.545	1		C II	1760.6191 ST	300		F III	1770.668	700	
N III	1746.822		P	Na III	1761.018	60		Si I	1770.9223	300	
Na II	1746.996	0		Na III	1761.428	60		F III	1770.963	10	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na III	1771.35	40		Na II	1785.989	12		Na II	1801.256	45	
O III	1771.67	900		Si III	1786.371			Na III	1801.267	60	
Ar II	1771.829	200		F III	1786.436	1		N III	1801.639	4	Z
S	1772	10	N	Si III	1786.438			F III	1802.181	60	
Cl VI	1772.0			Si III	1786.515			N III	1802.365	40	Z
Cl II	1772.0258	200		Si II	1786.817	4	Z	Si III	1803.023	60	
Si I	1772.2254	12		Cl II	1786.8508	50		F III	1803.027	300	
P II	1772.30	30		Si I	1787	13		Mg III	1803.087	4	
O III	1772.31	400		Cl II	1787.1723	140		Ne II	1803.114	30	
P IV	1772.661	1		Na II	1787.189	80		N III	1803.255	4	Z
N II	1772.735			Si II	1787.538	8	Z	N III	1803.525	4	Z
Al II	1772.832	10		P I	1787.65	540	P	Ne II	1803.732	70	
F III	1772.925	300		Ar XII	1787.88		F, P	Na II	1803.833	15	
Mg I:	1772.982	350		Mg III	1787.927	12		F III	1804.073	200	
O II:	1773.00	500		Ar II	1788.104	300		N III	1804.44		Z
F III	1773.363	600		F III	1788.110	1		N III	1804.486	150	
F III	1773.496	35		Na II	1788.846	45		Na	1804.623	30	N
Na	1773.550	12	N	Cl II	1789.0429	170		F III	1804.648	250	
O III	1773.85	500		N II	1789.402		P	Na III	1805.02	20	
Mg III	1773.959	2		O III	1789.61	700	P	P II	1805.11	30	
Al II	1774.002	25		Ne II	1789.613	20		N III	1805.669	200	
Si I	1774.076	5	A	Si I	1790.2548	25		Na III	1805.764	140	
F III	1774.104	150		Na II	1790.562	2		F III	1805.896	900	
P III	1774.226	25		Na II	1791.224	35		Mg VI	1805.93		F, P
Al II	1774.770	10		Mg III	1791.375	20		Na II	1805.998	12	
P I	1774.95	750	P	Mg III	1791.40			Na II	1806.061	10	
F III	1775.079	60		F III	1791.445	3		P II	1806.12	150	
Na III	1775.32	10		Ar II	1791.561	100		Na V	1806.170	25	Q
Mg III	1775.942	4		Na IV	1791.629	285		Na III	1806.229	140	
Re II	1776.100	500		F III	1791.648	800		Mg VI	1806.62		F, P
Al II	1776.19	1		Na II	1791.862	30		P II	1806.67	50	
Be II	1776.307	1000		Cl II	1792.1767	185		Ne II	1806.671	5	
Na II	1776.571	90		Cl II	1792.2707	10		Na III	1806.684	140	
Ar II	1776.672	100		Cl II	1792.9286	125		Na	1806.704	20	N
Si I	1776.8241	150		Cl II	1793.1533	200		Na III	1807.070	300	
Al II	1776.975	100		Mg III	1793.207	4		Na II	1807.092	90	Q
F III	1777.358	60		Ar II	1793.435	50		Si I	1807.3108	550	
Al II	1777.825	3		Ne III	1793.70		F, P	Al II	1807.417	70	
F III	1777.846	35		Cl II	1794.2533	140		Al II	1807.585	20	
Cl II	1778.1019	60		Mg III	1794.582	300		Al II	1807.651	1	
Na II	1778.243	40		Ar II	1795.10	30	Q	Mg IV	1807.746	120	
Na II	1778.282	30		Na II	1795.772	1		Si II	1808.0117	150	
Na III	1778.402	140		Si IV	1796.162			Mg IV	1808.286	320	
Si III	1778.715			Si IV	1796.166			Na II	1808.375	60	
Cl II	1778.7350	2		Ne II	1796.516	70		Si I	1808.4301	20	
Ne II	1778.747	30		P X	1797.1		F, P	Cl III	1808.51	400	
Na II	1778.905	0		Ne II	1797.198	30		Si I	209.1047	100	
O III	1779.08	700		Mg IV	1797.271	220		Na III	1810.071	40	
C III	1779.09	10		N III	1797.277	1	Z	Cl III	1810.26	100	
F III	1779.778	6		Si I	1797.3560	6		Na III	1810.767	200	
Na II	1779.906	0		Si IV	1797.496			N V	1811.08	30	
N II	1780.551			P II	1797.54	10		N V	1811.62	35	
O III	1780.95	600	P	P IV	1797.638	1		Na III	1811.671	220	
Cl II	1781.0431	60		Cl II	1797.9035	160		Ar II	1812.475	50	
Si I	1782.2626	50		Cl III	1797.98	200		Na III	1812.555	160	
Ar II	1782.596	100		Ne II	1798.281	80		S II	1813	10	
P I	1782.83	600	P	P II	1798.37	5		Ar I:	1813.014	100	
Na III	1782.92	240		Na II	1798.410	80		Si I	1813.27	1	
Cl II	1783.0131	50		N III	1798.733	4	Z	Cl II	1813.75	10	
Na II	1783.043	60		P II	1799.10	50		Ar II	1813.766	100	
Si III	1783.079			Si I	1799.1193	30		Si I	1814.0794	250	
Si III	1783.146			N III	1799.180	4	Z	Na III	1814.35	60	
Si I	1783.2315	25		N III	1799.660	4	Z	Cl II	1814.43	10	
Mg III	1783.253	550		P II	1799.91	20		Na II	1814.474	25	
Cl VI	1783.3			Na II	1800.048	25		Ne III	1814.63		F, P
Na III	1783.460	180		N III	1800.131	25	Z	Cl II	1815.16	10	
Na II	1783.475	15		Mg IV	1800.167	340		Cl II	1815.61	10	
Cl II	1783.7251	185		P II	1800.27	20		Ar II	1815.98	15	Q
Ne II	1783.783	30		Mg	1800.28	100	N	Ar II	1816.14	10	
Si I	1784.0884	8		Si I	1800.406	1	A	Na III	1816.812	200	
Cl II	1784.6792	100		F III	1800.505	100		Si II	1816.9278	200	
O III	1784.85	600		Mg III	1800.662	350		Si II	1817.4511	10	
Cl II	1785.0445	170		Ne II	1800.733	70		Na III	1817.617	160	
Cl II	1785.3314	125		N III	1800.789	10	Z	Cl III	1817.68	400	P
Ar II	1785.672	100		Si I	1801.003	6	P	B I	1817.843	150	

Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes	Element	λ_{vac} (m Å)	Rel. Int.	Notes
Si I	1817.9562	10		N II	1836.72	100		N III	1846.694	60	Z
B I	1818.348	200		Cl II	1836.2912	140		Mg III	1846.707	7	
Al II	1818.352	50		Na II	1836.367	2		P II	1846.78	20	
Al II	1818.392	3		Cl II	1836.3726	125		S VI	1847.1	10	P
Na II	1818.473	5		P II	1836.47	10		P I	1847.19	300	
Al IV	1818.563	1000		Si I	1836.5102	200		Ne II	1847.249	5	
Na II	1818.628	7		Cl II	1836.6459	160		F III	1847.462	150	
Na II	1819.024	20		N I	1836.712	4		Si I	1847.4737	300	
Al II	1819.285	1		N I	1836.724	50	P	Na III	1847.527	240	
Mg III	1819.954	2		Al II	1836.964	60		Mg III	1847.561	2	
Al II	1820.124	2		P II	1837.51	20		Na III	1847.589	200	
S I	1820.3426	500		Na II	1837.522	15		N II	1848.002	10	
Mg III	1820.421	20		Cl II	1837.7447	85		Si I	1848.1504	200	
Mg III	1820.896	2		F III	1837.815	1		O III	1848.26	500	
Na II	1821.695	50		F III	1837.880	100		P IV	1848.318	10	
Si IX	1821.9		F, P	Na II	1837.890	45		F III	1848.431	200	
Si I	1822.4553	30		Si I	1838.0120	40		P IV	1848.579	1	
Cl III	1822.50	600		Ar XII	1838.03		F, P	Cl III	1848.74	10	
Na II	1822.568	5		Na III	1838.122	400		Si I	1848.7480	250	
Ar II	1823.205	100		Mg III	1838.336	12		Ne II	1848.823	70	
Na II	1824.098	0		Si III	1838.466			Al II	1848.888	1	
Na IV	1824.113	110		F III	1838.568	20		P I	1849.05	3	
Na III	1824.52	10		Na III	1838.944	500		Al II	1849.15	2	
Cl III	1824.59	300		Na II	1839.270	20		P IV	1849.176	4	
Ar II	1824.842	50		F III	1839.301	300		Ne II	1849.381	90	
Si I	1825.021	10	A	Al II	1839.39	0		N II	1849.414	100	
Ne II	1825.343	80		N III	1839.541	25		P I	1849.52	9	
Na III	1825.44	200		Si III	1839.585			Cl III	1849.56	10	P
Na II	1825.730	7		Na II	1839.835	25		Na III	1849.564	750	
B I	1825.891	300		Mg III	1839.878	7		Mg III	1849.591	2	
S I	1826.2451	450		N I	1839.931			P I	1849.84	105	
S XI	1826.32	3	F, P	F III	1839.968	400		Mg III	1850.060	7	
B I	1826.400	300		Na II	1840.032	20		Na II	1850.150	45	
Ne II	1826.667	5		Si I	1840.0418	8		Na II	1850.24	400	
Mg III	1826.750	2		F III	1840.140	300		Na III	1850.379	600	
Ne II	1826.829	90		F III	1840.930	10		P II	1850.61	20	
Mg I	1827.935	300	A	N II	1840.983	100		Si I	1850.6719	400	
Cl III	1828.40	500		Si I	1841.1520	125		F III	1850.889	3	
Al II	1828.588	290		Si I	1841.4490	400		Na II	1851.194	70	
P II	1828.63	30		N III	1841.718	10		P I	1851.22	240	
Mg III	1828.974	2		Na II	1841.822	60		Si I	1851.7829	70	
Si I	1829.8975	10		Si III	1842.064			N II	1851.810		
Na II	1830.124	20		N II	1842.284	10		P I	1852.09	120	
N II	1830.527	1		F III	1842.326	1		Cl III	1852.11	200	
F III	1830.567	3		Ne II	1842.341	70		P V	1852.241	4	
Ar II	1830.770	500		Si I	1842.547	180		P II	1852.27	20	
Na II	1831.172	12		B II	1842.811	300		Si I	1852.4717	250	
Na II	1831.402	1		Mg I	1843.32			F III	1852.539	3	
Ne II	1831.481	10		N II	1843.357	10		P II	1852.65	10	
Ar II	1831.527	520		Na III	1843.43	40		F III	1852.683	3	
P IV	1831.568	1		Si I	1843.7700	200		N II	1852.721		
N II	1831.586	10		Ne II	1843.908	80		Cl X	1853.0		F, P
P V	1831.925	1		P II	1844.06	5		Mg IV	1853.086	340	
Cl III	1832.08	400		P III	1844.077	100		Ne II	1853.115	90	
F III	1832.361	6		Mg IV	1844.151	320		Si I	1853.1521	35	
Na III	1832.39	140		N II	1844.259	10		Na II	1853.166	80	
P IV	1832.466	1		P I	1844.33	60		Ne II	1853.453	20	
Al II	1832.837	225		Na III	1844.362	550		F III	1854.028	35	
Cl III	1833.25	400	P	O V	1844.419	7	P	Ne II	1854.035	90	
F III	1833.322	3		Na II	1845.016	70		Mg III	1854.139	4	
F III	1833.791	3		Na III	1845.149	450		P II	1854.59	150	
Na II	1833.873	45		P I	1845.19	30		Al III	1854.716	1000	
Ne II	1833.910	80		Si I	1845.5203	230		Ne II	1854.976	20	
P I	1833.98	30		O V	1845.590	3	P	Ar II	1854.986	50	
N I	1834.011		P	O V	1845.601	2	P	N III	1855.232	4	Z
Ar II	1834.038	200		N II	1845.616	100		P I	1855.48	1	
P IV	1834.621	4		N III	1845.689	80	P, Z	Al II	1855.805	90	
Al II	1834.808	170		O V	1845.696	1	P	Na III	1855.92	500	
P I	1834.83	60		N III	1845.754	120	P, Z	Al II	1855.929	190	
F III	1834.997	100		N III	1845.865	120	Z	Ne IX	1855.98		P
Na II	1835.217	80		Ne II	1845.996	80		Mg III	1855.99		
Na III	1835.223	500		Si I	1846.1118	200		Si III	1856.062	20	
N III	1835.568	25		Mg III	1846.121	7		Al II	1856.096	90	
N I	1835.573		P	N III	1846.142	25	Z	Al II	1856.274	30	
F III	1835.712	200		N III	1846.415	150	Z	O III	1856.62	500	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na III	1856.71	500		Ar XI	1867.10		F, P	Na II	1881.912	160	
F III	1857.034	1		F III	1867.310	100		Mg III	1882.308	7	
P I	1857.04	45		Na III	1867.517	50		N V	1882.36	30	
Na II	1857.265	25		F III	1867.598	1		Ne II	1882.478	60	
Cl II	1857.4876	220		Mg III	1868.225	40		N V	1882.92	35	
Ne II	1857.565	30		N II	1868.240	10		Cl II	1883.1313	185	
Na II	1857.576	40		Ar II	1868.660	300		Na II	1883.460	20	
Cl II	1857.5769	185		F III	1868.690	10		Ne II	1883.796	80	
Cl II	1857.6594	210		Si II	1868.765	1		Na II	1883.804	20	
Cl II	1857.684	140		S	1869.	10	N	F III	1883.925	6	
N V	1857.69	45		Si II	1869.317	20		Na III	1884.69	60	
N II	1857.870	300		F III	1869.380	3		Cl II	1884.8108	3	
N V	1857.88	50		Na III	1869.43	20		F II	1885.047	10	
Ne II	1857.952	70		Si II	1870.227	15		N III	1885.058	350	
Al II	1858.026	315		Si II	1870.782	3		Na II	1885.091	50	
Mg III	1858.186	250		Ne II	1871.097	70		N III	1885.215	400	
Ne II	1858.408	80		Na II	1871.517	40		F II	1885.442	40	
Mg III	1858.451	7		F III	1871.923	10		F III	1885.587	3	
N III	1858.48	25	Z	Ne II	1872.291	50		Na II	1885.742	45	
N II	1858.545	200		P II	1872.36	1		F II	1886.147	100	
P I	1858.91	450		Na III	1872.45	20	Q	Ar II	1886.386	400	
Ne II	1859.017	20		Ar II	1872.58	100		F III	1886.464	6	
F III	1859.143	60		Ne II	1872.721	5		Mg III	1886.764	2	
Na III	1859.20	10	Q	O III	1872.86	800	P	F III	1886.950	3	
N II	1859.260	500		O III	1872.87	800		Na III	1886.96	400	
P V	1859.330	30		Mg III	1872.956	4		Mg III	1887.308	12	
Ne II	1859.361	80		Si I	1873.1036	25		Na III	1887.32	80	
P I	1859.43	450		Ar II	1873.140	600		Na III	1887.39	200	
Na III	1859.61	10		Mg III	1873.268	1		N II	1887.404	350	
N II	1859.636			Na II	1873.369	45		Ar II	1887.42	30	Q
B V	1859.911		P	Ne II	1873.492	20		Na III	1887.472	400	
Al II	1859.980	110		Ne II	1873.677	5		Si I	1887.6928	45	
Cl II	1860.1192	50		Ne II	1873.873	60		Cl II	1887.9334	100	
B V	1860.327		P	Na II	1874.098	15		Ne II	1888.107	100	
B V	1860.464		P	Na III	1874.22	10		Na III	1888.375	160	
N V	1860.5	85		Mg IV	1874.576	440		P IV	1888.523	650	
Na III	1860.61	50		Si I	1874.8423	175		F III	1888.530	10	
P I	1860.63	45		Na III	1874.85		P	Ar II	1888.782	400	
N III	1860.733	4	Z	O III	1874.94	800		Cl III	1888.97	10	P
Ne II	1861.137	50		Na II	1875.075	60		Si IX	1889.0		F, P
Na III	1861.211	500		Ne III	1875.522	200		Ar II	1889.029	600	
F III	1861.584	60		F IV	1875.64		F, P	F III	1889.076	20	
Si I	1861.693	1	A	Si I	1875.8129	30		Na II	1889.317	30	
Si I	1861.799	1	A	Ne II	1876.003	70		F IV	1889.39		F, P
F III	1861.814	35		Na III	1876.155	160		Ne II	1889.710	100	
F III	1861.912	3		P III	1876.302	1		F III	1889.711	1	
Al II	1862.081	5		F III	1876.348	1		Mg III	1890.380	40	
F III	1862.094	35		P II	1876.79	100		Na III	1890.59	60	
Al II	1862.311	400		Al II	1877.04	5		Na III	1890.754	300	
Na III	1862.40	120		Na II	1877.365	20		Ne II	1891.366	60	
N II	1862.588	200		Ne II	1877.387	30		Ne II	1891.730	5	
P IV	1862.762	250		Ar II	1877.523	400		Mg III	1891.970	7	
Al III	1862.790	600		Ne II	1877.679	40		Na III	1892.01	50	
Na	1862.832	20	N	Al II	1878.504	8		Si III	1892.030	60	
P IV	1862.893	120		F III	1878.580	1		Na III	1892.05	80	P
Na	1863.090	25	N	N II	1878.624	200		Si I	1893.252	175	
P IV	1863.580	200		P III	1878.828	4		F III	1893.273	3	
F III	1863.758	6		F III	1878.910	1		Ne II	1893.876	70	
P I	1863.78	3		Na III	1879.16	80		Mg IV	1893.888	500	
Na II	1863.898	15		Na II	1879.240	30		F III	1894.082	60	
P II	1864.22	150		Ar II	1879.420	100		C III	1894.29	200	
N II	1864.364			Si I	1879.432	7	P	Al IV	1894.48	50	
P I	1864.37	105		Mg III	1879.492	200		Cl II	1894.5004	2	
P I	1864.64	3		P II	1879.62	250		F III	1894.779	1	
Si I	1865.028	1	A	Ar II	1879.790	200		Si VII	1894.83		F, P
Na II	1865.139	35		Ne II	1879.884	50		Ne II	1895.072	10	
Na III	1865.177	160		Na	1880.040	25	N	Si I	1895.461	1	
Mg III	1865.388	1		Cl III	1880.10	300		Ne II	1895.840	5	
Na	1865.433	20	N	Ne II	1880.210	50		Na III	1895.864	120	
Mg III	1865.636	12		Na III	1880.663	200		Mg III	1896.304	20	
F III	1865.701	1		Si I	1880.9657	5		Si I	1896.339	1	
Ar II	1866.089	100		Na	1881.090	35	N	N VI	1896.82	300	
Na II	1866.452	45		Al IV	1881.159	700		Mg III	1897.226	7	
N II	1866.457			Ne II	1881.690	70		Na III	1897.350	140	
F III	1867.050	6		Si I	1881.8538	30		Ar II	1897.352	50	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Al II	1897.401	10		P IV	1910.183	200		Mg III	1923.896	200	
Al II	1897.460	3		Si II	1910.621	50		Na III	1923.963	220	
Al II	1897.500	1		Na III	1910.660	120		Ne II	1924.166	70	
Cl III	1897.80	300	P	Cl II	1910.7442	160		Mg III	1924.479	30	
Ne II	1897.810	40		P III	1910.780	4		Al II	1924.754	50	
Be IV	1898.258		P	Al II	1910.825	80		Al II	1924.825	30	
Ar II	1898.36	15	Q	Cl II	1910.8830	100		Al II	1924.879	10	
Be IV	1898.452		P	Al II	1911.013	15		S	1925.	10	N
Be IV	1898.519		P	Ar II	1911.053	50		Na III	1925.189	160	
F III	1898.631	100		Si II	1911.265	0		Mg IV	1925.742	240	
Al II	1899.194	25		Al III	1911.817			Al II	1926.029	60	
Ar II	1899.287	100	Q	Be I	1912.53	100		Na III	1926.21	400	P
F I I	1899.373	1		F III	1912.543	10		Na III	1926.259	700	
Na I I	1899.523	30		Cl XI	1912.89		F, P	B II	1926.65	10	
Na I I	1899.718	180		Cl III	1912.90	400		Na III	1926.711	160	
Ne II	1899.802	40		P III	1912.974	10		O III	1926.94	500	
Ar II	1899.847	100		Al III	1913.166			Al II	1926.948	20	
Mg VI	1900.04	100		Na III	1913.190	450		C II	1927.02	5	Q
Mg III	1900.043	20		P VIII	1913.7		F, P	Al II	1927.070	10	
Na III	1900.164	300		Cl III	1914.09	300		Al II	1927.13	0	
Ne II	1900.189	40		Ar III	1914.40	450		Ar I I	1927.19	10	Q
P IV	1900.244	40		Ar III	1914.65	150		Na III	1927.237	550	
S I	1900.2863	550		S I	1914.6982	350		B II	1927.45	1	
Ar II	1900.638	400		Ne II	1914.729	30		Ne II	1927.549	5	
Ne II	1900.695	5		Na III	1914.91	0		Na I I	1927.59	60	
F III	1900.760	150		Na III	1915.436	0		B II	1927.78	1	
Si I	1901.3377	400		Ar I I	1915.56	0		Mg III	1928.198	2	
Mg III	1901.360	4		Na III	1916.000	50		C II	1928.30	10	Q
Li I	1901.50		ZZ	Ne II	1916.083	500		P II	1928.30	5	
Mg III	1901.572	20		N III	1916.41	4	P, Z	Mg III	1928.424	30	
Cl III	1901.61	500		Cl III	1916.53	400		Li III	1928.552		P
Si II	1902.459	100	Z	N III	1916.849	4	Z	Li III	1928.677		P
P IV	1902.649	90		Na III	1917.344	450		Li III	1928.721		P
Cl X	1903.			N III	1917.572	1	Z	Ne II	1928.786	60	
Na II	1903.831	15		F III	1917.766	1		Mg III	1928.811	4	
F III	1904.247	60		Ar II	1917.79	30	Q	Mg III	1929.080	1	
Al II	1904.326	8		Cl III	1917.87	400		Na III	1929.624	60	
Si II	1904.326	5	Z	Ar III	1918.06	50		Ne II	1929.643	60	
Ne II	1904.510	70		Na III	1918.453	500		Be I	1929.71	300	
Si I	1904.6647	40		Be III	1918.46	30	P	F II	1929.791	10	Z
Ne II	1904.691	5		Na III	1918.46	240	P	Al II	1929.978	150	
P IV	1904.777	150		N III	1918.53	10	Z	Ne II	1930.028	300	
F III	1904.834	35		Ar III	1918.67	200		Na III	1930.293	120	
P I	1905.48	90		Mg III	1918.777	20		Ne II	1930.335	60	
Na III	1905.674	60		N III	1918.87	40	Z	Mg III	1930.374	7	
Si II	1905.878	3	Z	Ar II	1919.199	300		Mg III	1930.672	250	
Na II	1906.112	15		N III	1919.288	90	Z	S VI	1930.8	10	P
P I	1906.40	60		Ar III	1919.52	200		C I	1930.9054	1000	
Al I	1906.408	25		N III	1919.547	150	Z	Al II	1931.048	125	
Ne II	1906.502	60		N III	1919.768	150	Z	Ar II	1931.419	100	
Al II	1906.596	4		Be I	1919.80	200		S IV	1932.		
Al II	1906.674	8		Na III	1919.93	80		Cl VIII	1932.0		
Mg IV	1906.723	360		Ar II	1920.007	200		Ar II	1932.230	200	
N III	1906.847	40	Z	O III	1920.04	600		Al I	1932.255		P, Z
Na III	1907.01	400		Na III	1920.12	120		Al II	1932.377	150	
Na III	1907.12	450		Ne II	1920.181	80		Na III	1932.737	600	
Be I	1907.16	100		Cl III	1920.32	400		Ne II	1932.754	70	
Na III	1907.18	200	P	N III	1920.654	300	Z	Ne II	1933.529	90	
N III	1907.209	90	Z	O III	1920.75	500		Mg III	1933.563	40	
N VI	1907.34	200		N III	1920.838	150	Z	Ne II	1933.642	10	
Ne II	1907.493	200		N III	1921.299	200	Z	Ar II	1933.694	200	
P I	1907.66	120		Mg III	1921.374	2		Na III	1933.885	650	
N VI	1907.87	200		O III	1921.52	500		Na III	1934.335	60	
N III	1907.916	100	P, Z	Al II	1922.16	1		Al II	1934.503	225	
Ar II	1907.988	400		Mg III	1922.540	2		Al II	1934.713	125	
S IV	1908.	10		Na III	1922.58	60		Na III	1935.54	10	Q
N III	1908.080	150	P, Z	Mg III	1922.788	1		Al III	1935.840	300	
Na III	1908.15	60		C III	1922.96	300		Al III	1935.863	15	
Mg III	1908.500	100		Mg III	1923.042	20		Al III	1935.949	200	
C III	1908.734			Cl II	1923.1553	160		Ne II	1936.417	30	
N III	1908.936	25	Z	C III	1923.16	200		Al I	1936.448		P, Z
Be II	1909.		ZZ	Ne II	1923.226	5		S II	1936.71	300	
F III	1909.375	1		C III	1923.34	200		Na III	1936.815	120	
Ar II	1909.5689 ST	50		O III	1923.49	700		Al II	1936.907	125	
Na III	1909.806	160		O III	1923.82	500		Mg IV	1936.931	200	

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Na III	1937.03	60		Mg III	1954.831	7		Na III	1975.43	10	
Ar II	1937.041	100		Si I	1954.9681	50		Na III	1975.617	60	
B II	1937.2			Be III	1954.97	500		Na III	1976.700	160	
Mg III	1937.539	1		S	1955.	10	N	Ar II	1976.765	300	
Cl II	1937.5678	125		P I	1955.16	21		Na III	1977.161	500	
Mg III	1937.78			Na III	1955.326	150		Ar II	1977.200	20	Q
Mg III	1937.843	156		P I	1955.79	21		Mg III	1977.554	60	
Mg III	1938.249	7		Na III	1956.314	300		Si I	1977.5978	400	
P IV	1938.403	4		Mg IV	1956.548	340		Ne II	1977.657	70	
Na III	1938.41	80		Be I	1956.67	100		C III	1979.16	100	Z
Cl II	1938.4724	80		Cl II	1957.3047	65		Si I	1979.2056	400	
Na III	1938.637	120		O II	1957.49	10		Si III	1979.233		
Ne II	1938.826	200		Ar III	1957.83	50		Mg III	1979.327	80	
Mg III	1938.936	7		Si I	1957.965	1		Mg III	1979.43		
Al IV	1939.022	300		Ar XII	1958.10		F, P	Cl III	1979.46	300	
Cl II	1939.0336	60		Al II	1958.247	8		C III	1979.62	50	Z
Al II	1939.261	150		S II	1958.45	300		Li I	1980.59		ZZ
F III	1939.44		F, P	Al II	1958.77	1		Si I	1980.6185	300	
F III	1939.47		F, P	Al II	1959.00	0		Na III	1980.95	10	
Na III	1939.559	60		Cl II	1959.1619	140		S II	1981.64	200	
Ne II	1939.875	70		F II	1959.758	1		Ar II	1981.74	100	Q
Ar II	1941.0724 ST	300		Ne II	1959.994	60		Ne VII	1981.974	600	
Mg III	1941.500	12		F II	1960.255	10		Ne II	1982.576	40	
Na III	1941.61	10		Al II	1960.322	3		Si I	1983.2330	300	
Si II	1941.667	50	Z	O II	1960.34	100		Ar II	1983.299	100	
Na III	1941.77	10		Na III	1960.64	240	P	Cl III	1983.61	500	
Mg III	1942.036	4		Al II	1960.646	3		Al II	1983.650	10	
Ar II	1942.13	30	Q	Na IV	1960.760	650		Na IV	1983.746	110	
Na III	1942.19	120		Al II	1960.846	10		Ar II	1983.829	100	
Cl II	1942.8687	65		F II	1960.984	40		Si I	1984.0719	3	
S	1943.	10	N	Ar II	1961.3610 ST	400		Si I	1984.4400	20	
Na III	1943.047	80		Ne II	1961.772	60		Si IX	1984.68	7	F, P
Cl II	1943.2155	35		Mg III	1962.145	7		Cl VI	1985.0		
Na III	1943.347	180		Ar II	1962.161	300		Na IV	1985.03	70	
Na III	1943.516	200		O II	1962.27	300		S II	1985.07	200	
Be I	1943.72	500		Al II	1962.590	70		Be I	1985.17	300	
Si II	1944.586	15	Z	Al II	1962.645	8		Mg III	1985.173	12	
Ne II	1944.883	60		Al II	1962.691	60		Na III	1985.567	650	
Na II	1944.99	60		Al II	1962.735	70		P IV	1985.682	120	
Cl II	1945.1017	15		Ar III	1962.74	100		P IV	1985.851	150	
Ne II	1945.458	100		Al II	1962.763	50		P IV	1986.114	200	
Si II	1945.504	3	Z	Cl II	1962.853	40		Si I	1986.3640	500	
P II	1945.54	50		Cl II	1963.211	30		P IV	1987.022	150	
Mg IV	1946.117	360		F III	1963.439	20		S IX	1987.12		F, P
Na	1946.206	35	N	O II	1963.86	200		Na IV	1987.140	220	
Na III	1946.426	600		S	1964.	10	N	C II	1987.33	40	
Na III	1946.48	300	P	O II	1964.35	10		C II	1987.76	120	
Ar II	1946.795	200		Be I	1964.63	900		C II	1988.09	80	
Na III	1946.82	10		Al II	1964.990	40		C II	1988.51	40	
N III	1947.049	40		Na IV	1965.078	550		Ar II	1988.620	300	
Na III	1947.324	20		Al II	1965.316	10		Al II	1988.699	3	
Si II	1947.769	1	Z	F III	1965.726	35		Si I	1988.9937	1000	
Na	1948.531	7	N	Ar II	1966.953	100	Q	Ne II	1989.036	80	
F III	1948.731	10		Na IV	1967.601	450		P X	1989.1		F, P
N III	1949.285	90		Na III	1968.23	80		Na III	1990.240	160	
Si II	1949.331	10	Z	Cl II	1968.251	35		Cl XI	1990.32		F, P
Ne II	1949.450	5		Na	1968.279	25	N	Al II	1990.531	315	
Si II	1949.564	100	Z	Na IV	1968.441	360		Na III	1990.989	400	
Ne II	1949.696	70		Na III	1970.221	40		Al II	1991.05	1	
N III	1949.909	40		S II	1970.86	400		N II	1991.301	10	
Ne II	1950.276	40		Na III	1970.986	50		Na III	1991.633	100	
Cl II	1950.3642	70		Na IV	1970.986	70		Si I	1991.8537	50	
S II	1950.45	300		Mg III	1971.514	4		Si I	1991.9369	8	
Cl II	1950.8992	45		Ne II	1971.621	20		Ne VII	1992.060	300	
Na III	1950.906	600		Cl X	1972.0		F, P	S VI	1992.5	50	P
Na III	1951.237	700		Na IV	1972.233	360		Ar II	1993.555	20	Q
N III	1951.521	25		Ar II	1972.274	200	Q	C I	1993.620	50	
Ne II	1951.727	80		Na III	1972.780	140		Mg III	1993.759	7	
N III	1952.330	10		Ar II	1973.4837 ST	200		Mg III	1994.089	4	
N III	1953.784	25		Ar III	1973.78	200		Ne II	1994.095	90	
N III	1953.957			Na III	1973.86	10		Ne II	1995.280	50	
Si III	1953.968			Na III	1974.150	400		Na III	1995.675	500	
P I	1954.01	12		Ar II	1974.462	300		P IV	1996.443	1	
Ne II	1954.048	70		Mg III	1974.737	12		Cl II	1996.7136	160	
P I	1954.20	21		Na IV	1975.148	220		Cl II	1997.2619	85	

1997.345

1999.3406

Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes	Element	λ_{vac} (in Å)	Rel. Int.	Notes
Ne VII	1997.345	100		Be I	1998.07	600		Cl II	1998.6950		
Cl II	1997.3705	210		Na III	1998.584	100		S II	1998.80	200	
Be I	1997.95	100		Na IV	1998.584	70		Cl II	1999.0230		
Cl II	1997.9784			Cl II	1998.5853			Cl II	1999.3406		
Be I	1997.98	300		Ne II	1998.667	20					

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REFERENCES

2. Andersson, E. and G.A. Johannesson, *Physica Scripta* 3, 203-10 (1971)
34. Bockasten, K., *Ark. Fys.* 9, 457-81 (1955)
36. Bowen, I.S., *Phys. Rev.* 29, 231-47 (1927)
38. Bowen, I.S., *Phys. Rev.* 31, 34-8 (1928)
41. Bowen, I.S., *Phys. Rev.* 39, 8-15 (1932)
43. Bowen, I.S., *Phys. Rev.* 45, 401-4 (1934)
44. Bowen, I.S., *Phys. Rev.* 46, 377 (1934)
51. Bowen, I.S. and R.A. Millikan, *Phys. Rev.* 25, 591-9 (1925)
52. Bowen, I.S. and R.A. Millikan, *Phys. Rev.* 25, 295-305 (1925)
57. Boyce, J.C., *Phys. Rev.* 46, 378-81 (1934)
59. Boyce, J.C., *Phys. Rev.* 48, 396-402 (1935)
60. Boyce, J.C., *Phys. Rev.* 49, 351 (1936)
71. Bockasten, K., R. Hallin and T.P. Hughes, *Proc. Phys. Soc.* 81, 522-30 (1963)
72. Bockasten, K., R. Hallin, K.B. Johansson and P. Tsui, *Physics Letters (Neth.)* 8, 181-2 (1964)
83. Bockasten, K. and K.B. Johansson, *Ark. Fys.* 38, 563-84 (1968)
86. Bromander, J., *Ark. Fys.* 40, 257-74 (1969)
87. Brown, R.T., *Astrophys. J.* 158, 829-37 (1969)
89. Burton, W.M. and A. Ridgeley, *Solar Physics* 14, 3-28 (1970)
90. Berry, H.G., *J. Opt. Soc. Am.* 61, 983 (1971)
92. Bashkin, S. and I. Martinson, *J. Opt. Soc. Am.* 61, 1686-92 (1971)
93. Behring, W.E., L. Cohen and U. Feldman, *Astrophys. J.* 175, 493-523 (1972)
94. Berry, H.G., M.C. Buchet-Poulizac and J.P. Buchet, *J. Opt. Soc. Am.* 63, 240-41 (1973)
95. Buchet, J.P. and M.C. Buchet-Poulizac, *J. Opt. Soc. Am.* 63, 243-44 (1973)
96. Brown, C.M., R.H. Naber, S.G. Tilford and M.L. Ginter, *Appl. Optics* 12, 1858-64 (1973)
102. Brown, C.M., S.G. Tilford and M.S. Ginter, *J. Opt. Soc. Am.* 64, 877-79 (1974)
103. Buchet, J.P. and M.C. Buchet-Poulizac, *J. Opt. Soc. Am.* 64, 1011-14 (1974)
106. Brown, C.M., S.G. Tilford, R. Tousey and M.L. Ginter, *J. Opt. Soc. Am.* 64, 1665-82 (1974)
107. Berry, H.G., R.M. Schectman, I. Martinson, W.S. Bickel and S. Bashkin, *J. Opt. Soc. Am.* 60, 335-44 (1970)
108. Bowen, I.S., *Astrophys. J.* 132, 1-17 (1960)
109. Barrette, L., D.J.G. Irwin and R. Drouin, *Physica Scripta* 12, 113-15 (1975)
110. Buchet, J.P. and M. Druetta, *J. Opt. Soc. Am.* 65, 991-94 (1975)
111. Bashkin, S., J. Bromander, J.A. Leavitt, and I. Martinson, *Physica Scripta* 8, 285-91 (1973)
113. Brillet, W.U.L. and M.C. Artru, *J. Opt. Soc. Am.* 65, 1399-1403 (1975)
116. Brillet, W.U.L., *Physica Scripta* 13, 289-92 (1976)
117. Buchet, J.P., M.C. Buchet-Poulizac and M. Druetta, *J. Opt. Soc. Am.* 66, 842-45 (1976)
123. Beyer, L.M., W.E. Maddox and L.B. Bridwell, *J. Opt. Soc. Am.* 63, 365-69 (1973)
124. Carroll, P.K. and E.T. Kennedy, *Phys. Rev. Letters* 28, 1068-71 (1977)
126. Berry, H.G., J. Desesquelles and M. Dufay, *Nucl. Instrum. Meth.* 110, 43-50 (1973)
127. Beyer, L.M., W.E. Maddox, L.B. Bridwell, D.D. Duncan, L.L. Bingham and J.C. Asbell, *Nucl. Instrum. Meth.* 110, 61-67 (1973)
132. Connerade, J.P., N.J. Peacock and R.J. Speer, *Solar Physics* 18, 63-71 (1971)
134. Clearman, H.E., *J. Opt. Soc. Am.* 42, 373-9 (1952)
135. Connerade, J.P., W.R.S. Garton and M.W.D. Mansfield, *Astrophys. J.* 165, 203-12 (1971)
138. Crawford, M.F. and A.B. McLay, *Proc. Roy. Soc. (London)* 143A, 540-57 (1934)

145. Codling, K., *Proc. Phys. Soc.* 77, 797-800 (1961)
152. Crooker, A.M., *Unpublished Information* (1966)
155. Dewhurst, R.J., M.A. Khan and G. J. Pert, *J. Phys. B* 8, 2301-10 (1975)
160. Deutschman, W.A. and L.L. House, *Astrophys. J.* 144, 435-7 (1966)
161. Deutschman, W.A. and L.L. House, *Astrophys. J.* 149, 451-2 (1967)
164. Edlen, B., *Ark. Fys.* 4, 441-52 (1952)
168. Edlen, B., *Nova Acta Reg. Soc. Sci. Uppsala (IV)* 9, No. 6, 153 pp (1934)
170. Edlen, B., *Z. Physik* 85, 85-106 (1933)
171. Edlen, B., *Z. Physik* 89, 179-82 (1934)
172. Edlen, B., *Z. Physik* 89, 597-600 (1934)
173. Edlen, B., *Z. Physik* 92, 19-26 (1934)
175. Edlen, B., *Z. Physik* 93, 726-30 (1935)
176. Edlen, B., *Z. Physik* 94, 47-57 (1935)
179. Edlen, B., *Z. Physik* 100, 725-33 (1936)
185. Edlen, B. and A. Ericson, *Nature* 125, 233-4 (1930)
191. Ekefors, E., *Z. Physik* 63, 437-43 (1930)
195. Ericson, A. and B. Edlen, *Z. Physik* 59, 656-79 (1930)
197. Edlen, B., *Reports on Progress in Physics* 26, 181-212 (1963)
198. Eriksson, K.B.S. and H.B.S. Isberg, *Ark. Fys.* 23, 527-41 (1963)
200. Eriksson, K.B.S., *Ark. Fys.* 13, 303-28 (1958)
209. Edlen, B., Private Communication
210. Eriksson, K.B.S. and H.B.S. Isberg, *Ark. Fys.* 37, 221-30 (1968)
211. Edlen, B., H.P. Palenius, K. Bockasten, R. Hallin and J. Bromander, *Solar Physics* 9, 432-38 (1969)
212. Edlen, B. and B. Lofstrand, *J. Phys. B* 3, 1380-88 (1970)
213. Ekberg, J.O. and L.A. Svensson, *Physica Scripta* 2, 283-97 (1970)
214. Eriksson, K.B.S. and J.E. Pettersson, *Physica Scripta* 3, 211-17 (1971)
217. Eidelsberg, M., *J. Phys. B* 5, 1031-37 (1972)
220. Ekberg, J.O., *Physica Scripta* 4, 101-09 (1971)
221. Eidelsberg, M., *J. Phys. B* 7, 1476-85 (1974)
224. Eriksson, K.B.S., *Physica Scripta* 9, 151-55 (1974)
226. Edlen, B., *Physica Scripta* 11, 366-70 (1975)
231. Ferner, E., *Ark. Mat. Astron. Fysik* 28A, No. 4, 21 pp (1942)
233. Ferner, E., *Ark. Mat. Astron. Fysik* 36A, No. 1, 65 pp (1948)
234. Feldman, U., L. Cohen and W. Behring, *J. Opt. Soc. Am.* 60, 891-93 (1970)
235. Feldman, U. and L. Cohen, *Astrophys. J.* 158, L169-70 (1969)
236. Flemberg, H., *Ark. Mat. Astron. Fysik* 28A, No. 18, 1-47 (1942)
238. Fawcett, B.C., *Report ARU-R2* (1971)
242. Fawcett, B.C., *ARU-R 4* (1972)
243. Fowler, A. and L.J. Freeman, *Proc. Roy. Soc. (London)* 114A, 662-89 (1927)
244. Fawcett, B.C., *J. Phys. B* 4, 1115-18 (1971)
246. Freeman, L.J., *Proc. Roy. Soc. (London)* 121A, 318-43 (1928)
247. Freeman, L.J., *Proc. Roy. Soc. (London)* 124A, 654-67 (1929)
248. Fawcett, B.C., A.H. Gabriel and T.W. Paget, *J. Phys. B* 4, 986-94 (1971)
249. Fawcett, B.C., R.A. Hardcastle and G. Tondello, *J. Phys. B* 3, 564-71 (1970)
250. Fawcett, B., *J. Phys. B* 3, 1152-63 (1970)
251. Fawcett, B., *J. Phys. B* 3, 1732-41 (1970)
252. Fawcett, B.C., B.B. Jones and R. Wilson, *Proc. Phys. Soc.* 78, 1223-6 (1961)
255. Fawcett, B.C., A.H. Gabriel, B.B. Jones and N.J. Peacock, *Proc. Phys. Soc.* 84, 257-62 (1964)
259. Fawcett, B.C., *Proc. Phys. Soc.* 86, 1087-9 (1965)
262. Fawcett, B.C. and F.E. Irons, *Proc. Phys. Soc.* 89, 1063-4 (1966)
271. Fawcett, B.C., N.J. Peacock and R.D. Cowan, *J. Phys. B* 1, 295-306 (1968)
274. Goorvitch, D. and F.P.J. Valero, *Astrophys. J.* 171, 643-45 (1972)
275. Goldsmith, S., L. Oren (Katz) and L. Cohen, *J. Opt. Soc. Am.* 63, 352-58 (1973)
276. Gabriel, A.H. and C. Jordan, *Mon. Not. Roy. Astr. Soc.* 145, 241-48 (1969)
277. Gibbs, R.C. and A.M. Vieweg, *Phys. Rev.* 34, 400-5 (1929)
280. Goldsmith, S., L. Oren, and L. Cohen, *Astrophys. J.* 188, 197-200 (1974)
283. Feldman, U., G.A. Doschek, D.J. Nagel, R.D. Cowan and R.R. Whitlock, *Astrophys. J.* 192, 213-20 (1974)
284. Goto, T., M.S. Gautam and Y.N. Joshi, *Physica* 66, 70-78 (1973)

285. Gilles, M., *Ann. Phys. (Paris)* 15, 267-408 (1931)
287. Glad, S., *Ark. Fys.* 7, 7-32 (1953)
295. Gabriel, A.H., B.C. Fawcett and C. Jordan, *Proc. Phys. Soc.* 87, 825-39 (1966)
304. Goldsmith, S., *J. Phys. B* 2, 1075-79 (1969)
306. Herzberg, G., *Proc. Roy. Soc.* 248A, 309-32 (1958)
307. Herzberg, G. and H.R. Moore, *Canad. J. Phys.* 37, 1293-313 (1959)
308. Herzberg, G., *Rep. of Commission on Wavelengths and Tables of Spectra.*, in *Trans. Int. Astronom. Union* 11A, 97-117 (1962)
309. Garcia, J.D. and J.E. Mack, *J. Opt. Soc. Am.* 55, 654-85 (1965)
313. Hallin, R., *Ark. Fys.* 31, 511-26 (1966)
322. Ingram, S.B., *Phys. Rev.* 32, 172-8 (1928)
323. Ingram, S.B., *Phys. Rev.* 33, 907-13 (1929)
332. Johansson, L., *Ark. Fys.* 20, 489-98 (1961)
333. Johansson, L., *Ark. Fys.* 23, 119-28 (1962)
334. Kamiyama, M., *Sci. Papers Inst. Phys. Chem. Res. (Tokyo)* 36, 375-84 (1939)
337. Keussler, V., *Z. Physik* 84, 42-55 (1933)
338. Keussler, V., *Z. Physik* 85, 1-3 (1933)
345. Kiess, C.C. and T.L. Debruin, *J. Res. Nat. Bur. Stand.* 23, 443-70 (1939)
370. Kaufman, V., L.J. Radziemski and K.L. Andrew, *J. Opt. Soc. Am.* 56, 911-15 (1966)
371. Kaufman, V. and J.F. Ward, *J. Opt. Soc. Am.* 56, 1591-97 (1966)
372. Kononov, E. Ya., *Optics and Spectros.*, 20, 283-4 (1966)
374. Kelly, R.L. and L.C. Gapenski, Unpublished (1970)
375. Kelly, R.L., Unpublished work prepared for this report
376. Kaufman, V. and J.F. Ward, *Appl. Optics* 6, 43-6 (1967)
379. Kaufman, V., Unpublished information
380. Kononov, E.Y. and K.N. Koshelev, *Optics and Spectros.* 29, 115-16 (1970)
381. Kononov, E.Y., K.N. Koshelev and A.N. Ryabtsev, *Optics and Spectros.* 30, 534-36 (1971)
382. Kaufman, V. and L. Minnhagen, *J. Opt. Soc. Am.* 62, 92-95 (1972)
383. Kernahan, J.A., A. Denis and R. Drouin, *Physica Scripta* 4, 49-51 (1971)
385. Kaufman, V., M.C. Artru and W.U.L. Brillet, *J. Opt. Soc. Am.* 64, 197-201 (1974)
386. Kononov, E.Ya., K.N. Koshelev and L.I. Podobedova, *Optics and Spectros.* 37, 1-3 (1974)
391. Knystautas, E.J. and R. Drouin, *J. Phys. B* 8, 2001-6 (1975)
392. Kernahan, J.A., E.H. Pinnington, A.E. Livingston and D.J.G. Irwin, *Physica Scripta* 12, 319-22 (1975)
398. Knystautas, E.J. and R. Drouin, *Natl. Instrum. Meth.* 110, 95-97 (1973)
420. Liden, K., *Ark. Fys.* 1, 229-67 (1949)
426. Lundstrom, T., *Physica Scripta* 7, 62-64 (1973)
427. Lundstrom, T. and L. Minnhagen, *Physica Scripta* 5, 243-48 (1972)
428. Lofstrand, B., *Physica Scripta* 8, 57-61 (1973)
434. Nicolosi, P. and G. Tondello, *J. Opt. Soc. Am.* 67, 1033-39 (1977)
440. Kastner, S.O., A.M. Crooker, W.E. Behring and L. Cohen, *Phys. Rev. A* 16, 577-82 (1977)
441. Moore, C.E., C.M. Brown, G.D. Sandlin, S.G. Tilford and R. Tousey, *Astrophys. J. Suppl.* 33, 393-414 (1977)
442. Sandlin, G.D., G.E. Brueckner and R. Tousey, *Astrophys. J.* 214, 898-904 (1977)
443. Widing, K.G., *Astrophys. J.* 197, L33-35 (1975)
446. Ivanov, L.N., E.P. Ivanova and U.I. Safronova, *J. Quant. Spectro. Radiat. Transfer* 15, 553-59 (1975)
459. Minnhagen, L., *J. Opt. Soc. Am.* 66, 659-67 (1976)
460. Carroll, P.K., R.E. Huffman, J.C. Larrabee and Y. Tanaka, *Astrophys. J.* 146, 553-57 (1966)
463. Firth, J.G., F.F. Freeman, A.H. Gabriel, B.B. Jones, C. Jordan, C.R. Negus, D.B. Shenton and R.F. Turner, *Mon. Not. Roy. Astr. Soc.* 166, 543-60 (1974)
485. Millikan, R.A. and I.S. Bowen, *Phys. Rev.* 25, 600-5 (1925)
487. Moore, C.E., *U.S. Nat. Bur. Stand., Circ.* 467, Atomic Energy Levels. Vol. I, 309 pp (1949), Vol. II, 227 pp (1952), Vol. III, 245 pp (1958)
488. Moore, C.E., *U.S. Nat. Bur. Stand., Circ.* 488, Sec. I, 78 pp (1950) Sec. II, 115 pp (1952)

496. Martin, W.C., *J. Opt. Soc. Am.* **49**, 1071-85 (1959)
497. Martin, W.C., *J. Res. Nat. Bur. Stand.* **64A**, 19-28 (1960)
501. Minnhagen, L., *Ark. Fys.* **14**, 483-95 (1958)
504. Moore, C.E., NSRDS-NBS 3, Section 1 (1965)
506. Minnhagen, L., *Ark. Fys.* **25**, 203-84 (1964)
507. Moore, C.E., NSRDS-NBS 3, Section 2 (1967)
508. Michels, D.J., Ph.D. Thesis, Univ. of Wisconsin (1970)
510. Moore, C.E., NSRDS-NBS 3, Section 3 (1970)
511. Moore, C.E., NSRDS-NBS 3, Section 4 (1971)
512. Minnhagen, L., *J. Opt. Soc. Am.* **61**, 1257-62 (1971)
513. Mansfield, M.W.D. and J.P. Connerade, *Astrophys. J.* **171**, 391-92 (1972)
516. Minnhagen, L. and H. Nietzsche, *Physica Scripta* **5**, 237-42 (1972)
517. Minnhagen, L., *J. Opt. Soc. Am.* **63**, 1185-98 (1973)
519. Mehlman, G. and J.M. Esteva, *Astrophys. J.* **188**, 191-95 (1974)
521. Moore, C.E., NSRDS-NBS 3, Section 5 (1975)
523. Moore, C.E., NSRDS-NBS 3, Section 7 (1975)
524. Magnusson, C.E. and P.O. Zetterberg, *Physica Scripta* **10**, 177-82 (1974)
525. Minnhagen, L., *Physica Scripta* **11**, 38-42 (1975)
532. Olme, A., *Physica Scripta*, **1**, 256-60 (1970)
533. Pihl, J., R. Sjodin, R. Hallin, J. Lindskog, A. Marelus, and K. Sharma, *Report TLU 45/76*, Tandem Accel. Lab., Univ. of Uppsala (1976)
534. Trabert, E., P.H. Heckmann, H.V. Buttler and K. Brand, *Z. Phys.* **A279**, 127-33 (1976)
535. Parker, W.L. and L.W. Phillips, *Phys. Rev.* **57**, 140-1 (1940)
536. Perevertun, V.M. and S.M. Mukhtarov, *Optics and Spectros.* **26**, 50-51 (1969)
537. Palenius, H.P., *Physica Scripta* **1**, 113-35 (1976)
538. Palenius, H.P., *Ark. Fys.* **39**, 15-64 (1968)
539. Palenius, H.P., *Ark. Fys.* **39**, 425-27 (1969)
541. Paschen, F. and P.G. Kruger, *Ann. Phys. (Leipzig)* **8**, 1005-16 (1931)
544. Paul, F.W. and H.D. Polster, *Phys. Rev.* **59**, 424-30 (1941)
546. Phillips, L.W., *Phys. Rev.* **53**, 248-9 (1938)
549. Phillips, L.W. and W.L. Parker, *Phys. Rev.* **60**, 301-7 (1941)
555. Peacock, N.J., *Proc. Phys. Soc.* **84**, 803-5 (1964)
558. Persson, W., *J. Opt. Soc. Am.* **59**, 285-87 (1969)
559. Peacock, N.J., R.J. Speer and M.G. Hooby, *J. Phys. B* **2**, 798-810 (1969)
561. Podobedova, L.I., E.Y. Kononov and K.N. Koshelev, *Optics and Spectros.* **30**, 217-20 (1971)
562. Palenius, H.P., Univ. of Lund (Sweden) Report (May, 1971)
563. Persson, W., *Physica Scripta* **3**, 133-55 (1971)
565. Poulizac, M.C. and J.P. Buchet, *Physica Scripta* **4**, 191-94 (1971)
592. Risberg, P., *Ark. Fys.* **9**, 483-94 (1955)
594. Robinson, H.A., *Phys. Rev.* **49**, 297-305 (1936)
596. Robinson, H.A., *Phys. Rev.* **51**, 14-18 (1937)
597. Robinson, H.A., *Phys. Rev.* **51**, 726-35 (1937)
598. Robinson, H.A., *Phys. Rev.* **52**, 724-5 (1937)
599. Ruedy, J.E., *Phys. Rev.* **44**, 757-60 (1933)
608. Radziemski, L.J. and K.L. Andrew, *J. Opt. Soc. Am.* **55**, 474-91 (1965)
610. Radziemski, L.J., K.L. Andrew, V. Kaufman and U. Litzen, *J. Opt. Soc. Am.* **57**, 336-40 (1967)
611. Radziemski, L.J. and V. Kaufman, *J. Opt. Soc. Am.* **59**, 424-43 (1969)
613. Radziemski, L.J. and V. Kaufman, *J. Opt. Soc. Am.* **64**, 366-89 (1974)
617. Ryabtsev, A.N., Unpublished Preprint (1975)
624. Aglitskii, E.V., V.A. Boiko, S.M. Zakharov, S.A. Pikuz and A.Ya. Faenov, *Soviet J. Quant. Electronics* **4**, 500-12 (1974)
626. Safronova, U.I., *Optics and Spectros.* **38**, 118-20 (1975)

628. Moore, C.E., NSRDS-NBS 3, Section 8 (1979)
629. Goldsmith, S., *J. Phys. B* 7, 2315-19 (1974)
636. Peacock, N.J., M.G. Hobby and M. Galanti, *J. Phys. B* 6, L298-304 (1973)
643. Boiko, V.A., A.Ya. Faenov and S.A. Pikuz, *J. Quant. Spectr. Radiat. Transfer* 19, 11-50 (1978)
644. Boiko, V.A., A.Ya. Faenov, S.A. Pikuz, I. Yu. Skobelev, A.V. Vinogradov and E.A. Yukov, *J. Phys. B* 10, 3387-94 (1977)
653. Sawyer, R.A. and R. Pascher, *Ann. Phys. (Leipzig)* 84, 1-19 (1927)
668. Shenstone, A.G., *Phys. Rev.* 72, 411-4 (1947)
677. Shenstone, A.G., Unpublished data (1958)
678. Shenstone, A.G., *Proc. Roy. Soc.* 261A, 153-74 (1961)
679. Lucatorto, T.B. and T.J. McIlrath, *Phys. Rev. Letters* 37, 425-31 (1976)
680. Kastner, S.O., A.K. Bhatia and L. Cohen, *Physica Scripta* 15, 259-67 (1977)
691. Soderqvist, J., *Ark. Mat. Astron. Fysik* 30A, No. 11, 1-20 (1944)
692. Soderqvist, J., *Ark. Mat. Astron. Fysik* 32A, No. 19, 1-33 (1946)
693. Soderqvist, J., *Nova Acta Reg. Soc. Sci. Uppsala* 9, No. 7, 102 pp (1934)
707. Schonheit, E., *Optik* 23, 409-35 (1966)
709. Sawyer, G.A., F.C. Jahoda, F.L. Ribe and T.F. Stratton, *J. Quant. Spectro. Radiat. Transfer* 2, 467-75 (1962)
712. Soroka, V.A., I.M. Kustanovich and L.S. Polak, *Optics and Spectros.* 27, 276 (1969)
715. Svensson, L.A., *Physica Scripta*, 1, 2461 (1970)
719. Sitterley, C.M., *Optica Pura y Apl.* 5, 147-58 (1972)
725. Sjodin, R., J. Pihl, R. Hallin, J. Lindskog, R. Märelus and K. Sharma, *Report UIIP-926*, Inst. of Phys., Univ. of Uppsala (1976)
726. Smitt, R., L.A. Svensson and M. Outred, *Physica Scripta* 13, 293-307 (1976)
728. Scofield, J.H., Report UCID-16848, Lawrence Livermore Lab, Univ. of Calif. (1975)
730. Sandlin, G.D., G.E. Brueckner, V.E. Scherrer and R. Tousey, *Astron. J.* 205, L47-L50 (1976)
731. Walker, A.B.C., Jr. and H.R. Rugge, *Astron. J.* 164, 181-90 (1971)
732. Yoshino, K., *J. Opt. Soc. Am.* 60, 1220-29 (1970)
733. Artru, M.C. and W.U.L. Brillet, *Physica Scripta* 16, 93-98 (1977)
734. Eidelsberg, M. and M.C. Artru, *Physica Scripta* 16, 109-13 (1977)
735. Engelhardt, W. and J. Sommer, *Astrophys. J.* 167, 201-2 (1971)
736. Neupert, W.M., M. Swartz and S.O. Kastner, *Solar Physics* 31, 171-95 (1973)
750. Dumont, P.D., H.P. Garnir and Y. Baudinet-Robinet, *J. Opt. Soc. Am.* 68, 825-29 (1978)
751. Kasyanov, Y.S., E.Ya. Kononov, V.V. Korobkin, K.N. Koshelev and R.V. Serov, *Optics and Spectros.* 35, 586-89 (1973)
752. Wu, C.M., Ph.D. Thesis, Univ. of British Columbia (1971)
753. Edlen, B., *Physica Scripta* 17, 565-74 (1978)
758. Tomboulion, D.H., *Phys. Rev.* 54, 347-50 (1938)
764. Tyren, F., *Nova Acta Reg. Soc. Sci. Uppsala* 12, No. 1, 7-66 (1940)
765. Tyren, F., *Z. Physik* 98, 768-74 (1936)
767. Toresson, Y.G., *Ark. Fys.* 17, 179-92 (1959)
770. Tilford, S.G., *J. Opt. Soc. Am.* 53, 1051-4 (1963)
771. Tilford, S.G. and P.G. Wilkinson, *J. Opt. Soc. Am.* 54, 322-5 (1964)
773. Tilford, S.G. and L.E. Giddings, *Astrophys. J.* 141, 1222-5 (1965)
774. Tousey, R., W.E. Austin, J.D. Purcell and K.G. Widing, *Ann. Astrophys.* 28, 755-73 (1965)
776. Tondello, G., *J. Phys. B* 2, 727-29 (1969)
777. Tondello, G. and T.M. Paget, *J. Phys. B* 3, 1757-62 (1970)
788. Werner, S., *Studier Over Spektroskopiske Lyskilder Til Frembringelse Af Gnist-spektre Med Resultater for Lithium's Gnist-spektrum* (Oaschehoug and Co., Dansk Forlag, Kopenhagen, 1927)
794. Wilkinson, P.G., *J. Opt. Soc. Am.* 45, 862-7 (1955)
796. Wilkinson, P.G. and K.L. Andrew, *J. Opt. Soc. Am.* 53, 710-7 (1963)
807. Williams, M.D., *Solar Physics* 21, 38-39 (1971)
809. Walker, A.B.C., H.R. Rugge and K. Weiss, *Astrophys. J.* 188, 423-40 (1974)

816. Junkes, J., E.W. Salpeter and G. Milazzo, *Atomic Spectra in the Vacuum Ultraviolet*, Specola Vaticana (1965)
821. Johansson, L., *Ark. Fys.* 31, 201-35 (1965)
824. Hallin, R., *Ark. Fys.* 32, 201-10 (1966)
826. Isberg, B., *Ark. Fys.* 35, 551-63 (1967)
831. Goorvitch, D., G. Mehlman-Balloffet and F.P.J. Valero, *J. Opt. Soc. Am.* 60, 1458-61 (1970)
832. Hoory, S., U. Feldman, S. Goldsmith, W. Behring and L. Cohen, *J. Opt. Soc. Am.* 60, 1449-53 (1970)
833. Hoory, S., S. Goldsmith, U. Feldman, W. Behring and L. Cohen, *J. Opt. Soc. Am.* 61, 504-8 (1971)
834. Goldsmith, S., U. Feldman and L. Cohen, *J. Opt. Soc. Am.* 61, 615-18 (1971)
839. Doschek, G.A., *Space Sci. Rev.* 13, 765-821 (1972)
841. Tondello, G., *Astrophys. J.* 172, 771-83 (1972)
843. Jordan, C., *Solar Physics* 21, 381-91 (1971)
846. Hermansdorfer, H., *J. Opt. Soc. Am.* 62, 1149-52 (1972)
847. Druetta, M., R.U. Datla and H.J. Kunze, *Astrophys. J.* 174, 215-17 (1972)
852. Fawcett, B.C. and R.W. Hayes, *Physica Scripta* 8, 244-48 (1973)
853. Fawcett, B.C., R.D. Cowan and R.W. Hayes, *Astrophys. J.* 187, 377-83 (1974)
854. Fawcett, B.C., R.D. Cowan and R.W. Hayes, *J. Phys. B* 5, 2143-51 (1972)
856. Fawcett, B.C., *Adv. In Atomic and Molec. Phys.*, Vol. 10 (1974) Academic Press
859. Valero, F.P.J. and D. Goorvitch, *Astrophys. J.* 178, 271-76 (1972)
861. Johannesson, G.A., T. Lundstrom and L. Minnhagen, *Physica Scripta* 6, 129-37 (1972)
862. Hontzeas, S., I. Martinson, P. Erman and R. Buchta, *Physica Scripta* 6, 55-60 (1972)
864. Valero, F.P.J., *J. Opt. Soc. Am.* 65, 197-98 (1975)
865. Doschek, G.A., U. Feldman and L. Cohen, *J. Opt. Soc. Am.* 63, 1463-66 (1973)
868. Fawcett, B.C., M. Galanti and N.J. Peacock, *J. Phys. B* 7, 1149-53 (1974)
873. Artru, M.C. and W.U.L. Brillet, *J. Opt. Soc. Am.* 64, 1063-71 (1974)
875. Feldman, U., G.A. Doschek, D.J. Nagel, W.E. Behring and R.D. Cowan, *Astrophys. J.* 187, 417-20 (1974)
887. Walker, A.B.C., *Space Sci. Rev.* 13, 672-730 (1972)
888. Artru, M.C. and V. Kaufman, *J. Opt. Soc. Am.* 65, 594-99 (1975)
894. Esteva, J.M. and G. Mehlman, *Astrophys. J.* 193, 747-53 (1974)
897. Pegg, D.J., D.M. Griffin, H.H. Haselton, R. Laubert, J.R. Mowat, R.S. Thoe, R.S. Peterson and I.A. Sellin, *Phys. Rev. A* 10, 745-48 (1974)
908. Feldman, U., C.M. Brown, G.A. Doschek, C.E. Moore and F.D. Rosenberg, *J. Opt. Soc. Am.* 66, 853-59 (1976)
918. Ermolaev, A.M. and M. Jones, *J. Phys. B* 7, 199-207 (1974)
919. Roig, R.A. and G. Tondello, *J. Phys. B* 9, 2373-78 (1976)
925. Valero, F.P.J., *Appl. Phys. Lett.* 25, 64-66 (1974)
931. Griffin, P.M., D.J. Pegg, I.A. Sellin, K.W. Jones, D.J. Pisano, T.H. Kruse, and S. Bashkin, *Beam-Foil Spectroscopy* (I.A. Sellin and D.J. Pegg, Ed.) Vol. 1, pp 321-29 (1976)
934. Dumont, P.D., Y. Baudinet-Robinet and A.E. Livingston, *Physica Scripta* 13, 365-69 (1976)
936. Magnusson, C.E. and P.O. Zetterberg, *Physica Scripta* 15, 237-50 (1977)
937. Zetterberg, P.O. and C.E. Magnusson, *Physica Scripta* 15, 189-201 (1977)
938. Garnir, H.P., A.E. Livingston, Y. Baudinet-Robinet, P.D. Dumont, E. Biemont and N. Grevesse, *J. Opt. Soc. Am.* 67, 751-54 (1977)
940. Feldman, U. and G.A. Doschek, *J. Opt. Soc. Am.* 67, 726-34 (1977)
941. Brillet, W.U.L. and M.C. Artru, *Physica Scripta* 14, 285-89 (1976)
947. Bromage, G.E. and B.C. Fawcett, *Mon. Not. Roy. Astr. Soc.* 178, 591-98 (1977)
949. Bromage, G.E. and B.C. Fawcett, *Mon. Not. Roy. Astr. Soc.* 178, 605-10 (1977)
961. Kaufman, V. and L. Hagan, *J. Opt. Soc. Am.* 69, 232-39 (1979)
984. Odintzova, G.A. and A.R. Stigarirov, *J. Phys. Chem. Ref. Data* 8, 63-67 (1979)