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Imaging Crystal/Spectral Line Search

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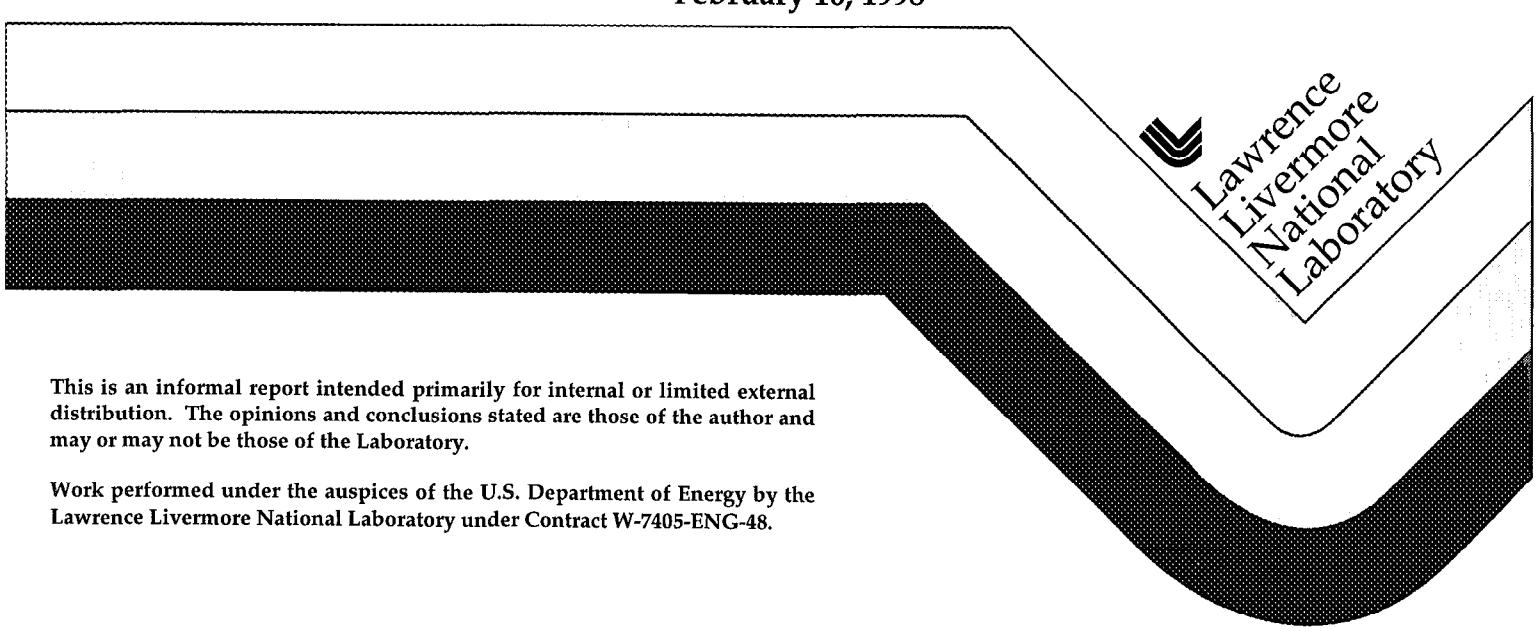

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The following table is a compilation of chance coincidences between x-ray line wavelengths and crystal planes which will reflect those wavelengths near normal incidence. The motivation is to explore the possibilities for expanding the range of choices for near normal incidence x-ray crystal imaging. The crystal data were taken from five sources:

[1] B. L. Henke et al., Atomic Data and Nuclear Data Tables 54(2) (1993).
[2] H. T. Yamada et al., in Lawrence Berkeley Laboratory Report LBL-22800 (1986).
[3] J. H. Underwood, in "X-ray Data Booklet", LBL/Center for X-ray Optics (1986).
[4] A. Faenov, personal communication (1997). (mica 002 only)
[5] T. Barbee Jr., personal communication (1997). (tungsten 110 only)

X-ray spectral data were taken from two sources:

[6] R. L. Kelly, J. Phys. Chem. Ref. Data 16, Supp. 1 (1987) (computer version, Z = 1-36).
[7] J. B. Kortright, in "X-ray Data Booklet", LBL/Center for X-ray Optics (1986). ($K\alpha_1$ data only, Z = 1-50)

A FORTRAN code was written to read in files containing the above data, to systematically search for matches, and to output the results in a useful format. The search constraints were:

- Crystal 2d values were taken from [1] wherever possible except for mica and tungsten; in some cases, 2d values vary from sample to sample (e.g. mica).
- Crystals with unknown Miller indices in [3] were ignored.
- Crystals with 2d values specified to less than 4 significant figures in [3] were ignored.
- Crystals with 2d values greater than KAP (26.634 Å) were ignored.
- The search was limited to bragg angles between 70 and 90 degrees relative to line-center. Angles below ~ 85 degrees may be good candidates for toroidally-bent crystals.

No attempt was made to verify 2d values, wavelengths, configurations, etc., and any errors in the references listed above will be reproduced here. However, every effort was made to avoid introducing additional errors. No attempt was made to rank the crystals in terms of suitability for high-resolution imaging (mechanical properties, integrated reflectivity, mosaic vs. perfect crystal, etc.); the purpose of the compilation is to explore which crystals might be valuable for such further study.

Crystals searched:

quartz 502	2d = 1.624 Å	topaz 200	2d = 4.638 Å
LiF 422	2d = 1.652 Å	Al 111	2d = 4.676 Å
corundum 146	2d = 1.660 Å	quartz 110	2d = 4.912 Å
LiF 420	2d = 1.801 Å	gypsum 002	2d = 4.990 Å
quartz 223	2d = 2.024 Å	NaCl 200	2d = 5.641 Å
Si 422	2d = 2.217 Å	calcite 200	2d = 6.071 Å
Ge 422	2d = 2.310 Å	Si 111	2d = 6.271 Å
quartz 310	2d = 2.360 Å	sylvite 200	2d = 6.292 Å
quartz 220	2d = 2.451 Å	fluorite 111	2d = 6.308 Å
topaz 303	2d = 2.712 Å	Ge 111	2d = 6.532 Å
corundum 030	2d = 2.748 Å	KBr 200	2d = 6.584 Å
quartz 203	2d = 2.749 Å	quartz 101	2d = 6.687 Å
topaz 006	2d = 2.795 Å	graphite 002	2d = 6.696 Å
LiF 220	2d = 2.848 Å	InSb 111	2d = 7.481 Å
calcite 422	2d = 3.034 Å	topaz 002	2d = 8.374 Å
quartz 211	2d = 3.082 Å	quartz 100	2d = 8.512 Å
quartz 112	2d = 3.636 Å	PET 002	2d = 8.742 Å
Si 220	2d = 3.840 Å	EDT 020	2d = 8.808 Å
fluorite 220	2d = 3.862 Å	ADP 101	2d = 10.640 Å
Ge 220	2d = 4.000 Å	gypsum 020	2d = 15.185 Å
LiF 200	2d = 4.027 Å	beryl 100	2d = 15.954 Å
Al 200	2d = 4.048 Å	mica 002	2d = 19.942 Å
quartz 200	2d = 4.246 Å	TAP 100	2d = 25.763 Å
tungsten 110	2d = 4.476 Å	RAP 100	2d = 26.116 Å
quartz 112	2d = 4.564 Å	KAP 100	2d = 26.634 Å

ion	charge	configuration	term j	configuration	term j	wave.	crystal	order	2d	θ(bragg)
C	6	H -like 10P	(2P*)j=1.5	- 1S	(2S)j= .5	25.559	TAP 100	1	25.763	82.785
C	6	H -like 10P	(2P*)j=1.5	- 1S	(2S)j= .5	25.559	RAP 100	1	26.116	78.145
C	6	H -like 10P	(2P*)j=1.5	- 1S	(2S)j= .5	25.559	KAP 100	1	26.634	73.666
C	6	H -like 9P	(2P*)j=1.5	- 1S	(2S)j= .5	25.619	TAP 100	1	25.763	83.939
C	6	H -like 9P	(2P*)j=1.5	- 1S	(2S)j= .5	25.619	RAP 100	1	26.116	78.804
C	6	H -like 9P	(2P*)j=1.5	- 1S	(2S)j= .5	25.619	KAP 100	1	26.634	74.131
C	6	H -like 8P	(2P*)j=1.5	- 1S	(2S)j= .5	25.705	TAP 100	1	25.763	86.155
C	6	H -like 8P	(2P*)j=1.5	- 1S	(2S)j= .5	25.705	RAP 100	1	26.116	79.822
C	6	H -like 8P	(2P*)j=1.5	- 1S	(2S)j= .5	25.705	KAP 100	1	26.634	74.823
C	6	H -like 7P	(2P*)j=1.5	- 1S	(2S)j= .5	25.830	RAP 100	1	26.116	81.513
C	6	H -like 7P	(2P*)j=1.5	- 1S	(2S)j= .5	25.830	KAP 100	1	26.634	75.886
C	6	H -like 6P	(2P*)j=1.5	- 1S	(2S)j= .5	26.026	RAP 100	1	26.116	85.242
C	6	H -like 6P	(2P*)j=1.5	- 1S	(2S)j= .5	26.026	KAP 100	1	26.634	77.734
C	6	H -like 5P	(2P*)j=1.5	- 1S	(2S)j= .5	26.357	KAP 100	1	26.634	81.729
N	6	He-like 1S 3P	(1P*)j=1.0	- 1S2	(1S)j= .0	24.898	TAP 100	1	25.763	75.111

N	6	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	24.898	RAP 100	1	26.116	72.432
N	6	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	24.962	TAP 100	1	25.763	75.675
N	6	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	24.962	RAP 100	1	26.116	72.904
N	7	H -like	11P		(2P*)j=1.5 - 1S		(2S)j= .5	18.742	mica 002	1	19.942	70.022
N	7	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	18.774	mica 002	1	19.942	70.293
N	7	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	18.819	mica 002	1	19.942	70.680
N	7	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	18.882	mica 002	1	19.942	71.235
N	7	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	18.974	mica 002	1	19.942	72.075
N	7	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	19.118	mica 002	1	19.942	73.472
N	7	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	19.361	mica 002	1	19.942	76.136
N	7	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	19.826	mica 002	1	19.942	83.817
N	7	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	24.779	TAP 100	1	25.763	74.113
N	7	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	24.779	RAP 100	1	26.116	71.587
N	7	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	24.785	TAP 100	1	25.763	74.162
N	7	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	24.785	RAP 100	1	26.116	71.629
O	7	He-like	3P	4P	(3P)j=2.0 - 1S	3P	(3P*)j=2.0	15.439	beryl 100	1	15.954	75.402
O	7	He-like	2S	4P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	15.750	beryl 100	1	15.954	80.828
O	7	He-like	2P	3D	(3D*)j=3.0 - 1S	3D	(3D)j=3.0	18.993	mica 002	1	19.942	72.253
O	7	He-like	2P	3D	(3D*)j=3.0 - 1S	3D	(3D)j=3.0	18.993	mica 002	1	19.942	72.253
O	7	He-like	2P	3P	(3P)j=2.0 - 1S	3P	(3P*)j=2.0	19.012	mica 002	1	19.942	72.433
O	7	He-like	2P	3P	(3P)j=2.0 - 1S	3P	(3P*)j=2.0	19.012	mica 002	1	19.942	72.433
O	7	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	19.045	mica 002	1	19.942	72.750
O	7	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	19.045	mica 002	1	19.942	72.750
O	7	He-like	2P	3S	(1P*)j=1.0 - 1S	3S	(1S)j= .0	19.096	mica 002	1	19.942	73.251
O	7	He-like	2P	3P	(1P)j=1.0 - 1S	3P	(1P*)j=1.0	19.164	mica 002	1	19.942	73.943
O	7	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	19.207	mica 002	1	19.942	74.396
O	7	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	19.207	mica 002	1	19.942	74.396
O	7	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	19.301	mica 002	1	19.942	75.434
O	7	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	19.330	mica 002	1	19.942	75.769
O	7	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	19.385	mica 002	1	19.942	76.426
O	8	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	14.372	gypsum 020	1	15.185	71.166
O	8	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	14.406	gypsum 020	1	15.185	71.568
O	8	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	14.454	gypsum 020	1	15.185	72.150
O	8	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	14.524	gypsum 020	1	15.185	73.032
O	8	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	14.634	gypsum 020	1	15.185	74.518
O	8	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	14.821	gypsum 020	1	15.185	77.430
O	8	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	15.176	gypsum 020	1	15.185	88.027
O	8	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	15.176	beryl 100	1	15.954	72.033
O	8	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	18.967	mica 002	1	19.942	72.010
O	8	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	18.972	mica 002	1	19.942	72.056
F	8	He-like	1S	9P	(1P*)j=1.0 - 1S2		(1S)j= .0	13.143	KAP 100	2	26.634	80.728
F	8	He-like	1S	8P	(1P*)j=1.0 - 1S2		(1S)j= .0	13.185	KAP 100	2	26.634	81.926
F	8	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	13.244	KAP 100	2	26.634	83.998
F	8	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	14.458	gypsum 020	1	15.185	72.199
F	8	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	14.487	gypsum 020	1	15.185	72.560
F	8	He-like	2P	4S	(3P*)j=2.0 - 1S	4S	(3S)j=1.0	15.008	gypsum 020	1	15.185	81.243

F	8	He-like	2P	4S	(3P*)j=2.0 - 1S	4S	(3S)j=1.0	15.008	beryl 100	1	15.954	70.170
F	8	He-like	2P	4S	(3P*)j=2.0 - 1S	4S	(3S)j=1.0	15.008	gypsum 020	1	15.185	81.243
F	8	He-like	2P	4S	(3P*)j=2.0 - 1S	4S	(3S)j=1.0	15.008	beryl 100	1	15.954	70.170
F	8	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	15.046	gypsum 020	1	15.185	82.242
F	8	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	15.046	beryl 100	1	15.954	70.576
F	8	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	15.046	gypsum 020	1	15.185	82.242
F	8	He-like	2P	3S	(3P*)j=2.0 - 1S	3S	(3S)j=1.0	15.046	beryl 100	1	15.954	70.576
F	8	He-like	2P	3P	(3D)j=2.0 - 1S	3P	(1P*)j=1.0	15.076	gypsum 020	1	15.185	83.131
F	8	He-like	2P	3P	(3D)j=2.0 - 1S	3P	(1P*)j=1.0	15.076	beryl 100	1	15.954	70.903
F	8	He-like	2P2		(1S)j= .0 - 1S	2P	(1P*)j=1.0	15.155	gypsum 020	1	15.185	86.398
F	8	He-like	2P2		(1S)j= .0 - 1S	2P	(1P*)j=1.0	15.155	beryl 100	1	15.954	71.790
F	8	He-like	2S	3P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	15.224	beryl 100	1	15.954	72.601
F	8	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	15.246	beryl 100	1	15.954	72.867
F	8	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	15.286	beryl 100	1	15.954	73.361
F	8	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	25.740	TAP 100	1	25.763	87.579
F	8	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	25.740	RAP 100	1	26.116	80.266
F	8	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	25.740	KAP 100	1	26.634	75.113
F	8	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	25.790	RAP 100	1	26.116	80.938
F	8	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	25.790	KAP 100	1	26.634	75.537
F	9	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	12.643	TAP 100	2	25.763	78.957
F	9	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	12.643	RAP 100	2	26.116	75.516
F	9	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	12.643	KAP 100	2	26.634	71.693
F	9	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	12.644	TAP 100	2	25.763	78.981
F	9	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	12.644	RAP 100	2	26.116	75.534
F	9	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	12.644	KAP 100	2	26.634	71.707
F	9	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	14.982	gypsum 020	1	15.185	80.621
F	9	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	14.988	gypsum 020	1	15.185	80.761
Ne			K-alpha(1)					14.611	gypsum 020	1	15.185	74.191
Ne	9	He-like	1S	8P	(1P*)j=1.0 - 1S2		(1S)j= .0	10.513	ADP 101	1	10.640	81.139
Ne	9	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	10.565	ADP 101	1	10.640	83.193
Ne	9	He-like	2P2		(1S)j= .0 - 1S	2P	(1P*)j=1.0	12.172	TAP 100	2	25.763	70.895
Ne	9	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	12.260	TAP 100	2	25.763	72.130
Ne	9	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	12.303	TAP 100	2	25.763	72.764
Ne	9	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	12.303	RAP 100	2	26.116	70.421
Ne	9	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(3S)j=1.0	12.309	TAP 100	2	25.763	72.854
Ne	9	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(3S)j=1.0	12.309	RAP 100	2	26.116	70.500
Ne	9	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	12.324	TAP 100	2	25.763	73.082
Ne	9	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	12.324	RAP 100	2	26.116	70.698
Ne	9	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	12.355	TAP 100	2	25.763	73.562
Ne	9	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	12.355	RAP 100	2	26.116	71.114
Ne10		H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	9.481	mica 002	2	19.942	71.963
Ne10		H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	9.708	mica 002	2	19.942	76.811
Ne10		H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	10.238	ADP 101	1	10.640	74.200
Ne10		H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	10.240	ADP 101	1	10.640	74.240
Ne10		H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	12.132	TAP 100	2	25.763	70.359
Ne10		H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	12.138	TAP 100	2	25.763	70.438

Na10	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.686	PET 002	1	8.742	83.511
Na10	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.686	EDT 020	1	8.808	80.453
Na10	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.686	RAP 100	3	26.116	86.181
Na10	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.686	KAP 100	3	26.634	78.062
Na10	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.788	EDT 020	1	8.808	86.138
Na10	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	8.788	KAP 100	3	26.634	81.835
Na10	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	9.433	mica 002	2	19.942	71.093
Na10	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	9.449	mica 002	2	19.942	71.378
Na10	He-like	2P	3P	(3D)j=3.0 - 1S	3P	(3P*)j=2.0	10.060	ADP 101	1	10.640	70.995
Na10	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	10.119	ADP 101	1	10.640	71.996
Na10	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	10.157	ADP 101	1	10.640	72.670
Na10	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	10.170	ADP 101	1	10.640	72.907
Na10	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	10.193	ADP 101	1	10.640	73.333
Na11	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	7.596	beryl 100	2	15.954	72.220
Na11	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	7.614	beryl 100	2	15.954	72.649
Na11	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	7.639	beryl 100	2	15.954	73.261
Na11	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	7.677	beryl 100	2	15.954	74.237
Na11	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	7.735	beryl 100	2	15.954	75.851
Na11	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	7.833	beryl 100	2	15.954	79.097
Na11	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	8.021	topaz 002	1	8.374	73.305
Na11	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	8.021	quartz 100	1	8.512	70.444
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	quartz 100	1	8.512	83.603
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	PET 002	1	8.742	75.381
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	EDT 020	1	8.808	73.817
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	TAP 100	3	25.763	80.069
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	RAP 100	3	26.116	76.337
Na11	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	8.459	KAP 100	3	26.634	72.327
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	quartz 100	1	8.512	83.664
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	PET 002	1	8.742	75.407
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	EDT 020	1	8.808	73.840
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	TAP 100	3	25.763	80.108
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	RAP 100	3	26.116	76.365
Na11	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	8.460	KAP 100	3	26.634	72.348
Na11	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	10.023	ADP 101	1	10.640	70.392
Na11	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	10.029	ADP 101	1	10.640	70.489
Mg		K-alpha(1)					9.890	mica 002	2	19.942	82.705
Mg10	Li-like	1S	2S (1S)	3P (2P*)j=1.5 - 1S2	2S	(2S)j= .5	7.998	topaz 002	1	8.374	72.765
Mg10	Li-like	1S	2P (1P*)	3P (2D)j=2.5 - 1S2	2P	(2P*)j=1.5	8.035	topaz 002	1	8.374	73.641
Mg10	Li-like	1S	2P (1P*)	3P (2D)j=2.5 - 1S2	2P	(2P*)j=1.5	8.035	quartz 100	1	8.512	70.728
Mg10	Li-like	1S	2P (3P*)	3P (2S)j= .5 - 1S2	2P	(2P*)j=1.5	8.051	topaz 002	1	8.374	74.035
Mg10	Li-like	1S	2P (3P*)	3P (2S)j= .5 - 1S2	2P	(2P*)j=1.5	8.051	quartz 100	1	8.512	71.057
Mg10	Li-like	1S	2P (3P*)	3P (2D)j=2.5 - 1S2	2P	(2P*)j=1.5	8.068	topaz 002	1	8.374	74.463
Mg10	Li-like	1S	2P (3P*)	3P (2D)j=2.5 - 1S2	2P	(2P*)j=1.5	8.068	quartz 100	1	8.512	71.413
Mg10	Li-like	1S	2P (3P*)	3P (2P)j=1.5 - 1S2	2P	(2P*)j=1.5	8.092	topaz 002	1	8.374	75.088
Mg10	Li-like	1S	2P (3P*)	3P (2P)j=1.5 - 1S2	2P	(2P*)j=1.5	8.092	quartz 100	1	8.512	71.926
Mg10	Li-like	1S	2P (3P*)	3P (2P)j=1.5 - 1S2	2P	(2P*)j=1.5	8.092	TAP 100	3	25.763	70.438

Mg10	Li-like	1S	2P2		(4P)j=1.5 -	1S2	2P	(2P*)j= .5	9.382	mica 002	2	19.942	70.208
Mg10	Li-like	1S	2P2		(4P)j=2.5 -	1S2	2P	(2P*)j=1.5	9.383	mica 002	2	19.942	70.225
Mg10	Li-like	1S	2P2		(4P)j=1.5 -	1S2	2P	(2P*)j=1.5	9.384	mica 002	2	19.942	70.242
Mg10	Li-like	1S	2P2		(4P)j= .5 -	1S2	2P	(2P*)j=1.5	9.386	mica 002	2	19.942	70.276
Mg10	Li-like	1S	(2S 2P (3P*))		(4P*)j= .5 -	1S2	2S	(2S)j= .5	9.391	mica 002	2	19.942	70.361
Mg11	He-like	1S	9P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.128	InSb 111	1	7.481	72.329
Mg11	He-like	1S	8P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.156	InSb 111	1	7.481	73.049
Mg11	He-like	1S	8P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.156	gypsum 020	2	15.185	70.477
Mg11	He-like	1S	7P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.177	InSb 111	1	7.481	73.610
Mg11	He-like	1S	7P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.177	gypsum 020	2	15.185	70.957
Mg11	He-like	1S	6P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.225	InSb 111	1	7.481	74.968
Mg11	He-like	1S	6P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.225	gypsum 020	2	15.185	72.100
Mg11	He-like	1S	5P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.310	InSb 111	1	7.481	77.726
Mg11	He-like	1S	5P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.310	gypsum 020	2	15.185	74.321
Mg11	He-like	1S	4P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.473	InSb 111	1	7.481	87.350
Mg11	He-like	1S	4P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.473	gypsum 020	2	15.185	79.821
Mg11	He-like	1S	3P		(1P*)j=1.0 -	1S2		(1S)j= .0	7.850	beryl 100	2	15.954	79.762
Mg11	He-like	1S	3P		(3P*)j=1.0 -	1S2		(1S)j= .0	7.862	beryl 100	2	15.954	80.259
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	quartz 100	1	8.512	82.806
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	PET 002	1	8.742	75.022
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	EDT 020	1	8.808	73.493
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	TAP 100	3	25.763	79.542
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	RAP 100	3	26.116	75.953
Mg11	He-like	2P	3P		(3D)j=3.0 -	1S	3P	(3P*)j=2.0	8.445	KAP 100	3	26.634	72.032
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	quartz 100	1	8.512	83.543
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	PET 002	1	8.742	75.356
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	EDT 020	1	8.808	73.794
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	TAP 100	3	25.763	80.031
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	RAP 100	3	26.116	76.310
Mg11	He-like	2P2			(1S)j= .0 -	1S	2P	(1P*)j=1.0	8.458	KAP 100	3	26.634	72.306
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	quartz 100	1	8.512	86.273
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	PET 002	1	8.742	76.320
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	EDT 020	1	8.808	74.655
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	TAP 100	3	25.763	81.530
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	RAP 100	3	26.116	77.349
Mg11	He-like	2S	2P		(1P*)j=1.0 -	1S	2S	(1S)j= .0	8.494	KAP 100	3	26.634	73.087
Mg11	He-like	2S	2P		(3P*)j=1.0 -	1S	2S	(3S)j=1.0	8.522	PET 002	1	8.742	77.119
Mg11	He-like	2S	2P		(3P*)j=1.0 -	1S	2S	(3S)j=1.0	8.522	EDT 020	1	8.808	75.359
Mg11	He-like	2S	2P		(3P*)j=1.0 -	1S	2S	(3S)j=1.0	8.522	TAP 100	3	25.763	82.910
Mg11	He-like	2S	2P		(3P*)j=1.0 -	1S	2S	(3S)j=1.0	8.522	RAP 100	3	26.116	78.220
Mg11	He-like	2S	2P		(3P*)j=1.0 -	1S	2S	(3S)j=1.0	8.522	KAP 100	3	26.634	73.720
Mg11	He-like	2P2			(3P)j=2.0 -	1S	2P	(3P*)j=2.0	8.531	PET 002	1	8.742	77.386
Mg11	He-like	2P2			(3P)j=2.0 -	1S	2P	(3P*)j=2.0	8.531	EDT 020	1	8.808	75.593
Mg11	He-like	2P2			(3P)j=2.0 -	1S	2P	(3P*)j=2.0	8.531	TAP 100	3	25.763	83.414
Mg11	He-like	2P2			(3P)j=2.0 -	1S	2P	(3P*)j=2.0	8.531	RAP 100	3	26.116	78.514
Mg11	He-like	2P2			(3P)j=2.0 -	1S	2P	(3P*)j=2.0	8.531	KAP 100	3	26.634	73.928

Mg11	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	8.548	PET 002	1	8.742	77.907
Mg11	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	8.548	EDT 020	1	8.808	76.044
Mg11	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	8.548	TAP 100	3	25.763	84.491
Mg11	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	8.548	RAP 100	3	26.116	79.090
Mg11	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	8.548	KAP 100	3	26.634	74.329
Mg11	He-like	2P2		(3P)j=2.0 - 1S	2P	(1P*)j=1.0	8.573	PET 002	1	8.742	78.716
Mg11	He-like	2P2		(3P)j=2.0 - 1S	2P	(1P*)j=1.0	8.573	EDT 020	1	8.808	76.735
Mg11	He-like	2P2		(3P)j=2.0 - 1S	2P	(1P*)j=1.0	8.573	TAP 100	3	25.763	86.651
Mg11	He-like	2P2		(3P)j=2.0 - 1S	2P	(1P*)j=1.0	8.573	RAP 100	3	26.116	79.997
Mg11	He-like	2P2		(3P)j=2.0 - 1S	2P	(1P*)j=1.0	8.573	KAP 100	3	26.634	74.938
Mg11	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(1S)j= .0	8.598	PET 002	1	8.742	79.586
Mg11	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(1S)j= .0	8.598	EDT 020	1	8.808	77.464
Mg11	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(1S)j= .0	8.598	RAP 100	3	26.116	80.993
Mg11	He-like	2S	2P	(3P*)j=1.0 - 1S	2S	(1S)j= .0	8.598	KAP 100	3	26.634	75.572
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	Ge 111	1	6.532	77.656
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	KBr 200	1	6.584	75.735
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	quartz 101	1	6.687	72.600
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	graphite 002	1	6.696	72.356
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	mica 002	3	19.942	73.726
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	TAP 100	4	25.763	82.190
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	RAP 100	4	26.116	77.777
Mg12	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	6.381	KAP 100	4	26.634	73.400
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	Ge 111	1	6.532	78.288
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	KBr 200	1	6.584	76.275
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	quartz 101	1	6.687	73.035
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	graphite 002	1	6.696	72.784
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	mica 002	3	19.942	74.194
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	TAP 100	4	25.763	83.242
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	RAP 100	4	26.116	78.415
Mg12	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	6.396	KAP 100	4	26.634	73.858
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	Ge 111	1	6.532	79.233
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	KBr 200	1	6.584	77.068
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	quartz 101	1	6.687	73.663
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	graphite 002	1	6.696	73.402
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	mica 002	3	19.942	74.873
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	TAP 100	4	25.763	85.078
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	RAP 100	4	26.116	79.372
Mg12	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	6.417	KAP 100	4	26.634	74.521
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	Ge 111	1	6.532	80.801
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	KBr 200	1	6.584	78.334
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	quartz 101	1	6.687	74.635
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	graphite 002	1	6.696	74.358
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	mica 002	3	19.942	75.933
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	RAP 100	4	26.116	80.965
Mg12	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	6.448	KAP 100	4	26.634	75.555
Mg12	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	6.497	Ge 111	1	6.532	84.066

Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	KBr 200	1	6.584	80.675
Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	quartz 101	1	6.687	76.309
Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	graphite 002	1	6.696	75.996
Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	mica 002	3	19.942	77.791
Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	RAP 100	4	26.116	84.325
Mg12	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	6.497	KAP 100	4	26.634	77.355
Mg12	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	6.580	KBr 200	1	6.584	88.003
Mg12	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	6.580	quartz 101	1	6.687	79.737
Mg12	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	6.580	graphite 002	1	6.696	79.320
Mg12	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	6.580	mica 002	3	19.942	81.838
Mg12	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	6.580	KAP 100	4	26.634	81.193
Mg12	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	7.106	InSb 111	1	7.481	71.782
Mg12	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	7.107	InSb 111	1	7.481	71.806
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	quartz 100	1	8.512	81.523
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	PET 002	1	8.742	74.376
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	EDT 020	1	8.808	72.908
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	TAP 100	3	25.763	78.626
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	RAP 100	3	26.116	75.264
Mg12	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	8.419	KAP 100	3	26.634	71.496
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	quartz 100	1	8.512	81.801
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	PET 002	1	8.742	74.523
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	EDT 020	1	8.808	73.042
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	TAP 100	3	25.763	78.830
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	RAP 100	3	26.116	75.420
Mg12	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	8.425	KAP 100	3	26.634	71.618
Mg12	H -like	10P	(2P*)j=1.5 - 2S	(2S)j= .5	26.305	KAP 100	1	26.634	80.985
Mg12	H -like	10D	(2D)j=2.5 - 2P	(2P*)j=1.5	26.355	KAP 100	1	26.634	81.700
Mg12	H -like	9P	(2P*)j=1.5 - 2S	(2S)j= .5	26.564	KAP 100	1	26.634	85.845
Mg12	H -like	9D	(2D)j=2.5 - 2P	(2P*)j=1.5	26.616	KAP 100	1	26.634	87.893
Al		K-alpha(1)			8.340	topaz 002	1	8.374	84.805
Al		K-alpha(1)			8.340	quartz 100	1	8.512	78.449
Al		K-alpha(1)			8.340	PET 002	1	8.742	72.548
Al		K-alpha(1)			8.340	EDT 020	1	8.808	71.231
Al		K-alpha(1)			8.340	TAP 100	3	25.763	76.195
Al		K-alpha(1)			8.340	RAP 100	3	26.116	73.333
Al111	Li-like	1S 2P 4P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	7.765	beryl 100	2	15.954	76.761
Al111	Li-like	1S 2P (3P*) 3P	(2P)j=1.5 - 1S2 3P	(2P*)j=1.5	7.773	beryl 100	2	15.954	77.014
Al111	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	7.796	beryl 100	2	15.954	77.771
Al111	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	7.800	beryl 100	2	15.954	77.908
Al111	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	7.810	beryl 100	2	15.954	78.255
Al111	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	7.811	beryl 100	2	15.954	78.291
Al111	Li-like	1S (2S 3P (1P*))	(2P*)j=1.5 - 1S2 3S	(2S)j= .5	7.815	beryl 100	2	15.954	78.433
Al111	Li-like	1S 2P (3P*) 3P	(2P)j=1.5 - 1S2 3P	(2P*)j=1.5	7.827	beryl 100	2	15.954	78.871
Al111	Li-like	1S (2S 2P (3P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	7.846	beryl 100	2	15.954	79.602
Al111	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	7.849	beryl 100	2	15.954	79.722
Al111	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	7.856	beryl 100	2	15.954	80.008

Al11	Li-like	1S	2P2	(2D)j=1.5 - 1S2	2P	(2P*)j= .5	7.875	topaz 002	1	8.374	70.121
Al11	Li-like	1S	2P2	(2D)j=1.5 - 1S2	2P	(2P*)j= .5	7.875	beryl 100	2	15.954	80.828
Al11	Li-like	1S	2P2	(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	7.878	topaz 002	1	8.374	70.181
Al11	Li-like	1S	2P2	(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	7.878	beryl 100	2	15.954	80.964
Al12	He-like	1S	10P	(1P*)j=1.0 - 1S2		(1S)j= .0	5.992	calcite 200	1	6.071	80.747
Al12	He-like	1S	10P	(1P*)j=1.0 - 1S2		(1S)j= .0	5.992	Si 111	1	6.271	72.845
Al12	He-like	1S	10P	(1P*)j=1.0 - 1S2		(1S)j= .0	5.992	sylvite 200	1	6.292	72.236
Al12	He-like	1S	10P	(1P*)j=1.0 - 1S2		(1S)j= .0	5.992	fluorite 111	1	6.308	71.788
Al12	He-like	1S	9P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.009	calcite 200	1	6.071	81.805
Al12	He-like	1S	9P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.009	Si 111	1	6.271	73.380
Al12	He-like	1S	9P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.009	sylvite 200	1	6.292	72.750
Al12	He-like	1S	9P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.009	fluorite 111	1	6.308	72.288
Al12	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.059	calcite 200	1	6.071	86.397
Al12	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.059	Si 111	1	6.271	75.059
Al12	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.059	sylvite 200	1	6.292	74.359
Al12	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.059	fluorite 111	1	6.308	73.848
Al12	He-like	1S	7P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.059	TAP 100	4	25.763	70.174
Al12	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.100	Si 111	1	6.271	76.589
Al12	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.100	sylvite 200	1	6.292	75.809
Al12	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.100	fluorite 111	1	6.308	75.246
Al12	He-like	1S	6P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.100	TAP 100	4	25.763	71.279
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	Si 111	1	6.271	79.909
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	sylvite 200	1	6.292	78.886
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	fluorite 111	1	6.308	78.169
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	Ge 111	1	6.532	70.943
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	TAP 100	4	25.763	73.453
Al12	He-like	1S	5P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.174	RAP 100	4	26.116	71.019
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	Ge 111	1	6.532	75.122
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	KBr 200	1	6.584	73.504
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	quartz 101	1	6.687	70.747
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	graphite 002	1	6.696	70.528
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	mica 002	3	19.942	71.751
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	TAP 100	4	25.763	78.569
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	RAP 100	4	26.116	75.221
Al12	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.313	KAP 100	4	26.634	71.462
Al12	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.635	quartz 101	1	6.687	82.850
Al12	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.635	graphite 002	1	6.696	82.260
Al12	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.635	mica 002	3	19.942	86.509
Al12	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.635	KAP 100	4	26.634	85.185
Al12	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	6.644	quartz 101	1	6.687	83.499
Al12	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	6.644	graphite 002	1	6.696	82.855
Al12	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	6.644	mica 002	3	19.942	88.186
Al12	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	6.644	KAP 100	4	26.634	86.218
Al12	He-like	2P2		(1S)j= .0 - 1S	2P	(1P*)j=1.0	7.191	InSb 111	1	7.481	73.994
Al12	He-like	2P2		(1S)j= .0 - 1S	2P	(1P*)j=1.0	7.191	gypsum 020	2	15.185	71.284
Al12	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	7.228	InSb 111	1	7.481	75.057

Al12	He-like	2S	2P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	7.228	gypsum 020	2	15.185	72.174
Al12	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	7.251	InSb 111	1	7.481	75.756
Al12	He-like	2S	2P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	7.251	gypsum 020	2	15.185	72.750
Al12	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	7.260	InSb 111	1	7.481	76.039
Al12	He-like	2P2		(3P)j=2.0 - 1S	2P	(3P*)j=2.0	7.260	gypsum 020	2	15.185	72.981
Al12	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	7.274	InSb 111	1	7.481	76.490
Al12	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	7.274	gypsum 020	2	15.185	73.346
Al12	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	7.757	beryl 100	2	15.954	76.512
Al12	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	7.806	beryl 100	2	15.954	78.115
Al12	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	7.872	topaz 002	1	8.374	70.060
Al12	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	7.872	beryl 100	2	15.954	80.693
Al13	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	5.435	NaCl 200	1	5.641	74.468
Al13	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	5.448	NaCl 200	1	5.641	74.969
Al13	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	5.466	NaCl 200	1	5.641	75.691
Al13	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	5.493	NaCl 200	1	5.641	76.846
Al13	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	5.534	NaCl 200	1	5.641	78.823
Al13	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	5.605	NaCl 200	1	5.641	83.523
Al13	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	5.739	calcite 200	1	6.071	70.964
Al13	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	6.053	calcite 200	1	6.071	85.587
Al13	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	6.053	Si 111	1	6.271	74.848
Al13	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	6.053	sylvite 200	1	6.292	74.157
Al13	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	6.053	fluorite 111	1	6.308	73.653
Al13	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	6.053	TAP 100	4	25.763	70.018
Al13	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	7.171	InSb 111	1	7.481	73.448
Al13	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	7.171	gypsum 020	2	15.185	70.819
Al13	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	7.176	InSb 111	1	7.481	73.583
Al13	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	7.176	gypsum 020	2	15.185	70.934
Al13	H -like	6D		(2D)j=2.5 - 2P		(2P*)j=1.5	24.251	TAP 100	1	25.763	70.273
Al13	H -like	5P		(2P*)j=1.5 - 2S		(2S)j= .5	25.597	TAP 100	1	25.763	83.492
Al13	H -like	5P		(2P*)j=1.5 - 2S		(2S)j= .5	25.597	RAP 100	1	26.116	78.558
Al13	H -like	5P		(2P*)j=1.5 - 2S		(2S)j= .5	25.597	KAP 100	1	26.634	73.959
Al13	H -like	5D		(2D)j=2.5 - 2P		(2P*)j=1.5	25.662	TAP 100	1	25.763	84.925
Al13	H -like	5D		(2D)j=2.5 - 2P		(2P*)j=1.5	25.662	RAP 100	1	26.116	79.301
Al13	H -like	5D		(2D)j=2.5 - 2P		(2P*)j=1.5	25.662	KAP 100	1	26.634	74.473
Si		K-alpha(1)					7.126	InSb 111	1	7.481	72.271
Si12	Li-like	1S	(2S 3P (1P*))	(2P*)j=1.5 - 1S2	2S	(2S)j= .5	5.768	calcite 200	1	6.071	71.822
Si12	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	5.793	calcite 200	1	6.071	72.594
Si12	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2	2P	(2P*)j= .5	5.803	calcite 200	1	6.071	72.912
Si12	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2	2P	(2P*)j=1.5	5.808	calcite 200	1	6.071	73.074
Si12	Li-like	1S	2P (3P*) 3P	(2D)j=1.5 - 1S2	2P	(2P*)j= .5	5.812	calcite 200	1	6.071	73.204
Si12	Li-like	1S	2P (3P*) 3P	(2D)j=1.5 - 1S2	2P	(2P*)j=1.5	5.816	calcite 200	1	6.071	73.335
Si12	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2	3P	(2P*)j=1.5	6.661	quartz 101	1	6.687	84.946
Si12	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2	3P	(2P*)j=1.5	6.661	graphite 002	1	6.696	84.139
Si12	Li-like	1S	2P2	(2S)j= .5 - 1S2	2P	(2P*)j= .5	6.678	quartz 101	1	6.687	87.027
Si12	Li-like	1S	2P2	(2S)j= .5 - 1S2	2P	(2P*)j= .5	6.678	graphite 002	1	6.696	85.798
Si12	Li-like	1S	2P2	(2S)j= .5 - 1S2	2P	(2P*)j=1.5	6.681	quartz 101	1	6.687	87.573

Si12	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	6.681	graphite 002	1	6.696	86.164
Si12	Li-like	1S	(2S 2P (1P*))		(2P*)j=1.5 - 1S2	2S	(2S)j= .5	6.688	graphite 002	1	6.696	87.199
Si12	Li-like	1S	(2S 2P (1P*))		(2P*)j= .5 - 1S2	2S	(2S)j= .5	6.689	graphite 002	1	6.696	87.380
Si12	Li-like	1S2	7P		(2P*)j=1.5 - 1S2	2S	(2S)j= .5	25.655	TAP 100	1	25.763	84.752
Si12	Li-like	1S2	7P		(2P*)j=1.5 - 1S2	2S	(2S)j= .5	25.655	RAP 100	1	26.116	79.219
Si12	Li-like	1S2	7P		(2P*)j=1.5 - 1S2	2S	(2S)j= .5	25.655	KAP 100	1	26.634	74.417
Si12	Li-like	1S2	9D		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	26.030	RAP 100	1	26.116	85.349
Si12	Li-like	1S2	9D		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	26.030	KAP 100	1	26.634	77.775
Si12	Li-like	1S2	6P		(2P*)j=1.5 - 1S2	2S	(2S)j= .5	26.460	KAP 100	1	26.634	83.447
Si13	He-like	1S	6P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.223	ADP 101	2	10.640	79.042
Si13	He-like	1S	6P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.223	beryl 100	3	15.954	79.154
Si13	He-like	1S	6P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.223	RAP 100	5	26.116	89.499
Si13	He-like	1S	6P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.223	KAP 100	5	26.634	78.670
Si13	He-like	1S	5P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.285	ADP 101	2	10.640	83.424
Si13	He-like	1S	5P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.285	beryl 100	3	15.954	83.614
Si13	He-like	1S	5P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.285	KAP 100	5	26.634	82.817
Si13	He-like	1S	4P		(1P*)j=1.0 - 1S2		(1S)j= .0	5.404	NaCl 200	1	5.641	73.333
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	Si 111	1	6.271	81.189
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	sylvite 200	1	6.292	80.031
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	fluorite 111	1	6.308	79.236
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	Ge 111	1	6.532	71.571
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	KBr 200	1	6.584	70.258
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	TAP 100	4	25.763	74.187
Si13	He-like	2P2			(1S)j= .0 - 1S	2P	(1P*)j=1.0	6.197	RAP 100	4	26.116	71.650
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	Si 111	1	6.271	82.981
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	sylvite 200	1	6.292	81.569
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	fluorite 111	1	6.308	80.639
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	Ge 111	1	6.532	72.335
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	KBr 200	1	6.584	70.965
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	TAP 100	4	25.763	75.094
Si13	He-like	2S	2P		(1P*)j=1.0 - 1S	2S	(1S)j= .0	6.224	RAP 100	4	26.116	72.418
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	Si 111	1	6.271	84.681
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	sylvite 200	1	6.292	82.918
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	fluorite 111	1	6.308	81.831
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	Ge 111	1	6.532	72.923
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	KBr 200	1	6.584	71.507
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	TAP 100	4	25.763	75.802
Si13	He-like	2S	2P		(3P*)j=2.0 - 1S	2S	(3S)j=1.0	6.244	RAP 100	4	26.116	73.009
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	Si 111	1	6.271	85.423
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	sylvite 200	1	6.292	83.456
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	fluorite 111	1	6.308	82.292
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	Ge 111	1	6.532	73.133
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	KBr 200	1	6.584	71.700
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	mica 002	3	19.942	70.115
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	TAP 100	4	25.763	76.058
Si13	He-like	2P2			(3P)j=2.0 - 1S	2P	(3P*)j=2.0	6.251	RAP 100	4	26.116	73.220

Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	Si 111	1	6.271	87.712
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	sylvite 200	1	6.292	84.789
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	fluorite 111	1	6.308	83.385
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	Ge 111	1	6.532	73.593
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	KBr 200	1	6.584	72.120
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	mica 002	3	19.942	70.499
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	TAP 100	4	25.763	76.623
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	RAP 100	4	26.116	73.682
Si13	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	6.266	KAP 100	4	26.634	70.229
Si13	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.647	quartz 101	1	6.687	83.730
Si13	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.647	graphite 002	1	6.696	83.064
Si13	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.647	mica 002	3	19.942	89.426
Si13	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	6.647	KAP 100	4	26.634	86.632
Si13	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	6.687	graphite 002	1	6.696	87.029
Si14	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	4.685	quartz 110	1	4.912	72.513
Si14	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	4.685	mica 002	4	19.942	70.005
Si14	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.696	quartz 110	1	4.912	72.945
Si14	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.696	gypsum 002	1	4.990	70.234
Si14	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.696	mica 002	4	19.942	70.379
Si14	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.712	quartz 110	1	4.912	73.594
Si14	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.712	gypsum 002	1	4.990	70.785
Si14	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.712	mica 002	4	19.942	70.934
Si14	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.735	quartz 110	1	4.912	74.572
Si14	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.735	gypsum 002	1	4.990	71.604
Si14	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.735	mica 002	4	19.942	71.760
Si14	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.770	quartz 110	1	4.912	76.190
Si14	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.770	gypsum 002	1	4.990	72.923
Si14	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.770	gypsum 020	3	15.185	70.455
Si14	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.770	mica 002	4	19.942	73.092
Si14	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.831	quartz 110	1	4.912	79.580
Si14	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.831	gypsum 002	1	4.990	75.497
Si14	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.831	gypsum 020	3	15.185	72.636
Si14	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.831	mica 002	4	19.942	75.699
Si14	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.947	gypsum 002	1	4.990	82.473
Si14	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.947	gypsum 020	3	15.185	77.781
Si14	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.947	mica 002	4	19.942	82.875
Si14	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.947	TAP 100	5	25.763	73.760
Si14	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.947	RAP 100	5	26.116	71.284
Si14	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	5.217	ADP 101	2	10.640	78.707
Si14	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	5.217	beryl 100	3	15.954	78.816
Si14	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	5.217	RAP 100	5	26.116	87.208
Si14	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	5.217	KAP 100	5	26.634	78.347
Si14	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	5.218	ADP 101	2	10.640	78.762
Si14	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	5.218	beryl 100	3	15.954	78.871
Si14	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	5.218	RAP 100	5	26.116	87.443
Si14	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	5.218	KAP 100	5	26.634	78.400

Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	Si 111	1	6.271	80.227
Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	sylvite 200	1	6.292	79.173
Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	fluorite 111	1	6.308	78.438
Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	Ge 111	1	6.532	71.105
Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	TAP 100	4	25.763	73.641
Si14	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	6.180	RAP 100	4	26.116	71.182
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	Si 111	1	6.271	80.556
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	sylvite 200	1	6.292	79.468
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	fluorite 111	1	6.308	78.713
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	Ge 111	1	6.532	71.268
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	TAP 100	4	25.763	73.832
Si14	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	6.186	RAP 100	4	26.116	71.346
Si14	H -like	10P	(2P*)j=1.5 - 2S	(2S)j= .5	19.309	mica 002	1	19.942	75.525
Si14	H -like	10D	(2D)j=2.5 - 2P	(2P*)j=1.5	19.360	mica 002	1	19.942	76.124
Si14	H -like	9P	(2P*)j=1.5 - 2S	(2S)j= .5	19.499	mica 002	1	19.942	77.901
Si14	H -like	9D	(2D)j=2.5 - 2P	(2P*)j=1.5	19.551	mica 002	1	19.942	78.635
Si14	H -like	8P	(2P*)j=1.5 - 2S	(2S)j= .5	19.771	mica 002	1	19.942	82.491
Si14	H -like	8D	(2D)j=2.5 - 2P	(2P*)j=1.5	19.824	mica 002	1	19.942	83.764
Si14	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	24.699	TAP 100	1	25.763	73.476
Si14	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	24.699	RAP 100	1	26.116	71.039
Si14	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	24.778	TAP 100	1	25.763	74.105
Si14	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	24.778	RAP 100	1	26.116	71.580
P		K-alpha(1)			6.157	Si 111	1	6.271	79.063
P		K-alpha(1)			6.157	sylvite 200	1	6.292	78.114
P		K-alpha(1)			6.157	fluorite 111	1	6.308	77.442
P		K-alpha(1)			6.157	Ge 111	1	6.532	70.494
P		K-alpha(1)			6.157	TAP 100	4	25.763	72.933
P		K-alpha(1)			6.157	RAP 100	4	26.116	70.568
P 12	Be-like	2S 5P	(1P*)j=1.0 - 2S2	(1S)j= .0	25.788	RAP 100	1	26.116	80.910
P 12	Be-like	2S 5P	(1P*)j=1.0 - 2S2	(1S)j= .0	25.788	KAP 100	1	26.634	75.520
P 13	Li-like	1S 2S 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.788	quartz 110	1	4.912	77.099
P 13	Li-like	1S 2S 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.788	gypsum 002	1	4.990	73.642
P 13	Li-like	1S 2S 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.788	gypsum 020	3	15.185	71.073
P 13	Li-like	1S 2S 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.788	mica 002	4	19.942	73.819
P 13	Li-like	1S 2P 4P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.807	quartz 110	1	4.912	78.132
P 13	Li-like	1S 2P 4P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.807	gypsum 002	1	4.990	74.435
P 13	Li-like	1S 2P 4P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.807	gypsum 020	3	15.185	71.748
P 13	Li-like	1S 2P 4P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.807	mica 002	4	19.942	74.622
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	ADP 101	2	10.640	70.408
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	gypsum 020	3	15.185	81.967
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	beryl 100	3	15.954	70.469
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	TAP 100	5	25.763	76.584
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	RAP 100	5	26.116	73.651
P 13	Li-like	1S (2S 3P (1P*))(2P*)j=1.5 - 1S2 2S		(2S)j= .5	5.012	KAP 100	5	26.634	70.204
P 13	Li-like	1S 2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	ADP 101	2	10.640	70.634
P 13	Li-like	1S 2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	gypsum 020	3	15.185	82.555

P 13	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	beryl 100	3	15.954	70.696
P 13	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	TAP 100	5	25.763	76.924
P 13	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	RAP 100	5	26.116	73.926
P 13	Li-like	1S	2P (3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.019	KAP 100	5	26.634	70.427
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	ADP 101	2	10.640	70.667
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	gypsum 020	3	15.185	82.643
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	beryl 100	3	15.954	70.728
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	TAP 100	5	25.763	76.973
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	RAP 100	5	26.116	73.966
P 13	Li-like	1S	2P (3P*) 3P	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.020	KAP 100	5	26.634	70.459
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	ADP 101	2	10.640	71.295
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	gypsum 020	3	15.185	84.576
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	beryl 100	3	15.954	71.358
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	TAP 100	5	25.763	77.946
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	RAP 100	5	26.116	74.738
P 13	Li-like	1S	2P (3P*) 3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.039	KAP 100	5	26.634	71.080
P 13	Li-like	1S	2P (1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.380	NaCl 200	1	5.641	72.503
P 13	Li-like	1S	2P (1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.385	NaCl 200	1	5.641	72.673
P 13	Li-like	1S	2P (1P*) 3P	(2P)j= .5 - 1S2 3P	(2P*)j= .5	5.764	calcite 200	1	6.071	71.701
P 13	Li-like	1S	2P (1P*) 3P	(2P)j= .5 - 1S2 3P	(2P*)j=1.5	5.770	calcite 200	1	6.071	71.882
P 13	Li-like	1S	2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.787	calcite 200	1	6.071	72.406
P 13	Li-like	1S	(2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.791	calcite 200	1	6.071	72.531
P 13	Li-like	1S	(2S 2P (3P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.816	calcite 200	1	6.071	73.335
P 13	Li-like	1S	2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.823	calcite 200	1	6.071	73.567
P 13	Li-like	1S	2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.831	calcite 200	1	6.071	73.836
P 13	Li-like	1S	2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	5.836	calcite 200	1	6.071	74.006
P 13	Li-like	1S	2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	5.869	calcite 200	1	6.071	75.178
P 13	Li-like	1S2	5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	25.103	TAP 100	1	25.763	77.003
P 13	Li-like	1S2	5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	25.103	RAP 100	1	26.116	73.990
P 13	Li-like	1S2	5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	25.103	KAP 100	1	26.634	70.479
P 13	Li-like	1S2	5D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	25.169	TAP 100	1	25.763	77.673
P 13	Li-like	1S2	5D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	25.169	RAP 100	1	26.116	74.523
P 13	Li-like	1S2	5D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	25.169	KAP 100	1	26.634	70.908
P 13	Li-like	1S2	4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	26.608	KAP 100	1	26.634	87.468
P 14	He-like	1S	7P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.485	quartz 112	1	4.564	79.324
P 14	He-like	1S	7P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.485	topaz 200	1	4.638	75.242
P 14	He-like	1S	7P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.485	Al 111	1	4.676	73.567
P 14	He-like	1S	6P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.520	quartz 112	1	4.564	82.038
P 14	He-like	1S	6P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.520	topaz 200	1	4.638	77.048
P 14	He-like	1S	6P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.520	Al 111	1	4.676	75.159
P 14	He-like	1S	5P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.574	topaz 200	1	4.638	80.471
P 14	He-like	1S	5P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.574	Al 111	1	4.676	78.011
P 14	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.677	quartz 110	1	4.912	72.205
P 14	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.918	gypsum 002	1	4.990	80.255
P 14	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.918	gypsum 020	3	15.185	76.316
P 14	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	4.918	mica 002	4	19.942	80.561

P 14	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.918	TAP 100	5	25.763	72.644
P 14	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.918	RAP 100	5	26.116	70.317
P 14	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.924	gypsum 002	1	4.990	80.671
P 14	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.924	gypsum 020	3	15.185	76.606
P 14	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.924	mica 002	4	19.942	80.991
P 14	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.924	TAP 100	5	25.763	72.869
P 14	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.924	RAP 100	5	26.116	70.513
P 14	He-like	2P2		(1D)j=2.0 - 1S	2P	(1P*)j=1.0	5.448	NaCl 200	1	5.641	74.969
P 14	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	5.760	calcite 200	1	6.071	71.581
P 14	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	5.793	calcite 200	1	6.071	72.594
P 14	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	5.836	calcite 200	1	6.071	74.006
P 15	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	4.080	quartz 200	1	4.246	73.926
P 15	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	4.080	topaz 002	2	8.374	77.019
P 15	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	4.080	quartz 100	2	8.512	73.465
P 15	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.089	quartz 200	1	4.246	74.371
P 15	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.089	topaz 002	2	8.374	77.579
P 15	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	4.089	quartz 100	2	8.512	73.896
P 15	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.103	quartz 200	1	4.246	75.088
P 15	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.103	topaz 002	2	8.374	78.504
P 15	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	4.103	quartz 100	2	8.512	74.590
P 15	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.123	quartz 200	1	4.246	76.175
P 15	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.123	topaz 002	2	8.374	79.969
P 15	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.123	quartz 100	2	8.512	75.638
P 15	H -like	7P		(2P*)j=1.5 - 1S		(2S)j= .5	4.123	PET 002	2	8.742	70.607
P 15	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.154	quartz 200	1	4.246	78.051
P 15	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.154	topaz 002	2	8.374	82.802
P 15	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.154	quartz 100	2	8.512	77.431
P 15	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.154	PET 002	2	8.742	71.870
P 15	H -like	6P		(2P*)j=1.5 - 1S		(2S)j= .5	4.154	EDT 020	2	8.808	70.602
P 15	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.207	tungsten 110	1	4.476	70.035
P 15	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.207	quartz 200	1	4.246	82.228
P 15	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.207	quartz 100	2	8.512	81.297
P 15	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.207	PET 002	2	8.742	74.255
P 15	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	4.207	EDT 020	2	8.808	72.798
P 15	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.308	tungsten 110	1	4.476	74.252
P 15	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.308	quartz 112	1	4.564	70.719
P 15	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.308	PET 002	2	8.742	80.260
P 15	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	4.308	EDT 020	2	8.808	78.015
P 15	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	4.543	quartz 112	1	4.564	84.502
P 15	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	4.543	topaz 200	1	4.638	78.383
P 15	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	4.543	Al 111	1	4.676	76.302
P 15	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	4.544	quartz 112	1	4.564	84.634
P 15	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	4.544	topaz 200	1	4.638	78.445
P 15	H -like	3P		(2P*)j= .5 - 1S		(2S)j= .5	4.544	Al 111	1	4.676	76.354
P 15	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	5.381	NaCl 200	1	5.641	72.537
P 15	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	5.387	NaCl 200	1	5.641	72.741

P 15	H -like	5P			(2P*)j=1.5 - 2S		(2S)j= .5	19.206	mica 002	1	19.942	74.385
P 15	H -like	5D			(2D)j=2.5 - 2P		(2P*)j=1.5	19.271	mica 002	1	19.942	75.095
S		K-alpha(1)						5.372	NaCl 200	1	5.641	72.248
S 12	B -like	1S	2S2 2P2		(2P)j=1.5 - 1S2 2S2 2P		(2P*)j=1.5	5.180	ADP 101	2	10.640	76.826
S 12	B -like	1S	2S2 2P2		(2P)j=1.5 - 1S2 2S2 2P		(2P*)j=1.5	5.180	beryl 100	3	15.954	76.919
S 12	B -like	1S	2S2 2P2		(2P)j=1.5 - 1S2 2S2 2P		(2P*)j=1.5	5.180	RAP 100	5	26.116	82.626
S 12	B -like	1S	2S2 2P2		(2P)j=1.5 - 1S2 2S2 2P		(2P*)j=1.5	5.180	KAP 100	5	26.634	76.517
S 12	B -like	2S2	5D		(2D)j=2.5 - 1S2 2S2 2P		(2P*)j=1.5	25.650	TAP 100	1	25.763	84.632
S 12	B -like	2S2	5D		(2D)j=2.5 - 1S2 2S2 2P		(2P*)j=1.5	25.650	RAP 100	1	26.116	79.160
S 12	B -like	2S2	5D		(2D)j=2.5 - 1S2 2S2 2P		(2P*)j=1.5	25.650	KAP 100	1	26.634	74.377
S 12	B -like		0		( )j= .0 - 0		( )j= .0	4.490	quartz 112	1	4.564	79.668
S 12	B -like		0		( )j= .0 - 0		( )j= .0	4.490	topaz 200	1	4.638	75.487
S 12	B -like		0		( )j= .0 - 0		( )j= .0	4.490	Al 111	1	4.676	73.785
S 13	Be-like	1S	2S2 3P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	4.454	tungsten 110	1	4.476	84.317
S 13	Be-like	1S	2S2 3P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	4.454	quartz 112	1	4.564	77.395
S 13	Be-like	1S	2S2 3P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	4.454	topaz 200	1	4.638	73.807
S 13	Be-like	1S	2S2 3P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	4.454	Al 111	1	4.676	72.274
S 13	Be-like	1S	2S2 2P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	5.137	ADP 101	2	10.640	74.928
S 13	Be-like	1S	2S2 2P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	5.137	beryl 100	3	15.954	75.009
S 13	Be-like	1S	2S2 2P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	5.137	TAP 100	5	25.763	85.540
S 13	Be-like	1S	2S2 2P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	5.137	RAP 100	5	26.116	79.576
S 13	Be-like	1S	2S2 2P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	5.137	KAP 100	5	26.634	74.659
S 13	Be-like	2S	4P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	24.590	TAP 100	1	25.763	72.644
S 13	Be-like	2S	4P		(1P*)j=1.0 - 1S2 2S2		(1S)j= .0	24.590	RAP 100	1	26.116	70.317
S 13	Be-like	2S	4D		(3D)j=2.0 - 2S 2P		(3P*)j=1.0	25.760	TAP 100	1	25.763	89.126
S 13	Be-like	2S	4D		(3D)j=2.0 - 2S 2P		(3P*)j=1.0	25.760	RAP 100	1	26.116	80.529
S 13	Be-like	2S	4D		(3D)j=2.0 - 2S 2P		(3P*)j=1.0	25.760	KAP 100	1	26.634	75.281
S 13	Be-like	2S	4D		(3D)j=2.0 - 2S 2P		(3P*)j=2.0	25.830	RAP 100	1	26.116	81.513
S 13	Be-like	2S	4D		(3D)j=2.0 - 2S 2P		(3P*)j=2.0	25.830	KAP 100	1	26.634	75.886
S 13	Be-like	2P	4D		(3D*)j=3.0 - 2P2		(3P)j=2.0	26.350	KAP 100	1	26.634	81.625
S 14	Li-like	1S	2P	4P	(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	4.192	quartz 200	1	4.246	80.852
S 14	Li-like	1S	2P	4P	(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	4.192	quartz 100	2	8.512	80.051
S 14	Li-like	1S	2P	4P	(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	4.192	PET 002	2	8.742	73.546
S 14	Li-like	1S	2P	4P	(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	4.192	EDT 020	2	8.808	72.150
S 14	Li-like	1S	2P	(1P*) 3P	(2P)j=1.5 - 1S2 2P		(2P*)j=1.5	4.370	tungsten 110	1	4.476	77.506
S 14	Li-like	1S	2P	(1P*) 3P	(2P)j=1.5 - 1S2 2P		(2P*)j=1.5	4.370	quartz 112	1	4.564	73.235
S 14	Li-like	1S	2P	(1P*) 3P	(2P)j=1.5 - 1S2 2P		(2P*)j=1.5	4.370	topaz 200	1	4.638	70.427
S 14	Li-like	1S	2P	(1P*) 3P	(2P)j=1.5 - 1S2 2P		(2P*)j=1.5	4.370	PET 002	2	8.742	88.774
S 14	Li-like	1S	2P	(1P*) 3P	(2P)j=1.5 - 1S2 2P		(2P*)j=1.5	4.370	EDT 020	2	8.808	82.876
S 14	Li-like	1S	2S	3P	(2P*)j=1.5 - 1S2 2S		(2S)j= .5	4.376	tungsten 110	1	4.476	77.866
S 14	Li-like	1S	2S	3P	(2P*)j=1.5 - 1S2 2S		(2S)j= .5	4.376	quartz 112	1	4.564	73.498
S 14	Li-like	1S	2S	3P	(2P*)j=1.5 - 1S2 2S		(2S)j= .5	4.376	topaz 200	1	4.638	70.650
S 14	Li-like	1S	2S	3P	(2P*)j=1.5 - 1S2 2S		(2S)j= .5	4.376	EDT 020	2	8.808	83.536
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 2P		(2P*)j=1.5	4.382	tungsten 110	1	4.476	78.237
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 2P		(2P*)j=1.5	4.382	quartz 112	1	4.564	73.765
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 2P		(2P*)j=1.5	4.382	topaz 200	1	4.638	70.875

S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	4.382	EDT 020	2	8.808	84.271
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.386	tungsten 110	1	4.476	78.491
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.386	quartz 112	1	4.564	73.946
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.386	topaz 200	1	4.638	71.026
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.386	EDT 020	2	8.808	84.818
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j=1.5	4.389	tungsten 110	1	4.476	78.685
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j=1.5	4.389	quartz 112	1	4.564	74.082
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j=1.5	4.389	topaz 200	1	4.638	71.140
S 14	Li-like	1S	2P	(3P*) 3P	(2P)j= .5 - 1S2 2P	(2P*)j=1.5	4.389	EDT 020	2	8.808	85.270
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.395	tungsten 110	1	4.476	79.083
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.395	quartz 112	1	4.564	74.359
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.395	topaz 200	1	4.638	71.371
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.395	Al 111	1	4.676	70.036
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.395	EDT 020	2	8.808	86.336
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.401	tungsten 110	1	4.476	79.497
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.401	quartz 112	1	4.564	74.641
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.401	topaz 200	1	4.638	71.604
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.401	Al 111	1	4.676	70.252
S 14	Li-like	1S	2P	(3P*) 3P	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.401	EDT 020	2	8.808	87.885
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	ADP 101	2	10.640	71.362
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	gypsum 020	3	15.185	84.821
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	beryl 100	3	15.954	71.426
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	TAP 100	5	25.763	78.053
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	RAP 100	5	26.116	74.822
S 14	Li-like	1S	2P	(1P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j=1.5	5.041	KAP 100	5	26.634	71.146
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	ADP 101	2	10.640	71.531
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	gypsum 020	3	15.185	85.491
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	beryl 100	3	15.954	71.596
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	TAP 100	5	25.763	78.325
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	RAP 100	5	26.116	75.033
S 14	Li-like	1S	2P	(1P*) 3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	5.046	KAP 100	5	26.634	71.313
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	ADP 101	2	10.640	71.874
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	gypsum 020	3	15.185	87.289
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	beryl 100	3	15.954	71.940
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	TAP 100	5	25.763	78.888
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	RAP 100	5	26.116	75.464
S 14	Li-like	1S	2P	(3P*) 3P	(2S)j= .5 - 1S2 3P	(2P*)j= .5	5.056	KAP 100	5	26.634	71.652
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	ADP 101	2	10.640	72.013
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	gypsum 020	3	15.185	88.529
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	beryl 100	3	15.954	72.080
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	TAP 100	5	25.763	79.121
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	RAP 100	5	26.116	75.640
S 14	Li-like	1S	2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	5.060	KAP 100	5	26.634	71.789
S 14	Li-like	1S	(2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.064	ADP 101	2	10.640	72.153
S 14	Li-like	1S	(2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.064	beryl 100	3	15.954	72.220
S 14	Li-like	1S	(2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.064	TAP 100	5	25.763	79.359

S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.064	RAP 100	5	26.116	75.818
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.064	KAP 100	5	26.634	71.927
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.066	ADP 101	2	10.640	72.224
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.066	beryl 100	3	15.954	72.291
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.066	TAP 100	5	25.763	79.481
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.066	RAP 100	5	26.116	75.907
S 14	Li-like	1S (2S 2P (1P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.066	KAP 100	5	26.634	71.997
S 14	Li-like	1S (2S 2P (1P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.067	ADP 101	2	10.640	72.259
S 14	Li-like	1S (2S 2P (1P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.067	beryl 100	3	15.954	72.326
S 14	Li-like	1S (2S 2P (1P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.067	TAP 100	5	25.763	79.542
S 14	Li-like	1S (2S 2P (1P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.067	RAP 100	5	26.116	75.953
S 14	Li-like	1S (2S 2P (1P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.067	KAP 100	5	26.634	72.032
S 14	Li-like	1S (2S 2P (3P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.086	ADP 101	2	10.640	72.943
S 14	Li-like	1S (2S 2P (3P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.086	beryl 100	3	15.954	73.014
S 14	Li-like	1S (2S 2P (3P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.086	TAP 100	5	25.763	80.778
S 14	Li-like	1S (2S 2P (3P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.086	RAP 100	5	26.116	76.839
S 14	Li-like	1S (2S 2P (3P*))(2P*)j=1.5 - 1S2 2S	(2S)j= .5	5.086	KAP 100	5	26.634	72.707
S 14	Li-like	1S (2S 2P (3P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.087	ADP 101	2	10.640	72.980
S 14	Li-like	1S (2S 2P (3P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.087	beryl 100	3	15.954	73.051
S 14	Li-like	1S (2S 2P (3P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.087	TAP 100	5	25.763	80.848
S 14	Li-like	1S (2S 2P (3P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.087	RAP 100	5	26.116	76.887
S 14	Li-like	1S (2S 2P (3P*))(2P*)j= .5 - 1S2 2S	(2S)j= .5	5.087	KAP 100	5	26.634	72.743
S 14	Li-like	1S 2P2 (2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.090	ADP 101	2	10.640	73.091
S 14	Li-like	1S 2P2 (2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.090	beryl 100	3	15.954	73.162
S 14	Li-like	1S 2P2 (2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.090	TAP 100	5	25.763	81.060
S 14	Li-like	1S 2P2 (2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.090	RAP 100	5	26.116	77.033
S 14	Li-like	1S 2P2 (2P)j=1.5 - 1S2 2P	(2P*)j=1.5	5.090	KAP 100	5	26.634	72.852
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.096	ADP 101	2	10.640	73.314
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.096	beryl 100	3	15.954	73.386
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.096	TAP 100	5	25.763	81.500
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.096	RAP 100	5	26.116	77.329
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j= .5	5.096	KAP 100	5	26.634	73.072
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j=1.5	5.101	ADP 101	2	10.640	73.503
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j=1.5	5.101	beryl 100	3	15.954	73.576
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j=1.5	5.101	TAP 100	5	25.763	81.885
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j=1.5	5.101	RAP 100	5	26.116	77.582
S 14	Li-like	1S 2P2 (2D)j=1.5 - 1S2 2P	(2P*)j=1.5	5.101	KAP 100	5	26.634	73.258
S 14	Li-like	1S (2S 2P (3P*))(4P*)j=1.5 - 1S2 2S	(2S)j= .5	5.122	ADP 101	2	10.640	74.319
S 14	Li-like	1S (2S 2P (3P*))(4P*)j=1.5 - 1S2 2S	(2S)j= .5	5.122	beryl 100	3	15.954	74.396
S 14	Li-like	1S (2S 2P (3P*))(4P*)j=1.5 - 1S2 2S	(2S)j= .5	5.122	TAP 100	5	25.763	83.753
S 14	Li-like	1S (2S 2P (3P*))(4P*)j=1.5 - 1S2 2S	(2S)j= .5	5.122	RAP 100	5	26.116	78.703
S 14	Li-like	1S (2S 2P (3P*))(4P*)j=1.5 - 1S2 2S	(2S)j= .5	5.122	KAP 100	5	26.634	74.061
S 14	Li-like	1S 2P2 (4P)j=1.5 - 1S2 2P	(2P*)j= .5	5.127	ADP 101	2	10.640	74.520
S 14	Li-like	1S 2P2 (4P)j=1.5 - 1S2 2P	(2P*)j= .5	5.127	beryl 100	3	15.954	74.598
S 14	Li-like	1S 2P2 (4P)j=1.5 - 1S2 2P	(2P*)j= .5	5.127	TAP 100	5	25.763	84.286
S 14	Li-like	1S 2P2 (4P)j=1.5 - 1S2 2P	(2P*)j= .5	5.127	RAP 100	5	26.116	78.986

S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j= .5	5.127	KAP 100	5	26.634	74.258
S 14	Li-like	1S	2P2	(4P)j=2.5 -	1S2 2P	(2P*)j=1.5	5.128	ADP 101	2	10.640	74.560
S 14	Li-like	1S	2P2	(4P)j=2.5 -	1S2 2P	(2P*)j=1.5	5.128	beryl 100	3	15.954	74.638
S 14	Li-like	1S	2P2	(4P)j=2.5 -	1S2 2P	(2P*)j=1.5	5.128	TAP 100	5	25.763	84.399
S 14	Li-like	1S	2P2	(4P)j=2.5 -	1S2 2P	(2P*)j=1.5	5.128	RAP 100	5	26.116	79.044
S 14	Li-like	1S	2P2	(4P)j=2.5 -	1S2 2P	(2P*)j=1.5	5.128	KAP 100	5	26.634	74.297
S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j=1.5	5.130	ADP 101	2	10.640	74.641
S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j=1.5	5.130	beryl 100	3	15.954	74.720
S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j=1.5	5.130	TAP 100	5	25.763	84.632
S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j=1.5	5.130	RAP 100	5	26.116	79.160
S 14	Li-like	1S	2P2	(4P)j=1.5 -	1S2 2P	(2P*)j=1.5	5.130	KAP 100	5	26.634	74.377
S 14	Li-like	1S	2P2	(4P)j= .5 -	1S2 2P	(2P*)j=1.5	5.132	ADP 101	2	10.640	74.723
S 14	Li-like	1S	2P2	(4P)j= .5 -	1S2 2P	(2P*)j=1.5	5.132	beryl 100	3	15.954	74.802
S 14	Li-like	1S	2P2	(4P)j= .5 -	1S2 2P	(2P*)j=1.5	5.132	TAP 100	5	25.763	84.875
S 14	Li-like	1S	2P2	(4P)j= .5 -	1S2 2P	(2P*)j=1.5	5.132	RAP 100	5	26.116	79.277
S 14	Li-like	1S	2P2	(4P)j= .5 -	1S2 2P	(2P*)j=1.5	5.132	KAP 100	5	26.634	74.457
S 14	Li-like	1S2	4D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	24.260	TAP 100	1	25.763	70.332
S 14	Li-like	1S2	4S	(2S)j= .5 -	1S2 2P	(2P*)j=1.5	24.430	TAP 100	1	25.763	71.488
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	Ge 220	1	4.000	80.841
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	LiF 200	1	4.027	78.705
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	Al 200	1	.4.048	77.302
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	topaz 002	2	8.374	70.589
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	beryl 100	4	15.954	81.930
S 15	He-like	1S	6P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.949	mica 002	5	19.942	81.940
S 15	He-like	1S	5P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.998	Ge 220	1	4.000	88.188
S 15	He-like	1S	5P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.998	LiF 200	1	4.027	83.120
S 15	He-like	1S	5P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.998	Al 200	1	4.048	80.985
S 15	He-like	1S	5P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.998	quartz 200	1	4.246	70.321
S 15	He-like	1S	5P	(1P*)j=1.0 -	1S2	(1S)j= .0	3.998	topaz 002	2	8.374	72.719
S 15	He-like	1S	4P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.088	quartz 200	1	4.246	74.321
S 15	He-like	1S	4P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.088	topaz 002	2	8.374	77.516
S 15	He-like	1S	4P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.088	quartz 100	2	8.512	73.848
S 15	He-like	1S	3P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.299	tungsten 110	1	4.476	73.833
S 15	He-like	1S	3P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.299	quartz 112	1	4.564	70.379
S 15	He-like	1S	3P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.299	PET 002	2	8.742	79.586
S 15	He-like	1S	3P	(1P*)j=1.0 -	1S2	(1S)j= .0	4.299	EDT 020	2	8.808	77.464
S 15	He-like	1S	3P	(3P*)j=1.0 -	1S2	(1S)j= .0	4.304	tungsten 110	1	4.476	74.065
S 15	He-like	1S	3P	(3P*)j=1.0 -	1S2	(1S)j= .0	4.304	quartz 112	1	4.564	70.567
S 15	He-like	1S	3P	(3P*)j=1.0 -	1S2	(1S)j= .0	4.304	PET 002	2	8.742	79.955
S 15	He-like	1S	3P	(3P*)j=1.0 -	1S2	(1S)j= .0	4.304	EDT 020	2	8.808	77.767
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	ADP 101	2	10.640	71.261
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	gypsum 020	3	15.185	84.457
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	beryl 100	3	15.954	71.325
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	TAP 100	5	25.763	77.893
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	RAP 100	5	26.116	74.697
S 15	He-like	1S	2P	(1P*)j=1.0 -	1S2	(1S)j= .0	5.038	KAP 100	5	26.634	71.047

S	15	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	5.066	ADP 101	2	10.640	72.224
S	15	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	5.066	beryl 100	3	15.954	72.291
S	15	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	5.066	TAP 100	5	25.763	79.481
S	15	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	5.066	RAP 100	5	26.116	75.907
S	15	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	5.066	KAP 100	5	26.634	71.997
S	15	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	5.101	ADP 101	2	10.640	73.503
S	15	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	5.101	beryl 100	3	15.954	73.576
S	15	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	5.101	TAP 100	5	25.763	81.885
S	15	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	5.101	RAP 100	5	26.116	77.582
S	15	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	5.101	KAP 100	5	26.634	73.258
S	16	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	3.584	quartz 112	1	3.636	80.298
S	16	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	3.584	InSb 111	2	7.481	73.368
S	16	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	3.584	gypsum 020	4	15.185	70.750
S	16	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	3.593	quartz 112	1	3.636	81.180
S	16	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	3.593	InSb 111	2	7.481	73.856
S	16	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	3.593	gypsum 020	4	15.185	71.166
S	16	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	3.604	quartz 112	1	3.636	82.393
S	16	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	3.604	InSb 111	2	7.481	74.474
S	16	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	3.604	gypsum 020	4	15.185	71.688
S	16	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.622	quartz 112	1	3.636	84.970
S	16	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.622	Si 220	1	3.840	70.601
S	16	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.622	InSb 111	2	7.481	75.539
S	16	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.622	gypsum 020	4	15.185	72.573
S	16	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.649	Si 220	1	3.840	71.853
S	16	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.649	fluorite 220	1	3.862	70.882
S	16	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.649	InSb 111	2	7.481	77.301
S	16	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.649	gypsum 020	4	15.185	73.990
S	16	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.696	Si 220	1	3.840	74.259
S	16	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.696	fluorite 220	1	3.862	73.140
S	16	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.696	InSb 111	2	7.481	81.153
S	16	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.696	gypsum 020	4	15.185	76.803
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	Si 220	1	3.840	80.203
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	fluorite 220	1	3.862	78.465
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	Ge 220	1	4.000	71.085
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	gypsum 020	4	15.185	85.396
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	beryl 100	4	15.954	71.573
S	16	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.784	mica 002	5	19.942	71.577
S	16	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.991	Ge 220	1	4.000	86.156
S	16	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.991	LiF 200	1	4.027	82.333
S	16	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.991	Al 200	1	4.048	80.374
S	16	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.991	quartz 200	1	4.246	70.042
S	16	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.991	topaz 002	2	8.374	72.400
S	16	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.992	Ge 220	1	4.000	86.376
S	16	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.992	LiF 200	1	4.027	82.440
S	16	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.992	Al 200	1	4.048	80.459
S	16	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.992	quartz 200	1	4.246	70.082

S 16	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.992	topaz 002	2	8.374	72.445
S 16	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.727	quartz 110	1	4.912	74.225
S 16	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.727	gypsum 002	1	4.990	71.315
S 16	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.727	mica 002	4	19.942	71.469
S 16	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.733	quartz 110	1	4.912	74.485
S 16	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.733	gypsum 002	1	4.990	71.531
S 16	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.733	mica 002	4	19.942	71.687
S 16	H -like	10P		(2P*)j=1.5 - 2S	(2S)j= .5	14.768	gypsum 020	1	15.185	76.541
S 16	H -like	10D		(2D)j=2.5 - 2P	(2P*)j=1.5	14.819	gypsum 020	1	15.185	77.395
S 16	H -like	9P		(2P*)j=1.5 - 2S	(2S)j= .5	14.913	gypsum 020	1	15.185	79.139
S 16	H -like	9D		(2D)j=2.5 - 2P	(2P*)j=1.5	14.965	gypsum 020	1	15.185	80.235
S 16	H -like	8P		(2P*)j=1.5 - 2S	(2S)j= .5	15.121	gypsum 020	1	15.185	84.738
S 16	H -like	8P		(2P*)j=1.5 - 2S	(2S)j= .5	15.121	beryl 100	1	15.954	71.403
S 16	H -like	8D		(2D)j=2.5 - 2P	(2P*)j=1.5	15.174	gypsum 020	1	15.185	87.819
S 16	H -like	8D		(2D)j=2.5 - 2P	(2P*)j=1.5	15.174	beryl 100	1	15.954	72.010
S 16	H -like	7P		(2P*)j=1.5 - 2S	(2S)j= .5	15.434	beryl 100	1	15.954	75.331
S 16	H -like	7D		(2D)j=2.5 - 2P	(2P*)j=1.5	15.490	beryl 100	1	15.954	76.148
S 16	H -like	6P		(2P*)j=1.5 - 2S	(2S)j= .5	15.944	beryl 100	1	15.954	87.971
S 16	H -like	4P		(2P*)j=1.5 - 2S	(2S)j= .5	18.887	mica 002	1	19.942	71.280
S 16	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	18.967	mica 002	1	19.942	72.010
S 16	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	25.462	TAP 100	1	25.763	81.233
S 16	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	25.462	RAP 100	1	26.116	77.151
S 16	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	25.462	KAP 100	1	26.634	72.940
S 16	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	25.598	TAP 100	1	25.763	83.512
S 16	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	25.598	RAP 100	1	26.116	78.569
S 16	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	25.598	KAP 100	1	26.634	73.967
Cl		K-alpha(1)				4.728	quartz 110	1	4.912	74.268
Cl		K-alpha(1)				4.728	gypsum 002	1	4.990	71.351
Cl		K-alpha(1)				4.728	mica 002	4	19.942	71.505
Cl13	B -like	2S2 4D		(2D)j=1.5 - 2S2 2P	(2P*)j= .5	24.290	TAP 100	1	25.763	70.532
Cl13	B -like	2S2 4D		(2D)j=1.5 - 2S2 2P	(2P*)j=1.5	24.400	TAP 100	1	25.763	71.279
Cl13	B -like	2S 2P (3P*) 4D		(2D*)j=1.5 - 2S 2P2	(2P)j= .5	24.790	TAP 100	1	25.763	74.203
Cl13	B -like	2S 2P (3P*) 4D		(2D*)j=1.5 - 2S 2P2	(2P)j= .5	24.790	RAP 100	1	26.116	71.664
Cl13	B -like	2S 2P (3P*) 4D		(2D*)j=1.5 - 2S 2P2	(2P)j=1.5	24.860	TAP 100	1	25.763	74.785
Cl13	B -like	2S 2P (3P*) 4D		(2D*)j=1.5 - 2S 2P2	(2P)j=1.5	24.860	RAP 100	1	26.116	72.158
Cl13	B -like	2S 2P (3P*) 4D		(2F*)j=3.5 - 2S 2P2	(2D)j=2.5	24.970	TAP 100	1	25.763	75.747
Cl13	B -like	2S 2P (3P*) 4D		(2F*)j=3.5 - 2S 2P2	(2D)j=2.5	24.970	RAP 100	1	26.116	72.964
Cl14	Be-like	2S 6D		(3D)j=3.0 - 2S 2P	(3P*)j=2.0	19.580	mica 002	1	19.942	79.066
Cl15	Li-like	1S 2P (1P*) 3P		(2S)j= .5 - 1S2 3P	(2P*)j=1.5	4.447	tungsten 110	1	4.476	83.474
Cl15	Li-like	1S 2P (1P*) 3P		(2S)j= .5 - 1S2 3P	(2P*)j=1.5	4.447	quartz 112	1	4.564	76.999
Cl15	Li-like	1S 2P (1P*) 3P		(2S)j= .5 - 1S2 3P	(2P*)j=1.5	4.447	topaz 200	1	4.638	73.500
Cl15	Li-like	1S 2P (1P*) 3P		(2S)j= .5 - 1S2 3P	(2P*)j=1.5	4.447	Al 111	1	4.676	71.994
Cl15	Li-like	1S 2P (1P*) 3P		(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	4.451	tungsten 110	1	4.476	83.942
Cl15	Li-like	1S 2P (1P*) 3P		(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	4.451	quartz 112	1	4.564	77.224
Cl15	Li-like	1S 2P (1P*) 3P		(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	4.451	topaz 200	1	4.638	73.675
Cl15	Li-like	1S 2P (1P*) 3P		(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	4.451	Al 111	1	4.676	72.154

Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	4.458	tungsten 110	1	4.476	84.860
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	4.458	quartz 112	1	4.564	77.627
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	4.458	topaz 200	1	4.638	73.985
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	4.458	Al 111	1	4.676	72.436
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	4.463	tungsten 110	1	4.476	85.632
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	4.463	quartz 112	1	4.564	77.924
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	4.463	topaz 200	1	4.638	74.211
Cl15	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	4.463	Al 111	1	4.676	72.640
Cl15	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.466	tungsten 110	1	4.476	86.169
Cl15	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.466	quartz 112	1	4.564	78.105
Cl15	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.466	topaz 200	1	4.638	74.347
Cl15	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.466	Al 111	1	4.676	72.764
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=1.5	4.468	tungsten 110	1	4.476	86.574
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=1.5	4.468	quartz 112	1	4.564	78.228
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=1.5	4.468	topaz 200	1	4.638	74.439
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=1.5	4.468	Al 111	1	4.676	72.846
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=2.5	4.469	tungsten 110	1	4.476	86.795
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=2.5	4.469	quartz 112	1	4.564	78.289
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=2.5	4.469	topaz 200	1	4.638	74.485
Cl15	Li-like	1S 2P (1P*) 3S	(2P*)j= .5 - 1S2 3D	(2D)j=2.5	4.469	Al 111	1	4.676	72.888
Cl15	Li-like	1S (2S 2P (3P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.483	quartz 112	1	4.564	79.189
Cl15	Li-like	1S (2S 2P (3P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.483	topaz 200	1	4.638	75.146
Cl15	Li-like	1S (2S 2P (3P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	4.483	Al 111	1	4.676	73.481
Cl15	Li-like	1S 2P2	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.485	quartz 112	1	4.564	79.324
Cl15	Li-like	1S 2P2	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.485	topaz 200	1	4.638	75.242
Cl15	Li-like	1S 2P2	(2P)j= .5 - 1S2 2P	(2P*)j= .5	4.485	Al 111	1	4.676	73.567
Cl15	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.488	quartz 112	1	4.564	79.529
Cl15	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.488	topaz 200	1	4.638	75.388
Cl15	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	4.488	Al 111	1	4.676	73.698
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.492	quartz 112	1	4.564	79.809
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.492	topaz 200	1	4.638	75.586
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	4.492	Al 111	1	4.676	73.873
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.497	quartz 112	1	4.564	80.170
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.497	topaz 200	1	4.638	75.836
Cl15	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	4.497	Al 111	1	4.676	74.095
Cl15	Li-like	1S (2S 2P (3P*))	(4P*)j=1.5 - 1S2 2S	(2S)j= .5	4.521	quartz 112	1	4.564	82.129
Cl15	Li-like	1S (2S 2P (3P*))	(4P*)j=1.5 - 1S2 2S	(2S)j= .5	4.521	topaz 200	1	4.638	77.103
Cl15	Li-like	1S (2S 2P (3P*))	(4P*)j=1.5 - 1S2 2S	(2S)j= .5	4.521	Al 111	1	4.676	75.206
Cl15	Li-like	1S2 5D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	18.990	mica 002	1	19.942	72.225
Cl16	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.481	quartz 112	1	3.636	73.210
Cl16	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.481	ADP 101	3	10.640	78.957
Cl16	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.523	quartz 112	1	3.636	75.678
Cl16	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.523	InSb 111	2	7.481	70.365
Cl16	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.523	ADP 101	3	10.640	83.377
Cl16	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.603	quartz 112	1	3.636	82.275
Cl16	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.603	InSb 111	2	7.481	74.417

Cl16	He-like	1S	4P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.603	gypsum 020	4	15.185	71.640
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	Si 220	1	3.840	80.652
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	fluorite 220	1	3.862	78.842
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	Ge 220	1	4.000	71.307
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	LiF 200	1	4.027	70.203
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	gypsum 020	4	15.185	86.458
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	beryl 100	4	15.954	71.802
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	3.789	mica 002	5	19.942	71.806
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	Si 220	1	3.840	81.123
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	fluorite 220	1	3.862	79.232
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	Ge 220	1	4.000	71.532
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	LiF 200	1	4.027	70.414
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	gypsum 020	4	15.185	88.027
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	beryl 100	4	15.954	72.033
Cl16	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	3.794	mica 002	5	19.942	72.038
Cl16	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.444	tungsten 110	1	4.476	83.145
Cl16	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.444	quartz 112	1	4.564	76.832
Cl16	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.444	topaz 200	1	4.638	73.370
Cl16	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	4.444	Al 111	1	4.676	71.876
Cl16	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.467	tungsten 110	1	4.476	86.366
Cl16	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.467	quartz 112	1	4.564	78.166
Cl16	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.467	topaz 200	1	4.638	74.393
Cl16	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	4.467	Al 111	1	4.676	72.805
Cl16	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	4.497	quartz 112	1	4.564	80.170
Cl16	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	4.497	topaz 200	1	4.638	75.836
Cl16	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	4.497	Al 111	1	4.676	74.095
Cl16	He-like	1S	3P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	24.250	TAP 100	1	25.763	70.266
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	25.020	TAP 100	1	25.763	76.206
Cl16	He-like	1S	3P	(1P*)j=1.0 - 1S	2S	(1S)j= .0	25.020	RAP 100	1	26.116	73.342
Cl16	He-like		0	( )j= .0 -	0	( )j= .0	3.862	Ge 220	1	4.000	74.906
Cl16	He-like		0	( )j= .0 -	0	( )j= .0	3.862	LiF 200	1	4.027	73.542
Cl16	He-like		0	( )j= .0 -	0	( )j= .0	3.862	Al 200	1	4.048	72.564
Cl16	He-like		0	( )j= .0 -	0	( )j= .0	3.862	beryl 100	4	15.954	75.531
Cl16	He-like		0	( )j= .0 -	0	( )j= .0	3.862	mica 002	5	19.942	75.537
Cl17	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	3.173	Ge 111	2	6.532	76.294
Cl17	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	3.173	KBr 200	2	6.584	74.548
Cl17	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	3.173	quartz 101	2	6.687	71.624
Cl17	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	3.173	graphite 002	2	6.696	71.393
Cl17	H -like	10P		(2P*)j=1.5 - 1S		(2S)j= .5	3.173	beryl 100	5	15.954	83.945
Cl17	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	3.181	Ge 111	2	6.532	76.900
Cl17	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	3.181	KBr 200	2	6.584	75.079
Cl17	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	3.181	quartz 101	2	6.687	72.063
Cl17	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	3.181	graphite 002	2	6.696	71.827
Cl17	H -like	9P		(2P*)j=1.5 - 1S		(2S)j= .5	3.181	beryl 100	5	15.954	85.508
Cl17	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	3.192	Ge 111	2	6.532	77.780
Cl17	H -like	8P		(2P*)j=1.5 - 1S		(2S)j= .5	3.192	KBr 200	2	6.584	75.842

Cl17	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	3.192	quartz 101	2	6.687	72.686
Cl17	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	3.192	graphite 002	2	6.696	72.441
Cl17	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.207	Ge 111	2	6.532	79.093
Cl17	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.207	KBr 200	2	6.584	76.952
Cl17	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.207	quartz 101	2	6.687	73.572
Cl17	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	3.207	graphite 002	2	6.696	73.313
Cl17	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.231	Ge 111	2	6.532	81.604
Cl17	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.231	KBr 200	2	6.584	78.953
Cl17	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.231	quartz 101	2	6.687	75.095
Cl17	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	3.231	graphite 002	2	6.696	74.808
Cl17	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.272	KBr 200	2	6.584	83.681
Cl17	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.272	quartz 101	2	6.687	78.130
Cl17	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	3.272	graphite 002	2	6.696	77.769
Cl17	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	3.351	ADP 101	3	10.640	70.879
Cl17	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.534	quartz 112	1	3.636	76.397
Cl17	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.534	InSb 111	2	7.481	70.873
Cl17	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	3.534	ADP 101	3	10.640	85.156
Cl17	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.535	quartz 112	1	3.636	76.464
Cl17	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.535	InSb 111	2	7.481	70.920
Cl17	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	3.535	ADP 101	3	10.640	85.351
Cl17	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.185	quartz 200	1	4.246	80.276
Cl17	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.185	topaz 002	2	8.374	88.229
Cl17	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.185	quartz 100	2	8.512	79.520
Cl17	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.185	PET 002	2	8.742	73.225
Cl17	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	4.185	EDT 020	2	8.808	71.855
Cl17	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.191	quartz 200	1	4.246	80.768
Cl17	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.191	quartz 100	2	8.512	79.974
Cl17	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.191	PET 002	2	8.742	73.500
Cl17	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	4.191	EDT 020	2	8.808	72.108
Cl17	H -like	10P		(2P*)j=1.5 - 2S	(2S)j= .5	13.074	KAP 100	2	26.634	79.038
Cl17	H -like	10D		(2D)j=2.5 - 2P	(2P*)j=1.5	13.125	KAP 100	2	26.634	80.259
Cl17	H -like	9P		(2P*)j=1.5 - 2S	(2S)j= .5	13.203	KAP 100	2	26.634	82.498
Cl17	H -like	9D		(2D)j=2.5 - 2P	(2P*)j=1.5	13.255	KAP 100	2	26.634	84.469
Cl17	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	14.934	gypsum 020	1	15.185	79.568
Cl17	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	15.000	gypsum 020	1	15.185	81.047
Cl17	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	15.000	beryl 100	1	15.954	70.086
Ar		K-alpha(1)				4.192	quartz 200	1	4.246	80.852
Ar		K-alpha(1)				4.192	quartz 100	2	8.512	80.051
Ar		K-alpha(1)				4.192	PET 002	2	8.742	73.546
Ar		K-alpha(1)				4.192	EDT 020	2	8.808	72.150
Ar12	N -like	2S2 2P2 (3P)	4D	(4P)j=2.5 - 2S2 2P3	(4S*)j=1.5	25.040	TAP 100	1	25.763	76.394
Ar12	N -like	2S2 2P2 (3P)	4D	(4P)j=2.5 - 2S2 2P3	(4S*)j=1.5	25.040	RAP 100	1	26.116	73.496
Ar12	N -like	2S2 2P2 (3P)	4D	(4P)j=2.5 - 2S2 2P3	(4S*)j=1.5	25.040	KAP 100	1	26.634	70.077
Ar13	C -like	2S2 2P	4S	(1P*)j=1.0 - 2S2 2P2	(1S)j= .0	24.610	TAP 100	1	25.763	72.794
Ar13	C -like	2S2 2P	4S	(1P*)j=1.0 - 2S2 2P2	(1S)j= .0	24.610	RAP 100	1	26.116	70.447
Ar13	C -like	2S 2P2	3P	(3S*)j=1.0 - 2S2 2P2	(3P)j=1.0	26.300	KAP 100	1	26.634	80.917

Ar13	C -like	2S	2P2		3P	(3S*)j=1.0 -	2S2	2P2		(3P)j=2.0	26.360	KAP 100	1	26.634	81.774
Ar13	C -like	2S	2P2		3P	(3P*)j=2.0 -	2S2	2P2		(3P)j=2.0	26.530	KAP 100	1	26.634	84.935
Ar14	B -like	1S	2S2	2P2		(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	4.058	quartz 200	1	4.246	72.886
Ar14	B -like	1S	2S2	2P2		(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	4.058	topaz 002	2	8.374	75.741
Ar14	B -like	1S	2S2	2P2		(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	4.058	quartz 100	2	8.512	72.454
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	2S2	2P		(2P*)j= .5	25.420	TAP 100	1	25.763	80.640
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	2S2	2P		(2P*)j= .5	25.420	RAP 100	1	26.116	76.743
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	2S2	2P		(2P*)j= .5	25.420	KAP 100	1	26.634	72.634
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	25.580	TAP 100	1	25.763	83.167
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	25.580	RAP 100	1	26.116	78.372
Ar14	B -like	2S	2P		3P	(2P)j=1.5 -	1S2	2S2	2P	(2P*)j=1.5	25.580	KAP 100	1	26.634	73.827
Ar15	Be-like	1S	2S2	4P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	3.330	quartz 101	2	6.687	84.850
Ar15	Be-like	1S	2S2	4P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	3.330	graphite 002	2	6.696	84.056
Ar15	Be-like	1S	2S2	3P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	3.450	quartz 112	1	3.636	71.594
Ar15	Be-like	1S	2S2	3P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	3.450	ADP 101	3	10.640	76.592
Ar15	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	4.010	LiF 200	1	4.027	84.734
Ar15	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	4.010	Al 200	1	4.048	82.143
Ar15	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	4.010	quartz 200	1	4.246	70.807
Ar15	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	4.010	topaz 002	2	8.374	73.281
Ar15	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	4.010	quartz 100	2	8.512	70.424
Ar15	Be-like	1S2	2S	3P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	25.050	TAP 100	1	25.763	76.489
Ar15	Be-like	1S2	2S	3P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	25.050	RAP 100	1	26.116	73.573
Ar15	Be-like	1S2	2S	3P		(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	25.050	KAP 100	1	26.634	70.140
Ar15	Be-like	1S2	2S	3D		(3D)j=1.0 -	1S2	2S	2P	(3P*)j= .0	25.720	TAP 100	1	25.763	86.689
Ar15	Be-like	1S2	2S	3D		(3D)j=1.0 -	1S2	2S	2P	(3P*)j= .0	25.720	RAP 100	1	26.116	80.010
Ar15	Be-like	1S2	2S	3D		(3D)j=1.0 -	1S2	2S	2P	(3P*)j= .0	25.720	KAP 100	1	26.634	74.946
Ar15	Be-like	1S2	2S	3D		(3D)j=2.0 -	1S2	2S	2P	(3P*)j=1.0	25.840	RAP 100	1	26.116	81.663
Ar15	Be-like	1S2	2S	3D		(3D)j=2.0 -	1S2	2S	2P	(3P*)j=1.0	25.840	KAP 100	1	26.634	75.975
Ar15	Be-like	1S2	2S	3D		(3D)j=3.0 -	1S2	2S	2P	(3P*)j=2.0	26.000	RAP 100	1	26.116	84.598
Ar15	Be-like	1S2	2S	3D		(3D)j=3.0 -	1S2	2S	2P	(3P*)j=2.0	26.000	KAP 100	1	26.634	77.474
Ar16	Li-like	1S	2S	4P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.250	Ge 111	2	6.532	84.326
Ar16	Li-like	1S	2S	4P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.250	KBr 200	2	6.584	80.838
Ar16	Li-like	1S	2S	4P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.250	quartz 101	2	6.687	76.418
Ar16	Li-like	1S	2S	4P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.250	graphite 002	2	6.696	76.103
Ar16	Li-like	1S	2P	4P		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.268	KBr 200	2	6.584	83.077
Ar16	Li-like	1S	2P	4P		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.268	quartz 101	2	6.687	77.801
Ar16	Li-like	1S	2P	4P		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.268	graphite 002	2	6.696	77.450
Ar16	Li-like	1S	2S		3P	(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.392	ADP 101	3	10.640	73.017
Ar16	Li-like	1S	2P	(3P*)	3P	(2P)j=1.5 -	1S2	2P		(2P*)j=1.5	3.420	quartz 112	1	3.636	70.152
Ar16	Li-like	1S	2P	(3P*)	3P	(2P)j=1.5 -	1S2	2P		(2P*)j=1.5	3.420	ADP 101	3	10.640	74.641
Ar16	Li-like	1S	2P	(3P*)	3P	(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.430	quartz 112	1	3.636	70.621
Ar16	Li-like	1S	2P	(3P*)	3P	(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.430	ADP 101	3	10.640	75.263
Ar16	Li-like	1S	2P2			(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.961	Ge 220	1	4.000	81.993
Ar16	Li-like	1S	2P2			(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.961	LiF 200	1	4.027	79.612
Ar16	Li-like	1S	2P2			(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.961	Al 200	1	4.048	78.100
Ar16	Li-like	1S	2P2			(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.961	topaz 002	2	8.374	71.089

Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j= .5	3.961	beryl 100	4	15.954	83.268
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j= .5	3.961	mica 002	5	19.942	83.280
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	Ge 220	1	4.000	82.307
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	LiF 200	1	4.027	79.852
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	Al 200	1	4.048	78.307
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	topaz 002	2	8.374	71.216
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	beryl 100	4	15.954	83.646
Ar16	Li-like	1S	2P2		(2S)j= .5 - 1S2	2P	(2P*)j=1.5	3.964	mica 002	5	19.942	83.659
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	Ge 220	1	4.000	82.635
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	LiF 200	1	4.027	80.097
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	Al 200	1	4.048	78.519
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	topaz 002	2	8.374	71.344
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	beryl 100	4	15.954	84.048
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.967	mica 002	5	19.942	84.062
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	Ge 220	1	4.000	82.748
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	LiF 200	1	4.027	80.180
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	Al 200	1	4.048	78.590
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	topaz 002	2	8.374	71.387
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	beryl 100	4	15.954	84.188
Ar16	Li-like	1S	(2S	2P (1P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.968	mica 002	5	19.942	84.203
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	Ge 220	1	4.000	84.413
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	LiF 200	1	4.027	81.332
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	Al 200	1	4.048	79.561
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	topaz 002	2	8.374	71.953
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	beryl 100	4	15.954	86.486
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j=1.5 - 1S2	2S	(2S)j= .5	3.981	mica 002	5	19.942	86.509
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	Ge 220	1	4.000	84.716
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	LiF 200	1	4.027	81.522
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	Al 200	1	4.048	79.719
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	topaz 002	2	8.374	72.041
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	beryl 100	4	15.954	86.991
Ar16	Li-like	1S	(2S	2P (3P*	))(2P*)j= .5 - 1S2	2S	(2S)j= .5	3.983	mica 002	5	19.942	87.018
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	Ge 220	1	4.000	85.036
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	LiF 200	1	4.027	81.718
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	Al 200	1	4.048	79.878
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	topaz 002	2	8.374	72.130
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	beryl 100	4	15.954	87.599
Ar16	Li-like	1S	2P2		(2P)j=1.5 - 1S2	2P	(2P*)j=1.5	3.985	mica 002	5	19.942	87.634
Ar16	Li-like	1S	2P2		(2D)j=1.5 - 1S2	2P	(2P*)j= .5	3.989	Ge 220	1	4.000	85.750
Ar16	Li-like	1S	2P2		(2D)j=1.5 - 1S2	2P	(2P*)j= .5	3.989	LiF 200	1	4.027	82.123
Ar16	Li-like	1S	2P2		(2D)j=1.5 - 1S2	2P	(2P*)j= .5	3.989	Al 200	1	4.048	80.206
Ar16	Li-like	1S	2P2		(2D)j=1.5 - 1S2	2P	(2P*)j= .5	3.989	topaz 002	2	8.374	72.309
Ar16	Li-like	1S	2P2		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	3.992	Ge 220	1	4.000	86.376
Ar16	Li-like	1S	2P2		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	3.992	LiF 200	1	4.027	82.440
Ar16	Li-like	1S	2P2		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	3.992	Al 200	1	4.048	80.459
Ar16	Li-like	1S	2P2		(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	3.992	quartz 200	1	4.246	70.082

Ar16	Li-like	1S	2P2			(2D)j=2.5 - 1S2	2P	(2P*)j=1.5	3.992	topaz 002	2	8.374	72.445
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j=1.5 - 1S2	2S	(2S)j= .5	4.005	LiF 200	1	4.027	84.008
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j=1.5 - 1S2	2S	(2S)j= .5	4.005	Al 200	1	4.048	81.641
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j=1.5 - 1S2	2S	(2S)j= .5	4.005	quartz 200	1	4.246	70.603
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j=1.5 - 1S2	2S	(2S)j= .5	4.005	topaz 002	2	8.374	73.045
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j=1.5 - 1S2	2S	(2S)j= .5	4.005	quartz 100	2	8.512	70.224
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j= .5	4.010	LiF 200	1	4.027	84.734
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j= .5	4.010	Al 200	1	4.048	82.143
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j= .5	4.010	quartz 200	1	4.246	70.807
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j= .5	4.010	topaz 002	2	8.374	73.281
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j= .5	4.010	quartz 100	2	8.512	70.424
Ar16	Li-like	1S	2P2			(4P)j=2.5 - 1S2	2P	(2P*)j=1.5	4.012	LiF 200	1	4.027	85.053
Ar16	Li-like	1S	2P2			(4P)j=2.5 - 1S2	2P	(2P*)j=1.5	4.012	Al 200	1	4.048	82.353
Ar16	Li-like	1S	2P2			(4P)j=2.5 - 1S2	2P	(2P*)j=1.5	4.012	quartz 200	1	4.246	70.890
Ar16	Li-like	1S	2P2			(4P)j=2.5 - 1S2	2P	(2P*)j=1.5	4.012	topaz 002	2	8.374	73.376
Ar16	Li-like	1S	2P2			(4P)j=2.5 - 1S2	2P	(2P*)j=1.5	4.012	quartz 100	2	8.512	70.505
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j=1.5	4.014	LiF 200	1	4.027	85.395
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j=1.5	4.014	Al 200	1	4.048	82.569
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j=1.5	4.014	quartz 200	1	4.246	70.972
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j=1.5	4.014	topaz 002	2	8.374	73.472
Ar16	Li-like	1S	2P2			(4P)j=1.5 - 1S2	2P	(2P*)j=1.5	4.014	quartz 100	2	8.512	70.586
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j= .5 - 1S2	2S	(2S)j= .5	4.015	LiF 200	1	4.027	85.576
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j= .5 - 1S2	2S	(2S)j= .5	4.015	Al 200	1	4.048	82.679
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j= .5 - 1S2	2S	(2S)j= .5	4.015	quartz 200	1	4.246	71.014
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j= .5 - 1S2	2S	(2S)j= .5	4.015	topaz 002	2	8.374	73.520
Ar16	Li-like	1S	(2S	2P	(3P*))	(4P*)j= .5 - 1S2	2S	(2S)j= .5	4.015	quartz 100	2	8.512	70.626
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	Si 111	2	6.271	80.781
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	sylvite 200	2	6.292	79.669
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	fluorite 111	2	6.308	78.900
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	Ge 111	2	6.532	71.377
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	KBr 200	2	6.584	70.078
Ar17	He-like	1S	6P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.095	beryl 100	5	15.954	75.925
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	Si 111	2	6.271	86.036
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	sylvite 200	2	6.292	83.868
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	fluorite 111	2	6.308	82.638
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	Ge 111	2	6.532	73.285
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	KBr 200	2	6.584	71.839
Ar17	He-like	1S	5P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.128	beryl 100	5	15.954	78.614
Ar17	He-like	1S	4P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.200	Ge 111	2	6.532	78.462
Ar17	He-like	1S	4P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.200	KBr 200	2	6.584	76.423
Ar17	He-like	1S	4P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.200	quartz 101	2	6.687	73.153
Ar17	He-like	1S	4P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.200	graphite 002	2	6.696	72.900
Ar17	He-like	1S	3P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.365	ADP 101	3	10.640	71.582
Ar17	He-like	1S	3P			(3P*)j=1.0 - 1S2		(1S)j= .0	3.370	ADP 101	3	10.640	71.840
Ar17	He-like	1S	2P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.948	Ge 220	1	4.000	80.751
Ar17	He-like	1S	2P			(1P*)j=1.0 - 1S2		(1S)j= .0	3.948	LiF 200	1	4.027	78.632

Ar17	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.948	Al 200	1	4.048	77.238
Ar17	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.948	topaz 002	2	8.374	70.548
Ar17	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.948	beryl 100	4	15.954	81.828
Ar17	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.948	mica 002	5	19.942	81.838
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	Ge 220	1	4.000	82.862
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	LiF 200	1	4.027	80.264
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	Al 200	1	4.048	78.662
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	topaz 002	2	8.374	71.430
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	beryl 100	4	15.954	84.332
Ar17	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.969	mica 002	5	19.942	84.347
Ar17	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.994	Ge 220	1	4.000	86.861
Ar17	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.994	LiF 200	1	4.027	82.660
Ar17	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.994	Al 200	1	4.048	80.631
Ar17	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.994	quartz 200	1	4.246	70.161
Ar17	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.994	topaz 002	2	8.374	72.536
Ar18	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	2.829	LiF 220	1	2.848	83.378
Ar18	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	2.829	quartz 100	3	8.512	85.608
Ar18	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	2.829	PET 002	3	8.742	76.127
Ar18	H -like	10P		(2P*)j=1.5 - 1S	(2S)j= .5	2.829	EDT 020	3	8.808	74.484
Ar18	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	2.836	LiF 220	1	2.848	84.738
Ar18	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	2.836	quartz 100	3	8.512	88.243
Ar18	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	2.836	PET 002	3	8.742	76.713
Ar18	H -like	9P		(2P*)j=1.5 - 1S	(2S)j= .5	2.836	EDT 020	3	8.808	75.003
Ar18	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	2.845	LiF 220	1	2.848	87.370
Ar18	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	2.845	PET 002	3	8.742	77.507
Ar18	H -like	8P		(2P*)j=1.5 - 1S	(2S)j= .5	2.845	EDT 020	3	8.808	75.698
Ar18	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.859	calcite 422	1	3.034	70.445
Ar18	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.859	calcite 200	2	6.071	70.365
Ar18	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.859	PET 002	3	8.742	78.850
Ar18	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.859	EDT 020	3	8.808	76.849
Ar18	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.859	gypsum 020	5	15.185	70.286
Ar18	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.881	calcite 422	1	3.034	71.727
Ar18	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.881	calcite 200	2	6.071	71.641
Ar18	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.881	PET 002	3	8.742	81.369
Ar18	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.881	EDT 020	3	8.808	78.892
Ar18	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.881	gypsum 020	5	15.185	71.556
Ar18	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.917	calcite 422	1	3.034	74.036
Ar18	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.917	quartz 211	1	3.082	71.167
Ar18	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.917	calcite 200	2	6.071	73.938
Ar18	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.917	EDT 020	3	8.808	83.478
Ar18	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.917	gypsum 020	5	15.185	73.840
Ar18	H -like	5P		(2P*)j= .5 - 1S	(2S)j= .5	2.918	calcite 422	1	3.034	74.105
Ar18	H -like	5P		(2P*)j= .5 - 1S	(2S)j= .5	2.918	quartz 211	1	3.082	71.225
Ar18	H -like	5P		(2P*)j= .5 - 1S	(2S)j= .5	2.918	calcite 200	2	6.071	74.006
Ar18	H -like	5P		(2P*)j= .5 - 1S	(2S)j= .5	2.918	EDT 020	3	8.808	83.652
Ar18	H -like	5P		(2P*)j= .5 - 1S	(2S)j= .5	2.918	gypsum 020	5	15.185	73.908

Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	calcite 422	1	3.034	79.902
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	quartz 211	1	3.082	75.737
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	calcite 200	2	6.071	79.744
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	Si 111	2	6.271	72.296
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	sylvite 200	2	6.292	71.706
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	fluorite 111	2	6.308	71.272
Ar18	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.987	gypsum 020	5	15.185	79.589
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	calcite 422	1	3.034	80.010
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	quartz 211	1	3.082	75.813
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	calcite 200	2	6.071	79.851
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	Si 111	2	6.271	72.356
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	sylvite 200	2	6.292	71.764
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	fluorite 111	2	6.308	71.328
Ar18	H -like	4P	(2P*)j= .5 - 1S	(2S)j= .5	2.988	gypsum 020	5	15.185	79.694
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	fluorite 111	2	6.308	87.114
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	Ge 111	2	6.532	74.684
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	KBr 200	2	6.584	73.110
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	quartz 101	2	6.687	70.412
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	graphite 002	2	6.696	70.197
Ar18	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	3.150	beryl 100	5	15.954	80.828
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	fluorite 111	2	6.308	87.501
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	Ge 111	2	6.532	74.750
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	KBr 200	2	6.584	73.170
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	quartz 101	2	6.687	70.463
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	graphite 002	2	6.696	70.247
Ar18	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	3.151	beryl 100	5	15.954	80.941
Ar18	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.731	Si 220	1	3.840	76.316
Ar18	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.731	fluorite 220	1	3.862	75.034
Ar18	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.731	InSb 111	2	7.481	85.916
Ar18	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.731	gypsum 020	4	15.185	79.362
Ar18	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.737	Si 220	1	3.840	76.700
Ar18	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.737	fluorite 220	1	3.862	75.383
Ar18	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.737	InSb 111	2	7.481	87.521
Ar18	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.737	gypsum 020	4	15.185	79.864
Ar18	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	12.180	TAP 100	2	25.763	71.004
Ar18	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.236	TAP 100	2	25.763	71.785
Ar18	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	12.582	TAP 100	2	25.763	77.621
Ar18	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	12.582	RAP 100	2	26.116	74.482
Ar18	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	12.582	KAP 100	2	26.634	70.875
Ar18	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.642	TAP 100	2	25.763	78.934
Ar18	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.642	RAP 100	2	26.116	75.499
Ar18	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.642	KAP 100	2	26.634	71.679
Ar18	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	13.312	KAP 100	2	26.634	88.430
Ar18	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	14.902	gypsum 020	1	15.185	78.921
Ar18	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	14.982	gypsum 020	1	15.185	80.621
K		K-alpha(1)			3.741	Si 220	1	3.840	76.995

K			K-alpha(1)			3.741	fluorite 220	1	3.862	75.650
K			K-alpha(1)			3.741	gypsum 020	4	15.185	80.257
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j= .0	- 2S2 2P2	(3P)j=1.0	25.583	TAP 100	1	25.763	83.223
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j= .0	- 2S2 2P2	(3P)j=1.0	25.583	RAP 100	1	26.116	78.405
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j= .0	- 2S2 2P2	(3P)j=1.0	25.583	KAP 100	1	26.634	73.850
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=1.0	- 2S2 2P2	(3P)j=1.0	25.592	TAP 100	1	25.763	83.395
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=1.0	- 2S2 2P2	(3P)j=1.0	25.592	RAP 100	1	26.116	78.503
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=1.0	- 2S2 2P2	(3P)j=1.0	25.592	KAP 100	1	26.634	73.920
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.607	TAP 100	1	25.763	83.692
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.607	RAP 100	1	26.116	78.669
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.607	KAP 100	1	26.634	74.037
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=1.0	- 2S2 2P2	(3P)j= .0	25.696	TAP 100	1	25.763	85.867
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=1.0	- 2S2 2P2	(3P)j= .0	25.696	RAP 100	1	26.116	79.711
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=1.0	- 2S2 2P2	(3P)j= .0	25.696	KAP 100	1	26.634	74.749
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=2.0	25.700	TAP 100	1	25.763	85.992
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=2.0	25.700	RAP 100	1	26.116	79.760
K 14	C -like	2S2 2P (2P*) 3D	(3P*)j=2.0	- 2S2 2P2	(3P)j=2.0	25.700	KAP 100	1	26.634	74.782
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.726	TAP 100	1	25.763	86.929
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.726	RAP 100	1	26.116	80.086
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(3P)j=1.0	25.726	KAP 100	1	26.634	74.996
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=3.0	- 2S2 2P2	(3P)j=2.0	25.750	TAP 100	1	25.763	88.180
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=3.0	- 2S2 2P2	(3P)j=2.0	25.750	RAP 100	1	26.116	80.396
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=3.0	- 2S2 2P2	(3P)j=2.0	25.750	KAP 100	1	26.634	75.197
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=1.0	- 2S2 2P2	(3P)j=1.0	25.784	RAP 100	1	26.116	80.854
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=1.0	- 2S2 2P2	(3P)j=1.0	25.784	KAP 100	1	26.634	75.486
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(3P)j=2.0	25.818	RAP 100	1	26.116	81.336
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(3P)j=2.0	25.818	KAP 100	1	26.634	75.781
K 14	C -like	2S2 2P (2P*) 3D	(1P*)j=1.0	- 2S2 2P2	(1D)j=2.0	25.887	RAP 100	1	26.116	82.407
K 14	C -like	2S2 2P (2P*) 3D	(1P*)j=1.0	- 2S2 2P2	(1D)j=2.0	25.887	KAP 100	1	26.634	76.398
K 14	C -like	2S2 2P (2P*) 3D	(1F*)j=3.0	- 2S2 2P2	(1D)j=2.0	25.909	RAP 100	1	26.116	82.781
K 14	C -like	2S2 2P (2P*) 3D	(1F*)j=3.0	- 2S2 2P2	(1D)j=2.0	25.909	KAP 100	1	26.634	76.601
K 14	C -like	2S2 2P (2P*) 3D	(3F*)j=3.0	- 2S2 2P2	(3P)j=2.0	26.018	RAP 100	1	26.116	85.035
K 14	C -like	2S2 2P (2P*) 3D	(3F*)j=3.0	- 2S2 2P2	(3P)j=2.0	26.018	KAP 100	1	26.634	77.653
K 14	C -like	2S2 2P (2P*) 3D	(3F*)j=2.0	- 2S2 2P2	(3P)j=2.0	26.107	RAP 100	1	26.116	88.496
K 14	C -like	2S2 2P (2P*) 3D	(3F*)j=2.0	- 2S2 2P2	(3P)j=2.0	26.107	KAP 100	1	26.634	78.583
K 14	C -like	2S2 2P (2P*) 3D	(3D*)j=2.0	- 2S2 2P2	(1D)j=2.0	26.284	KAP 100	1	26.634	80.701
K 14	C -like	2S2 2P (2P*) 3D	(1P*)j=1.0	- 2S2 2P2	(1S)j= .0	26.456	KAP 100	1	26.634	83.372
K 14	C -like	2S2 2P (2P*) 3D	(3F*)j=2.0	- 2S2 2P2	(1D)j=2.0	26.591	KAP 100	1	26.634	86.744
K 15	B -like	2S2 3D	(2D)j=2.5	- 2S2 2P	(2P*)j=1.5	24.328	TAP 100	1	25.763	70.787
K 15	B -like	2S 2P (1P) 3D	(2D*)j=2.5	- 2S 2P2	(2P)j=1.5	24.770	TAP 100	1	25.763	74.041
K 15	B -like	2S 2P (1P) 3D	(2D*)j=2.5	- 2S 2P2	(2P)j=1.5	24.770	RAP 100	1	26.116	71.525
K 15	B -like	2S 2P (3P) 3D	(2F*)j=3.5	- 2S 2P2	(2D)j=2.5	24.889	TAP 100	1	25.763	75.033
K 15	B -like	2S 2P (3P) 3D	(2F*)j=3.5	- 2S 2P2	(2D)j=2.5	24.889	RAP 100	1	26.116	72.367
K 15	B -like	2S 2P (3P) 3D	(2F*)j=2.5	- 2S 2P2	(2D)j=1.5	24.946	TAP 100	1	25.763	75.532
K 15	B -like	2S 2P (3P) 3D	(2F*)j=2.5	- 2S 2P2	(2D)j=1.5	24.946	RAP 100	1	26.116	72.785
K 15	B -like	2S 2P (3P) 3D	(2D*)j=2.5	- 2S 2P2	(2D)j=2.5	25.265	TAP 100	1	25.763	78.716

K 15	B -like	2S	2P	(3P) 3D	(2D*)j=2.5 -	2S	2P2		(2D)j=2.5	25.265	RAP 100	1	26.116	75.333
K 15	B -like	2S	2P	(3P) 3D	(2D*)j=2.5 -	2S	2P2		(2D)j=2.5	25.265	KAP 100	1	26.634	71.550
K 16	Be-like		0		( )j= .0 -		0		( )j= .0	3.602	quartz 112	1	3.636	82.158
K 16	Be-like		0		( )j= .0 -		0		( )j= .0	3.602	InSb 111	2	7.481	74.360
K 16	Be-like		0		( )j= .0 -		0		( )j= .0	3.602	gypsum 020	4	15.185	71.592
K 17	Li-like	1S	2P	(1P*) 3S	(2P*)j=1.5 -	1S2	3S		(2S)j= .5	3.535	quartz 112	1	3.636	76.464
K 17	Li-like	1S	2P	(1P*) 3S	(2P*)j=1.5 -	1S2	3S		(2S)j= .5	3.535	InSb 111	2	7.481	70.920
K 17	Li-like	1S	2P	(1P*) 3S	(2P*)j=1.5 -	1S2	3S		(2S)j= .5	3.535	ADP 101	3	10.640	85.351
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.541	quartz 112	1	3.636	76.874
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.541	InSb 111	2	7.481	71.203
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	3.541	ADP 101	3	10.640	86.761
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j=1.5	3.545	quartz 112	1	3.636	77.154
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j=1.5	3.545	InSb 111	2	7.481	71.394
K 17	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j=1.5	3.545	ADP 101	3	10.640	88.243
K 17	Li-like	1S	(2S)(2S 2P (		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.548	quartz 112	1	3.636	77.369
K 17	Li-like	1S	(2S)(2S 2P (		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	3.548	InSb 111	2	7.481	71.538
K 17	Li-like	1S	2P (1P*) 3S		(2P*)j=1.5 -	1S2	3D		(2D)j=2.5	3.550	quartz 112	1	3.636	77.514
K 17	Li-like	1S	2P (1P*) 3S		(2P*)j=1.5 -	1S2	3D		(2D)j=2.5	3.550	InSb 111	2	7.481	71.635
K 17	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P		(2P*)j=1.5	3.561	quartz 112	1	3.636	78.343
K 17	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P		(2P*)j=1.5	3.561	InSb 111	2	7.481	72.178
K 17	Li-like	1S	2P2		(2P)j= .5 -	1S2	2P		(2P*)j= .5	3.563	quartz 112	1	3.636	78.500
K 17	Li-like	1S	2P2		(2P)j= .5 -	1S2	2P		(2P*)j= .5	3.563	InSb 111	2	7.481	72.278
K 17	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	3.565	quartz 112	1	3.636	78.659
K 17	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	3.565	InSb 111	2	7.481	72.379
K 17	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.569	quartz 112	1	3.636	78.984
K 17	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.569	InSb 111	2	7.481	72.583
K 17	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	3.569	gypsum 020	4	15.185	70.075
K 17	Li-like	1S	2P2		(4P)j=2.5 -	1S2	2P		(2P*)j=1.5	3.588	quartz 112	1	3.636	80.680
K 17	Li-like	1S	2P2		(4P)j=2.5 -	1S2	2P		(2P*)j=1.5	3.588	InSb 111	2	7.481	73.583
K 17	Li-like	1S	2P2		(4P)j=2.5 -	1S2	2P		(2P*)j=1.5	3.588	gypsum 020	4	15.185	70.934
K 17	Li-like	1S2	9P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.576	TAP 100	2	25.763	77.497
K 17	Li-like	1S2	9P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.576	RAP 100	2	26.116	74.384
K 17	Li-like	1S2	9P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.576	KAP 100	2	26.634	70.797
K 17	Li-like	1S2	8P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.744	TAP 100	2	25.763	81.621
K 17	Li-like	1S2	8P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.744	RAP 100	2	26.116	77.410
K 17	Li-like	1S2	8P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.744	KAP 100	2	26.634	73.131
K 17	Li-like	1S2	7P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.996	RAP 100	2	26.116	84.414
K 17	Li-like	1S2	7P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	12.996	KAP 100	2	26.634	77.394
K 17	Li-like	1S2	9D		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	13.025	RAP 100	2	26.116	85.926
K 17	Li-like	1S2	9D		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	13.025	KAP 100	2	26.634	77.979
K 17	Li-like	1S2	9D		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	13.080	KAP 100	2	26.634	79.174
K 17	Li-like	1S2	8D		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	13.204	KAP 100	2	26.634	82.531
K 17	Li-like	1S2	8D		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	13.261	KAP 100	2	26.634	84.744
K 17	Li-like	1S2	5D		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	14.715	gypsum 020	1	15.185	75.708
K 17	Li-like	1S2	5D		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	14.776	gypsum 020	1	15.185	76.672
K 17	Li-like	1S2	4P		(2P*)j=1.5 -	1S2	2S		(2S)j= .5	15.755	beryl 100	1	15.954	80.941

K 17	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	15.765	beryl 100	1	15.954	81.172
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	topaz 006	1	2.795	81.322
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	LiF 220	1	2.848	75.967
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	NaCl 200	2	5.641	78.411
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	topaz 002	3	8.374	81.830
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	quartz 100	3	8.512	76.856
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	PET 002	3	8.742	71.474
K 18	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.763	EDT 020	3	8.808	70.233
K 18	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.797	LiF 220	1	2.848	79.141
K 18	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.797	NaCl 200	2	5.641	82.599
K 18	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.797	quartz 100	3	8.512	80.328
K 18	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.797	PET 002	3	8.742	73.709
K 18	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.797	EDT 020	3	8.808	72.299
K 18	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.861	calcite 422	1	3.034	70.558
K 18	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.861	calcite 200	2	6.071	70.478
K 18	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.861	PET 002	3	8.742	79.056
K 18	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.861	EDT 020	3	8.808	77.022
K 18	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.861	gypsum 020	5	15.185	70.398
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	calcite 422	1	3.034	82.494
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	quartz 211	1	3.082	77.419
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	calcite 200	2	6.071	82.282
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	Si 111	2	6.271	73.605
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	sylvite 200	2	6.292	72.967
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	fluorite 111	2	6.308	72.499
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	gypsum 020	5	15.185	82.076
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.008	beryl 100	5	15.954	70.512
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	calcite 422	1	3.034	83.096
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	quartz 211	1	3.082	77.765
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	calcite 200	2	6.071	82.866
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	Si 111	2	6.271	73.866
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	sylvite 200	2	6.292	73.217
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	fluorite 111	2	6.308	72.742
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	gypsum 020	5	15.185	82.643
K 18	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.012	beryl 100	5	15.954	70.728
K 18	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.531	quartz 112	1	3.636	76.197
K 18	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.531	InSb 111	2	7.481	70.733
K 18	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.531	ADP 101	3	10.640	84.613
K 18	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.549	quartz 112	1	3.636	77.441
K 18	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	3.549	InSb 111	2	7.481	71.587
K 18	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.570	quartz 112	1	3.636	79.067
K 18	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.570	InSb 111	2	7.481	72.634
K 18	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.570	gypsum 020	4	15.185	70.119
K 18	He-like	1S 3P	(3P*)j=2.0 - 1S 2S	(3S)j=1.0	19.230	mica 002	1	19.942	74.643
K 18	He-like	1S 3P	(1P*)j=1.0 - 1S 2S	(1S)j= .0	19.770	mica 002	1	19.942	82.469
K 19	H -like	10P	(2P*)j=1.5 - 1S	(2S)j= .5	2.538	ADP 101	4	10.640	72.580
K 19	H -like	9P	(2P*)j=1.5 - 1S	(2S)j= .5	2.544	ADP 101	4	10.640	73.017

K 19	H -like	8P	(2P*)j=1.5 - 1S	(2S)j= .5	2.553	topaz 303	1	2.712	70.283
K 19	H -like	8P	(2P*)j=1.5 - 1S	(2S)j= .5	2.553	ADP 101	4	10.640	73.694
K 19	H -like	7P	(2P*)j=1.5 - 1S	(2S)j= .5	2.565	topaz 303	1	2.712	71.049
K 19	H -like	7P	(2P*)j=1.5 - 1S	(2S)j= .5	2.565	ADP 101	4	10.640	74.641
K 19	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	2.584	topaz 303	1	2.712	72.327
K 19	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	2.584	corundum 030	1	2.748	70.105
K 19	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	2.584	quartz 203	1	2.749	70.048
K 19	H -like	6P	(2P*)j=1.5 - 1S	(2S)j= .5	2.584	ADP 101	4	10.640	76.271
K 19	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	2.617	topaz 303	1	2.712	74.790
K 19	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	2.617	corundum 030	1	2.748	72.237
K 19	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	2.617	quartz 203	1	2.749	72.173
K 19	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	2.617	ADP 101	4	10.640	79.684
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	topaz 303	1	2.712	81.190
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	corundum 030	1	2.748	77.227
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	quartz 203	1	2.749	77.136
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	topaz 006	1	2.795	73.507
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	LiF 220	1	2.848	70.222
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	NaCl 200	2	5.641	71.839
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	topaz 002	3	8.374	73.763
K 19	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	2.680	quartz 100	3	8.512	70.830
K 19	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.826	LiF 220	1	2.848	82.874
K 19	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.826	quartz 100	3	8.512	84.877
K 19	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.826	PET 002	3	8.742	75.883
K 19	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.826	EDT 020	3	8.808	74.267
K 19	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.827	LiF 220	1	2.848	83.038
K 19	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.827	quartz 100	3	8.512	85.109
K 19	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.827	PET 002	3	8.742	75.964
K 19	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.827	EDT 020	3	8.808	74.339
K 19	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.347	graphite 002	2	6.696	88.599
K 19	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.347	ADP 101	3	10.640	70.683
K 19	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.352	ADP 101	3	10.640	70.929
K 19	H -like	10P	(2P*)j=1.5 - 2S	(2S)j= .5	10.454	ADP 101	1	10.640	79.271
K 19	H -like	10D	(2D)j=2.5 - 2P	(2P*)j=1.5	10.505	ADP 101	1	10.640	80.863
K 19	H -like	9P	(2P*)j=1.5 - 2S	(2S)j= .5	10.556	ADP 101	1	10.640	82.796
K 19	H -like	9D	(2D)j=2.5 - 2P	(2P*)j=1.5	10.608	ADP 101	1	10.640	85.555
K 19	H -like	10P	(2P*)j=1.5 - 3S	(2S)j= .5	24.836	TAP 100	1	25.763	74.583
K 19	H -like	10P	(2P*)j=1.5 - 3S	(2S)j= .5	24.836	RAP 100	1	26.116	71.987
K 19	H -like	10D	(2D)j=2.5 - 3P	(2P*)j=1.5	24.922	TAP 100	1	25.763	75.320
K 19	H -like	10D	(2D)j=2.5 - 3P	(2P*)j=1.5	24.922	RAP 100	1	26.116	72.608
K 19	H -like	10F	(2F*)j=3.5 - 3D	(2D)j=2.5	24.951	TAP 100	1	25.763	75.577
K 19	H -like	10F	(2F*)j=3.5 - 3D	(2D)j=2.5	24.951	RAP 100	1	26.116	72.822
K 19	H -like	9P	(2P*)j=1.5 - 3S	(2S)j= .5	25.423	TAP 100	1	25.763	80.681
K 19	H -like	9P	(2P*)j=1.5 - 3S	(2S)j= .5	25.423	RAP 100	1	26.116	76.771
K 19	H -like	9P	(2P*)j=1.5 - 3S	(2S)j= .5	25.423	KAP 100	1	26.634	72.656
K 19	H -like	9D	(2D)j=2.5 - 3P	(2P*)j=1.5	25.513	TAP 100	1	25.763	82.012
K 19	H -like	9D	(2D)j=2.5 - 3P	(2P*)j=1.5	25.513	RAP 100	1	26.116	77.664

K 19	H -like	9D		(2D)j=2.5 - 3P	(2P*)j=1.5	25.513	KAP 100	1	26.634	73.318
K 19	H -like	9F		(2F*)j=3.5 - 3D	(2D)j=2.5	25.544	TAP 100	1	25.763	82.524
K 19	H -like	9F		(2F*)j=3.5 - 3D	(2D)j=2.5	25.544	RAP 100	1	26.116	77.986
K 19	H -like	9F		(2F*)j=3.5 - 3D	(2D)j=2.5	25.544	KAP 100	1	26.634	73.552
K 19	H -like	8P		(2P*)j=1.5 - 3S	(2S)j= .5	26.292	KAP 100	1	26.634	80.808
K 19	H -like	8D		(2D)j=2.5 - 3P	(2P*)j=1.5	26.388	KAP 100	1	26.634	82.207
K 19	H -like	8F		(2F*)j=3.5 - 3D	(2D)j=2.5	26.420	KAP 100	1	26.634	82.732
Ca		K-alpha(1)				3.359	ADP 101	3	10.640	71.253
Ca11	Ne-like	2S2 2P5 (2P*1)	4D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	25.327	TAP 100	1	25.763	79.444
Ca11	Ne-like	2S2 2P5 (2P*1)	4D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	25.327	RAP 100	1	26.116	75.880
Ca11	Ne-like	2S2 2P5 (2P*1)	4D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	25.327	KAP 100	1	26.634	71.976
Ca11	Ne-like	2S2 2P5 (2P*2)	4D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	25.517	TAP 100	1	25.763	82.076
Ca11	Ne-like	2S2 2P5 (2P*2)	4D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	25.517	RAP 100	1	26.116	77.705
Ca11	Ne-like	2S2 2P5 (2P*2)	4D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	25.517	KAP 100	1	26.634	73.348
Ca11	Ne-like	2S2 2P5 (2P*1)	4S	(11*)j=1.0 - 2S2 2P6	(1S)j= .0	26.442	KAP 100	1	26.634	83.116
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	25.530	TAP 100	1	25.763	82.288
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	25.530	RAP 100	1	26.116	77.840
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	25.530	KAP 100	1	26.634	73.446
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	25.674	TAP 100	1	25.763	85.236
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	25.674	RAP 100	1	26.116	79.444
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	25.674	KAP 100	1	26.634	74.570
Ca13	O -like	2S2 2P3 (2P*)	3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	25.710	TAP 100	1	25.763	86.324
Ca13	O -like	2S2 2P3 (2P*)	3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	25.710	RAP 100	1	26.116	79.884
Ca13	O -like	2S2 2P3 (2P*)	3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	25.710	KAP 100	1	26.634	74.864
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=1.0 - 2S2 2P4	(3P)j= .0	25.770	RAP 100	1	26.116	80.663
Ca13	O -like	2S2 2P3 (2P*)	3D	(3D*)j=1.0 - 2S2 2P4	(3P)j= .0	25.770	KAP 100	1	26.634	75.366
Ca13	O -like	2S2 2P3 (2D*)	3D	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	25.880	RAP 100	1	26.116	82.292
Ca13	O -like	2S2 2P3 (2D*)	3D	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	25.880	KAP 100	1	26.634	76.334
Ca13	O -like	2S2 2P3 (2D*)	3D	(3P*)j=1.0 - 2S2 2P4	(3P)j=2.0	25.964	RAP 100	1	26.116	83.815
Ca13	O -like	2S2 2P3 (2D*)	3D	(3P*)j=1.0 - 2S2 2P4	(3P)j=2.0	25.964	KAP 100	1	26.634	77.121
Ca13	O -like	2S2 2P3 (2D*)	3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	26.000	RAP 100	1	26.116	84.598
Ca13	O -like	2S2 2P3 (2D*)	3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	26.000	KAP 100	1	26.634	77.474
Ca13	O -like	2S2 2P3 (2D*)	3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	26.033	RAP 100	1	26.116	85.431
Ca13	O -like	2S2 2P3 (2D*)	3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	26.033	KAP 100	1	26.634	77.805
Ca13	O -like	2S2 2P3 (2D*)	3D	(3D*)j=1.0 - 2S2 2P4	(3P)j=2.0	26.124	KAP 100	1	26.634	78.769
Ca13	O -like	2S2 2P3 (2D*)	3D	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	26.219	KAP 100	1	26.634	79.872
Ca13	O -like	2S2 2P3 (2D*)	3D	(3D*)j=1.0 - 2S2 2P4	(3P)j= .0	26.323	KAP 100	1	26.634	81.236
Ca13	O -like	2S2 2P3 (2D*)	3D	(1F*)j=3.0 - 2S2 2P4	(1D)j=2.0	26.383	KAP 100	1	26.634	82.128
Ca13	O -like	2S2 2P3 (2D*)	3D	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	26.550	KAP 100	1	26.634	85.448
Ca14	N -like	2S2 2P2 (1D)	3D	(2F)j=3.5 - 2S2 2P3	(2D*)j=2.5	24.271	TAP 100	1	25.763	70.405
Ca14	N -like	2S2 2P2 (3P)	3D	(2D)j=2.5 - 2S2 2P3	(2D*)j=2.5	24.480	TAP 100	1	25.763	71.842
Ca14	N -like	2S2 2P2 (1D)	3D	(2D)j=2.5 - 2S2 2P3	(2P*)j=1.5	24.623	TAP 100	1	25.763	72.892
Ca14	N -like	2S2 2P2 (1D)	3D	(2D)j=2.5 - 2S2 2P3	(2P*)j=1.5	24.623	RAP 100	1	26.116	70.533
Ca14	N -like	2S2 2P2 (3P)	3D	(2F)j=3.5 - 2S2 2P3	(2D*)j=2.5	24.749	TAP 100	1	25.763	73.872
Ca14	N -like	2S2 2P2 (3P)	3D	(2F)j=3.5 - 2S2 2P3	(2D*)j=2.5	24.749	RAP 100	1	26.116	71.380
Ca14	N -like	2S2 2P2 (3P)	3D	(2D)j=1.5 - 2S2 2P3	(2P*)j= .5	24.895	TAP 100	1	25.763	75.085

Ca14	N -like	2S2 2P2 (3P)	3D	(2D)j=1.5 - 2S2 2P3	(2P*)j= .5	24.895	RAP 100	1	26.116	72.411
Ca14	N -like	2S2 2P2 (3P)	3D	(2P)j=1.5 - 2S2 2P3	(2P*)j=1.5	25.441	TAP 100	1	25.763	80.932
Ca14	N -like	2S2 2P2 (3P)	3D	(2P)j=1.5 - 2S2 2P3	(2P*)j=1.5	25.441	RAP 100	1	26.116	76.945
Ca14	N -like	2S2 2P2 (3P)	3D	(2P)j=1.5 - 2S2 2P3	(2P*)j=1.5	25.441	KAP 100	1	26.634	72.786
Ca14	N -like	2S2 2P2 (1S)	3S	(2S)j= .5 - 2S2 2P3	(2P*)j= .5	26.180	KAP 100	1	26.634	79.406
Ca14	N -like	2S2 2P2 (1S)	3S	(2S)j= .5 - 2S2 2P3	(2P*)j=1.5	26.255	KAP 100	1	26.634	80.323
Ca14	N -like	2S2 2P2 (3P)	3S	(4P)j=2.5 - 2S2 2P3	(4S*)j=1.5	26.372	KAP 100	1	26.634	81.957
Ca14	N -like	2S2 2P2 (3P)	3S	(4P)j=1.5 - 2S2 2P3	(4S*)j=1.5	26.514	KAP 100	1	26.634	84.559
Ca17	Be-like	2S 4P		(3P*)j=1.0 - 2S2	(1S)j= .0	14.900	gypsum 020	1	15.185	78.882
Ca17	Be-like	2P 3P		(3P)j=2.0 - 2S 2P	(3P*)j=1.0	19.195	mica 002	1	19.942	74.268
Ca17	Be-like	2P 3P		(3P)j=1.0 - 2S 2P	(3P*)j=1.0	19.249	mica 002	1	19.942	74.851
Ca17	Be-like	2P 3P		(3S)j=1.0 - 2S 2P	(3P*)j= .0	19.275	mica 002	1	19.942	75.139
Ca17	Be-like	2P 3P		(3P)j=2.0 - 2S 2P	(3P*)j=2.0	19.296	mica 002	1	19.942	75.377
Ca17	Be-like	2P 3P		(3S)j=1.0 - 2S 2P	(3P*)j=1.0	19.315	mica 002	1	19.942	75.594
Ca17	Be-like	2P 3P		(3P)j=1.0 - 2S 2P	(3P*)j=2.0	19.345	mica 002	1	19.942	75.945
Ca17	Be-like	2P 3P		(3S)j=1.0 - 2S 2P	(3P*)j=2.0	19.414	mica 002	1	19.942	76.786
Ca17	Be-like	2P 3P		(3D)j=3.0 - 2S 2P	(3P*)j=2.0	19.505	mica 002	1	19.942	77.983
Ca17	Be-like	2S 3P		(1P*)j=1.0 - 2S2	(1S)j= .0	19.558	mica 002	1	19.942	78.738
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	topaz 006	1	2.795	79.705
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	LiF 220	1	2.848	74.926
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	NaCl 200	2	5.641	77.163
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	topaz 002	3	8.374	80.128
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	quartz 100	3	8.512	75.747
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.750	PET 002	3	8.742	70.686
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	3.180	Ge 111	2	6.532	76.822
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	3.180	KBr 200	2	6.584	75.012
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	3.180	quartz 101	2	6.687	72.008
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	3.180	graphite 002	2	6.696	71.772
Ca18	Li-like	1S 2P (1P*)	3P	(2D)j=2.5 - 1S2 3P	(2P*)j=1.5	3.180	beryl 100	5	15.954	85.285
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j= .5	3.185	Ge 111	2	6.532	77.213
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j= .5	3.185	KBr 200	2	6.584	75.352
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j= .5	3.185	quartz 101	2	6.687	72.287
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j= .5	3.185	graphite 002	2	6.696	72.048
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j= .5	3.185	beryl 100	5	15.954	86.545
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	3.189	Ge 111	2	6.532	77.534
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	3.189	KBr 200	2	6.584	75.630
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	3.189	quartz 101	2	6.687	72.514
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	3.189	graphite 002	2	6.696	72.271
Ca18	Li-like	1S 2P2		(2S)j= .5 - 1S2 2P	(2P*)j=1.5	3.189	beryl 100	5	15.954	88.075
Ca18	Li-like	1S (2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.192	Ge 111	2	6.532	77.780
Ca18	Li-like	1S (2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.192	KBr 200	2	6.584	75.842
Ca18	Li-like	1S (2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.192	quartz 101	2	6.687	72.686
Ca18	Li-like	1S (2S 2P (1P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.192	graphite 002	2	6.696	72.441
Ca18	Li-like	1S (2S 2P (3P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.200	Ge 111	2	6.532	78.462
Ca18	Li-like	1S (2S 2P (3P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.200	KBr 200	2	6.584	76.423
Ca18	Li-like	1S (2S 2P (3P*))		(2P*)j=1.5 - 1S2 2S	(2S)j= .5	3.200	quartz 101	2	6.687	73.153

Ca18	Li-like	1S	(2S 2P (3P*))(2P*)j=1.5 -	1S2	2S	(2S)j= .5	3.200	graphite 002	2	6.696	72.900
Ca18	Li-like	1S	(2S 2P (3P*))(2P*)j= .5 -	1S2	2S	(2S)j= .5	3.203	Ge 111	2	6.532	78.728
Ca18	Li-like	1S	(2S 2P (3P*))(2P*)j= .5 -	1S2	2S	(2S)j= .5	3.203	KBr 200	2	6.584	76.647
Ca18	Li-like	1S	(2S 2P (3P*))(2P*)j= .5 -	1S2	2S	(2S)j= .5	3.203	quartz 101	2	6.687	73.331
Ca18	Li-like	1S	(2S 2P (3P*))(2P*)j= .5 -	1S2	2S	(2S)j= .5	3.203	graphite 002	2	6.696	73.076
Ca18	Li-like	1S	2P2 (2D)j=1.5 -	1S2	2P	(2P*)j= .5	3.205	Ge 111	2	6.532	78.909
Ca18	Li-like	1S	2P2 (2D)j=1.5 -	1S2	2P	(2P*)j= .5	3.205	KBr 200	2	6.584	76.798
Ca18	Li-like	1S	2P2 (2D)j=1.5 -	1S2	2P	(2P*)j= .5	3.205	quartz 101	2	6.687	73.451
Ca18	Li-like	1S	2P2 (2D)j=1.5 -	1S2	2P	(2P*)j= .5	3.205	graphite 002	2	6.696	73.194
Ca18	Li-like	1S	2P2 (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	3.209	Ge 111	2	6.532	79.280
Ca18	Li-like	1S	2P2 (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	3.209	KBr 200	2	6.584	77.107
Ca18	Li-like	1S	2P2 (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	3.209	quartz 101	2	6.687	73.693
Ca18	Li-like	1S	2P2 (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	3.209	graphite 002	2	6.696	73.432
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j= .5	3.221	Ge 111	2	6.532	80.478
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j= .5	3.221	KBr 200	2	6.584	78.079
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j= .5	3.221	quartz 101	2	6.687	74.442
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j= .5	3.221	graphite 002	2	6.696	74.168
Ca18	Li-like	1S	2P2 (4P)j=2.5 -	1S2	2P	(2P*)j=1.5	3.223	Ge 111	2	6.532	80.692
Ca18	Li-like	1S	2P2 (4P)j=2.5 -	1S2	2P	(2P*)j=1.5	3.223	KBr 200	2	6.584	78.248
Ca18	Li-like	1S	2P2 (4P)j=2.5 -	1S2	2P	(2P*)j=1.5	3.223	quartz 101	2	6.687	74.571
Ca18	Li-like	1S	2P2 (4P)j=2.5 -	1S2	2P	(2P*)j=1.5	3.223	graphite 002	2	6.696	74.294
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j=1.5	3.225	Ge 111	2	6.532	80.912
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j=1.5	3.225	KBr 200	2	6.584	78.421
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j=1.5	3.225	quartz 101	2	6.687	74.700
Ca18	Li-like	1S	2P2 (4P)j=1.5 -	1S2	2P	(2P*)j=1.5	3.225	graphite 002	2	6.696	74.421
Ca18	Li-like	1S2	6D (2D)j=1.5 -	1S2	2P	(2P*)j= .5	12.411	TAP 100	2	25.763	74.467
Ca18	Li-like	1S2	6D (2D)j=1.5 -	1S2	2P	(2P*)j= .5	12.411	RAP 100	2	26.116	71.888
Ca18	Li-like	1S2	6D (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	12.478	TAP 100	2	25.763	75.621
Ca18	Li-like	1S2	6D (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	12.478	RAP 100	2	26.116	72.859
Ca18	Li-like	1S2	5P (2P*)j=1.5 -	1S2	2S	(2S)j= .5	12.636	TAP 100	2	25.763	78.796
Ca18	Li-like	1S2	5P (2P*)j=1.5 -	1S2	2S	(2S)j= .5	12.636	RAP 100	2	26.116	75.394
Ca18	Li-like	1S2	5P (2P*)j=1.5 -	1S2	2S	(2S)j= .5	12.636	KAP 100	2	26.634	71.598
Ca18	Li-like	1S2	5D (2D)j=1.5 -	1S2	2P	(2P*)j= .5	13.118	KAP 100	2	26.634	80.082
Ca18	Li-like	1S2	5D (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	13.191	KAP 100	2	26.634	82.112
Ca18	Li-like	1S2	4D (2D)j=1.5 -	1S2	2P	(2P*)j= .5	14.659	gypsum 020	1	15.185	74.875
Ca18	Li-like	1S2	4D (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	14.744	gypsum 020	1	15.185	76.158
Ca18	Li-like	1S2	4S (2S)j= .5 -	1S2	2P	(2P*)j= .5	14.767	gypsum 020	1	15.185	76.525
Ca18	Li-like	1S2	4S (2S)j= .5 -	1S2	2P	(2P*)j=1.5	14.857	gypsum 020	1	15.185	78.070
Ca18	Li-like	1S2	3D (2D)j=1.5 -	1S2	2P	(2P*)j= .5	19.646	mica 002	1	19.942	80.116
Ca18	Li-like	1S2	3D (2D)j=2.5 -	1S2	2P	(2P*)j=1.5	19.790	mica 002	1	19.942	82.921
Ca19	He-like	1S	6P (1P*)j=1.0 -	1S2		(1S)j= .0	2.484	gypsum 002	2	4.990	84.618
Ca19	He-like	1S	6P (1P*)j=1.0 -	1S2		(1S)j= .0	2.484	InSb 111	3	7.481	84.953
Ca19	He-like	1S	5P (1P*)j=1.0 -	1S2		(1S)j= .0	2.514	ADP 101	4	10.640	70.929
Ca19	He-like	1S	4P (1P*)j=1.0 -	1S2		(1S)j= .0	2.571	topaz 303	1	2.712	71.443
Ca19	He-like	1S	4P (1P*)j=1.0 -	1S2		(1S)j= .0	2.571	ADP 101	4	10.640	75.137
Ca19	He-like	1S	3P (1P*)j=1.0 -	1S2		(1S)j= .0	2.705	topaz 303	1	2.712	85.882

Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	corundum 030	1	2.748	79.851
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	quartz 203	1	2.749	79.735
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	topaz 006	1	2.795	75.421
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	LiF 220	1	2.848	71.767
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	NaCl 200	2	5.641	73.546
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	topaz 002	3	8.374	75.713
Ca19	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.705	quartz 100	3	8.512	72.432
Ca19	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.176	Ge 111	2	6.532	76.518
Ca19	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.176	KBr 200	2	6.584	74.745
Ca19	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.176	quartz 101	2	6.687	71.787
Ca19	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.176	graphite 002	2	6.696	71.555
Ca19	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	3.176	beryl 100	5	15.954	84.479
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.188	Ge 111	2	6.532	77.453
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.188	KBr 200	2	6.584	75.560
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.188	quartz 101	2	6.687	72.457
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.188	graphite 002	2	6.696	72.215
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.188	beryl 100	5	15.954	87.599
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.192	Ge 111	2	6.532	77.780
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.192	KBr 200	2	6.584	75.842
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.192	quartz 101	2	6.687	72.686
Ca19	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	3.192	graphite 002	2	6.696	72.441
Ca19	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.211	Ge 111	2	6.532	79.470
Ca19	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.211	KBr 200	2	6.584	77.264
Ca19	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.211	quartz 101	2	6.687	73.816
Ca19	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	3.211	graphite 002	2	6.696	73.553
Ca20	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.314	quartz 310	1	2.360	78.669
Ca20	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.314	quartz 220	1	2.451	70.753
Ca20	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.314	topaz 200	2	4.638	86.237
Ca20	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.314	Al 111	2	4.676	81.783
Ca20	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	2.314	quartz 110	2	4.912	70.421
Ca20	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.331	quartz 310	1	2.360	81.009
Ca20	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.331	quartz 220	1	2.451	71.997
Ca20	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.331	Al 111	2	4.676	85.565
Ca20	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	2.331	quartz 110	2	4.912	71.641
Ca20	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.361	quartz 220	1	2.451	74.425
Ca20	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.361	quartz 110	2	4.912	74.012
Ca20	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.361	gypsum 002	2	4.990	71.137
Ca20	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	2.361	InSb 111	3	7.481	71.227
Ca20	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	2.417	quartz 220	1	2.451	80.445
Ca20	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	2.417	quartz 110	2	4.912	79.776
Ca20	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	2.417	gypsum 002	2	4.990	75.636
Ca20	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	2.417	InSb 111	3	7.481	75.756
Ca20	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	2.549	topaz 303	1	2.712	70.034
Ca20	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	2.549	ADP 101	4	10.640	73.390
Ca20	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	3.018	calcite 422	1	3.034	84.113
Ca20	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	3.018	quartz 211	1	3.082	78.303

Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	calcite 200	2	6.071	83.845
Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	Si 111	2	6.271	74.265
Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	sylvite 200	2	6.292	73.600
Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	fluorite 111	2	6.308	73.113
Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	gypsum 020	5	15.185	83.588
Ca20	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	3.018	beryl 100	5	15.954	71.057
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	calcite 422	1	3.034	85.347
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	quartz 211	1	3.082	78.867
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	calcite 200	2	6.071	85.011
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	Si 111	2	6.271	74.674
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	sylvite 200	2	6.292	73.991
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	fluorite 111	2	6.308	73.492
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	gypsum 020	5	15.185	84.697
Ca20	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	3.024	beryl 100	5	15.954	71.392
Ca20	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	9.853	mica 002	2	19.942	81.177
Ca20	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	9.909	mica 002	2	19.942	83.607
Ca20	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	10.177	ADP 101	1	10.640	73.035
Ca20	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	10.237	ADP 101	1	10.640	74.180
Ca20	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.132	TAP 100	2	25.763	70.359
Ca20	H -like	7P	(2P*)j=1.5 - 3S	(2S)j= .5	24.957	TAP 100	1	25.763	75.630
Ca20	H -like	7P	(2P*)j=1.5 - 3S	(2S)j= .5	24.957	RAP 100	1	26.116	72.867
Ca20	H -like	7D	(2D)j=2.5 - 3P	(2P*)j=1.5	25.063	TAP 100	1	25.763	76.613
Ca20	H -like	7D	(2D)j=2.5 - 3P	(2P*)j=1.5	25.063	RAP 100	1	26.116	73.674
Ca20	H -like	7D	(2D)j=2.5 - 3P	(2P*)j=1.5	25.063	KAP 100	1	26.634	70.223
Ca20	H -like	7F	(2F*)j=3.5 - 3D	(2D)j=2.5	25.100	TAP 100	1	25.763	76.973
Ca20	H -like	7F	(2F*)j=3.5 - 3D	(2D)j=2.5	25.100	RAP 100	1	26.116	73.966
Ca20	H -like	7F	(2F*)j=3.5 - 3D	(2D)j=2.5	25.100	KAP 100	1	26.634	70.459
Sc		K-alpha(1)			3.031	calcite 422	1	3.034	87.452
Sc		K-alpha(1)			3.031	quartz 211	1	3.082	79.562
Sc		K-alpha(1)			3.031	calcite 200	2	6.071	86.880
Sc		K-alpha(1)			3.031	Si 111	2	6.271	75.166
Sc		K-alpha(1)			3.031	sylvite 200	2	6.292	74.460
Sc		K-alpha(1)			3.031	fluorite 111	2	6.308	73.946
Sc		K-alpha(1)			3.031	gypsum 020	5	15.185	86.398
Sc		K-alpha(1)			3.031	beryl 100	5	15.954	71.790
Sc12	Ne-like	2S2 2P5 (2P*1)	3D (12*)j=1.0 - 2S2 2P6	(1S)j= .0	26.544	KAP 100	1	26.634	85.288
Sc13	F -like	2S2 2P4	4D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	19.930	mica 002	1	19.942	88.012
Sc13	F -like	2S2 2P4 (1S)	3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	24.284	TAP 100	1	25.763	70.492
Sc13	F -like	2S2 2P4 (1D)	3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	24.484	TAP 100	1	25.763	71.870
Sc13	F -like	2S2 2P4 (1D)	3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	24.560	TAP 100	1	25.763	72.422
Sc13	F -like	2S2 2P4 (1D)	3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	24.560	RAP 100	1	26.116	70.122
Sc13	F -like	2S2 2P4 (1D)	3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	24.648	TAP 100	1	25.763	73.082
Sc13	F -like	2S2 2P4 (1D)	3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	24.648	RAP 100	1	26.116	70.698
Sc13	F -like	2S2 2P4 (1D)	3D (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	24.666	TAP 100	1	25.763	73.220
Sc13	F -like	2S2 2P4 (1D)	3D (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	24.666	RAP 100	1	26.116	70.818
Sc13	F -like	2S2 2P4 (1D)	3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	24.715	TAP 100	1	25.763	73.602

Sc13	F -like	2S2 2P4	(1D)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	24.715	RAP	100	1	26.116	71.148
Sc13	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	24.899	TAP	100	1	25.763	75.119
Sc13	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	24.899	RAP	100	1	26.116	72.440
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	24.970	TAP	100	1	25.763	75.747
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	24.970	RAP	100	1	26.116	72.964
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	24.998	TAP	100	1	25.763	76.002
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	24.998	RAP	100	1	26.116	73.175
Sc13	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.079	TAP	100	1	25.763	76.768
Sc13	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.079	RAP	100	1	26.116	73.800
Sc13	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.079	KAP	100	1	26.634	70.325
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.099	TAP	100	1	25.763	76.964
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.099	RAP	100	1	26.116	73.958
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.099	KAP	100	1	26.634	70.453
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.133	TAP	100	1	25.763	77.303
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.133	RAP	100	1	26.116	74.230
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	25.133	KAP	100	1	26.634	70.673
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.163	TAP	100	1	25.763	77.610
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.163	RAP	100	1	26.116	74.474
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.163	KAP	100	1	26.634	70.869
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.200	TAP	100	1	25.763	78.000
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.200	RAP	100	1	26.116	74.780
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	25.200	KAP	100	1	26.634	71.113
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.242	TAP	100	1	25.763	78.458
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.242	RAP	100	1	26.116	75.135
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	25.242	KAP	100	1	26.634	71.394
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	25.341	TAP	100	1	25.763	79.615
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	25.341	RAP	100	1	26.116	76.007
Sc13	F -like	2S2 2P4	(3P)	3D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	25.341	KAP	100	1	26.634	72.074
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	25.400	TAP	100	1	25.763	80.370
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	25.400	RAP	100	1	26.116	76.553
Sc13	F -like	2S2 2P4	(3P)	3D	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	25.400	KAP	100	1	26.634	72.491
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	25.440	TAP	100	1	25.763	80.918
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	25.440	RAP	100	1	26.116	76.935
Sc13	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	25.440	KAP	100	1	26.634	72.779
Sc14	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	24.791	TAP	100	1	25.763	74.211
Sc14	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	24.791	RAP	100	1	26.116	71.671
Sc14	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	24.971	TAP	100	1	25.763	75.756
Sc14	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	24.971	RAP	100	1	26.116	72.971
Sc14	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	25.392	TAP	100	1	25.763	80.265
Sc14	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	25.392	RAP	100	1	26.116	76.477
Sc14	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	25.392	KAP	100	1	26.634	72.434
Sc14	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(1D)j=2.0	25.403	TAP	100	1	25.763	80.410
Sc14	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(1D)j=2.0	25.403	RAP	100	1	26.116	76.581
Sc14	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(1D)j=2.0	25.403	KAP	100	1	26.634	72.512
Sc14	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	25.439	TAP	100	1	25.763	80.904
Sc14	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	25.439	RAP	100	1	26.116	76.926

Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0	-	2S2 2P4		(3P)j=2.0	25.439	KAP 100	1	26.634	72.772
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	25.644	TAP 100	1	25.763	84.491
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	25.644	RAP 100	1	26.116	79.090
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	25.644	KAP 100	1	26.634	74.329
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	25.680	TAP 100	1	25.763	85.400
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	25.680	RAP 100	1	26.116	79.516
Sc14	O -like	2S2 2P3 (2D*) 3S	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	25.680	KAP 100	1	26.634	74.619
Sc14	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	25.921	RAP 100	1	26.116	82.994
Sc14	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	25.921	KAP 100	1	26.634	76.713
Sc14	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	25.985	RAP 100	1	26.116	84.259
Sc14	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	25.985	KAP 100	1	26.634	77.326
Sc14	O -like	2S2 2P3 (2P*) 3S	(1P*)j=1.0	-	2S2 2P4		(1S)j= .0	26.056	RAP 100	1	26.116	86.115
Sc14	O -like	2S2 2P3 (2P*) 3S	(1P*)j=1.0	-	2S2 2P4		(1S)j= .0	26.056	KAP 100	1	26.634	78.042
Sc14	O -like	2S2 2P3 (4S*) 3S	(5S*)j=2.0	-	2S2 2P4		(3P)j=2.0	26.150	KAP 100	1	26.634	79.060
Sc14	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0	-	2S2 2P4		(3P)j=1.0	26.197	KAP 100	1	26.634	79.607
Sc14	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0	-	2S2 2P4		(3P)j= .0	26.224	KAP 100	1	26.634	79.934
Sc14	O -like	2S2 2P3 (4S*) 3S	(5S*)j=2.0	-	2S2 2P4		(3P)j=1.0	26.370	KAP 100	1	26.634	81.926
Sc17	B -like	2S2 4S	(2S)j= .5	-	2S2 2P		(2P*)j=1.5	14.990	gypsum 020	1	15.185	80.808
Sc17	B -like	2S 2P (3P*) 3P	(2P)j= .5	-	2S2 2P		(2P*)j= .5	18.780	mica 002	1	19.942	70.344
Sc17	B -like	2S 2P (3P*) 3P	(2P)j=1.5	-	2S2 2P		(2P*)j=1.5	18.830	mica 002	1	19.942	70.776
Sc17	B -like	2S 2P (1P*) 3D	(2F*)j=3.5	-	2S 2P2		(2D)j=2.5	19.069	mica 002	1	19.942	72.984
Sc17	B -like	2S2 3D	(2D)j=1.5	-	2S2 2P		(2P*)j= .5	19.160	mica 002	1	19.942	73.901
Sc17	B -like	2S 2P (3P*) 3D	(4D*)j=3.5	-	2S 2P2		(4P)j=2.5	19.220	mica 002	1	19.942	74.535
Sc17	B -like	2S2 3D	(2D)j=2.5	-	2S2 2P		(2P*)j=1.5	19.311	mica 002	1	19.942	75.548
Sc17	B -like	2S 2P (1P*) 3D	(2D*)j=2.5	-	2S 2P2		(2P)j=1.5	19.598	mica 002	1	19.942	79.342
Sc17	B -like	2S 2P (3P*) 3D	(2F*)j=3.5	-	2S 2P2		(2D)j=2.5	19.651	mica 002	1	19.942	80.200
Sc17	B -like	2S 2P (3P*) 3D	(2F*)j=2.5	-	2S 2P2		(2D)j=1.5	19.732	mica 002	1	19.942	81.678
Sc18	Be-like	1S2 2S 3D	(1D)j=2.0	-	1S2 2S 2P		(1P*)j=1.0	18.959	mica 002	1	19.942	71.935
Sc19	Li-like	1S 2P (3P*) 3P	(2S)j= .5	-	1S2 3P		(2P*)j=1.5	2.875	calcite 422	1	3.034	71.369
Sc19	Li-like	1S 2P (3P*) 3P	(2S)j= .5	-	1S2 3P		(2P*)j=1.5	2.875	calcite 200	2	6.071	71.285
Sc19	Li-like	1S 2P (3P*) 3P	(2S)j= .5	-	1S2 3P		(2P*)j=1.5	2.875	PET 002	3	8.742	80.616
Sc19	Li-like	1S 2P (3P*) 3P	(2S)j= .5	-	1S2 3P		(2P*)j=1.5	2.875	EDT 020	3	8.808	78.300
Sc19	Li-like	1S 2P (3P*) 3P	(2S)j= .5	-	1S2 3P		(2P*)j=1.5	2.875	gypsum 020	5	15.185	71.202
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j= 5	2.878	calcite 422	1	3.034	71.547
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j= .5	2.878	calcite 200	2	6.071	71.462
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j= .5	2.878	PET 002	3	8.742	80.984
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j= .5	2.878	EDT 020	3	8.808	78.592
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j= .5	2.878	gypsum 020	5	15.185	71.378
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j=1.5	2.882	calcite 422	1	3.034	71.787
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j=1.5	2.882	calcite 200	2	6.071	71.701
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j=1.5	2.882	PET 002	3	8.742	81.501
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j=1.5	2.882	EDT 020	3	8.808	78.994
Sc19	Li-like	1S 2P2	(2S)j= .5	-	1S2 2P		(2P*)j=1.5	2.882	gypsum 020	5	15.185	71.616
Sc19	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.884	calcite 422	1	3.034	71.908
Sc19	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.884	calcite 200	2	6.071	71.822
Sc19	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.884	PET 002	3	8.742	81.771

Sc19	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	2.884	EDT 020	3	8.808	79.201
Sc19	Li-like	1S (2S 2P (1P*))	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	2.884	gypsum 020	5	15.185	71.736
Sc19	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	2.896	calcite 422	1	3.034	72.653
Sc19	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	2.896	calcite 200	2	6.071	72.562
Sc19	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	2.896	PET 002	3	8.742	83.628
Sc19	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	2.896	EDT 020	3	8.808	80.531
Sc19	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	2.896	gypsum 020	5	15.185	72.473
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	calcite 422	1	3.034	72.844
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	quartz 211	1	3.082	70.156
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	calcite 200	2	6.071	72.752
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	PET 002	3	8.742	84.184
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	EDT 020	3	8.808	80.894
Sc19	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	2.899	gypsum 020	5	15.185	72.661
Sc19	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	10.104	ADP 101	1	10.640	71.736
Sc19	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	10.240	ADP 101	1	10.640	74.240
Sc19	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	10.426	ADP 101	1	10.640	78.489
Sc19	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= 5	10.443	ADP 101	1	10.640	78.957
Sc19	Li-like	1S2 9D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	10.481	ADP 101	1	10.640	80.082
Sc19	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	10.576	ADP 101	1	10.640	83.713
Sc19	Li-like	1S2 8D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	10.628	ADP 101	1	10.640	87.279
Sc19	Li-like	1S2 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.667	TAP 100	2	25.763	79.529
Sc19	Li-like	1S2 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.667	RAP 100	2	26.116	75.944
Sc19	Li-like	1S2 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.667	KAP 100	2	26.634	72.025
Sc19	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.678	TAP 100	2	25.763	79.802
Sc19	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.678	RAP 100	2	26.116	76.144
Sc19	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.678	KAP 100	2	26.634	72.179
Sc19	Li-like	1S2 4D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	13.156	KAP 100	2	26.634	81.082
Sc19	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	13.241	KAP 100	2	26.634	83.876
Sc19	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	13.250	KAP 100	2	26.634	84.250
Sc20	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.245	Ge 422	1	2.310	76.376
Sc20	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.245	quartz 310	1	2.360	72.040
Sc20	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.245	quartz 112	2	4.564	79.668
Sc20	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.245	topaz 200	2	4.638	75.487
Sc20	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.245	Al 111	2	4.676	73.785
Sc20	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.272	Ge 422	1	2.310	79.593
Sc20	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.272	quartz 310	1	2.360	74.304
Sc20	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.272	quartz 112	2	4.564	84.634
Sc20	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.272	topaz 200	2	4.638	78.445
Sc20	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.272	Al 111	2	4.676	76.354
Sc20	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.324	quartz 310	1	2.360	79.980
Sc20	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.324	quartz 220	1	2.451	71.475
Sc20	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.324	Al 111	2	4.676	83.727
Sc20	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.324	quartz 110	2	4.912	71.130
Sc20	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.445	quartz 220	1	2.451	85.990
Sc20	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.445	quartz 110	2	4.912	84.575
Sc20	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.445	gypsum 002	2	4.990	78.510

Sc20	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.445	InSb 111	3	7.481	78.662
Sc20	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.872	calcite 422	1	3.034	71.192
Sc20	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.872	calcite 200	2	6.071	71.109
Sc20	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.872	PET 002	3	8.742	80.260
Sc20	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.872	EDT 020	3	8.808	78.015
Sc20	He-like	1S	2P	(1P*)j=1.0 - 1S2		(1S)j= .0	2.872	gypsum 020	5	15.185	71.027
Sc20	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	2.886	calcite 422	1	3.034	72.030
Sc20	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	2.886	calcite 200	2	6.071	71.943
Sc20	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	2.886	PET 002	3	8.742	82.051
Sc20	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	2.886	EDT 020	3	8.808	79.411
Sc20	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	2.886	gypsum 020	5	15.185	71.857
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	calcite 422	1	3.034	73.102
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	quartz 211	1	3.082	70.377
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	calcite 200	2	6.071	73.009
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	PET 002	3	8.742	85.020
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	EDT 020	3	8.808	81.402
Sc20	He-like	1S	2S	(3S)j=1.0 - 1S2		(1S)j= .0	2.903	gypsum 020	5	15.185	72.916
Sc20	He-like	1S	3P	(3P*)j=2.0 - 1S	2S	(3S)j=1.0	15.610	beryl 100	1	15.954	78.080
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	Si 422	1	2.217	74.855
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	tungsten 110	2	4.476	72.982
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	Ge 111	3	6.532	79.375
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	KBr 200	3	6.584	77.185
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	quartz 101	3	6.687	73.755
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	graphite 002	3	6.696	73.492
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	PET 002	4	8.742	78.288
Sc21	H -like	5P		(2P*)j=1.5 - 1S		(2S)j= .5	2.140	EDT 020	4	8.808	76.371
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	Si 422	1	2.217	81.217
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	Ge 422	1	2.310	71.529
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	tungsten 110	2	4.476	78.237
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	quartz 112	2	4.564	73.765
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	topaz 200	2	4.638	70.875
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	KBr 200	3	6.584	86.688
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	quartz 101	3	6.687	79.405
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	graphite 002	3	6.696	79.001
Sc21	H -like	4P		(2P*)j=1.5 - 1S		(2S)j= .5	2.191	EDT 020	4	8.808	84.271
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	Si 422	1	2.217	81.387
Sc21	H -like	4P		(2P*)j= 5 - 1S		(2S)j= 5	2.192	Ge 422	1	2.310	71.608
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	tungsten 110	2	4.476	78.363
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	quartz 112	2	4.564	73.855
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	topaz 200	2	4.638	70.950
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	KBr 200	3	6.584	87.175
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	quartz 101	3	6.687	79.546
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	graphite 002	3	6.696	79.136
Sc21	H -like	4P		(2P*)j= .5 - 1S		(2S)j= .5	2.192	EDT 020	4	8.808	84.537
Sc21	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	2.311	quartz 310	1	2.360	78.304
Sc21	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	2.311	quartz 220	1	2.451	70.541

Sc21	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.311	topaz 200	2	4.638	85.239
Sc21	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.311	Al 111	2	4.676	81.284
Sc21	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.311	quartz 110	2	4.912	70.214
Sc21	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.312	quartz 310	1	2.360	78.424
Sc21	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.312	quartz 220	1	2.451	70.611
Sc21	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.312	topaz 200	2	4.638	85.547
Sc21	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.312	Al 111	2	4.676	81.447
Sc21	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.312	quartz 110	2	4.912	70.283
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	corundum 030	1	2.748	84.644
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	quartz 203	1	2.749	84.426
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	topaz 006	1	2.795	78.207
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	LiF 220	1	2.848	73.878
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= 5	2.736	NaCl 200	2	5.641	75.940
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	topaz 002	3	8.374	78.573
Sc21	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.736	quartz 100	3	8.512	74.641
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	corundum 030	1	2.748	86.213
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	quartz 203	1	2.749	85.910
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	topaz 006	1	2.795	78.824
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	LiF 220	1	2.848	74.319
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	NaCl 200	2	5.641	76.451
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	topaz 002	3	8.374	79.212
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	quartz 100	3	8.512	75.105
Sc21	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.742	PET 002	3	8.742	70.216
Sc21	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	9.759	mica 002	2	19.942	78.164
Sc21	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	9.824	mica 002	2	19.942	80.149
Sc21	H -like	3P	(2P*)j=1.5 - 2S	(2S)j= .5	14.709	gypsum 020	1	15.185	75.616
Sc21	H -like	3D	(2D)j=2.5 - 2P	(2P*)j=1.5	14.847	gypsum 020	1	15.185	77.889
Ti		K-alpha(1)			2.749	quartz 203	1	2.749	89.022
Ti		K-alpha(1)			2.749	topaz 006	1	2.795	79.545
Ti		K-alpha(1)			2.749	LiF 220	1	2.848	74.818
Ti		K-alpha(1)			2.749	NaCl 200	2	5.641	77.035
Ti		K-alpha(1)			2.749	topaz 002	3	8.374	79.961
Ti		K-alpha(1)			2.749	quartz 100	3	8.512	75.633
Ti		K-alpha(1)			2.749	PET 002	3	8.742	70.603
Ti13	Ne-like	2S2 2P5 (2P*1)	4D (12*)j=1.0 - 2S2 2P6	(1S)j= .0	19.204	mica 002	1	19.942	74.364
Ti13	Ne-like	2S2 2P5 (2P*2)	4D (22*)j=1.0 - 2S2 2P6	(1S)j= .0	19.366	mica 002	1	19.942	76.196
Ti14	F -like	2S2 2P4 (1D)	3S (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	24.315	TAP 100	1	25.763	70.699
Ti14	F -like	2S2 2P4 (1D)	3S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	24.592	TAP 100	1	25.763	72.659
Ti14	F -like	2S2 2P4 (1D)	3S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	24.592	RAP 100	1	26.116	70.330
Ti14	F -like	2S2 2P4 (3P)	3S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	24.728	TAP 100	1	25.763	73.704
Ti14	F -like	2S2 2P4 (3P)	3S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	24.728	RAP 100	1	26.116	71.236
Ti14	F -like	2S2 2P4 (3P)	3S (2P)j= .5 - 2S2 2P5	(2P*)j= .5	24.891	TAP 100	1	25.763	75.050
Ti14	F -like	2S2 2P4 (3P)	3S (2P)j= .5 - 2S2 2P5	(2P*)j= .5	24.891	RAP 100	1	26.116	72.382
Ti14	F -like	2S2 2P4 (3P)	3S (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	24.907	TAP 100	1	25.763	75.189
Ti14	F -like	2S2 2P4 (3P)	3S (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	24.907	RAP 100	1	26.116	72.498
Ti14	F -like	2S2 2P4 (3P)	3S (4P)j=2.5 - 2S2 2P5	(2P*)j=1.5	25.025	TAP 100	1	25.763	76.253

Ti14	F -like	2S2 2P4 (3P) 3S (4P)j=2.5 -	2S2 2P5 (2P*)j=1.5	25.025	RAP 100	1	26.116	73.380
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j= .5 -	2S2 2P5 (2P*)j= .5	25.071	TAP 100	1	25.763	76.690
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j= .5 -	2S2 2P5 (2P*)j= .5	25.071	RAP 100	1	26.116	73.737
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j= .5 -	2S2 2P5 (2P*)j= .5	25.071	KAP 100	1	26.634	70.274
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j= .5 -	2S 2P6 (2S)j= .5	25.086	TAP 100	1	25.763	76.836
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j= .5 -	2S 2P6 (2S)j= .5	25.086	RAP 100	1	26.116	73.855
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j= .5 -	2S 2P6 (2S)j= .5	25.086	KAP 100	1	26.634	70.370
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j=1.5 -	2S2 2P5 (2P*)j= .5	25.206	TAP 100	1	25.763	78.064
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j=1.5 -	2S2 2P5 (2P*)j= .5	25.206	RAP 100	1	26.116	74.830
Ti14	F -like	2S2 2P4 (3P) 3S (4P)j=1.5 -	2S2 2P5 (2P*)j= .5	25.206	KAP 100	1	26.634	71.153
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j=1.5 -	2S 2P6 (2S)j= .5	25.260	TAP 100	1	25.763	78.659
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j=1.5 -	2S 2P6 (2S)j= .5	25.260	RAP 100	1	26.116	75.290
Ti14	F -like	2S 2P5 (3P*) 3S (2P*)j=1.5 -	2S 2P6 (2S)j= .5	25.260	KAP 100	1	26.634	71.516
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	corundum 030	1	2.748	81.962
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	quartz 203	1	2.749	81.815
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	topaz 006	1	2.795	76.786
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	LiF 220	1	2.848	72.825
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	NaCl 200	2	5.641	74.736
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	topaz 002	3	8.374	77.111
Ti15	O -like	0 ( )j= .0 -	0 ( )j= .0	2.721	quartz 100	3	8.512	73.536
Ti16	N -like	2S2 2P2 (1S) 3D (2D)j=1.5 -	2S2 2P3 (2P*)j= .5	19.010	mica 002	1	19.942	72.414
Ti16	N -like	2S2 2P2 (3P) 3D (4P)j=1.5 -	2S2 2P3 (4S*)j=1.5	19.089	mica 002	1	19.942	73.181
Ti16	N -like	2S2 2P2 (3P) 3D (4P)j=2.5 -	2S2 2P3 (4S*)j=1.5	19.112	mica 002	1	19.942	73.411
Ti16	N -like	2S2 2P2 (1D) 3D (2F)j=3.5 -	2S2 2P3 (2D*)j=2 5	19.210	mica 002	1	19.942	74.428
Ti16	N -like	2S2 2P2 (1D) 3D (2D)j=2.5 -	2S2 2P3 (2D*)j=2.5	19.240	mica 002	1	19.942	74.752
Ti16	N -like	2S2 2P2 (3P) 3D (2D)j=2.5 -	2S2 2P3 (2D*)j=2.5	19.370	mica 002	1	19.942	76.244
Ti16	N -like	2S2 2P2 (1D) 3D (2P)j=1.5 -	2S2 2P3 (2P*)j=1.5	19.450	mica 002	1	19.942	77.246
Ti16	N -like	2S2 2P2 (3P) 3D (2F)j=3.5 -	2S2 2P3 (2D*)j=2.5	19.551	mica 002	1	19.942	78.635
Ti16	N -like	2S2 2P2 (1D) 3D (2D)j=2.5 -	2S2 2P3 (2P*)j=1.5	19.570	mica 002	1	19.942	78.916
Ti16	N -like	2S2 2P2 (3P) 3D (2D)j=2.5 -	2S2 2P3 (2P*)j=1.5	19.710	mica 002	1	19.942	81.252
Ti17	C -like	2S2 2P 3D (3F*)j=2.0 -	2S2 2P2 (1D)j=2.0	18.757	mica 002	1	19.942	70.149
Ti17	C -like	2S 2P2 (4P) 3D (3F)j=4.0 -	2S 2P3 (3D*)j=3.0	18.799	mica 002	1	19.942	70.507
Ti17	C -like	2S 2P2 (4P) 3D (3F)j=3.0 -	2S 2P3 (3D*)j=2.0	18.939	mica 002	1	19.942	71.751
Ti17	C -like	2S2 2P 3S (3P*)j=2.0 -	2S2 2P2 (3P)j=1.0	19.369	mica 002	1	19.942	76.232
Ti17	C -like	2S 2P2 (4P) 3S (5P)j=3.0 -	2S 2P3 (5S*)j=2.0	19.415	mica 002	1	19.942	76.799
Ti17	C -like	2S2 2P 3S (3P*)j=2.0 -	2S2 2P2 (3P)j=2.0	19.459	mica 002	1	19.942	77.364
Ti17	C -like	2S 2P2 (2D) 3S (3D)j=2.0 -	2S 2P3 (3D*)j=2.0	19.501	mica 002	1	19.942	77.928
Ti17	C -like	2S2 2P 3S (3P*)j=1.0 -	2S2 2P2 (3P)j=2.0	19.651	mica 002	1	19.942	80.200
Ti17	C -like	2S2 2P 3S (1P*)j=1.0 -	2S2 2P2 (1D)j=2.0	19.718	mica 002	1	19.942	81.404
Ti19	Be-like	1S2 2P 3P (3P)j=2.0 -	1S2 2S 2P (3P*)j=1.0	15.581	beryl 100	1	15.954	77.586
Ti19	Be-like	1S2 2P 3P (3P)j= .0 -	1S2 2S 2P (3P*)j=1.0	15.671	beryl 100	1	15.954	79.192
Ti19	Be-like	1S2 2P 3P (3P)j=2.0 -	1S2 2S 2P (3P*)j=2.0	15.685	beryl 100	1	15.954	79.464
Ti19	Be-like	1S2 2P 3P (3S)j=1.0 -	1S2 2S 2P (3P*)j=2.0	15.738	beryl 100	1	15.954	80.561
Ti19	Be-like	1S2 2P 3P (3D)j=3.0 -	1S2 2S 2P (3P*)j=2.0	15.742	beryl 100	1	15.954	80.649
Ti19	Be-like	1S2 2P 3P (3D)j=1.0 -	1S2 2S 2P (3P*)j= .0	15.801	beryl 100	1	15.954	82.059
Ti19	Be-like	1S2 2S 3P (3P*)j=1.0 -	1S2 2S2 (1S)j= .0	15.831	beryl 100	1	15.954	82.881

Ti19	Be-like	1S2	2P	3P	(3D)j=1.0 -	1S2	2S	2P	(3P*)j=1.0	15.842	beryl 100	1	15.954	83.207
Ti19	Be-like	1S2	2S	3P	(1P*)j=1.0 -	1S2	2S2		(1S)j= .0	15.865	beryl 100	1	15.954	83.945
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	topaz 303	1	2.712	78.129
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	corundum 030	1	2.748	74.971
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	quartz 203	1	2.749	74.893
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	topaz 006	1	2.795	71.723
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	NaCl 200	2	5.641	70.215
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	topaz 002	3	8.374	71.953
Ti19	Be-like		0		( )j= .0 -		0		( )j= .0	2.654	ADP 101	4	10.640	86.151
Ti20	Li-like	1S	2P	3P	(2P)j=1.5 -	1S2	3P		(2P*)j=1.5	2.614	topaz 303	1	2.712	74.550
Ti20	Li-like	1S	2P	3P	(2P)j=1.5 -	1S2	3P		(2P*)j=1.5	2.614	corundum 030	1	2.748	72.034
Ti20	Li-like	1S	2P	3P	(2P)j=1.5 -	1S2	3P		(2P*)j=1.5	2.614	quartz 203	1	2.749	71.969
Ti20	Li-like	1S	2P	3P	(2P)j=1.5 -	1S2	3P		(2P*)j=1.5	2.614	ADP 101	4	10.640	79.329
Ti20	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= 5	2.616	topaz 303	1	2.712	74.710
Ti20	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	2.616	corundum 030	1	2.748	72.169
Ti20	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	2.616	quartz 203	1	2.749	72.105
Ti20	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P		(2P*)j= .5	2.616	ADP 101	4	10.640	79.564
Ti20	Li-like	1S	(2S 2P (1P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.620	topaz 303	1	2.712	75.033
Ti20	Li-like	1S	(2S 2P (1P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.620	corundum 030	1	2.748	72.444
Ti20	Li-like	1S	(2S 2P (1P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.620	quartz 203	1	2.749	72.378
Ti20	Li-like	1S	(2S 2P (1P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.620	ADP 101	4	10.640	80.051
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	topaz 303	1	2.712	75.788
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	corundum 030	1	2.748	73.077
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	quartz 203	1	2.749	73.008
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	topaz 006	1	2.795	70.154
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	topaz 002	3	8.374	70.364
Ti20	Li-like	1S	(2S 2P (3P*))		(2P*)j= .5 -	1S2	2S		(2S)j= .5	2.629	ADP 101	4	10.640	81.244
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	topaz 303	1	2.712	75.961
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	corundum 030	1	2.748	73.221
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	quartz 203	1	2.749	73.152
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	topaz 006	1	2.795	70.275
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	topaz 002	3	8.374	70.486
Ti20	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	2.631	ADP 101	4	10.640	81.532
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	topaz 303	1	2.712	76.314
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	corundum 030	1	2.748	73.512
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	quartz 203	1	2.749	73.442
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	topaz 006	1	2.795	70.519
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	topaz 002	3	8.374	70.733
Ti20	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P		(2P*)j=1.5	2.635	ADP 101	4	10.640	82.138
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	topaz 303	1	2.712	77.528
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	corundum 030	1	2.748	74.496
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	quartz 203	1	2.749	74.421
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	topaz 006	1	2.795	71.335
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	topaz 002	3	8.374	71.559
Ti20	Li-like	1S	(2S 2P (3P*))		(4P*)j=1.5 -	1S2	2S		(2S)j= .5	2.648	ADP 101	4	10.640	84.556
Ti20	Li-like	1S2	9D		(2D)j=1.5 -	1S2	2P		(2P*)j= .5	9.405	mica 002	2	19.942	70.602

Ti20	Li-like	1S2	7P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	9.434	mica 002	2	19.942	71.110
Ti20	Li-like	1S2	9D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	9.459	mica 002	2	19.942	71.559
Ti20	Li-like	1S2	8D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	9.534	mica 002	2	19.942	72.974
Ti20	Li-like	1S2	8D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	9.591	mica 002	2	19.942	74.131
Ti20	Li-like	1S2	6P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	9.733	mica 002	2	19.942	77.456
Ti20	Li-like	1S2	7D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	9.788	mica 002	2	19.942	79.006
Ti20	Li-like	1S2	6D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	10.046	ADP 101	1	10.640	70.765
Ti20	Li-like	1S2	6D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	10.109	ADP 101	1	10.640	71.822
Ti20	Li-like	1S2	5P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	10.278	ADP 101	1	10.640	75.011
Ti20	Li-like	1S2	5D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	10.620	ADP 101	1	10.640	86.486
Ti20	Li-like	1S2	3P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	15.212	beryl 100	1	15.954	72.457
Ti20	Li-like	1S2	3P	(2P*)j= .5 -	1S2	2S	(2S)j= .5	15.255	beryl 100	1	15.954	72.977
Ti20	Li-like	1S2	3D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	15.912	beryl 100	1	15.954	85.842
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	quartz 200	2	4.246	76.346
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	Si 111	3	6.271	80.724
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	sylvite 200	3	6.292	79.619
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	fluorite 111	3	6.308	78.853
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	Ge 111	3	6.532	71.350
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	KBr 200	3	6.584	70.053
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	topaz 002	4	8.374	80.208
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	quartz 100	4	8.512	75.802
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	PET 002	4	8.742	70.726
Ti21	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.063	ADP 101	5	10.640	75.802
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= 0	2.111	Si 422	1	2 217	72.211
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	tungsten 110	2	4.476	70.605
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	quartz 200	2	4.246	83.905
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	Ge 111	3	6.532	75.821
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	KBr 200	3	6.584	74.128
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	quartz 101	3	6.687	71.273
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	graphite 002	3	6.696	71.048
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	quartz 100	4	8.512	82.753
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	PET 002	4	8.742	74.997
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.111	EDT 020	4	8.808	73.471
Ti21	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= 0	2.111	ADP 101	5	10.640	82.753
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= 0	2.221	Ge 422	1	2.310	74.044
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	quartz 310	1	2.360	70.237
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	tungsten 110	2	4.476	82.933
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	quartz 112	2	4.564	76.722
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	topaz 200	2	4.638	73.284
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	Al 111	2	4.676	71.797
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	quartz 101	3	6.687	85.144
Ti21	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.221	graphite 002	3	6.696	84.309
Ti21	He-like	2S	2P	(3P*)j=2.0 -	1S	2S	(3S)j=1.0	2.507	ADP 101	4	10.640	70.473
Ti21	He-like	2S	2P	(3P*)j=1.0 -	1S	2S	(3S)j=1.0	2.510	ADP 101	4	10.640	70.667
Ti21	He-like	2P2		(1D)j=2.0 -	1S	2P	(1P*)j=1.0	2.513	ADP 101	4	10.640	70.863
Ti21	He-like	2S	2P	(3P*)j= .0 -	1S	2S	(3S)j=1.0	2.517	ADP 101	4	10.640	71.127

Ti21	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.610	topaz 303	1	2.712	74.236
Ti21	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.610	corundum 030	1	2.748	71.765
Ti21	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.610	quartz 203	1	2.749	71.702
Ti21	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.610	ADP 101	4	10.640	78.873
Ti21	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.622	topaz 303	1	2.712	75.198
Ti21	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.622	corundum 030	1	2.748	72.582
Ti21	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.622	quartz 203	1	2.749	72.516
Ti21	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.622	ADP 101	4	10.640	80.304
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	topaz 303	1	2.712	76.494
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	corundum 030	1	2.748	73.660
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	quartz 203	1	2.749	73.589
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	topaz 006	1	2.795	70.643
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	topaz 002	3	8.374	70.858
Ti21	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.637	ADP 101	4	10.640	82.460
Ti21	He-like	1S	3P	(1P*)j=1.0 - 1S 2S	(1S)j= .0	14.520	gypsum 020	1	15.185	72.981
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	quartz 223	1	2.024	70.678
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	Si 220	2	3.840	84.150
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	fluorite 220	2	3.862	81.542
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	Ge 220	2	4.000	72.746
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	LiF 200	2	4.027	71.549
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	Al 200	2	4.048	70.678
Ti22	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.910	calcite 200	3	6.071	70.705
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	quartz 223	1	2.024	71.914
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	fluorite 220	2	3.862	85.120
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	Ge 220	2	4.000	74.154
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	LiF 200	2	4.027	72.853
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	Al 200	2	4.048	71.914
Ti22	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.924	calcite 200	3	6.071	71.943
Ti22	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= 5	1.949	quartz 223	1	2.024	74.354
Ti22	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.949	Ge 220	2	4.000	77.033
Ti22	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.949	LiF 200	2	4.027	75.459
Ti22	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.949	Al 200	2	4.048	74.354
Ti22	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.949	calcite 200	3	6.071	74.387
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	quartz 223	1	2.024	80.289
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	Ge 220	2	4.000	85.948
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	LiF 200	2	4.027	82.227
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	Al 200	2	4.048	80.289
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	quartz 200	2	4.246	70.003
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	calcite 200	3	6.071	80.345
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	Si 111	3	6.271	72.629
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	sylvite 200	3	6.292	72.028
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	fluorite 111	3	6.308	71.585
Ti22	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.995	topaz 002	4	8.374	72.354
Ti22	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	2.104	Si 422	1	2.217	71.628
Ti22	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	2.104	tungsten 110	2	4.476	70.073
Ti22	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	2.104	quartz 200	2	4.246	82.329

Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	Ge 111	3	6.532	75.087
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	KBr 200	3	6.584	73.473
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	quartz 101	3	6.687	70.721
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= 5	2.104	graphite 002	3	6.696	70.502
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	quartz 100	4	8.512	81.387
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	PET 002	4	8.742	74.304
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	EDT 020	4	8.808	72.842
Ti22	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	2.104	ADP 101	5	10.640	81.387
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	Si 422	1	2.217	71.710
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	tungsten 110	2	4.476	70.148
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	quartz 200	2	4.246	82.534
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	Ge 111	3	6.532	75.190
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	KBr 200	3	6.584	73.565
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	quartz 101	3	6.687	70.799
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	graphite 002	3	6.696	70.579
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	quartz 100	4	8.512	81.568
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	PET 002	4	8.742	74.401
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	EDT 020	4	8.808	72.930
Ti22	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	2.105	ADP 101	5	10.640	81.568
Ti22	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.491	gypsum 002	2	4.990	86.755
Ti22	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.491	InSb 111	3	7.481	87.350
Ti22	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	8.130	topaz 002	1	8.374	76.135
Ti22	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	8.130	quartz 100	1	8.512	72.770
Ti22	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	8.130	TAP 100	3	25.763	71.210
Ti22	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.186	topaz 002	1	8.374	77.836
Ti22	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.186	quartz 100	1	8.512	74.092
Ti22	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.186	TAP 100	3	25.763	72.407
Ti22	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1 5	8.186	RAP 100	3	26.116	70.109
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	quartz 100	1	8.512	80.612
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	PET 002	1	8.742	73.873
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	EDT 020	1	8.808	72.449
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	TAP 100	3	25.763	77.936
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	RAP 100	3	26.116	74.730
Ti22	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	8.398	KAP 100	3	26.634	71.073
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	quartz 100	1	8.512	83.543
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	PET 002	1	8.742	75.356
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	EDT 020	1	8.808	73.794
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	TAP 100	3	25.763	80.031
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	RAP 100	3	26.116	76.310
Ti22	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.458	KAP 100	3	26.634	72.306
Ti22	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	9.943	mica 002	2	19.942	85.705
Ti22	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	10.023	ADP 101	1	10.640	70.392
Ti22	H -like	5P	(2P*)j=1.5 - 3S	(2S)j= .5	26.242	KAP 100	1	26.634	80.158
Ti22	H -like	5D	(2D)j=2.5 - 3P	(2P*)j=1.5	26.402	KAP 100	1	26.634	82.432
Ti22	H -like	5F	(2F*)j=3.5 - 3D	(2D)j=2.5	26.455	KAP 100	1	26.634	83.354
V		K-alpha(1)			2.504	ADP 101	4	10.640	70.255

V 13	Na-like	2P5	3S2		(2P*)j=1.5 -	2P6	3S		(2S)j= .5	24.517	TAP 100	1	25.763	72.108
V 14	Ne-like	2S2	2P5	(2P*1)	5D (12*)j=1.0 -	2S2	2P6		(1S)j= .0	15.610	beryl 100	1	15.954	78.080
V 14	Ne-like	2S2	2P5	(2P*2)	5D (22*)j=1.0 -	2S2	2P6		(1S)j= .0	15.748	beryl 100	1	15.954	80.783
V 14	Ne-like	2S	2P6		3P (1P*)j=1.0 -	2S2	2P6		(1S)j= .0	18.782	mica 002	1	19.942	70.361
V 14	Ne-like	2S	2P6		3P (3P*)j=1.0 -	2S2	2P6		(1S)j= .0	18.870	mica 002	1	19.942	71.128
V 15	F -like	2S2	2P4	(1S)	3D (2D)j=2.5 -	2S2	2P5		(2P*)j=1.5	19.028	mica 002	1	19.942	72.586
V 15	F -like	2S2	2P4	(1S)	3D (2D)j=1.5 -	2S2	2P5		(2P*)j= .5	19.203	mica 002	1	19.942	74.353
V 15	F -like	2S2	2P4	(1D)	3D (2D)j=1.5 -	2S2	2P5		(2P*)j=1.5	19.298	mica 002	1	19.942	75.399
V 15	F -like	2S2	2P4	(1D)	3D (2D)j=2.5 -	2S2	2P5		(2P*)j=1.5	19.366	mica 002	1	19.942	76.196
V 15	F -like	2S2	2P4	(1D)	3D (2S)j= .5 -	2S2	2P5		(2P*)j=1.5	19.443	mica 002	1	19.942	77.156
V 15	F -like	2S2	2P4	(1D)	3D (2D)j=1.5 -	2S2	2P5		(2P*)j= .5	19.518	mica 002	1	19.942	78.164
V 15	F -like	2S2	2P4	(1D)	3D (2P)j=1.5 -	2S2	2P5		(2P*)j= .5	19.589	mica 002	1	19.942	79.204
V 15	F -like	2S2	2P4	(3P)	3D (2D)j=2.5 -	2S2	2P5		(2P*)j=1.5	19.645	mica 002	1	19.942	80.099
V 15	F -like	2S2	2P4	(3P)	3D (2P)j=1.5 -	2S2	2P5		(2P*)j=1.5	19.671	mica 002	1	19.942	80.543
V 15	F -like	2S2	2P4	(3P)	3D (2F)j=2.5 -	2S2	2P5		(2P*)j=1.5	19.725	mica 002	1	19.942	81.540
V 15	F -like	2S2	2P4	(3P)	3D (2D)j=1.5 -	2S2	2P5		(2P*)j=1.5	19.757	mica 002	1	19.942	82.190
V 15	F -like	2S2	2P4	(3P)	3D (4P)j=2.5 -	2S2	2P5		(2P*)j=1.5	19.782	mica 002	1	19.942	82.737
V 15	F -like	2S2	2P4	(3P)	3D (2P)j= .5 -	2S2	2P5		(2P*)j=1.5	19.800	mica 002	1	19.942	83.158
V 15	F -like	2S2	2P4	(3P)	3D (4P)j=1.5 -	2S2	2P5		(2P*)j=1.5	19.844	mica 002	1	19.942	84.317
V 15	F -like	2S2	2P4	(3P)	3D (4P)j= .5 -	2S2	2P5		(2P*)j=1.5	19.888	mica 002	1	19.942	85.783
V 15	F -like	2S2	2P4	(3P)	3D (2P)j=1.5 -	2S2	2P5		(2P*)j= .5	19.903	mica 002	1	19.942	86.416
V 16	O -like	2S2	2P3	(4S*)	3D (3D*)j=2.0 -	2S2	2P4		(3P)j=1.0	18.890	mica 002	1	19.942	71.307
V 16	O -like	2S2	2P3	(2P*)	3S (3P*)j=2.0 -	2S2	2P4		(3P)j=2.0	19.730	mica 002	1	19.942	81.638
V 19	B -like	2S2	4S		(2S)j= .5 -	2S2	2P		(2P*)j=1.5	12.140	TAP 100	2	25.763	70.465
V 19	B -like	2S	2P	(1P*)	3P (2D)j=2.5 -	2S2	2P		(2P*)j=1.5	14.636	gypsum 020	1	15.185	74.546
V 19	B -like	2S	2P	(3P*)	3P (2D)j=2.5 -	2S2	2P		(2P*)j=1.5	15.039	gypsum 020	1	15.185	82.048
V 19	B -like	2S	2P	(3P*)	3P (2D)j=2.5 -	2S2	2P		(2P*)j=1.5	15.039	beryl 100	1	15.954	70.501
V 19	B -like	2S	2P	(3P*)	3P (2P)j= .5 -	2S2	2P		(2P*)j= .5	15.296	beryl 100	1	15.954	73.487
V 19	B -like	2S	2P	(3P*)	3P (2P)j=1.5 -	2S2	2P		(2P*)j=1.5	15.333	beryl 100	1	15.954	73.961
V 19	B -like	2S	2P	(1P*)	3D (2F*)j=3.5 -	2S	2P2		(2D)j=2.5	15.495	beryl 100	1	15.954	76.223
V 19	B -like	2S2	3D		(2D)j=1.5 -	2S2	2P		(2P*)j= .5	15.560	beryl 100	1	15.954	77.240
V 19	B -like	2S	3P	(3P*)	3D (4D*)j=3.5 -	2S2	2P2		(4P)j=2.5	15.630	beryl 100	1	15.954	78.433
V 19	B -like	2S2	3D		(2D)j=2.5 -	2S2	2P		(2P*)j=1.5	15.702	beryl 100	1	15.954	79.803
V 19	B -like	2S	2P	(1P*)	3D (2D*)j=2.5 -	2S	2P2		(2P)j=1.5	15.883	beryl 100	1	15.954	84.593
V 19	B -like	2S	2P	(3P*)	3D (2F*)j=3.5 -	2S	2P2		(2D)j=2.5	15.924	beryl 100	1	15.954	86.486
V 20	Be-like	1S2	2P	3P	(3D)j=3.0 -	1S2	2S	2P	(3P*)j=2.0	14.279	gypsum 020	1	15.185	70.108
V 20	Be-like	1S2	2P	3P	(1P)j=1.0 -	1S2	2S	2P	(3P*)j=1.0	14.291	gypsum 020	1	15.185	70.242
V 20	Be-like	1S2	2P	3P	(3D)j=1.0 -	1S2	2S	2P	(3P*)j= .0	14.332	gypsum 020	1	15.185	70.704
V 20	Be-like	1S2	2S	3P	(1P*)j=1.0 -	1S2		2S2	(1S)j= .0	14.360	gypsum 020	1	15.185	71.027
V 20	Be-like	1S2	2S	3P	(3P*)j=1.0 -	1S2		2S2	(1S)j= .0	14.401	gypsum 020	1	15.185	71.508
V 20	Be-like	1S2	2S	3S	(1S)j= .0 -	1S2	2S	2P	(1P*)j=1.0	14.503	gypsum 020	1	15.185	72.763
V 20	Be-like	1S2	2P	3P	(1D)j=2.0 -	1S2	2S	2P	(1P*)j=1.0	14.649	gypsum 020	1	15.185	74.731
V 20	Be-like	1S2	2S	3D	(3D)j=1.0 -	1S2	2S	2P	(3P*)j= .0	14.829	gypsum 020	1	15.185	77.569
V 20	Be-like	1S2	2S	3D	(3D)j=2.0 -	1S2	2S	2P	(3P*)j=1.0	14.870	gypsum 020	1	15.185	78.309
V 20	Be-like	1S2	2P	3D	(1P*)j=1.0 -	1S2		2P2	(3P)j=1.0	14.886	gypsum 020	1	15.185	78.611
V 20	Be-like	1S2	2P	3P	(3D)j=2.0 -	1S2	2S	2P	(1P*)j=1.0	14.929	gypsum 020	1	15.185	79.464

V	20	Be-like	1S2	2S	3D		(3D)j=3.0 -	1S2	2S	2P	(3P*)j=2.0	14.976	gypsum 020	1	15.185	80.483
V	20	Be-like	1S2	2S	3D		(3D)j=2.0 -	1S2	2S	2P	(3P*)j=2.0	14.986	gypsum 020	1	15.185	80.714
V	20	Be-like	1S2	2P	3D		(3P*)j= .0 -	1S2		2P2	(3P)j=1.0	15.051	gypsum 020	1	15.185	82.383
V	20	Be-like	1S2	2P	3D		(3P*)j= .0 -	1S2		2P2	(3P)j=1.0	15.051	beryl 100	1	15.954	70.631
V	20	Be-like	1S2	2P	3D		(3D*)j=2.0 -	1S2		2P2	(3P)j=1.0	15.114	gypsum 020	1	15.185	84.457
V	20	Be-like	1S2	2P	3D		(3D*)j=2.0 -	1S2		2P2	(3P)j=1.0	15.114	beryl 100	1	15.954	71.325
V	20	Be-like	1S2	2P	3D		(3D*)j=3.0 -	1S2		2P2	(3P)j=2.0	15.141	gypsum 020	1	15.185	85.637
V	20	Be-like	1S2	2P	3D		(3D*)j=3.0 -	1S2		2P2	(3P)j=2.0	15.141	beryl 100	1	15.954	71.630
V	20	Be-like	1S2	2P	3D		(1F*)j=3.0 -	1S2		2P2	(1D)j=2.0	15.216	beryl 100	1	15.954	72.505
V	20	Be-like	1S2	2P	3D		(1D*)j=2.0 -	1S2		2P2	(3P)j=1.0	15.229	beryl 100	1	15.954	72.661
V	20	Be-like	1S2	2P	3D		(3F*)j=3.0 -	1S2		2P2	(3P)j=2.0	15.336	beryl 100	1	15.954	74.000
V	20	Be-like	1S2	2S	3D		(1D)j=2.0 -	1S2	2S	2P	(1P*)j=1.0	15.427	beryl 100	1	15.954	75.232
V	20	Be-like	1S2	2S	3S		(3S)j=1.0 -	1S2	2S	2P	(3P*)j=1.0	15.455	beryl 100	1	15.954	75.632
V	20	Be-like	1S2	2P	3D		(3F*)j=3.0 -	1S2		2P2	(1D)j=2.0	15.551	beryl 100	1	15.954	77.095
V	20	Be-like	1S2	2S	3S		(3S)j=1.0 -	1S2	2S	2P	(3P*)j=2.0	15.580	beryl 100	1	15.954	77.569
V	20	Be-like	1S2	2P	3D		(1P*)j=1.0 -	1S2		2P2	(1S)j= .0	15.639	beryl 100	1	15.954	78.596
V	20	Be-like	1S2	2P	3S		(3P*)j= .0 -	1S2		2P2	(3P)j=1.0	15.884	beryl 100	1	15.954	84.631
V	20	Be-like	1S2	2P	3S		(1P*)j=1.0 -	1S2		2P2	(1D)j=2.0	15.905	beryl 100	1	15.954	85.508
V	21	Li-like	1S	2P (3P*)	3P	(2P)j=1.5 -	1S2	3P			(2P*)j=1.5	2.385	quartz 220	1	2.451	76.673
V	21	Li-like	1S	2P (3P*)	3P	(2P)j=1.5 -	1S2	3P			(2P*)j=1.5	2.385	quartz 110	2	4.912	76.190
V	21	Li-like	1S	2P (3P*)	3P	(2P)j=1.5 -	1S2	3P			(2P*)j=1.5	2.385	gypsum 002	2	4.990	72.923
V	21	Li-like	1S	2P (3P*)	3P	(2P)j=1.5 -	1S2	3P			(2P*)j=1.5	2.385	InSb 111	3	7.481	73.023
V	21	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P			(2P*)j=1.5	2.388	quartz 220	1	2.451	76.981
V	21	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P			(2P*)j=1.5	2.388	quartz 110	2	4.912	76.486
V	21	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P			(2P*)j=1.5	2.388	gypsum 002	2	4.990	73.159
V	21	Li-like	1S	2P2		(2S)j= .5 -	1S2	2P			(2P*)j=1.5	2.388	InSb 111	3	7.481	73.261
V	21	Li-like	1S	(2S 2P (1P*)		(2P*)j=1.5 -	1S2	2S			(2S)j= .5	2.390	quartz 220	1	2.451	77.190
V	21	Li-like	1S	(2S 2P (1P*)		(2P*)j=1.5 -	1S2	2S			(2S)j= .5	2.390	quartz 110	2	4.912	76.687
V	21	Li-like	1S	(2S 2P (1P*)		(2P*)j=1.5 -	1S2	2S			(2S)j= .5	2.390	gypsum 002	2	4.990	73.319
V	21	Li-like	1S	(2S 2P (1P*)		(2P*)j=1.5 -	1S2	2S			(2S)j= .5	2.390	InSb 111	3	7.481	73.421
V	21	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P			(2P*)j=1.5	2.399	quartz 220	1	2.451	78.177
V	21	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P			(2P*)j=1.5	2.399	quartz 110	2	4.912	77.632
V	21	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P			(2P*)j=1.5	2.399	gypsum 002	2	4.990	74.054
V	21	Li-like	1S	2P2		(2P)j=1.5 -	1S2	2P			(2P*)j=1.5	2.399	InSb 111	3	7.481	74.162
V	21	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P			(2P*)j= .5	2.401	quartz 220	1	2.451	78.407
V	21	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P			(2P*)j= .5	2.401	quartz 110	2	4.912	77.852
V	21	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P			(2P*)j= .5	2.401	gypsum 002	2	4.990	74.222
V	21	Li-like	1S	2P2		(2D)j=1.5 -	1S2	2P			(2P*)j= .5	2.401	InSb 111	3	7.481	74.331
V	21	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P			(2P*)j=1.5	2.404	quartz 220	1	2.451	78.761
V	21	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P			(2P*)j=1.5	2.404	quartz 110	2	4.912	78.189
V	21	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P			(2P*)j=1.5	2.404	gypsum 002	2	4.990	74.478
V	21	Li-like	1S	2P2		(2D)j=2.5 -	1S2	2P			(2P*)j=1.5	2.404	InSb 111	3	7.481	74.589
V	21	Li-like	1S	2S (3P*)	2P	(4P*)j=1.5 -	1S2	2S			(2S)j= .5	2.414	quartz 220	1	2.451	80.032
V	21	Li-like	1S	2S (3P*)	2P	(4P*)j=1.5 -	1S2	2S			(2S)j= .5	2.414	quartz 110	2	4.912	79.389
V	21	Li-like	1S	2S (3P*)	2P	(4P*)j=1.5 -	1S2	2S			(2S)j= .5	2.414	gypsum 002	2	4.990	75.360
V	21	Li-like	1S	2S (3P*)	2P	(4P*)j=1.5 -	1S2	2S			(2S)j= .5	2.414	InSb 111	3	7.481	75.478

V 21	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1 5	2.421	quartz 220	1	2.451	81.026
V 21	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	2.421	quartz 110	2	4.912	80.316
V 21	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	2.421	gypsum 002	2	4.990	76.011
V 21	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	2.421	InSb 111	3	7.481	76.134
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	topaz 002	1	8.374	81.782
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	quartz 100	1	8.512	76.826
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	PET 002	1	8.742	71.454
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	EDT 020	1	8.808	70.214
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	TAP 100	3	25.763	74.819
V 21	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.288	RAP 100	3	26.116	72.187
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	quartz 100	1	8.512	80.654
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	PET 002	1	8.742	73.897
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	EDT 020	1	8.808	72.471
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	TAP 100	3	25.763	77.968
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	RAP 100	3	26.116	74.755
V 21	Li-like	1S2 8P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.399	KAP 100	3	26.634	71.093
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.527	PET 002	1	8.742	77.267
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.527	EDT 020	1	8.808	75.488
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.527	TAP 100	3	25.763	83.186
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.527	RAP 100	3	26.116	78.383
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.527	KAP 100	3	26.634	73.835
V 21	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.576	PET 002	1	8.742	78.817
V 21	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.576	EDT 020	1	8.808	76.820
V 21	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.576	TAP 100	3	25.763	87.013
V 21	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.576	RAP 100	3	26.116	80.111
V 21	Li-like	1S2 7P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.576	KAP 100	3	26.634	75.013
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.582	PET 002	1	8.742	79.021
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.582	EDT 020	1	8.808	76.993
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.582	TAP 100	3	25.763	87.918
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.582	RAP 100	3	26.116	80.344
V 21	Li-like	1S2 9D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.582	KAP 100	3	26.634	75.163
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.643	PET 002	1	8.742	81.369
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.643	EDT 020	1	8.808	78.892
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.643	RAP 100	3	26.116	83.139
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.643	KAP 100	3	26.634	76.788
V 21	Li-like	1S2 8D	(2D)j=1 5 - 1S2 2P	(2P*)j=1.5	8.703	PET 002	1	8.742	84.586
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.703	EDT 020	1	8.808	81.144
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.703	RAP 100	3	26.116	88.674
V 21	Li-like	1S2 8D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	8.703	KAP 100	3	26.634	78.605
V 21	Li-like	1S2 7D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.826	KAP 100	3	26.634	83.796
V 21	Li-like	1S2 6P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.843	KAP 100	3	26.634	84.911
V 21	Li-like	1S2 5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	9.633	mica 002	2	19.942	75.039
V 21	Li-like	1S2 5D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	9.704	mica 002	2	19.942	76.711
V 21	Li-like	1S2 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	10.401	ADP 101	1	10.640	77.833
V 21	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	10.411	ADP 101	1	10.640	78.091
V 21	Li-like	1S2 3D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	14.429	gypsum 020	1	15.185	71.844

V 21	Li-like	1S2	3D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	14.573	gypsum 020	1	15.185	73.678
V 21	Li-like	1S2	3D	(2D)j=1.5 -	1S2	2P	(2P*)j=1.5	14.592	gypsum 020	1	15.185	73.935
V 21	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j= .5	14.750	gypsum 020	1	15.185	76.253
V 21	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j=1.5	14.917	gypsum 020	1	15.185	79.220
V 21	Li-like		110	( )j= .0 -		110	( )j= .0	14.714	gypsum 020	1	15.185	75.692
V 22	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.882	Si 220	2	3.840	78.582
V 22	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.882	fluorite 220	2	3.862	77.065
V 22	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.882	Ge 220	2	4.000	70.220
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.925	quartz 223	1	2.024	72.006
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.925	fluorite 220	2	3.862	85.482
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.925	Ge 220	2	4.000	74.259
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.925	LiF 200	2	4.027	72.950
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= 0	1.925	Al 200	2	4.048	72.006
V 22	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.925	calcite 200	3	6.071	72.035
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	quartz 200	2	4.246	72.613
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	Si 111	3	6.271	75.748
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	sylvite 200	3	6.292	75.014
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	fluorite 111	3	6.308	74.480
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	topaz 002	4	8.374	75.411
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	quartz 100	4	8.512	72.188
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.026	ADP 101	5	10.640	72.188
V 22	He-like	1S	2P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.381	quartz 220	1	2.451	76.274
V 22	He-like	1S	2P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.381	quartz 110	2	4.912	75.804
V 22	He-like	1S	2P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.381	gypsum 002	2	4.990	72.613
V 22	He-like	1S	2P	(1P*)j=1.0 -	1S2		(1S)j= .0	2.381	InSb 111	3	7.481	72.711
V 22	He-like	1S	2P	(3P*)j=1.0 -	1S2		(1S)j= .0	2.393	quartz 220	1	2.451	77.511
V 22	He-like	1S	2P	(3P*)j=1.0 -	1S2		(1S)j= .0	2.393	quartz 110	2	4.912	76.994
V 22	He-like	1S	2P	(3P*)j=1.0 -	1S2		(1S)j= .0	2.393	gypsum 002	2	4.990	73.560
V 22	He-like	1S	2P	(3P*)j=1.0 -	1S2		(1S)j= .0	2.393	InSb 111	3	7.481	73.664
V 22	He-like	1S	2S	(3S)j=1.0 -	1S2		(1S)j= .0	2.405	quartz 220	1	2.451	78.882
V 22	He-like	1S	2S	(3S)j=1.0 -	1S2		(1S)j= .0	2.405	quartz 110	2	4.912	78.303
V 22	He-like	1S	2S	(3S)j=1.0 -	1S2		(1S)j= .0	2.405	gypsum 002	2	4.990	74.564
V 22	He-like	1S	2S	(3S)j=1.0 -	1S2		(1S)j= .0	2.405	InSb 111	3	7.481	74.675
V 22	He-like	1S	3P	(3P*)j=2.0 -	1S	2S	(3S)j=1.0	12.910	RAP 100	2	26.116	81.365
V 22	He-like	1S	3P	(3P*)j=2 0 -	1S	2S	(3S)j=1.0	12.910	KAP 100	2	26.634	75.798
V 22	He-like	1S	3P	(1P*)j=1.0 -	1S	2S	(1S)j= .0	13.220	KAP 100	2	26.634	83.080
V 23	H -like	7P		(2P*)j=1.5 -	1S		(2S)j= .5	1.747	LiF 420	1	1.801	75.934
V 23	H -like	7P		(2P*)j=1.5 -	1S		(2S)j= .5	1.747	quartz 112	2	3.636	73.935
V 23	H -like	7P		(2P*)j=1.5 -	1S		(2S)j= .5	1.747	PET 002	5	8.742	87.707
V 23	H -like	7P		(2P*)j=1.5 -	1S		(2S)j= .5	1.747	EDT 020	5	8.808	82.618
V 23	H -like	6P		(2P*)j=1.5 -	1S		(2S)j= .5	1.760	LiF 420	1	1.801	77.751
V 23	H -like	6P		(2P*)j=1.5 -	1S		(2S)j= .5	1.760	quartz 112	2	3.636	75.488
V 23	H -like	6P		(2P*)j=1.5 -	1S		(2S)j= .5	1.760	InSb 111	4	7.481	70.229
V 23	H -like	6P		(2P*)j=1.5 -	1S		(2S)j= .5	1.760	EDT 020	5	8.808	87.558
V 23	H -like	5P		(2P*)j=1.5 -	1S		(2S)j= .5	1.782	LiF 420	1	1.801	81.670
V 23	H -like	5P		(2P*)j=1.5 -	1S		(2S)j= .5	1.782	quartz 112	2	3.636	78.579

V 23	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	1.782	NaCl 200	3	5.641	71.388
V 23	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	1.782	InSb 111	4	7.481	72.329
V 23	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.825	Si 220	2	3.840	71.901
V 23	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.825	fluorite 220	2	3.862	70.928
V 23	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.825	NaCl 200	3	5.641	76.066
V 23	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.825	InSb 111	4	7.481	77.371
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	quartz 223	1	2.024	71.914
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	fluorite 220	2	3.862	85.120
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	Ge 220	2	4.000	74.154
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	LiF 200	2	4.027	72.853
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	Al 200	2	4.048	71.914
V 23	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.924	calcite 200	3	6.071	71.943
V 23	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.278	Ge 422	1	2.310	80.452
V 23	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.278	quartz 310	1	2.360	74.852
V 23	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.278	quartz 112	2	4.564	86.607
V 23	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.278	topaz 200	2	4.638	79.210
V 23	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.278	Al 111	2	4.676	76.992
V 23	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.283	Ge 422	1	2.310	81.231
V 23	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.283	quartz 310	1	2.360	75.324
V 23	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.283	topaz 200	2	4.638	79.891
V 23	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.283	Al 111	2	4.676	77.548
V 23	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	7.433	InSb 111	1	7.481	83.506
V 23	H -like	7P	(2P*)j=1.5 - 2S	(2S)j= .5	7.433	gypsum 020	2	15.185	78.235
V 23	H -like	7D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.489	gypsum 020	2	15.185	80.529
V 23	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	7.677	beryl 100	2	15.954	74.237
V 23	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.737	beryl 100	2	15.954	75.910
V 23	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	8.122	topaz 002	1	8.374	75.908
V 23	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	8.122	quartz 100	1	8.512	72.589
V 23	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	8.122	TAP 100	3	25.763	71.045
V 23	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.188	topaz 002	1	8.374	77.901
V 23	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.188	quartz 100	1	8.512	74.141
V 23	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.188	TAP 100	3	25.763	72.451
V 23	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.188	RAP 100	3	26.116	70.148
V 23	H -like	3P	(2P*)j=1.5 - 2S	(2S)j= .5	12.234	TAP 100	2	25.763	71.756
V 23	H -like	3D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.372	TAP 100	2	25.763	73.832
V 23	H -like	3D	(2D)j=2.5 - 2P	(2P*)j=1.5	12.372	RAP 100	2	26.116	71.346
V 23	H -like	7P	(2P*)j=1.5 - 3S	(2S)j= .5	18.831	mica 002	1	19.942	70.785
V 23	H -like	7D	(2D)j=2.5 - 3P	(2P*)j=1.5	18.938	mica 002	1	19.942	71.742
V 23	H -like	7F	(2F*)j=3.5 - 3D	(2D)j=2.5	18.974	mica 002	1	19.942	72.075
Cr	K-alpha(1)				2.290	Ge 422	1	2.310	82.417
Cr	K-alpha(1)				2.290	quartz 310	1	2.360	75.990
Cr	K-alpha(1)				2.290	topaz 200	2	4.638	80.898
Cr	K-alpha(1)				2.290	Al 111	2	4.676	78.346
Cr15	Ne-like	2S2 2P5 (2P*1) 6D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	13.294	KAP 100	2	26.634	86.632
Cr15	Ne-like	2S2 2P5 (2P*) 4S	(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	15.509	beryl 100	1	15.954	76.436
Cr15	Ne-like	2S2 2P5 (2P*) 4S	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	15.788	beryl 100	1	15.954	81.728

Cr15	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0 -	2S2 2P6			(1S)j= .0	18.782	mica 002	1	19.942	70.361
Cr15	Ne-like	2S2 2P5	(2P*2)	3D	(21*)j=1.0 -	2S2 2P6			(1S)j= .0	19.015	mica 002	1	19.942	72.462
Cr16	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5 -	2S2 2P5			(2P*)j=1.5	14.290	gypsum 020	1	15.185	70.230
Cr16	F -like	2S2 2P4	(1S)	4S	(2S)j= .5 -	2S2 2P5			(2P*)j=1.5	14.470	gypsum 020	1	15.185	72.348
Cr16	F -like	2S2 2P4	(1S)	3S	(2S)j= .5 -	2S2 2P5			(2P*)j=1.5	18.775	mica 002	1	19.942	70.302
Cr16	F -like	2S2 2P4	(1S)	3S	(2S)j= .5 -	2S2 2P5			(2P*)j= .5	19.038	mica 002	1	19.942	72.682
Cr16	F -like	2S2 2P4	(1D)	3S	(2D)j=2.5 -	2S2 2P5			(2P*)j=1.5	19.255	mica 002	1	19.942	74.917
Cr16	F -like	2S2 2P4	(3P)	3S	(2P)j= .5 -	2S2 2P5			(2P*)j=1.5	19.442	mica 002	1	19.942	77.143
Cr16	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5 -	2S2 2P5			(2P*)j= .5	19.511	mica 002	1	19.942	78.066
Cr16	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5 -	2S2 2P5			(2P*)j=1.5	19.538	mica 002	1	19.942	78.447
Cr16	F -like	2S2 2P4	(3P)	3S	(2P)j= .5 -	2S2 2P5			(2P*)j= .5	19.714	mica 002	1	19.942	81.328
Cr16	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5 -	2S2 2P5			(2P*)j=1.5	19.807	mica 002	1	19.942	83.329
Cr16	F -like	2S2 2P4	(3P)	3S	(4P)j= .5 -	2S2 2P5			(2P*)j= .5	19.847	mica 002	1	19.942	84.405
Cr18	N -like	2S2 2P2	(1D)	3D	(2F)j=2.5 -	2S2 2P3			(2D*)j=1.5	15.501	beryl 100	1	15.954	76.314
Cr18	N -like	2S2 2P2	(3P)	3D	(4P)j=1.5 -	2S2 2P3			(4S*)j=1.5	15.512	beryl 100	1	15.954	76.482
Cr18	N -like	2S2 2P2	(3P)	3D	(4P)j=2.5 -	2S2 2P3			(4S*)j=1.5	15.520	beryl 100	1	15.954	76.605
Cr18	N -like	2S2 2P2	(1D)	3D	(2P)j=1.5 -	2S2 2P3			(2D*)j=2.5	15.550	beryl 100	1	15.954	77.078
Cr18	N -like	2S2 2P2	(1D)	3D	(2F)j=3.5 -	2S2 2P3			(2D*)j=2.5	15.587	beryl 100	1	15.954	77.687
Cr18	N -like	2S2 2P2	(3P)	3D	(2F)j=3.5 -	2S2 2P3			(2D*)j=2.5	15.835	beryl 100	1	15.954	82.998
Cr19	C -like	2S2 2P		3D	(3D*)j=2.0 -	2S2 2P2			(3P)j=1.0	14.802	gypsum 020	1	15.185	77.104
Cr19	C -like	2S2 2P	3D		(3P*)j=2.0 -	2S2 2P2			(3P)j=2.0	14.809	gypsum 020	1	15.185	77.223
Cr19	C -like	2S2 2P	3D		(3D*)j=3.0 -	2S2 2P2			(3P)j=2.0	14.836	gypsum 020	1	15.185	77.692
Cr19	C -like	2S2 2P		3D	(1P*)j=1.0 -	2S2 2P2			(1D)j=2.0	14.925	gypsum 020	1	15.185	79.382
Cr19	C -like	2S2 2P		3D	(3F*)j=3.0 -	2S2 2P2			(3P)j=2.0	15.027	gypsum 020	1	15.185	81.728
Cr19	C -like	2S2 2P		3D	(3F*)j=3.0 -	2S2 2P2			(3P)j=2.0	15.027	beryl 100	1	15.954	70.372
Cr19	C -like	2S2 2P		3D	(1P*)j=1.0 -	2S2 2P2			(1S)j= .0	15.180	gypsum 020	1	15.185	88.530
Cr19	C -like	2S2 2P		3D	(1P*)j=1.0 -	2S2 2P2			(1S)j= .0	15.180	beryl 100	1	15.954	72.080
Cr19	C -like	2S2 2P		3D	(1D*)j=2.0 -	2S2 2P2			(1D)j=2.0	15.251	beryl 100	1	15.954	72.928
Cr19	C -like	2S 2P2	(4P)	3D	(3F)j=4.0 -	2S 2P3			(3D*)j=3.0	15.301	beryl 100	1	15.954	73.551
Cr19	C -like	2S2 2P	3S		(3P*)j=2.0 -	2S2 2P2			(3P)j=2.0	15.910	beryl 100	1	15.954	85.744
Cr20	B -like	2S 2P	(3P*)	3D	(2F*)j=3.5 -	2S 2P2			(2D)j=2.5	14.447	gypsum 020	1	15.185	72.064
Cr20	B -like	2S 2P	(3P*)	3D	(2F*)j=2.5 -	2S 2P2			(2D)j=1.5	14.524	gypsum 020	1	15.185	73.032
Cr20	B -like	2S 2P	(3P*)	3D	(2D*)j=2.5 -	2S 2P2			(2D)j=1.5	14.641	gypsum 020	1	15.185	74.617
Cr20	B -like	2S 2P	(3P*)	3D	(2D*)j=2.5 -	2S 2P2			(2D)j=2.5	14.669	gypsum 020	1	15.185	75.021
Cr20	B -like	2S2 3S			(2S)j= .5 -	2S2 2P			(2P*)j=1.5	15.060	gypsum 020	1	15.185	82.643
Cr20	B -like	2S2 3S			(2S)j= .5 -	2S2 2P			(2P*)j=1.5	15.060	beryl 100	1	15.954	70.728
Cr21	Be-like	1S2 2P	3P		(3P)j=1.0 -	1S2 2S	2P		(3P*)j=1.0	12.909	RAP 100	2	26.116	81.336
Cr21	Be-like	1S2 2P	3P		(3P)j=1.0 -	1S2 2S	2P		(3P*)j=1.0	12.909	KAP 100	2	26.634	75.781
Cr21	Be-like	1S2 2P	3P		(3S)j=1.0 -	1S2 2S	2P		(3P*)j=2.0	12.981	RAP 100	2	26.116	83.775
Cr21	Be-like	1S2 2P	3P		(3S)j=1.0 -	1S2 2S	2P		(3P*)j=2.0	12.981	KAP 100	2	26.634	77.102
Cr21	Be-like	1S2 2P	3P		(3D)j=3.0 -	1S2 2S	2P		(3P*)j=2.0	13.018	RAP 100	2	26.116	85.514
Cr21	Be-like	1S2 2P	3P		(3D)j=3.0 -	1S2 2S	2P		(3P*)j=2.0	13.018	KAP 100	2	26.634	77.836
Cr21	Be-like	1S2 2P	3P		(3D)j=1.0 -	1S2 2S	2P		(3P*)j= .0	13.060	KAP 100	2	26.634	78.725
Cr21	Be-like	1S2 2S	3P		(3P*)j=1.0 -	1S2 2S2			(1S)j= .0	13.081	KAP 100	2	26.634	79.197
Cr21	Be-like	1S2 2S	3P		(1P*)j=1.0 -	1S2 2S2			(1S)j= .0	13.123	KAP 100	2	26.634	80.208
Cr21	Be-like	1S2 2S	3S		(1S)j= .0 -	1S2 2S	2P		(1P*)j=1.0	13.203	KAP 100	2	26.634	82.498

Cr21	Be-like	1S2 2P 3P	(1D)j=2.0 -	1S2 2S 2P	(1P*)j=1.0	13.316	KAP 100	2	26.634	89.298
Cr21	Be-like	1S2 2P 3S	(1P*)j=1.0 -	1S2 2P2	(1D)j=2.0	14.457	gypsum 020	1	15.185	72.187
Cr21	Be-like	1S2 2P 3S	(1P*)j=1.0 -	1S2 2P2	(1S)j= .0	14.896	gypsum 020	1	15.185	78.804
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	Si 422	1	2.217	81.049
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	Ge 422	1	2.310	71.451
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	tungsten 110	2	4.476	78.112
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	quartz 112	2	4.564	73.675
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	topaz 200	2	4.638	70.799
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	KBr 200	3	6.584	86.263
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	quartz 101	3	6.687	79.266
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	graphite 002	3	6.696	78.867
Cr22	Li-like	1S 2S 2P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	2.190	EDT 020	4	8.808	84.016
Cr22	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.562	gypsum 020	2	15.185	84.863
Cr22	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.562	beryl 100	2	15.954	71.437
Cr22	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.664	beryl 100	2	15.954	73.896
Cr22	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	7.774	beryl 100	2	15.954	77.046
Cr22	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.817	beryl 100	2	15.954	78.505
Cr22	Li-like	1S2 9D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.828	beryl 100	2	15.954	78.909
Cr22	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	7.881	topaz 002	1	8.374	70.242
Cr22	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	7.881	beryl 100	2	15.954	81.102
Cr22	Li-like	1S2 8D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.936	topaz 002	1	8.374	71.387
Cr22	Li-like	1S2 8D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.936	beryl 100	2	15.954	84.188
Cr22	Li-like	1S2 7D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.042	topaz 002	1	8.374	73.812
Cr22	Li-like	1S2 7D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.042	quartz 100	1	8.512	70.871
Cr22	Li-like	1S2 6P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.066	topaz 002	1	8.374	74.412
Cr22	Li-like	1S2 6P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.066	quartz 100	1	8.512	71.370
Cr22	Li-like	1S2 7D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.100	topaz 002	1	8.374	75.303
Cr22	Li-like	1S2 7D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.100	quartz 100	1	8.512	72.101
Cr22	Li-like	1S2 7D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.100	TAP 100	3	25.763	70.598
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	topaz 002	1	8.374	82.587
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	quartz 100	1	8.512	77.308
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	PET 002	1	8.742	71.786
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	EDT 020	1	8.808	70.524
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	TAP 100	3	25.763	75.233
Cr22	Li-like	1S2 6D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.304	RAP 100	3	26.116	72.535
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	topaz 002	1	8.374	87.343
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	quartz 100	1	8.512	79.336
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	PET 002	1	8.742	73.112
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	EDT 020	1	8.808	71.751
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	TAP 100	3	25.763	76.924
Cr22	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	8.365	RAP 100	3	26.116	73.926
Cr22	Li-like	1S2 6D	(2D)j=2 5 -	1S2 2P	(2P*)j=1.5	8.365	KAP 100	3	26.634	70.427
Cr22	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.516	PET 002	1	8.742	76.944
Cr22	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.516	EDT 020	1	8.808	75.206
Cr22	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.516	TAP 100	3	25.763	82.593
Cr22	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	8.516	RAP 100	3	26.116	78.029

Cr22	Li-like	1S2 5P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.516	KAP 100	3	26.634	73.582
Cr22	Li-like	1S2 5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.778	EDT 020	1	8.808	85.270
Cr22	Li-like	1S2 5D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.778	KAP 100	3	26.634	81.392
Cr22	Li-like	1S2 5D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.847	KAP 100	3	26.634	85.211
Cr22	Li-like	1S2 4P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	9.488	mica 002	2	19.942	72.094
Cr22	Li-like	1S2 4P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	9.498	mica 002	2	19.942	72.281
Cr22	Li-like	1S2 4D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	9.806	mica 002	2	19.942	79.562
Cr22	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	9.870	mica 002	2	19.942	81.838
Cr22	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	9.891	mica 002	2	19.942	82.737
Cr22	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	9.960	mica 002	2	19.942	87.308
Cr22	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.613	TAP 100	2	25.763	78.281
Cr22	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.613	RAP 100	2	26.116	74.999
Cr22	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	12.613	KAP 100	2	26.634	71.287
Cr22	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.656	TAP 100	2	25.763	79.263
Cr22	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.656	RAP 100	2	26.116	75.746
Cr22	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	12.656	KAP 100	2	26.634	71.872
Cr22	Li-like	1S2 3D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	13.142	KAP 100	2	26.634	80.701
Cr22	Li-like	1S2 3D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	13.286	KAP 100	2	26.634	86.090
Cr23	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.724	LiF 420	1	1.801	73.185
Cr23	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.724	quartz 112	2	3.636	71.495
Cr23	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.724	PET 002	5	8.742	80.417
Cr23	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.724	EDT 020	5	8.808	78.141
Cr23	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.763	LiF 420	1	1.801	78.209
Cr23	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.763	quartz 112	2	3.636	75.871
Cr23	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.763	InSb 111	4	7.481	70.502
Cr23	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.856	Si 220	2	3.840	75.165
Cr23	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.856	fluorite 220	2	3.862	73.979
Cr23	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.856	NaCl 200	3	5.641	80.772
Cr23	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.856	InSb 111	4	7.481	82.923
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	Si 422	1	2.217	79.806
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	Ge 422	1	2.310	70.837
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	tungsten 110	2	4.476	77.156
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	quartz 112	2	4.564	72.975
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	topaz 200	2	4.638	70.207
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	KBr 200	3	6.584	83.841
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	quartz 101	3	6.687	78.213
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	graphite 002	3	6.696	77.850
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	PET 002	4	8.742	86.757
Cr23	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.182	EDT 020	4	8.808	82.272
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	Si 422	1	2.217	81.387
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	Ge 422	1	2.310	71.608
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	tungsten 110	2	4.476	78.363
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	quartz 112	2	4.564	73.855
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	topaz 200	2	4.638	70.950
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	KBr 200	3	6.584	87.175
Cr23	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	quartz 101	3	6.687	79.546

Cr23	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	graphite 002	3	6.696	79.136
Cr23	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.192	EDT 020	4	8.808	84.537
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	Si 422	1	2.217	83.558
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	Ge 422	1	2.310	72.493
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	tungsten 110	2	4.476	79.854
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	quartz 112	2	4.564	74.880
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	topaz 200	2	4.638	71.801
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	Al 111	2	4.676	70.434
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	quartz 101	3	6.687	81.240
Cr23	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.203	graphite 002	3	6.696	80.754
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	quartz 502	1	1.624	80.776
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	LiF 422	1	1.652	76.010
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	corundum 146	1	1.660	74.942
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	quartz 110	3	4.912	78.246
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	gypsum 002	3	4.990	74.521
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	Ge 111	4	6.532	79.001
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	KBr 200	4	6.584	76.875
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	quartz 101	4	6.687	73.511
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	graphite 002	4	6.696	73.253
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	topaz 002	5	8.374	73.162
Cr24	H -like	7P		(2P*)j=1.5 - 1S	(2S)j= .5	1.603	quartz 100	5	8.512	70.324
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	quartz 502	1	1.624	83.965
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	LiF 422	1	1.652	77.851
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	corundum 146	1	1.660	76.629
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	quartz 110	3	4.912	80.526
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	gypsum 002	3	4.990	76.154
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	Ge 111	4	6.532	81.485
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	KBr 200	4	6.584	78.863
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	quartz 101	4	6.687	75.028
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	graphite 002	4	6.696	74.743
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	topaz 002	5	8.374	74.643
Cr24	H -like	6P		(2P*)j=1.5 - 1S	(2S)j= .5	1.615	quartz 100	5	8.512	71.561
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	LiF 422	1	1.652	82.019
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	corundum 146	1	1.660	80.245
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	quartz 110	3	4.912	87.688
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	gypsum 002	3	4.990	79.599
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	KBr 200	4	6.584	83.681
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	quartz 101	4	6.687	78.130
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	graphite 002	4	6.696	77.769
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	topaz 002	5	8.374	77.643
Cr24	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.636	quartz 100	5	8.512	73.945
Cr24	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.675	quartz 100	5	8.512	79.706
Cr24	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.675	PET 002	5	8.742	73.339
Cr24	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.675	EDT 020	5	8.808	71.960
Cr24	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.766	LiF 420	1	1.801	78.686
Cr24	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.766	quartz 112	2	3.636	76.263

Cr24	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.766	InSb 111	4	7.481	70.780
Cr24	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.767	LiF 420	1	1.801	78.849
Cr24	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.767	quartz 112	2	3.636	76.397
Cr24	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.767	NaCl 200	3	5.641	70.006
Cr24	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.767	InSb 111	4	7.481	70.873
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	Si 422	1	2.217	70.513
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	quartz 200	2	4.246	79.885
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	Si 111	3	6.271	88.977
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	sylvite 200	3	6.292	85.207
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	fluorite 111	3	6.308	83.708
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	Ge 111	3	6.532	73.717
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	KBr 200	3	6.584	72.234
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	topaz 002	4	8.374	86.686
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	quartz 100	4	8.512	79.156
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	PET 002	4	8.742	73.000
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	EDT 020	4	8.808	71.647
Cr24	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	2.090	ADP 101	5	10.640	79.156
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	Si 422	1	2.217	70.983
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	quartz 200	2	4.246	80.852
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	sylvite 200	3	6.292	87.957
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	fluorite 111	3	6.308	85.436
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	Ge 111	3	6.532	74.290
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	KBr 200	3	6.584	72.754
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	quartz 101	3	6.687	70.107
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	quartz 100	4	8.512	80.051
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	PET 002	4	8.742	73.546
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	EDT 020	4	8.808	72.150
Cr24	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	2.096	ADP 101	5	10.640	80.051
Cr24	H -like	6P	(2P*)j=1.5 - 2S	(2S)j= .5	7.044	InSb 111	1	7.481	70.320
Cr24	H -like	6D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.104	InSb 111	1	7.481	71.733
Cr24	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	7.452	InSb 111	1	7.481	84.953
Cr24	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	7.452	gypsum 020	2	15.185	78.960
Cr24	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.518	gypsum 020	2	15.185	81.967
Cr24	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.518	beryl 100	2	15.954	70.469
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	topaz 002	1	8.374	84.760
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	quartz 100	1	8.512	78.429
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	PET 002	1	8.742	72.535
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	EDT 020	1	8.808	71.218
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	TAP 100	3	25.763	76.178
Cr24	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	8.339	RAP 100	3	26.116	73.319
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	quartz 100	1	8.512	81.523
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	PET 002	1	8.742	74.376
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	EDT 020	1	8.808	72.908
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	TAP 100	3	25.763	78.626
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	RAP 100	3	26.116	75.264
Cr24	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	8.419	KAP 100	3	26.634	71.496

Cr24	H -like	6P		(2P*)j=1.5 - 3S	(2S)j= .5	18.795	mica 002	1	19.942	70.473
Cr24	H -like	6D		(2D)j=2.5 - 3P	(2P*)j=1.5	18.922	mica 002	1	19.942	71.596
Cr24	H -like	6F		(2F*)j=3.5 - 3D	(2D)j=2.5	18.965	mica 002	1	19.942	71.991
Mn		K-alpha(1)				2.102	Si 422	1	2.217	71.457
Mn		K-alpha(1)				2.102	quartz 200	2	4.246	81.915
Mn		K-alpha(1)				2.102	fluorite 111	3	6.308	88.453
Mn		K-alpha(1)				2.102	Ge 111	3	6.532	74.874
Mn		K-alpha(1)				2.102	KBr 200	3	6.584	73.282
Mn		K-alpha(1)				2.102	quartz 101	3	6.687	70.558
Mn		K-alpha(1)				2.102	graphite 002	3	6.696	70.341
Mn		K-alpha(1)				2.102	quartz 100	4	8.512	81.017
Mn		K-alpha(1)				2.102	PET 002	4	8.742	74.101
Mn		K-alpha(1)				2.102	EDT 020	4	8.808	72.658
Mn		K-alpha(1)				2.102	ADP 101	5	10.640	81.017
Mn15	Na-like	2P5 3S2		(2P*)j= .5 - 2P6 3S	(2S)j= .5	19.155	mica 002	1	19.942	73.850
Mn15	Na-like	2P5 3S2		(2P*)j=1.5 - 2P6 3S	(2S)j= .5	19.450	mica 002	1	19.942	77.246
Mn16	Ne-like	2S2 2P5	(2P*1) 5D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	12.373	TAP 100	2	25.763	73.848
Mn16	Ne-like	2S2 2P5	(2P*1) 5D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	12.373	RAP 100	2	26.116	71.359
Mn16	Ne-like	2S2 2P5	(2P*2) 5D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	12.510	TAP 100	2	25.763	76.206
Mn16	Ne-like	2S2 2P5	(2P*2) 5D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	12.510	RAP 100	2	26.116	73.342
Mn16	Ne-like	2S 2P6 3P		(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	15.238	beryl 100	1	15.954	72.770
Mn16	Ne-like	2S 2P6 3P		(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	15.314	beryl 100	1	15.954	73.716
Mn16	Ne-like	2S2 2P5	(2P*2) 3S	(21*)j=1.0 - 2S2 2P6	(1S)j= .0	18.935	mica 002	1	19.942	71.714
Mn17	F -like	2S2 2P4	(1S) 4D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	12.181	TAP 100	2	25.763	71.018
Mn17	F -like	2S2 2P4	(3P) 4D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	12.643	TAP 100	2	25.763	78.957
Mn17	F -like	2S2 2P4	(3P) 4D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	12.643	RAP 100	2	26.116	75.516
Mn17	F -like	2S2 2P4	(3P) 4D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	12.643	KAP 100	2	26.634	71.693
Mn17	F -like	2S2 2P4	(1S) 3D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	15.404	beryl 100	1	15.954	74.912
Mn17	F -like	2S2 2P4	(1S) 3D	(2D)j=1.5 - 2S2 2P5	(2P*)j= .5	15.570	beryl 100	1	15.954	77.404
Mn17	F -like	2S2 2P4	(1D) 3D	(2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	15.615	beryl 100	1	15.954	78.168
Mn17	F -like	2S2 2P4	(1D) 3D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	15.670	beryl 100	1	15.954	79.173
Mn17	F -like	2S2 2P4	(1D) 3D	(2S)j= .5 - 2S2 2P5	(2P*)j=1.5	15.732	beryl 100	1	15.954	80.431
Mn17	F -like	2S2 2P4	(1D) 3D	(2D)j=1.5 - 2S2 2P5	(2P*)j= .5	15.826	beryl 100	1	15.954	82.737
Mn17	F -like	2S2 2P4	(3P) 3D	(2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	15.871	beryl 100	1	15.954	84.153
Mn17	F -like	2S2 2P4	(3P) 3D	(2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	15.889	beryl 100	1	15.954	84.826
Mn17	F -like	2S2 2P4	(3P) 3D	(2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	15.926	beryl 100	1	15.954	86.605
Mn17	F -like	2S2 2P4	(1D) 3D	(2S)j= .5 - 2S2 2P5	(2P*)j= .5	15.946	beryl 100	1	15.954	88.185
Mn18	O -like	2S2 2P3	(2P*) 3D	(1D*)j=2.0 - 2S2 2P4	(3P)j=2.0	14.650	gypsum 020	1	15.185	74.746
Mn18	O -like	2S2 2P3	(2P*) 3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	14.698	gypsum 020	1	15.185	75.450
Mn18	O -like	2S2 2P3	(2P*) 3D	(3P*)j=2.0 - 2S2 2P4	(3P)j=2.0	14.752	gypsum 020	1	15.185	76.284
Mn18	O -like	2S2 2P3	(2P*) 3D	(1D*)j=2.0 - 2S2 2P4	(3P)j=1.0	14.816	gypsum 020	1	15.185	77.343
Mn18	O -like	2S2 2P3	(2D*) 3D	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	14.877	gypsum 020	1	15.185	78.440
Mn18	O -like	2S2 2P3	(2P*) 3D	(3P*)j=1.0 - 2S2 2P4	(1D)j=2.0	15.024	gypsum 020	1	15.185	81.649
Mn18	O -like	2S2 2P3	(2P*) 3D	(3P*)j=1.0 - 2S2 2P4	(1D)j=2.0	15.024	beryl 100	1	15.954	70.340
Mn18	O -like	2S2 2P3	(2P*) 3D	(1P*)j=1.0 - 2S2 2P4	(1S)j= .0	15.096	gypsum 020	1	15.185	83.794
Mn18	O -like	2S2 2P3	(2P*) 3D	(1P*)j=1.0 - 2S2 2P4	(1S)j= .0	15.096	beryl 100	1	15.954	71.124

Mn18	O -like	2S2	2P3	(2D*)	3D	(1D*)j=2.0 - 2S2	2P4		(1D)j=2.0	15.188	beryl 100	1	15.954	72.173
Mn18	O -like	2S2	2P3	(4S*)	3D	(3D*)j=3.0 - 2S2	2P4		(3P)j=2.0	15.238	beryl 100	1	15.954	72.770
Mn18	O -like	2S2	2P3	(4S*)	3D	(3D*)j=2.0 - 2S2	2P4		(3P)j=1.0	15.403	beryl 100	1	15.954	74.898
Mn19	N -like	2S2	2P2	(3P)	3D	(2F)j=3.5 - 2S2	2P3		(2D*)j=2.5	14.364	gypsum 020	1	15.185	71.073
Mn19	N -like	2S2	2P2	(3P)	3D	(2P)j=1.5 - 2S2	2P3		(2P*)j=1.5	14.782	gypsum 020	1	15.185	76.770
Mn20	C -like	2S2	2P	3S		(3P*)j=2.0 - 2S2	2P2		(3P)j=2.0	14.470	gypsum 020	1	15.185	72.348
Mn21	B -like	2S2	4S			(2S)j= .5 - 2S2	2P		(2P*)j=1.5	10.040	ADP 101	1	10.640	70.667
Mn21	B -like	2S	2P	(3P)	3P	(2D)j=1.5 - 2S2	2P		(2P*)j= .5	12.446	TAP 100	2	25.763	75.059
Mn21	B -like	2S	2P	(3P)	3P	(2D)j=1.5 - 2S2	2P		(2P*)j= .5	12.446	RAP 100	2	26.116	72.389
Mn21	B -like	2S	2P	(3P)	3P	(2D)j=2.5 - 2S2	2P		(2P*)j=1.5	12.496	TAP 100	2	25.763	75.947
Mn21	B -like	2S	2P	(3P)	3P	(2D)j=2.5 - 2S2	2P		(2P*)j=1.5	12.496	RAP 100	2	26.116	73.129
Mn21	B -like	2S	2P	(3P)	3P	(2P)j= .5 - 2S2	2P		(2P*)j= .5	12.705	TAP 100	2	25.763	80.504
Mn21	B -like	2S	2P	(3P)	3P	(2P)j= .5 - 2S2	2P		(2P*)j= .5	12.705	RAP 100	2	26.116	76.647
Mn21	B -like	2S	2P	(3P)	3P	(2P)j= .5 - 2S2	2P		(2P*)j= .5	12.705	KAP 100	2	26.634	72.562
Mn21	B -like	2S	2P	(1P)	3D	(2D*)j=2.5 - 2S	2P2		(2D)j=1.5	12.742	TAP 100	2	25.763	81.560
Mn21	B -like	2S	2P	(1P)	3D	(2D*)j=2.5 - 2S	2P2		(2D)j=1.5	12.742	RAP 100	2	26.116	77.369
Mn21	B -like	2S	2P	(1P)	3D	(2D*)j=2.5 - 2S	2P2		(2D)j=1.5	12.742	KAP 100	2	26.634	73.102
Mn21	B -like	2S	2P	(1P)	3D	(2F*)j=3.5 - 2S	2P2		(2D)j=2.5	12.860	TAP 100	2	25.763	86.689
Mn21	B -like	2S	2P	(1P)	3D	(2F*)j=3.5 - 2S	2P2		(2D)j=2.5	12.860	RAP 100	2	26.116	80.010
Mn21	B -like	2S	2P	(1P)	3D	(2F*)j=3.5 - 2S	2P2		(2D)j=2.5	12.860	KAP 100	2	26.634	74.946
Mn21	B -like	2S2	3D			(2D)j=1.5 - 2S2	2P		(2P*)j= .5	12.886	RAP 100	2	26.116	80.690
Mn21	B -like	2S2	3D			(2D)j=1.5 - 2S2	2P		(2P*)j= .5	12.886	KAP 100	2	26.634	75.383
Mn21	B -like	2S	2P	(3P)	3D	(4D*)j=3.5 - 2S	2P2		(4P)j=2.5	12.973	RAP 100	2	26.116	83.459
Mn21	B -like	2S	2P	(3P)	3D	(4D*)j=3.5 - 2S	2P2		(4P)j=2.5	12.973	KAP 100	2	26.634	76.949
Mn21	B -like	2S2	3D			(2D)j=2.5 - 2S2	2P		(2P*)j=1.5	13.016	RAP 100	2	26.116	85.403
Mn21	B -like	2S2	3D			(2D)j=2.5 - 2S2	2P		(2P*)j=1.5	13.016	KAP 100	2	26.634	77.795
Mn21	B -like	2S	2P	(1P)	3D	(2D*)j=2.5 - 2S	2P2		(2P)j=1.5	13.134	KAP 100	2	26.634	80.490
Mn21	B -like	2S	2P	(3P)	3D	(2F*)j=3.5 - 2S	2P2		(2D)j=2.5	13.167	KAP 100	2	26.634	81.392
Mn21	B -like	2S	2P	(3P)	3D	(2F*)j=2.5 - 2S	2P2		(2D)j=1.5	13.241	KAP 100	2	26.634	83.876
Mn22	Be-like	1S2	2P	3P		(1D)j=2.0 - 1S2	2S 2P		(1P*)j=1.0	12.172	TAP 100	2	25.763	70.895
Mn22	Be-like	1S2	2S	3D		(3D)j=1.0 - 1S2	2S 2P		(3P*)j= .0	12.336	TAP 100	2	25.763	73.266
Mn22	Be-like	1S2	2S	3D		(3D)j=1.0 - 1S2	2S 2P		(3P*)j= .0	12.336	RAP 100	2	26.116	70.858
Mn22	Be-like	1S2	2S	3D		(3D)j=2.0 - 1S2	2S 2P		(3P*)j=1.0	12.368	TAP 100	2	25.763	73.768
Mn22	Be-like	1S2	2S	3D		(3D)j=2.0 - 1S2	2S 2P		(3P*)j=1.0	12.368	RAP 100	2	26.116	71.291
Mn22	Be-like	1S2	2P	3D		(1P*)j=1.0 - 1S2	2P2		(3P)j=1.0	12.385	TAP 100	2	25.763	74.041
Mn22	Be-like	1S2	2P	3D		(1P*)j=1.0 - 1S2	2P2		(3P)j=1.0	12.385	RAP 100	2	26.116	71.525
Mn22	Be-like	1S2	2P	3P		(1P)j=1.0 - 1S2	2S 2P		(1P*)j=1.0	12.427	TAP 100	2	25.763	74.735
Mn22	Be-like	1S2	2P	3P		(1P)j=1.0 - 1S2	2S 2P		(1P*)j=1.0	12.427	RAP 100	2	26.116	72.115
Mn22	Be-like	1S2	2P	3D		(1P*)j=1.0 - 1S2	2P2		(3P)j=2.0	12.447	TAP 100	2	25.763	75.076
Mn22	Be-like	1S2	2P	3D		(1P*)j=1.0 - 1S2	2P2		(3P)j=2.0	12.447	RAP 100	2	26.116	72.403
Mn22	Be-like	1S2	2P	3D		(3P*)j=2.0 - 1S2	2P2		(3P)j=1.0	12.488	TAP 100	2	25.763	75.802
Mn22	Be-like	1S2	2P	3D		(3P*)j=2.0 - 1S2	2P2		(3P)j=1.0	12.488	RAP 100	2	26.116	73.009
Mn22	Be-like	1S2	2P	3D		(3P*)j=1.0 - 1S2	2P2		(3P)j=2.0	12.553	TAP 100	2	25.763	77.033
Mn22	Be-like	1S2	2P	3D		(3P*)j=1.0 - 1S2	2P2		(3P)j=2.0	12.553	RAP 100	2	26.116	74.013
Mn22	Be-like	1S2	2P	3D		(3P*)j=1.0 - 1S2	2P2		(3P)j=2.0	12.553	KAP 100	2	26.634	70.498
Mn22	Be-like	1S2	2P	3D		(3D*)j=3.0 - 1S2	2P2		(3P)j=2.0	12.580	TAP 100	2	25.763	77.579

Mn22	Be-like	1S2	2P	3D	(3D*)j=3.0	-	1S2	2P2	(3P)j=2.0	12.580	RAP 100	2	26.116	74.449
Mn22	Be-like	1S2	2P	3D	(3D*)j=3.0	-	1S2	2P2	(3P)j=2.0	12.580	KAP 100	2	26.634	70.849
Mn22	Be-like	1S2	2P	3D	(1F*)j=3.0	-	1S2	2P2	(1D)j=2.0	12.643	TAP 100	2	25.763	78.957
Mn22	Be-like	1S2	2P	3D	(1F*)j=3.0	-	1S2	2P2	(1D)j=2.0	12.643	RAP 100	2	26.116	75.516
Mn22	Be-like	1S2	2P	3D	(1F*)j=3.0	-	1S2	2P2	(1D)j=2.0	12.643	KAP 100	2	26.634	71.693
Mn22	Be-like	1S2	2P	3D	(3D*)j=1.0	-	1S2	2P2	(3P)j=1.0	12.656	TAP 100	2	25.763	79.263
Mn22	Be-like	1S2	2P	3D	(3D*)j=1.0	-	1S2	2P2	(3P)j=1.0	12.656	RAP 100	2	26.116	75.746
Mn22	Be-like	1S2	2P	3D	(3D*)j=1.0	-	1S2	2P2	(3P)j=1.0	12.656	KAP 100	2	26.634	71.872
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=1.0	12.670	TAP 100	2	25.763	79.603
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=1.0	12.670	RAP 100	2	26.116	75.998
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=1.0	12.670	KAP 100	2	26.634	72.067
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=2.0	12.738	TAP 100	2	25.763	81.440
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=2.0	12.738	RAP 100	2	26.116	77.289
Mn22	Be-like	1S2	2P	3D	(3D*)j=2.0	-	1S2	2P2	(3P)j=2.0	12.738	KAP 100	2	26.634	73.043
Mn22	Be-like	1S2	2S	3D	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	12.800	TAP 100	2	25.763	83.551
Mn22	Be-like	1S2	2S	3D	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	12.800	RAP 100	2	26.116	78.592
Mn22	Be-like	1S2	2S	3D	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	12.800	KAP 100	2	26.634	73.982
Mn22	Be-like	1S2	2P	3D	(1D*)j=2.0	-	1S2	2P2	(1D)j=2.0	12.816	TAP 100	2	25.763	84.220
Mn22	Be-like	1S2	2P	3D	(1D*)j=2.0	-	1S2	2P2	(1D)j=2.0	12.816	RAP 100	2	26.116	78.952
Mn22	Be-like	1S2	2P	3D	(1D*)j=2.0	-	1S2	2P2	(1D)j=2.0	12.816	KAP 100	2	26.634	74.234
Mn22	Be-like	1S2	2S	3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	12.935	RAP 100	2	26.116	82.130
Mn22	Be-like	1S2	2S	3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	12.935	KAP 100	2	26.634	76.243
Mn22	Be-like	1S2	2P	3S	(1P*)j=1.0	-	1S2	2P2	(1D)j=2.0	13.199	KAP 100	2	26.634	82.367
Mn22	Be-like		0		( )j= .0	-		0	( )j= .0	12.507	TAP 100	2	25.763	76.150
Mn22	Be-like		0		( )j= .0	-		0	( )j= .0	12.507	RAP 100	2	26.116	73.296
Mn22	Be-like		0		( )j= .0	-		0	( )j= .0	12.706	TAP 100	2	25.763	80.531
Mn22	Be-like		0		( )j= .0	-		0	( )j= .0	12.706	RAP 100	2	26.116	76.666
Mn22	Be-like		0		( )j= .0	-		0	( )j= .0	12.706	KAP 100	2	26.634	72.577
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	quartz 223	1	2.024	84.024
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	LiF 200	2	4.027	88.723
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	Al 200	2	4.048	84.024
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	quartz 200	2	4.246	71.475
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	calcite 200	3	6.071	84.115
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	Si 111	3	6.271	74.366
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	sylvite 200	3	6.292	73.697
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	fluorite 111	3	6.308	73.207
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	topaz 002	4	8.374	74.060
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	quartz 100	4	8.512	71.078
Mn23	Li-like	1S (2S 2P (1P*))			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	2.013	ADP 101	5	10.640	71.078
Mn23	Li-like	1S2 9D			(2D)j=1.5	-	1S2 2P		(2P*)j= .5	7.110	InSb 111	1	7.481	71.880
Mn23	Li-like	1S2 7P			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	7.158	InSb 111	1	7.481	73.102
Mn23	Li-like	1S2 7P			(2P*)j=1.5	-	1S2 2S		(2S)j= .5	7.158	gypsum 020	2	15.185	70.522
Mn23	Li-like	1S2 9D			(2D)j=2.5	-	1S2 2P		(2P*)j=1.5	7.164	InSb 111	1	7.481	73.261
Mn23	Li-like	1S2 9D			(2D)j=2.5	-	1S2 2P		(2P*)j=1.5	7.164	gypsum 020	2	15.185	70.659
Mn23	Li-like	1S2 8D			(2D)j=1.5	-	1S2 2P		(2P*)j= .5	7.208	InSb 111	1	7.481	74.474
Mn23	Li-like	1S2 8D			(2D)j=1.5	-	1S2 2P		(2P*)j= .5	7.208	gypsum 020	2	15.185	71.688

Mn23	Li-like	1S2	8D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	7.263	InSb 111	1	7.481	76.134
Mn23	Li-like	1S2	8D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	7.263	gypsum 020	2	15.185	73.058
Mn23	Li-like	1S2	7D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	7.355	InSb 111	1	7.481	79.469
Mn23	Li-like	1S2	7D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	7.355	gypsum 020	2	15.185	75.631
Mn23	Li-like	1S2	6P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	7.387	InSb 111	1	7.481	80.908
Mn23	Li-like	1S2	6P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	7.387	gypsum 020	2	15.185	76.639
Mn23	Li-like	1S2	7D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	7.413	InSb 111	1	7.481	82.269
Mn23	Li-like	1S2	7D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	7.413	gypsum 020	2	15.185	77.516
Mn23	Li-like	1S2	6D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	7.595	beryl 100	2	15.954	72.197
Mn23	Li-like	1S2	6D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	7.656	beryl 100	2	15.954	73.691
Mn23	Li-like	1S2	5P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	7.797	beryl 100	2	15.954	77.805
Mn23	Li-like	1S2	5D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	8.029	topaz 002	1	8.374	73.496
Mn23	Li-like	1S2	5D	(2D)j=1.5 -	1S2	2P	(2P*)j= .5	8.029	quartz 100	1	8.512	70.606
Mn23	Li-like	1S2	5D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	8.090	topaz 002	1	8.374	75.035
Mn23	Li-like	1S2	5D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	8.090	quartz 100	1	8.512	71.883
Mn23	Li-like	1S2	5D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	8.090	TAP 100	3	25.763	70.399
Mn23	Li-like	1S2	4P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	8.689	PET 002	1	8.742	83.688
Mn23	Li-like	1S2	4P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	8.689	EDT 020	1	8.808	80.571
Mn23	Li-like	1S2	4P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	8.689	RAP 100	3	26.116	86.490
Mn23	Li-like	1S2	4P	(2P*)j=1.5 -	1S2	2S	(2S)j= .5	8.689	KAP 100	3	26.634	78.156
Mn23	Li-like	1S2	4P	(2P*)j= .5 -	1S2	2S	(2S)j= .5	8.699	PET 002	1	8.742	84.315
Mn23	Li-like	1S2	4P	(2P*)j= .5 -	1S2	2S	(2S)j= .5	8.699	EDT 020	1	8.808	80.977
Mn23	Li-like	1S2	4P	(2P*)j= .5 -	1S2	2S	(2S)j= .5	8.699	RAP 100	3	26.116	87.814
Mn23	Li-like	1S2	4P	(2P*)j= .5 -	1S2	2S	(2S)j= .5	8.699	KAP 100	3	26.634	78.475
Mn23	Li-like	1S2	3D	(2D)j=2.5 -	1S2	2P	(2P*)j=1.5	12.162	TAP 100	2	25.763	70.760
Mn23	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j= .5	12.274	TAP 100	2	25.763	72.334
Mn23	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j= .5	12.274	RAP 100	2	26.116	70.045
Mn23	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j=1.5	12.439	TAP 100	2	25.763	74.939
Mn23	Li-like	1S2	3S	(2S)j= .5 -	1S2	2P	(2P*)j=1.5	12.439	RAP 100	2	26.116	72.288
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	quartz 502	1	1.624	77.257
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	LiF 422	1	1.652	73.504
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	corundum 146	1	1.660	72.596
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	quartz 110	3	4.912	75.336
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	gypsum 002	3	4.990	72.233
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	Ge 111	4	6.532	75.929
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	KBr 200	4	6.584	74.224
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	quartz 101	4	6.687	71.354
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	graphite 002	4	6.696	71.127
Mn24	He-like	1S	5P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.584	topaz 002	5	8.374	71.047
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	quartz 502	1	1.624	86.517
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	LiF 422	1	1.652	78.883
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	corundum 146	1	1.660	77.556
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	quartz 110	3	4.912	81.900
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	gypsum 002	3	4.990	77.046
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	Ge 111	4	6.532	83.050
Mn24	He-like	1S	4P	(1P*)j=1.0 -	1S2		(1S)j= .0	1.621	KBr 200	4	6.584	80.001

Mn24	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.621	quartz 101	4	6.687	75.846
Mn24	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.621	graphite 002	4	6.696	75.544
Mn24	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.621	topaz 002	5	8.374	75.438
Mn24	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.621	quartz 100	5	8.512	72.210
Mn24	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.706	LiF 420	1	1.801	71.307
Mn24	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.706	PET 002	5	8.742	77.356
Mn24	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= 0	1.706	EDT 020	5	8.808	75.567
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	quartz 223	1	2.024	82.353
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	LiF 200	2	4.027	85.053
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	Al 200	2	4.048	82.353
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	quartz 200	2	4.246	70.890
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	calcite 200	3	6.071	82.424
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	Si 111	3	6.271	73.669
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	sylvite 200	3	6.292	73.029
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	fluorite 111	3	6.308	72.559
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	topaz 002	4	8.374	73.376
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	quartz 100	4	8.512	70.505
Mn24	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	2.006	ADP 101	5	10.640	70.505
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	quartz 223	1	2.024	84.904
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	Al 200	2	4.048	84.904
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	quartz 200	2	4.246	71.732
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	calcite 200	3	6.071	85.011
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	Si 111	3	6.271	74.674
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	sylvite 200	3	6.292	73.991
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	fluorite 111	3	6.308	73.493
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	topaz 002	4	8.374	74.361
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	quartz 100	4	8.512	71.328
Mn24	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	2.016	ADP 101	5	10.640	71.328
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	quartz 200	2	4.246	72.523
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	Si 111	3	6.271	75.637
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	sylvite 200	3	6.292	74.909
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	fluorite 111	3	6.308	74.379
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	topaz 002	4	8.374	75.303
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	quartz 100	4	8.512	72.101
Mn24	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	2.025	ADP 101	5	10.640	72.101
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	calcite 422	2	3.034	83.096
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	quartz 211	2	3.082	77.765
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	quartz 112	3	4.564	81.858
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	topaz 200	3	4.638	76.938
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	Al 111	3	4.676	75.063
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	calcite 200	4	6.071	82.866
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	Si 111	4	6.271	73.866
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	sylvite 200	4	6.292	73.217
Mn25	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.506	fluorite 111	4	6.308	72.742
Mn25	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.542	quartz 502	1	1.624	71.715
Mn25	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.542	topaz 200	3	4.638	85.878

Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	Al 111	3	4.676	81.614
Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	quartz 110	3	4.912	70.352
Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	Si 111	4	6.271	79.601
Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	sylvite 200	4	6.292	78.606
Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	fluorite 111	4	6.308	77.906
Mn25	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.542	Ge 111	4	6.532	70.782
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	LiF 422	1	1.652	79.821
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	corundum 146	1	1.660	78.384
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	quartz 110	3	4.912	83.255
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	gypsum 002	3	4.990	77.838
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	Ge 111	4	6.532	84.693
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	KBr 200	4	6.584	81.059
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	quartz 101	4	6.687	76.565
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	graphite 002	4	6.696	76.246
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	topaz 002	5	8.374	76.135
Mn25	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.626	quartz 100	5	8.512	72.770
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	quartz 223	1	2.024	72.006
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	fluorite 220	2	3.862	85.482
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	Ge 220	2	4.000	74.259
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	LiF 200	2	4.027	72.950
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	Al 200	2	4.048	72.006
Mn25	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.925	calcite 200	3	6.071	72.035
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	quartz 223	1	2.024	72.470
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	fluorite 220	2	3.862	88.156
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	Ge 220	2	4.000	74.796
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	LiF 200	2	4.027	73.442
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	Al 200	2	4.048	72.470
Mn25	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.930	calcite 200	3	6.071	72.500
Mn25	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	7.677	beryl 100	2	15.954	74.237
Mn25	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	7.758	beryl 100	2	15.954	76.543
Mn25	H -like	3P	(2P*)j=1.5 - 2S	(2S)j= .5	10.328	ADP 101	1	10.640	76.091
Mn25	H -like	3D	(2D)j=2.5 - 2P	(2P*)j=1.5	10.466	ADP 101	1	10.640	79.624
Fe	K-alpha(1)				1.936	quartz 223	1	2.024	73.052
Fe	K-alpha(1)				1.936	Ge 220	2	4.000	75.478
Fe	K-alpha(1)				1.936	LiF 200	2	4.027	74.062
Fe	K-alpha(1)				1.936	Al 200	2	4.048	73.052
Fe	K-alpha(1)				1.936	calcite 200	3	6.071	73.083
Fe15	Mg-like	2P5 3S2 3D	(1P*)j=1.0 - 3S2	(1S)j= .0	15.498	beryl 100	1	15.954	76.268
Fe16	Na-like	2P5 3S (3P*) 3D	(2P*)j=1.5 - 2P6 3S	(2S)j= .5	15.158	gypsum 020	1	15.185	86.583
Fe16	Na-like	2P5 3S (3P*) 3D	(2P*)j=1.5 - 2P6 3S	(2S)j= .5	15.158	beryl 100	1	15.954	71.825
Fe16	Na-like	2P5 (2P*1) 3S 3D	((2P*)j=1.5 - 2P6 3S	(2S)j= .5	15.313	beryl 100	1	15.954	73.703
Fe16	Na-like	2P5 3S (3P*) 3P	(2S)j= .5 - 2P6 3P	(2P*)j= .5	15.508	beryl 100	1	15.954	76.420
Fe16	Na-like	2P5 3S (1P*1) 3D	(2P*)j=1.5 - 2P6 3S	(2S)j= .5	15.536	beryl 100	1	15.954	76.856
Fe16	Na-like	2P5 3S (3P*) 3P	(2S)j= .5 - 2P6 3P	(2P*)j=1.5	15.558	beryl 100	1	15.954	77.208
Fe16	Na-like	2P5 3S (1P*1) 3D	(2P*)j= .5 - 2P6 3S	(2S)j= .5	15.567	beryl 100	1	15.954	77.354
Fe17	Ne-like	2S 2P6 5P	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	10.134	ADP 101	1	10.640	72.259

Fe17	Ne-like	2S2	2P5	(2P*)	7D	(1P*)j=1.0	-	2S2	2P6	(1S)j= .0	10.386	ADP 101	1	10.640	77.456
Fe17	Ne-like	2S2	2P5	(2P*)	7D	(3D*)j=1.0	-	2S2	2P6	(1S)j= .0	10.506	ADP 101	1	10.640	80.897
Fe17	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	12.125	TAP 100	2	25.763	70.266
Fe17	Ne-like	2S2	2P5	(2P*2)	4D	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	12.264	TAP 100	2	25.763	72.188
Fe17	Ne-like	2S2	2P5	(2P*2)	4D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	12.322	TAP 100	2	25.763	73.051
Fe17	Ne-like	2S2	2P5	(2P*2)	4D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	12.322	RAP 100	2	26.116	70.671
Fe17	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	12.526	TAP 100	2	25.763	76.508
Fe17	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	12.526	RAP 100	2	26.116	73.589
Fe17	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	12.526	KAP 100	2	26.634	70.153
Fe17	Ne-like	2S2	2P5	(2P*2)	4S	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	12.678	TAP 100	2	25.763	79.802
Fe17	Ne-like	2S2	2P5	(2P*2)	4S	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	12.678	RAP 100	2	26.116	76.144
Fe17	Ne-like	2S2	2P5	(2P*2)	4S	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	12.678	KAP 100	2	26.634	72.179
Fe17	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	15.013	gypsum 020	1	15.185	81.368
Fe17	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	15.013	beryl 100	1	15.954	70.223
Fe17	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	15.260	beryl 100	1	15.954	73.038
Fe17	Ne-like	2S2	2P5	(2P*2)	3D	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	15.449	beryl 100	1	15.954	75.546
Fe18	F -like	2S2	2P4	(1S)	5D	(2D)j=1.5	-	2S2	2P5	(2P*)j=1.5	10.192	ADP 101	1	10.640	73.314
Fe18	F -like	2S2	2P4	(1S)	5D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	10.298	ADP 101	1	10.640	75.434
Fe18	F -like	2S2	2P4	(1D)	5D	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	10.352	ADP 101	1	10.640	76.639
Fe18	F -like	2S2	2P4	(3P)	5D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.437	ADP 101	1	10.640	78.790
Fe18	F -like	2S2	2P4	(1D)	5D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	10.460	ADP 101	1	10.640	79.446
Fe18	F -like	2S2	2P4	(3P)	5D	(4F)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.529	ADP 101	1	10.640	81.717
Fe18	F -like	2S2	2P4	(3P)	5D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	10.543	ADP 101	1	10.640	82.257
Fe18	F -like	2S	2P5	(1P*)	3P	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.847	TAP 100	2	25.763	85.806
Fe18	F -like	2S	2P5	(1P*)	3P	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.847	RAP 100	2	26.116	79.686
Fe18	F -like	2S	2P5	(1P*)	3P	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.847	KAP 100	2	26.634	74.732
Fe18	F -like	2S	2P5	(1P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j= .5	13.001	RAP 100	2	26.116	84.645
Fe18	F -like	2S	2P5	(1P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j= .5	13.001	KAP 100	2	26.634	77.493
Fe18	F -like	2S	2P5	(1P*)	3P	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	13.015	RAP 100	2	26.116	85.349
Fe18	F -like	2S	2P5	(1P*)	3P	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	13.015	KAP 100	2	26.634	77.775
Fe18	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	13.049	RAP 100	2	26.116	87.873
Fe18	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	13.049	KAP 100	2	26.634	78.486
Fe18	F -like	2S	2P5	(1P*)	3P	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	13.159	KAP 100	2	26.634	81.165
Fe18	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	14.344	gypsum 020	1	15.185	70.842
Fe18	F -like	2S2	2P4	(1D)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	14.361	gypsum 020	1	15.185	71.038
Fe18	F -like	2S2	2P4	(3P)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	14.373	gypsum 020	1	15.185	71.178
Fe18	F -like	2S2	2P4	(3P)	3D	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	14.419	gypsum 020	1	15.185	71.724
Fe18	F -like	2S2	2P4	(3P)	3D	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	14.453	gypsum 020	1	15.185	72.137
Fe18	F -like	2S2	2P4	(1D)	3D	(2S)j= .5	-	2S2	2P5	(2P*)j= .5	14.467	gypsum 020	1	15.185	72.310
Fe18	F -like	2S2	2P4	(3P)	3D	(4F)j=2.5	-	2S2	2P5	(2P*)j=1.5	14.485	gypsum 020	1	15.185	72.535
Fe18	F -like	2S2	2P4	(3P)	3D	(2F)j=2.5	-	2S2	2P5	(2P*)j=1.5	14.536	gypsum 020	1	15.185	73.188
Fe18	F -like	2S2	2P4	(3P)	3D	(4P)j=1.5	-	2S2	2P5	(2P*)j=1.5	14.551	gypsum 020	1	15.185	73.385
Fe18	F -like	2S2	2P4	(3P)	3D	(4P)j= .5	-	2S2	2P5	(2P*)j=1.5	14.581	gypsum 020	1	15.185	73.786
Fe18	F -like	2S2	2P4	(3P)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j= .5	14.610	gypsum 020	1	15.185	74.182
Fe18	F -like	2S2	2P4	(3P)	3D	(4P)j=1.5	-	2S2	2P5	(2P*)j= .5	14.772	gypsum 020	1	15.185	76.606
Fe18	F -like	2S2	2P4	(3P)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	14.868	gypsum 020	1	15.185	78.272

Fe18	F -like	2S2 2P4	(1S)	3S	(2S)j= .5	-	2S2 2P5		(2P*)j= .5	15.491	beryl 100	1	15.954	76.163
Fe18	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5		(2P*)j=1.5	15.611	beryl 100	1	15.954	78.098
Fe18	F -like	2S2 2P4	(1D)	3S	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	15.623	beryl 100	1	15.954	78.308
Fe18	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	-	2S2 2P5		(2P*)j=1.5	15.764	beryl 100	1	15.954	81.149
Fe18	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5		(2P*)j=1.5	15.826	beryl 100	1	15.954	82.737
Fe18	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5		(2P*)j= .5	15.869	beryl 100	1	15.954	84.083
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	quartz 223	1	2.024	71.375
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	Si 220	2	3.840	87.385
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	fluorite 220	2	3.862	83.348
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	Ge 220	2	4.000	73.536
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	LiF 200	2	4.027	72.283
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	Al 200	2	4.048	71.375
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	1.918	calcite 200	3	6.071	71.403
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(1S)j= .0	1.931	quartz 223	1	2.024	72.564
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(1S)j= .0	1.931	Ge 220	2	4.000	74.906
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(1S)j= .0	1.931	LiF 200	2	4.027	73.542
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(1S)j= .0	1.931	Al 200	2	4.048	72.564
Fe19	O -like	1S 2S2 2P5			(3P*)j=2.0	-	1S2 2S2 2P4		(1S)j= .0	1.931	calcite 200	3	6.071	72.594
Fe19	O -like	2S2 2P3	(2P*)	5D	(1F*)j=3.0	-	1S2 2S2 2P4		(3P)j=2 0	9.547	mica 002	2	19.942	73.231
Fe19	O -like	2S2 2P3	(2P*)	5D	(3F*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	9.599	mica 002	2	19.942	74.300
Fe19	O -like	2S2 2P3	(2D*)	5D	(3D*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	9.688	mica 002	2	19.942	76.317
Fe19	O -like	2S2 2P3	(2P*)	5D	(1P*)j=1.0	-	2S2 2P4		(1D)j=2.0	9.696	mica 002	2	19.942	76.512
Fe19	O -like	2S2 2P3	(2P*)	5D	(1F*)j=3.0	-	2S2 2P4		(1D)j=2.0	9.705	mica 002	2	19.942	76.736
Fe19	O -like	2S2 2P3	(2D*)	5D	(3D*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	9.713	mica 002	2	19.942	76.938
Fe19	O -like	2S2 2P3	(2D*)	5D	(3F*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	9.724	mica 002	2	19.942	77.220
Fe19	O -like	2S2 2P3	(2P*)	5D	(3F*)j=3.0	-	2S2 2P4		(1D)j=2.0	9.752	mica 002	2	19.942	77.969
Fe19	O -like	2S2 2P3	(2D*)	5D	(3S*)j=1.0	-	2S2 2P4		(3P)j=1.0	9.766	mica 002	2	19.942	78.362
Fe19	O -like	2S2 2P3	(2D*)	5D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	9.799	mica 002	2	19.942	79.342
Fe19	O -like	2S2 2P3	(4S*)	5D	(3D*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	9.842	mica 002	2	19.942	80.774
Fe19	O -like	2S2 2P3	(4S*)	5D	(3D*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	9.842	mica 002	2	19.942	80.774
Fe19	O -like	2S2 2P3	(4S*)	5D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	9.911	mica 002	2	19.942	83.711
Fe19	O -like	2S2 2P3	(4S*)	5D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	9.926	mica 002	2	19.942	84.554
Fe19	O -like	2S2 2P3	(2P*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.564	ADP 101	1	10.640	83.148
Fe19	O -like	2S2 2P3	(2P*)	4D	(3P*)j=1.0	-	2S2 2P4		(3P)j=1.0	10.580	ADP 101	1	10.640	83.912
Fe19	O -like	2S2 2P3	(2P*)	4D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	10.617	ADP 101	1	10.640	86.232
Fe19	O -like	2S2 2P3	(2D*)	4D	(3S*)j=1.0	-	1S2 2S2 2P4		(3P)j=2.0	10.635	ADP 101	1	10.640	88.243
Fe19	O -like	2S2 2P3	(2D*)	4D	(3S*)j=1.0	-	1S2 2S2 2P4		(3P)j=2.0	10.635	ADP 101	1	10.640	88.243
Fe19	O -like	2S 2P4	(2D)	3P	(1F*)j=3.0	-	2S2 2P4		(1D)j=2.0	12.990	RAP 100	2	26.116	84.150
Fe19	O -like	2S 2P4	(2D)	3P	(1F*)j=3.0	-	2S2 2P4		(1D)j=2.0	12.990	KAP 100	2	26.634	77.277
Fe19	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	13.237	KAP 100	2	26.634	83.717
Fe19	O -like	2S2 2P3	(2P*)	3D	(3D*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	13.264	KAP 100	2	26.634	84.887
Fe19	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	1S2 2S2 2P4		(1S)j= .0	14.293	gypsum 020	1	15.185	70.264
Fe19	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	1S2 2S2 2P4		(3P)j=2.0	14.668	gypsum 020	1	15.185	75.006
Fe19	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4		(1D)j=2.0	14.706	gypsum 020	1	15.185	75.571
Fe19	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	1S2 2S2 2P4		(3P)j=2.0	14.735	gypsum 020	1	15.185	76.017
Fe19	O -like	2S2 2P3	(2P*)	3S	(3P*)j=1.0	-	2S2 2P4		(1D)j=2.0	14.806	gypsum 020	1	15.185	77.172

Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=1.0	-	2S2	2P4		(3P)j= .0	14.900	gypsum 020	1	15.185	78.882
Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=2.0	-	2S2	2P4		(3P)j=1.0	14.929	gypsum 020	1	15.185	79.464
Fe19	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	1S2	2S2	2P4	(3P)j=2.0	14.966	gypsum 020	1	15.185	80.257
Fe19	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(1D)j=2.0	14.995	gypsum 020	1	15.185	80.927
Fe19	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(1D)j=2.0	14.995	beryl 100	1	15.954	70.033
Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=3.0	-	2S2	2P4		(1D)j=2.0	15.042	gypsum 020	1	15.185	82.131
Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=3.0	-	2S2	2P4		(1D)j=2.0	15.042	beryl 100	1	15.954	70.533
Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=2.0	-	2S2	2P4		(1D)j=2.0	15.111	gypsum 020	1	15.185	84.341
Fe19	O -like	2S2	2P3	(2D*)	3S	(3D*)j=2.0	-	2S2	2P4		(1D)j=2.0	15.111	beryl 100	1	15.954	71.291
Fe19	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j= .0	15.138	gypsum 020	1	15.185	85.491
Fe19	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j= .0	15.138	beryl 100	1	15.954	71.596
Fe19	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=1.0	15.172	gypsum 020	1	15.185	87.629
Fe19	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=1.0	15.172	beryl 100	1	15.954	71.987
Fe19	O -like	2S2	2P3	(4S*)	3S	(5S*)j=2.0	-	1S2	2S2	2P4	(3P)j=2.0	15.193	beryl 100	1	15.954	72.232
Fe19	O -like	2S2	2P3	(4S*)	3S	(5S*)j=2.0	-	2S2	2P4		(3P)j=1.0	15.413	beryl 100	1	15.954	75.036
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	quartz 223	1	2.024	70.255
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Si 220	2	3.840	82.833
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	fluorite 220	2	3.862	80.587
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Ge 220	2	4.000	72.270
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	LiF 200	2	4.027	71.105
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Al 200	2	4.048	70.255
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	calcite 200	3	6.071	70.281
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	quartz 223	1	2.024	70.255
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Si 220	2	3.840	82.833
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	fluorite 220	2	3.862	80.587
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Ge 220	2	4.000	72.270
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	LiF 200	2	4.027	71.105
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	Al 200	2	4.048	70.255
Fe20	N -like	1S	2S2	2P4		(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	1.905	calcite 200	3	6.071	70.281
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	quartz 223	1	2.024	70.423
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Si 220	2	3.840	83.329
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	fluorite 220	2	3.862	80.957
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Ge 220	2	4.000	72.459
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	LiF 200	2	4.027	71.282
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Al 200	2	4.048	70.423
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	calcite 200	3	6.071	70.450
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	quartz 223	1	2.024	70.423
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Si 220	2	3.840	83.329
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	fluorite 220	2	3.862	80.957
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Ge 220	2	4.000	72.459
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	LiF 200	2	4.027	71.282
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	Al 200	2	4.048	70.423
Fe20	N -like	1S	2S2	2P4		(4P)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	1.907	calcite 200	3	6.071	70.450
Fe20	N -like	2S2	2P2	(3P)	5D	(4F)j=2.5	-	2S2	2P3		(2P*)j=1.5	9.389	mica 002	2	19.942	70.327
Fe20	N -like	2S2	2P2	(3P)	5D	(4P)j=2.5	-	2S2	2P3		(2P*)j=1.5	9.440	mica 002	2	19.942	71.217
Fe20	N -like	2S2	2P2	(1D)	4D	(2D)j=1.5	-	1S2	2S2	2P3	(4S*)j=1.5	9.871	mica 002	2	19.942	81.879

Fe20	N -like	2S2 2P2 (3P) 4D (2D)j=1.5 -	1S2 2S2 2P3 (4S*)j=1.5	9.953	mica 002	2	19.942	86.557
Fe20	N -like	2S2 2P2 (1D) 4D (2D)j=1.5 -	2S2 2P3 (2D*)j=1.5	10.008	ADP 101	1	10.640	70.153
Fe20	N -like	2S2 2P2 (1D) 4D (2D)j=2.5 -	1S2 2S2 2P3 (2D*)j=2.5	10.034	ADP 101	1	10.640	70.569
Fe20	N -like	2S2 2P2 (1D) 4D (2D)j=1.5 -	1S2 2S2 2P3 (2D*)j=2.5	10.047	ADP 101	1	10.640	70.781
Fe20	N -like	2S2 2P2 (3P) 4D (4F)j=2.5 -	1S2 2S2 2P3 (4S*)j=1.5	10.058	ADP 101	1	10.640	70.962
Fe20	N -like	2S2 2P2 (3P) 4D (2D)j=1.5 -	2S2 2P3 (2D*)j=1.5	10.095	ADP 101	1	10.640	71.582
Fe20	N -like	2S2 2P2 (3P) 4D (2D)j=2.5 -	2S2 2P3 (2D*)j=1.5	10.116	ADP 101	1	10.640	71.944
Fe20	N -like	2S2 2P2 (3P) 4D (4P)j=2.5 -	1S2 2S2 2P3 (4S*)j=1.5	10.121	ADP 101	1	10.640	72.031
Fe20	N -like	2S2 2P2 (3P) 4D (4P)j=1.5 -	2S2 2P3 (2D*)j=1.5	10.128	ADP 101	1	10.640	72.153
Fe20	N -like	2S2 2P2 (3P) 4D (2F)j=3.5 -	1S2 2S2 2P3 (2D*)j=2.5	10.159	ADP 101	1	10.640	72.706
Fe20	N -like	2S2 2P2 (3P) 4D (2F)j=2.5 -	2S2 2P3 (2D*)j=1.5	10.177	ADP 101	1	10.640	73.035
Fe20	N -like	2S2 2P2 (3P) 4D (2D)j=1.5 -	2S2 2P3 (2P*)j= .5	10.222	ADP 101	1	10.640	73.887
Fe20	N -like	2S2 2P2 (3P) 4D (4P)j=1.5 -	2S2 2P3 (2P*)j=1.5	10.322	ADP 101	1	10.640	75.957
Fe20	N -like	2S2 2P2 (3P) 4D (4D)j=2.5 -	2S2 2P3 (2P*)j=1.5	10.344	ADP 101	1	10.640	76.454
Fe20	N -like	2S 2P3 (3D*) 3D (4P*)j=1.5 -	2S 2P4 (4P)j=2 5	12.393	TAP 100	2	25.763	74.170
Fe20	N -like	2S 2P3 (3D*) 3D (4P*)j=1.5 -	2S 2P4 (4P)j=2.5	12.393	RAP 100	2	26.116	71.636
Fe20	N -like	2S 2P3 (3D*) 3D (4P*)j=1.5 -	2S 2P4 (4P)j=1.5	12.494	TAP 100	2	25.763	75.911
Fe20	N -like	2S 2P3 (3D*) 3D (4P*)j=1.5 -	2S 2P4 (4P)j=1.5	12.494	RAP 100	2	26.116	73.099
Fe20	N -like	2S2 2P2 (1D) 3D (2F)j=2.5 -	2S2 2P3 (2D*)j=1.5	12.763	TAP 100	2	25.763	82.222
Fe20	N -like	2S2 2P2 (1D) 3D (2F)j=2.5 -	2S2 2P3 (2D*)j=1.5	12.763	RAP 100	2	26.116	77.798
Fe20	N -like	2S2 2P2 (1D) 3D (2F)j=2.5 -	2S2 2P3 (2D*)j=1.5	12.763	KAP 100	2	26.634	73.415
Fe20	N -like	2S 2P3 (3D*) 3D (2F*)j=3.5 -	2S 2P4 (4P)j=2.5	12.812	TAP 100	2	25.763	84.046
Fe20	N -like	2S 2P3 (3D*) 3D (2F*)j=3.5 -	2S 2P4 (4P)j=2.5	12.812	RAP 100	2	26.116	78.861
Fe20	N -like	2S 2P3 (3D*) 3D (2F*)j=3.5 -	2S 2P4 (4P)j=2.5	12.812	KAP 100	2	26.634	74.171
Fe20	N -like	2S2 2P2 (3P) 3D (4P)j=1.5 -	1S2 2S2 2P3 (4S*)j=1.5	12.818	TAP 100	2	25.763	84.309
Fe20	N -like	2S2 2P2 (3P) 3D (4P)j=1.5 -	1S2 2S2 2P3 (4S*)j=1.5	12.818	RAP 100	2	26.116	78.998
Fe20	N -like	2S2 2P2 (3P) 3D (4P)j=1.5 -	1S2 2S2 2P3 (4S*)j=1.5	12.818	KAP 100	2	26.634	74.266
Fe20	N -like	2S2 2P2 (1D) 3D (2P)j=1.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.834	TAP 100	2	25.763	85.078
Fe20	N -like	2S2 2P2 (1D) 3D (2P)j=1.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.834	RAP 100	2	26.116	79.372
Fe20	N -like	2S2 2P2 (1D) 3D (2P)j=1.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.834	KAP 100	2	26.634	74.521
Fe20	N -like	2S2 2P2 (1D) 3D (2D)j=1.5 -	2S2 2P3 (2D*)j=1.5	12.857	TAP 100	2	25.763	86.466
Fe20	N -like	2S2 2P2 (1D) 3D (2D)j=1.5 -	2S2 2P3 (2D*)j=1.5	12.857	RAP 100	2	26.116	79.934
Fe20	N -like	2S2 2P2 (1D) 3D (2D)j=1.5 -	2S2 2P3 (2D*)j=1.5	12.857	KAP 100	2	26.634	74.897
Fe20	N -like	2S2 2P2 (1D) 3D (2F)j=3.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.888	RAP 100	2	26.116	80.745
Fe20	N -like	2S2 2P2 (1D) 3D (2F)j=3.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.888	KAP 100	2	26.634	75.417
Fe20	N -like	2S 2P3 (3D*) 3D (4S*)j=1.5 -	2S 2P4 (4P)j=2.5	12.909	RAP 100	2	26.116	81.336
Fe20	N -like	2S 2P3 (3D*) 3D (4S*)j=1.5 -	2S 2P4 (4P)j=2.5	12.909	KAP 100	2	26.634	75.781
Fe20	N -like	2S2 2P2 (1D) 3D (2D)j=2.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.924	RAP 100	2	26.116	81.785
Fe20	N -like	2S2 2P2 (1D) 3D (2D)j=2.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.924	KAP 100	2	26.634	76.046
Fe20	N -like	2S2 2P2 (1S) 3D (2D)j=2.5 -	2S2 2P3 (2P*)j=1.5	12.946	RAP 100	2	26.116	82.490
Fe20	N -like	2S2 2P2 (1S) 3D (2D)j=2.5 -	2S2 2P3 (2P*)j=1.5	12.946	KAP 100	2	26.634	76.444
Fe20	N -like	2S 2P3 (3D*) 3D (4D*)j=3.5 -	2S 2P4 (4P)j=2.5	12.958	RAP 100	2	26.116	82.905
Fe20	N -like	2S 2P3 (3D*) 3D (4D*)j=3.5 -	2S 2P4 (4P)j=2.5	12.958	KAP 100	2	26.634	76.666
Fe20	N -like	2S2 2P2 (1D) 3D (2G)j=3.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.970	RAP 100	2	26.116	83.344
Fe20	N -like	2S2 2P2 (1D) 3D (2G)j=3.5 -	1S2 2S2 2P3 (2D*)j=2.5	12.970	KAP 100	2	26.634	76.892
Fe20	N -like	2S2 2P2 (3P) 3D (2D)j=2.5 -	2S2 2P3 (2D*)j=1.5	12.983	RAP 100	2	26.116	83.856

Fe20	N -like	2S2	2P2	(3P)	3D	(2D)j=2.5	-	2S2	2P3		(2D*)j=1.5	12.983	KAP 100	2	26.634	77.141
Fe20	N -like	2S	2P3	(3D*)	3D	(4D*)j=2.5	-	2S	2P4		(4P)j=2.5	12.995	RAP 100	2	26.116	84.370
Fe20	N -like	2S	2P3	(3D*)	3D	(4D*)j=2.5	-	2S	2P4		(4P)j=2.5	12.995	KAP 100	2	26.634	77.375
Fe20	N -like	2S2	2P2	(1D)	3D	(2S)j= .5	-	2S2	2P3		(2P*)j=1.5	13.070	KAP 100	2	26.634	78.948
Fe20	N -like	2S2	2P2	(3P)	3D	(2F)j=3.5	-	1S2	2S2	2P3	(2D*)j=2.5	13.082	KAP 100	2	26.634	79.220
Fe20	N -like	2S	2P3	(3P*)	3D	(2D*)j=2.5	-	2S	2P4		(2D)j=1.5	13.111	KAP 100	2	26.634	79.909
Fe20	N -like	2S	2P3	(3P*)	3D	(2D*)j=2.5	-	2S	2P4		(2D)j=2.5	13.138	KAP 100	2	26.634	80.595
Fe20	N -like	2S	2P3	(3P*)	3D	(2F*)j=3.5	-	2S	2P4		(2D)j=2.5	13.159	KAP 100	2	26.634	81.165
Fe20	N -like	2S2	2P2	(3P)	3D	(2P)j=1.5	-	2S2	2P3		(2D*)j=1.5	13.183	KAP 100	2	26.634	81.865
Fe20	N -like	2S	2P3	(3D*)	3D	(4P*)j=1.5	-	2S	2P4		(2P)j=1.5	13.194	KAP 100	2	26.634	82.207
Fe20	N -like	2S	2P3	(1D*)	3D	(2F*)j=2.5	-	2S	2P4		(2P)j=1.5	13.232	KAP 100	2	26.634	83.523
Fe20	N -like	2S2	2P2	(3P)	3D	(2P)j=1.5	-	1S2	2S2	2P3	(2D*)j=2.5	13.247	KAP 100	2	26.634	84.123
Fe20	N -like	2S	2P3	(5S*)	3D	(4D*)j=1.5	-	2S	2P4		(2S)j= .5	13.279	KAP 100	2	26.634	85.671
Fe20	N -like	2S	2P3	(1D*)	3D	(2S*)j= .5	-	2S	2P4		(2P)j= .5	13.292	KAP 100	2	26.634	86.489
Fe20	N -like	2S2	2P2	(3P)	3D	(2D)j=2.5	-	2S2	2P3		(2P*)j=1.5	13.298	KAP 100	2	26.634	86.939
Fe20	N -like	2S2	2P2	(3P)	3S	(2P)j= .5	-	2S2	2P3		(2P*)j=1.5	14.387	gypsum 020	1	15.185	71.343
Fe21	C -like	1S	2S2	2P3		(1P*)j=1.0	-	1S2	2S2	2P2	(1D)j=2.0	1.891	Si 220	2	3.840	80.029
Fe21	C -like	1S	2S2	2P3		(1P*)j=1.0	-	1S2	2S2	2P2	(1D)j=2.0	1.891	fluorite 220	2	3.862	78.318
Fe21	C -like	1S	2S2	2P3		(1P*)j=1.0	-	1S2	2S2	2P2	(1D)j=2.0	1.891	Ge 220	2	4.000	70.997
Fe21	C -like	1S	2S2	2P3		(3S*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	1.894	Si 220	2	3.840	80.560
Fe21	C -like	1S	2S2	2P3		(3S*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	1.894	fluorite 220	2	3.862	78.766
Fe21	C -like	1S	2S2	2P3		(3S*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	1.894	Ge 220	2	4.000	71.262
Fe21	C -like	1S	2S2	2P3		(3S*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	1.894	LiF 200	2	4.027	70.161
Fe21	C -like	1S	2S2	2P3		(3D*)j=3.0	-	1S2	2S2	2P2	(3P)j=2.0	1.896	Si 220	2	3.840	80.931
Fe21	C -like	1S	2S2	2P3		(3D*)j=3.0	-	1S2	2S2	2P2	(3P)j=2.0	1.896	fluorite 220	2	3.862	79.075
Fe21	C -like	1S	2S2	2P3		(3D*)j=3.0	-	1S2	2S2	2P2	(3P)j=2.0	1.896	Ge 220	2	4.000	71.442
Fe21	C -like	1S	2S2	2P3		(3D*)j=3.0	-	1S2	2S2	2P2	(3P)j=2.0	1.896	LiF 200	2	4.027	70.329
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	quartz 100	1	8.512	84.443
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	PET 002	1	8.742	75.723
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	EDT 020	1	8.808	74.123
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	TAP 100	3	25.763	80.586
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	RAP 100	3	26.116	76.704
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j= .0	8.472	KAP 100	3	26.634	72.605
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	8.521	PET 002	1	8.742	77.089
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	8.521	EDT 020	1	8.808	75.334
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	8.521	TAP 100	3	25.763	82.856
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	8.521	RAP 100	3	26.116	78.188
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0	-	1S2	2S2	2P2	(3P)j=1.0	8.521	KAP 100	3	26.634	73.697
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=1.0	8.558	PET 002	1	8.742	78.224
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=1.0	8.558	EDT 020	1	8.808	76.316
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=1.0	8.558	TAP 100	3	25.763	85.236
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=1.0	8.558	RAP 100	3	26.116	79.444
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=1.0	8.558	KAP 100	3	26.634	74.570
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=2.0	8.590	PET 002	1	8.742	79.300
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=2.0	8.590	EDT 020	1	8.808	77.226
Fe21	C -like	1S2	2S2	2P		(3D*)j=2.0	-	1S2	2S2	2P2	(3P)j=2.0	8.590	RAP 100	3	26.116	80.663

Fe21	C -like	1S2 2S2 2P		(3D*)j=2.0 - 1S2 2S2 2P2	(3P)j=2.0	8.590	KAP 100	3	26.634	75.366
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	8.610	PET 002	1	8.742	80.031
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	8.610	EDT 020	1	8.808	77.828
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	8.610	RAP 100	3	26.116	81.513
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	8.610	KAP 100	3	26.634	75.886
Fe21	C -like	1S2 2S2 2P		(3F*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	8.643	PET 002	1	8.742	81.369
Fe21	C -like	1S2 2S2 2P		(3F*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	8.643	EDT 020	1	8.808	78.892
Fe21	C -like	1S2 2S2 2P		(3F*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	8.643	RAP 100	3	26.116	83.139
Fe21	C -like	1S2 2S2 2P		(3F*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	8.643	KAP 100	3	26.634	76.788
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(1S)j= .0	8.741	PET 002	1	8.742	89.134
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(1S)j= .0	8.741	EDT 020	1	8.808	82.929
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(1S)j= .0	8.741	KAP 100	3	26.634	79.921
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(3P)j=1.0	9.421	mica 002	2	19.942	70.881
Fe21	C -like	1S2 2S2 2P		(1D*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	9.433	mica 002	2	19.942	71.093
Fe21	C -like	1S2 2S2 2P		(3D*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	9.451	mica 002	2	19.942	71.414
Fe21	C -like	1S2 2S2 2P		(3D*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	9.460	mica 002	2	19.942	71.577
Fe21	C -like	1S2 2S2 2P		(1D*)j=2.0 - 1S2 2S2 2P2	(3P)j=2.0	9.475	mica 002	2	19.942	71.852
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	9.518	mica 002	2	19.942	72.663
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=2.0	9.559	mica 002	2	19.942	73.472
Fe21	C -like	1S2 2S2 2P		(3F*)j=3.0 - 1S2 2S2 2P2	(3P)j=2.0	9.581	mica 002	2	19.942	73.922
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(3P)j= .0	12.145	TAP 100	2	25.763	70.532
Fe21	C -like	1S2 2S	2P2 (2P	)(3D)j=3.0 - 1S2 2S 2P3	(3D*)j=3.0	12.201	TAP 100	2	25.763	71.293
Fe21	C -like	1S2 2S2 2P		(3P*)j=2.0 - 1S2 2S2 2P2	(3P)j=1.0	12.248	TAP 100	2	25.763	71.956
Fe21	C -like	1S2 2S2 2P		(3P*)j= .0 - 1S2 2S2 2P2	(3P)j=1.0	12.264	TAP 100	2	25.763	72.188
Fe21	C -like	1S2 2S	2P2 (4P	)(5P)j=2.0 - 1S2 2S 2P3	(5S*)j=2.0	12.291	TAP 100	2	25.763	72.584
Fe21	C -like	1S2 2S	2P2 (4P	)(5P)j=2.0 - 1S2 2S 2P3	(5S*)j=2.0	12.291	RAP 100	2	26.116	70.265
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(3P)j=2.0	12.322	TAP 100	2	25.763	73.051
Fe21	C -like	1S2 2S2 2P		(3P*)j=1.0 - 1S2 2S2 2P2	(3P)j=2.0	12.322	RAP 100	2	26.116	70.671
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=3.0 - 1S2 2S 2P3	(3D*)j=2.0	12.346	TAP 100	2	25.763	73.421
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=3.0 - 1S2 2S 2P3	(3D*)j=2.0	12.346	RAP 100	2	26.116	70.992
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=2.0 - 1S2 2S 2P3	(3D*)j=2.0	12.355	TAP 100	2	25.763	73.562
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=2.0 - 1S2 2S 2P3	(3D*)j=2.0	12.355	RAP 100	2	26.116	71.114
Fe21	C -like	1S2 2S	2P2 (2D	)(3F)j=3.0 - 1S2 2S 2P3	(3D*)j=2.0	12.371	TAP 100	2	25.763	73.816
Fe21	C -like	1S2 2S	2P2 (2D	)(3F)j=3.0 - 1S2 2S 2P3	(3D*)j=2.0	12.371	RAP 100	2	26.116	71.332
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=3.0 - 1S2 2S 2P3	(3D*)j=3.0	12.387	TAP 100	2	25.763	74.073
Fe21	C -like	1S2 2S	2P2 (2D	)(3D)j=3.0 - 1S2 2S 2P3	(3D*)j=3.0	12.387	RAP 100	2	26.116	71.552
Fe21	C -like	1S2 2S	2P2 (2D	)(3F)j=4.0 - 1S2 2S 2P3	(3D*)j=3.0	12.398	TAP 100	2	25.763	74.252
Fe21	C -like	1S2 2S	2P2 (2D	)(3F)j=4.0 - 1S2 2S 2P3	(3D*)j=3.0	12.398	RAP 100	2	26.116	71.706
Fe21	C -like	1S2 2S	2P2 (2P	)(3D)j=3.0 - 1S2 2S 2P3	(3P*)j=2.0	12.411	TAP 100	2	25.763	74.467
Fe21	C -like	1S2 2S	2P2 (2P	)(3D)j=3.0 - 1S2 2S 2P3	(3P*)j=2.0	12.411	RAP 100	2	26.116	71.888
Fe21	C -like	1S2 2S2 2P		(1P*)j=1.0 - 1S2 2S2 2P2	(1D)j=2.0	12.429	TAP 100	2	25.763	74.768
Fe21	C -like	1S2 2S2 2P		(1P*)j=1.0 - 1S2 2S2 2P2	(1D)j=2.0	12.429	RAP 100	2	26.116	72.144
Fe21	C -like	1S2 2S2 2P		(1F*)j=3.0 - 1S2 2S2 2P2	(1D)j=2.0	12.436	TAP 100	2	25.763	74.887
Fe21	C -like	1S2 2S2 2P		(1F*)j=3.0 - 1S2 2S2 2P2	(1D)j=2.0	12.436	RAP 100	2	26.116	72.244
Fe21	C -like	1S2 2S	2P2 (2P	)(1F)j=3.0 - 1S2 2S 2P3	(1D*)j=2.0	12.451	TAP 100	2	25.763	75.146
Fe21	C -like	1S2 2S	2P2 (2P	)(1F)j=3.0 - 1S2 2S 2P3	(1D*)j=2.0	12.451	RAP 100	2	26.116	72.462

Fe21	C -like	1S2	2S	2P2	(2P)	(3F)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.463	TAP	100	2	25.763	75.355
Fe21	C -like	1S2	2S	2P2	(2P)	(3F)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.463	RAP	100	2	26.116	72.637
Fe21	C -like	1S2	2S2	2P		(3F*)j=2.0 -	1S2	2S2	2P2	(3P)j=1.0	12.519	TAP	100	2	25.763	76.375
Fe21	C -like	1S2	2S2	2P		(3F*)j=2.0 -	1S2	2S2	2P2	(3P)j=1.0	12.519	RAP	100	2	26.116	73.480
Fe21	C -like	1S2	2S2	2P		(3F*)j=2.0 -	1S2	2S2	2P2	(3P)j=1.0	12.519	KAP	100	2	26.634	70.064
Fe21	C -like	1S2	2S	2P2	(2D)	(1F)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.548	TAP	100	2	25.763	76.934
Fe21	C -like	1S2	2S	2P2	(2D)	(1F)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.548	RAP	100	2	26.116	73.934
Fe21	C -like	1S2	2S	2P2	(2D)	(1F)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.548	KAP	100	2	26.634	70.434
Fe21	C -like	1S2	2S	2P2	(2P)	(1D)j=2.0 -	1S2	2S	2P3	(1P*)j=1.0	12.575	TAP	100	2	25.763	77.476
Fe21	C -like	1S2	2S	2P2	(2P)	(1D)j=2.0 -	1S2	2S	2P3	(1P*)j=1.0	12.575	RAP	100	2	26.116	74.368
Fe21	C -like	1S2	2S	2P2	(2P)	(1D)j=2.0 -	1S2	2S	2P3	(1P*)j=1.0	12.575	KAP	100	2	26.634	70.784
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.581	TAP	100	2	25.763	77.600
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.581	RAP	100	2	26.116	74.466
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.581	KAP	100	2	26.634	70.862
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=2.0 -	1S2	2S	2P3	(3P*)j=1.0	12.586	TAP	100	2	25.763	77.704
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=2.0 -	1S2	2S	2P3	(3P*)j=1.0	12.586	RAP	100	2	26.116	74.548
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=2.0 -	1S2	2S	2P3	(3P*)j=1.0	12.586	KAP	100	2	26.634	70.928
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.606	TAP	100	2	25.763	78.129
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.606	RAP	100	2	26.116	74.881
Fe21	C -like	1S2	2S	2P2	(2D)	(3D)j=3.0 -	1S2	2S	2P3	(3P*)j=2.0	12.606	KAP	100	2	26.634	71.193
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=3.0	12.623	TAP	100	2	25.763	78.502
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=3.0	12.623	RAP	100	2	26.116	75.169
Fe21	C -like	1S2	2S	2P2	(4P)	(3D)j=3.0 -	1S2	2S	2P3	(3D*)j=3.0	12.623	KAP	100	2	26.634	71.421
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=4.0 -	1S2	2S	2P3	(3D*)j=3.0	12.681	TAP	100	2	25.763	79.878
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=4.0 -	1S2	2S	2P3	(3D*)j=3.0	12.681	RAP	100	2	26.116	76.199
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=4.0 -	1S2	2S	2P3	(3D*)j=3.0	12.681	KAP	100	2	26.634	72.221
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.699	TAP	100	2	25.763	80.344
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.699	RAP	100	2	26.116	76.534
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=3.0 -	1S2	2S	2P3	(3D*)j=2.0	12.699	KAP	100	2	26.634	72.476
Fe21	C -like	1S2	2S2	2P		(1D*)j=2.0 -	1S2	2S2	2P2	(1D)j=2.0	12.714	TAP	100	2	25.763	80.750
Fe21	C -like	1S2	2S2	2P		(1D*)j=2.0 -	1S2	2S2	2P2	(1D)j=2.0	12.714	RAP	100	2	26.116	76.819
Fe21	C -like	1S2	2S2	2P		(1D*)j=2.0 -	1S2	2S2	2P2	(1D)j=2.0	12.714	KAP	100	2	26.634	72.692
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0 -	1S2	2S2	2P2	(1S)j= .0	12.726	TAP	100	2	25.763	81.088
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0 -	1S2	2S2	2P2	(1S)j= .0	12.726	RAP	100	2	26.116	77.052
Fe21	C -like	1S2	2S2	2P		(3P*)j=1.0 -	1S2	2S2	2P2	(1S)j= .0	12.726	KAP	100	2	26.634	72.866
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=2.0 -	1S2	2S	2P3	(3D*)j=1.0	12.743	TAP	100	2	25.763	81.591
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=2.0 -	1S2	2S	2P3	(3D*)j=1.0	12.743	RAP	100	2	26.116	77.390
Fe21	C -like	1S2	2S	2P2	(4P)	(3F)j=2.0 -	1S2	2S	2P3	(3D*)j=1.0	12.743	KAP	100	2	26.634	73.116
Fe21	C -like	1S2	2S	2P2	(2P)	(3F)j=3.0 -	1S2	2S	2P3	(1D*)j=2.0	12.756	TAP	100	2	25.763	81.996
Fe21	C -like	1S2	2S	2P2	(2P)	(3F)j=3.0 -	1S2	2S	2P3	(1D*)j=2.0	12.756	RAP	100	2	26.116	77.654
Fe21	C -like	1S2	2S	2P2	(2P)	(3F)j=3.0 -	1S2	2S	2P3	(1D*)j=2.0	12.756	KAP	100	2	26.634	73.310
Fe21	C -like	1S2	2S	2P2	(2D)	(1D)j=2.0 -	1S2	2S	2P3	(1D*)j=2.0	12.777	TAP	100	2	25.763	82.697
Fe21	C -like	1S2	2S	2P2	(2D)	(1D)j=2.0 -	1S2	2S	2P3	(1D*)j=2.0	12.777	RAP	100	2	26.116	78.092
Fe21	C -like	1S2	2S	2P2	(2D)	(1D)j=2.0 -	1S2	2S	2P3	(1D*)j=2.0	12.777	KAP	100	2	26.634	73.628
Fe21	C -like	1S2	2S	2P2	(4P)	(5P)j=2.0 -	1S2	2S	2P3	(3D*)j=3.0	12.789	TAP	100	2	25.763	83.130
Fe21	C -like	1S2	2S	2P2	(4P)	(5P)j=2.0 -	1S2	2S	2P3	(3D*)j=3.0	12.789	RAP	100	2	26.116	78.350

Fe21	C -like	1S2	2S	2P2	(4P	)	(5P)j=2.0	-	1S2	2S	2P3		(3D*)j=3.0	12.789	KAP 100	2	26.634	73.812
Fe21	C -like	1S2	2S	2P2			(3P*)j=2.0	-	1S2	2S2	2P2		(3P)j=2.0	13.070	KAP 100	2	26.634	78.948
Fe21	C -like	1S2	2S	2P2			(3P*)j=1.0	-	1S2	2S2	2P2		(3P)j=2.0	13.146	KAP 100	2	26.634	80.808
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j= .5	1.875	Si 220	2	3.840	77.571
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j= .5	1.875	fluorite 220	2	3.862	76.168
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j= .5	1.875	NaCl 200	3	5.641	85.684
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j= .5	1.877	Si 220	2	3.840	77.851
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j= .5	1.877	fluorite 220	2	3.862	76.418
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j= .5	1.877	NaCl 200	3	5.641	86.588
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j=1.5	1.879	Si 220	2	3.840	78.138
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j=1.5	1.879	fluorite 220	2	3.862	76.673
Fe22	B -like	1S	2S2	2P2			(2S)j= .5	-	1S2	2S2	2P		(2P*)j=1.5	1.879	NaCl 200	3	5.641	87.842
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.882	Si 220	2	3.840	78.582
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.882	fluorite 220	2	3.862	77.065
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.882	Ge 220	2	4.000	70.220
Fe22	B -like	1S	2S2	2P2			(2D)j=2.5	-	1S2	2S2	2P		(2P*)j=1.5	1.885	Si 220	2	3.840	79.043
Fe22	B -like	1S	2S2	2P2			(2D)j=2.5	-	1S2	2S2	2P		(2P*)j=1.5	1.885	fluorite 220	2	3.862	77.469
Fe22	B -like	1S	2S2	2P2			(2D)j=2.5	-	1S2	2S2	2P		(2P*)j=1.5	1.885	Ge 220	2	4.000	70.476
Fe22	B -like	1S	2S2	2P2			(2D)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.886	Si 220	2	3.840	79.201
Fe22	B -like	1S	2S2	2P2			(2D)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.886	fluorite 220	2	3.862	77.606
Fe22	B -like	1S	2S2	2P2			(2D)j=1.5	-	1S2	2S2	2P		(2P*)j=1.5	1.886	Ge 220	2	4.000	70.562
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2P3			(2P*)j=1.5	1.936	quartz 223	1	2.024	73.043
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2P3			(2P*)j=1.5	1.936	Ge 220	2	4.000	75.466
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2P3			(2P*)j=1.5	1.936	LiF 200	2	4.027	74.052
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2P3			(2P*)j=1.5	1.936	Al 200	2	4.048	73.043
Fe22	B -like	1S	2S2	2P2			(2P)j=1.5	-	1S2	2P3			(2P*)j=1.5	1.936	calcite 200	3	6.071	73.074
Fe22	B -like	1S2	2S	2P	(1P*)	4	(2D*)j=2.5	-	1S2	2S	2P2		(4P)j=1.5	8.736	PET 002	1	8.742	87.877
Fe22	B -like	1S2	2S	2P	(1P*)	4	(2D*)j=2.5	-	1S2	2S	2P2		(4P)j=1.5	8.736	EDT 020	1	8.808	82.669
Fe22	B -like	1S2	2S	2P	(1P*)	4	(2D*)j=2.5	-	1S2	2S	2P2		(4P)j=1.5	8.736	KAP 100	3	26.634	79.739
Fe22	B -like	1S2	2S	2P	(1P*)	4	(2F*)j=2.5	-	1S2	2S	2P2		(4P)j=2.5	8.786	EDT 020	1	8.808	85.950
Fe22	B -like	1S2	2S	2P	(1P*)	4	(2F*)j=2.5	-	1S2	2S	2P2		(4P)j=2.5	8.786	KAP 100	3	26.634	81.744
Fe22	B -like	1S2	2S	2P	(3P*)	4	(4D*)j=2.5	-	1S2	2S	2P2		(2P)j=1.5	9.412	mica 002	2	19.942	70.724
Fe22	B -like	1S2	2S2	4P			(2P*)j=1.5	-	1S2	2S	2P2		(2D)j=1.5	9.663	mica 002	2	19.942	75.722
Fe22	B -like	1S2	2S2	4P			(2P*)j= .5	-	1S2	2S	2P2		(2D)j=1.5	9.675	mica 002	2	19.942	76.004
Fe22	B -like	1S2	2S2	4P			(2P*)j= .5	-	1S2	2S	2P2		(2S)j= .5	9.785	mica 002	2	19.942	78.916
Fe22	B -like	1S2	2S2	4P			(2P*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	9.894	mica 002	2	19.942	82.875
Fe22	B -like	1S2	2S	2P	(3P*)	3	(2P*)j=1.5	-	1S2	2S	2P2		(2S)j= .5	12.193	TAP 100	2	25.763	71.183
Fe22	B -like	1S2	2S	2P	(1P*)	3	(2P*)j= .5	-	1S2	2S	2P2		(2P)j=1.5	12.231	TAP 100	2	25.763	71.714
Fe22	B -like	1S2	2S	2P	(1P*)	3	(2D*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.259	TAP 100	2	25.763	72.115
Fe22	B -like	1S2	2S	2P	(3P*)	3	(2P*)j= .5	-	1S2	2S	2P2		(2S)j= .5	12.322	TAP 100	2	25.763	73.051
Fe22	B -like	1S2	2S	2P	(3P*)	3	(2P*)j= .5	-	1S2	2S	2P2		(2S)j= .5	12.322	RAP 100	2	26.116	70.671
Fe22	B -like	1S2	2S	2P	(3P*)	3	(2P*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.380	TAP 100	2	25.763	73.960
Fe22	B -like	1S2	2S	2P	(3P*)	3	(2P*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.380	RAP 100	2	26.116	71.456
Fe22	B -like	1S2	2S	2P	(3P*)	3	(4D*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.653	TAP 100	2	25.763	79.192
Fe22	B -like	1S2	2S	2P	(3P*)	3	(4D*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.653	RAP 100	2	26.116	75.693
Fe22	B -like	1S2	2S	2P	(3P*)	3	(4D*)j=1.5	-	1S2	2S	2P2		(2P)j= .5	12.653	KAP 100	2	26.634	71.831

Fe22	B -like	1S2	2S2	3P		(2P*)j=1.5 -	1S2	2S	2P2		(2D)j=1.5	13.095	KAP 100	2	26.634	79.524
Fe22	B -like	1S2	2S2	3S		(2S)j= .5 -	1S2	2P3			(2P*)j=1.5	14.859	gypsum 020	1	15.185	78.106
Fe23	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	1.870	Si 220	2	3.840	76.896
Fe23	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	1.870	fluorite 220	2	3.862	75.560
Fe23	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	1.870	NaCl 200	3	5.641	83.990
Fe23	Be-like	1S	2S2	2P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	1.870	InSb 111	4	7.481	89.063
Fe23	Be-like	1S2	2P		5P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	7.445	InSb 111	1	7.481	84.377
Fe23	Be-like	1S2	2P		5P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	7.445	gypsum 020	2	15.185	78.688
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	7.472	InSb 111	1	7.481	87.189
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	7.472	gypsum 020	2	15.185	79.778
Fe23	Be-like	1S2	2S		5D	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	7.680	beryl 100	2	15.954	74.316
Fe23	Be-like	1S2	2S		5D	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	7.733	beryl 100	2	15.954	75.792
Fe23	Be-like	1S2	2P		5D	(1D*)j=2.0 -	1S2		2P2		(3P)j=1.0	7.755	beryl 100	2	15.954	76.451
Fe23	Be-like	1S2	2P		5D	(3D*)j=3.0 -	1S2		2P2		(3P)j=2.0	7.778	beryl 100	2	15.954	77.175
Fe23	Be-like	1S2	2P		5D	(3D*)j=2.0 -	1S2		2P2		(3P)j=1.0	7.826	beryl 100	2	15.954	78.834
Fe23	Be-like	1S2	2P		5D	(1F*)j=3.0 -	1S2		2P2		(1D)j=2.0	7.849	beryl 100	2	15.954	79.722
Fe23	Be-like	1S2	2P		5D	(3D*)j=2.0 -	1S2		2P2		(3P)j=2.0	7.854	beryl 100	2	15.954	79.925
Fe23	Be-like	1S2	2S		5D	(1D)j=2.0 -	1S2	2S	2P		(1P*)j=1.0	7.883	topaz 002	1	8.374	70.282
Fe23	Be-like	1S2	2S		5D	(1D)j=2.0 -	1S2	2S	2P		(1P*)j=1.0	7.883	beryl 100	2	15.954	81.195
Fe23	Be-like	1S2	2P		5D	(3D*)j=2.0 -	1S2		2P2		(1D)j=2.0	7.935	topaz 002	1	8.374	71.365
Fe23	Be-like	1S2	2P		5D	(3D*)j=2.0 -	1S2		2P2		(1D)j=2.0	7.935	beryl 100	2	15.954	84.118
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=1.0	8.159	topaz 002	1	8.374	76.989
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=1.0	8.159	quartz 100	1	8.512	73.441
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=1.0	8.159	TAP 100	3	25.763	71.820
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=2.0	8.180	topaz 002	1	8.374	77.643
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=2.0	8.180	quartz 100	1	8.512	73.945
Fe23	Be-like	1S2	2S	5P		(3P*)j=1.0 -	1S2		2P2		(3P)j=2.0	8.180	TAP 100	3	25.763	72.275
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2		2P2		(1D)j=2.0	8.210	topaz 002	1	8.374	78.642
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2		2P2		(1D)j=2.0	8.210	quartz 100	1	8.512	74.692
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2		2P2		(1D)j=2.0	8.210	TAP 100	3	25.763	72.945
Fe23	Be-like	1S2	2S	5P		(1P*)j=1.0 -	1S2		2P2		(1D)j=2.0	8.210	RAP 100	3	26.116	70.579
Fe23	Be-like	1S2	2P		4P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	8.273	topaz 002	1	8.374	81.092
Fe23	Be-like	1S2	2P		4P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	8.273	quartz 100	1	8.512	76.390
Fe23	Be-like	1S2	2P		4P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	8.273	PET 002	1	8.742	71.147
Fe23	Be-like	1S2	2P		4P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	8.273	TAP 100	3	25.763	74.442
Fe23	Be-like	1S2	2P		4P	(3D)j=3.0 -	1S2	2S	2P		(3P*)j=2.0	8.273	RAP 100	3	26.116	71.867
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	topaz 002	1	8.374	81.829
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	quartz 100	1	8.512	76.856
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	PET 002	1	8.742	71.474
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	EDT 020	1	8.808	70.233
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	TAP 100	3	25.763	74.845
Fe23	Be-like	1S2	2P		4P	(3D)j=2.0 -	1S2	2S	2P		(3P*)j=1.0	8.289	RAP 100	3	26.116	72.209
Fe23	Be-like	1S2	2S	4P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	8.303	topaz 002	1	8.374	82.534
Fe23	Be-like	1S2	2S	4P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	8.303	quartz 100	1	8.512	77.277
Fe23	Be-like	1S2	2S	4P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	8.303	PET 002	1	8.742	71.765
Fe23	Be-like	1S2	2S	4P		(1P*)j=1.0 -	1S2	2S2			(1S)j= .0	8.303	EDT 020	1	8.808	70.504

Fe23	Be-like	1S2 2S	4P	(1P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.303	TAP 100	3	25.763	75.206
Fe23	Be-like	1S2 2S	4P	(1P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.303	RAP 100	3	26.116	72.513
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	topaz 002	1	8.374	83.253
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	quartz 100	1	8.512	77.681
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	PET 002	1	8.742	72.040
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	EDT 020	1	8.808	70.759
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	TAP 100	3	25.763	75.550
Fe23	Be-like	1S2 2S	4P	(3P*)j=1.0 - 1S2 2S2			(1S)j= .0	8.316	RAP 100	3	26.116	72.800
Fe23	Be-like	1S2 2S		4D (3D)j=1.0 - 1S2 2S	2P		(3P*)j= .0	8.529	PET 002	1	8.742	77.326
Fe23	Be-like	1S2 2S		4D (3D)j=1.0 - 1S2 2S	2P		(3P*)j= .0	8.529	EDT 020	1	8.808	75.540
Fe23	Be-like	1S2 2S		4D (3D)j=1.0 - 1S2 2S	2P		(3P*)j= .0	8.529	TAP 100	3	25.763	83.299
Fe23	Be-like	1S2 2S		4D (3D)j=1.0 - 1S2 2S	2P		(3P*)j= .0	8.529	RAP 100	3	26.116	78.448
Fe23	Be-like	1S2 2S		4D (3D)j=1.0 - 1S2 2S	2P		(3P*)j= .0	8.529	KAP 100	3	26.634	73.881
Fe23	Be-like	1S2 2S		4D (3D)j=2.0 - 1S2 2S	2P		(3P*)j=1.0	8.550	PET 002	1	8.742	77.970
Fe23	Be-like	1S2 2S		4D (3D)j=2.0 - 1S2 2S	2P		(3P*)j=1.0	8.550	EDT 020	1	8.808	76.098
Fe23	Be-like	1S2 2S		4D (3D)j=2.0 - 1S2 2S	2P		(3P*)j=1.0	8.550	TAP 100	3	25.763	84.632
Fe23	Be-like	1S2 2S		4D (3D)j=2.0 - 1S2 2S	2P		(3P*)j=1.0	8.550	RAP 100	3	26.116	79.160
Fe23	Be-like	1S2 2S		4D (3D)j=2.0 - 1S2 2S	2P		(3P*)j=1.0	8.550	KAP 100	3	26.634	74.377
Fe23	Be-like	1S2 2P		4D (3P*)j=1.0 - 1S2		2P2	(3P)j= .0	8.575	PET 002	1	8.742	78.783
Fe23	Be-like	1S2 2P		4D (3P*)j=1.0 - 1S2		2P2	(3P)j= .0	8.575	EDT 020	1	8.808	76.792
Fe23	Be-like	1S2 2P		4D (3P*)j=1.0 - 1S2		2P2	(3P)j= .0	8.575	TAP 100	3	25.763	86.888
Fe23	Be-like	1S2 2P		4D (3P*)j=1.0 - 1S2		2P2	(3P)j= .0	8.575	RAP 100	3	26.116	80.073
Fe23	Be-like	1S2 2P		4D (3P*)j=1.0 - 1S2		2P2	(3P)j= .0	8.575	KAP 100	3	26.634	74.988
Fe23	Be-like	1S2 2S		4D (1D)j=2.0 - 1S2 2S	2P		(3P*)j=2.0	8.601	PET 002	1	8.742	79.696
Fe23	Be-like	1S2 2S		4D (1D)j=2.0 - 1S2 2S	2P		(3P*)j=2.0	8.601	EDT 020	1	8.808	77.554
Fe23	Be-like	1S2 2S		4D (1D)j=2.0 - 1S2 2S	2P		(3P*)j=2.0	8.601	RAP 100	3	26.116	81.120
Fe23	Be-like	1S2 2S		4D (1D)j=2.0 - 1S2 2S	2P		(3P*)j=2.0	8.601	KAP 100	3	26.634	75.650
Fe23	Be-like	1S2 2S		4D (3D)j=3.0 - 1S2 2S	2P		(3P*)j=2.0	8.614	PET 002	1	8.742	80.183
Fe23	Be-like	1S2 2S		4D (3D)j=3.0 - 1S2 2S	2P		(3P*)j=2.0	8.614	EDT 020	1	8.808	77.952
Fe23	Be-like	1S2 2S		4D (3D)j=3.0 - 1S2 2S	2P		(3P*)j=2.0	8.614	RAP 100	3	26.116	81.693
Fe23	Be-like	1S2 2S		4D (3D)j=3.0 - 1S2 2S	2P		(3P*)j=2.0	8.614	KAP 100	3	26.634	75.992
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.630	PET 002	1	8.742	80.819
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.630	EDT 020	1	8.808	78.462
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.630	RAP 100	3	26.116	82.457
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.630	KAP 100	3	26.634	76.426
Fe23	Be-like	1S2 2P		4D (1D*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.643	PET 002	1	8.742	81.369
Fe23	Be-like	1S2 2P		4D (1D*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.643	EDT 020	1	8.808	78.892
Fe23	Be-like	1S2 2P		4D (1D*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.643	RAP 100	3	26.116	83.139
Fe23	Be-like	1S2 2P		4D (1D*)j=2.0 - 1S2		2P2	(3P)j=1.0	8.643	KAP 100	3	26.634	76.788
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=2.0	8.664	PET 002	1	8.742	82.340
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=2.0	8.664	EDT 020	1	8.808	79.625
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=2.0	8.664	RAP 100	3	26.116	84.414
Fe23	Be-like	1S2 2P		4D (3P*)j=2.0 - 1S2		2P2	(3P)j=2.0	8.664	KAP 100	3	26.634	77.394
Fe23	Be-like	1S2 2P		4D (3D*)j=3.0 - 1S2		2P2	(3P)j=2.0	8.672	PET 002	1	8.742	82.744
Fe23	Be-like	1S2 2P		4D (3D*)j=3.0 - 1S2		2P2	(3P)j=2.0	8.672	EDT 020	1	8.808	79.918
Fe23	Be-like	1S2 2P		4D (3D*)j=3.0 - 1S2		2P2	(3P)j=2.0	8.672	RAP 100	3	26.116	84.984

Fe23	Be-like	1S2 2P	4D (3D*)j=3.0 - 1S2	2P2	(3P)j=2.0	8.672	KAP 100	3	26.634	77.633
Fe23	Be-like	1S2 2P	4D (3D*)j=1.0 - 1S2	2P2	(3P)j=1.0	8.723	PET 002	1	8.742	86.222
Fe23	Be-like	1S2 2P	4D (3D*)j=1.0 - 1S2	2P2	(3P)j=1.0	8.723	EDT 020	1	8.808	82.034
Fe23	Be-like	1S2 2P	4D (3D*)j=1.0 - 1S2	2P2	(3P)j=1.0	8.723	KAP 100	3	26.634	79.278
Fe23	Be-like	1S2 2P	4D (3D*)j=2.0 - 1S2	2P2	(3P)j=1.0	8.731	PET 002	1	8.742	87.125
Fe23	Be-like	1S2 2P	4D (3D*)j=2.0 - 1S2	2P2	(3P)j=1.0	8.731	EDT 020	1	8.808	82.418
Fe23	Be-like	1S2 2P	4D (3D*)j=2.0 - 1S2	2P2	(3P)j=1.0	8.731	KAP 100	3	26.634	79.559
Fe23	Be-like	1S2 2P	4D (1F*)j=3.0 - 1S2	2P2	(1D)j=2.0	8.752	EDT 020	1	8.808	83.536
Fe23	Be-like	1S2 2P	4D (1F*)j=3.0 - 1S2	2P2	(1D)j=2.0	8.752	KAP 100	3	26.634	80.335
Fe23	Be-like	1S2 2P	4D (3F*)j=3.0 - 1S2	2P2	(3P)j=2.0	8.763	EDT 020	1	8.808	84.206
Fe23	Be-like	1S2 2P	4D (3F*)j=3.0 - 1S2	2P2	(3P)j=2.0	8.763	KAP 100	3	26.634	80.768
Fe23	Be-like	1S2 2P	4D (1D*)j=2.0 - 1S2	2P2	(1D)j=2.0	8.775	EDT 020	1	8.808	85.039
Fe23	Be-like	1S2 2P	4D (1D*)j=2.0 - 1S2	2P2	(1D)j=2.0	8.775	KAP 100	3	26.634	81.264
Fe23	Be-like	1S2 2S	4D (1D)j=2.0 - 1S2 2S	2P	(1P*)j=1.0	8.814	KAP 100	3	26.634	83.116
Fe23	Be-like	1S2 2P	4D (3D*)j=2.0 - 1S2	2P2	(1D)j=2.0	8.862	KAP 100	3	26.634	86.560
Fe23	Be-like	1S2 2P	4D (3D*)j=2.0 - 1S2	2P2	(1D)j=2.0	8.870	KAP 100	3	26.634	87.567
Fe23	Be-like	1S2 2P	3D (3D*)j=1.0 - 1S2	2P2	(1S)j= .0	12.174	TAP 100	2	25.763	70.922
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	quartz 502	1	1.624	77.913
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	LiF 422	1	1.652	73.999
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	corundum 146	1	1.660	73.063
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	quartz 110	3	4.912	75.899
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	gypsum 002	3	4.990	72.690
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	Ge 111	4	6.532	76.518
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	KBr 200	4	6.584	74.745
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	quartz 101	4	6.687	71.787
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	graphite 002	4	6.696	71.555
Fe24	Li-like	1S 2S (1S 0) 3P ((01*)j= .5 - 1S2 2S			(2S)j= .5	1.588	topaz 002	5	8.374	71.473
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	quartz 502	1	1.624	78.607
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	LiF 422	1	1.652	74.511
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	corundum 146	1	1.660	73.544
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	quartz 110	3	4.912	76.486
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	gypsum 002	3	4.990	73.159
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	Ge 111	4	6.532	77.134
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	KBr 200	4	6.584	75.283
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	quartz 101	4	6.687	72.231
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	graphite 002	4	6.696	71.992
Fe24	Li-like	1S 2S (3S 1) 3P ((12*)j=1.5 - 1S2 2S			(2S)j= .5	1.592	topaz 002	5	8.374	71.908
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	quartz 502	1	1.624	79.345
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	LiF 422	1	1.652	75.039
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	corundum 146	1	1.660	74.038
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	quartz 110	3	4.912	77.099
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	gypsum 002	3	4.990	73.642
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	Ge 111	4	6.532	77.780
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	KBr 200	4	6.584	75.842
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	quartz 101	4	6.687	72.686
Fe24	Li-like	1S 2P (3P*1) 3P ((12)j=1.5 - 1S2 2P			(2P*)j= .5	1.596	graphite 002	4	6.696	72.441

Fe24	Li-like	1S 2P (3P*1) 3P (	(12)j=1.5 - 1S2 2P	(2P*)j= .5	1.596	topaz 002	5	8.374	72.354
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	1.852	Si 220	2	3.840	74.706
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	1.852	fluorite 220	2	3.862	73.554
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	1.852	NaCl 200	3	5.641	80.041
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j= .5	1.852	InSb 111	4	7.481	81.989
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	1.856	Si 220	2	3.840	75.165
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	1.856	fluorite 220	2	3.862	73.979
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	1.856	NaCl 200	3	5.641	80.772
Fe24	Li-like	1S 2P2	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	1.856	InSb 111	4	7.481	82.923
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.856	Si 220	2	3.840	75.165
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.856	fluorite 220	2	3.862	73.979
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.856	NaCl 200	3	5.641	80.772
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.856	InSb 111	4	7.481	82.923
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j= .5	1.857	Si 220	2	3.840	75.282
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j= .5	1.857	fluorite 220	2	3.862	74.087
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j= .5	1.857	NaCl 200	3	5.641	80.964
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j= .5	1.857	InSb 111	4	7.481	83.176
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.858	Si 220	2	3.840	75.400
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.858	fluorite 220	2	3.862	74.195
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.858	NaCl 200	3	5.641	81.161
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	1.858	InSb 111	4	7.481	83.439
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.860	Si 220	2	3.840	75.638
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.860	fluorite 220	2	3.862	74.415
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.860	NaCl 200	3	5.641	81.566
Fe24	Li-like	1S (2S)(2S 2P (	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.860	InSb 111	4	7.481	83.999
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.862	Si 220	2	3.840	75.881
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.862	fluorite 220	2	3.862	74.637
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.862	NaCl 200	3	5.641	81.993
Fe24	Li-like	1S 2P2	(2P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.862	InSb 111	4	7.481	84.616
Fe24	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	1.863	Si 220	2	3.840	76.004
Fe24	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	1.863	fluorite 220	2	3.862	74.750
Fe24	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	1.863	NaCl 200	3	5.641	82.214
Fe24	Li-like	1S 2P2	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	1.863	InSb 111	4	7.481	84.953
Fe24	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	1.865	Si 220	2	3.840	76.253
Fe24	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	1.865	fluorite 220	2	3.862	74.977
Fe24	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	1.865	NaCl 200	3	5.641	82.678
Fe24	Li-like	1S 2P2	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	1.865	InSb 111	4	7.481	85.706
Fe24	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	1.872	Si 220	2	3.840	77.161
Fe24	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	1.872	fluorite 220	2	3.862	75.800
Fe24	Li-like	1S 2P2	(4P)j=2.5 - 1S2 2P	(2P*)j=1.5	1.872	NaCl 200	3	5.641	84.604
Fe24	Li-like	1S 2P2	(4P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.873	Si 220	2	3.840	77.296
Fe24	Li-like	1S 2P2	(4P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.873	fluorite 220	2	3.862	75.922
Fe24	Li-like	1S 2P2	(4P)j=1.5 - 1S2 2P	(2P*)j=1.5	1.873	NaCl 200	3	5.641	84.938
Fe24	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	6.365	Ge 111	1	6.532	77.016
Fe24	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	6.365	KBr 200	1	6.584	75.181
Fe24	Li-like	1S2 9P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	6.365	quartz 101	1	6.687	72.147

Fe24	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.365	graphite 002	1	6.696	71.910
Fe24	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.365	mica 002	3	19.942	73.241
Fe24	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.365	TAP 100	4	25.763	81.204
Fe24	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.365	RAP 100	4	26.116	77.131
Fe24	Li-like	1S2 9P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.365	KAP 100	4	26.634	72.925
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	Ge 111	1	6.532	80.968
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	KBr 200	1	6.584	78.464
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	quartz 101	1	6.687	74.733
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	graphite 002	1	6.696	74.453
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	mica 002	3	19.942	76.040
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	RAP 100	4	26.116	81.135
Fe24	Li-like	1S2 8P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.451	KAP 100	4	26.634	75.659
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	Ge 111	1	6.532	87.758
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	KBr 200	1	6.584	82.455
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	quartz 101	1	6.687	77.441
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	graphite 002	1	6.696	77.100
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	mica 002	3	19.942	79.081
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	RAP 100	4	26.116	88.582
Fe24	Li-like	1S2 9D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.527	KAP 100	4	26.634	78.594
Fe24	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.583	KBr 200	1	6.584	89.001
Fe24	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.583	quartz 101	1	6.687	79.882
Fe24	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.583	graphite 002	1	6.696	79.459
Fe24	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.583	mica 002	3	19.942	82.022
Fe24	Li-like	1S2 7P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	6.583	KAP 100	4	26.634	81.364
Fe24	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.617	quartz 101	1	6.687	81.702
Fe24	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.617	graphite 002	1	6.696	81.190
Fe24	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.617	mica 002	3	19.942	84.524
Fe24	Li-like	1S2 8D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	6.617	KAP 100	4	26.634	83.600
Fe24	Li-like	1S2 8D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	6.672	quartz 101	1	6.687	86.162
Fe24	Li-like	1S2 8D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	6.672	graphite 002	1	6.696	85.147
Fe24	Li-like	1S2 6D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.033	InSb 111	1	7.481	70.071
Fe24	Li-like	1S2 6S	(2S)j= .5 -	1S2 2P	(2P*)j=1.5	7.066	InSb 111	1	7.481	70.826
Fe24	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.169	InSb 111	1	7.481	73.394
Fe24	Li-like	1S2 5P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.169	gypsum 020	2	15.185	70.773
Fe24	Li-like	1S2 5D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	7.370	InSb 111	1	7.481	80.118
Fe24	Li-like	1S2 5D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	7.370	gypsum 020	2	15.185	76.095
Fe24	Li-like	1S2 5S	(2S)j= .5 -	1S2 2P	(2P*)j= .5	7.391	InSb 111	1	7.481	81.104
Fe24	Li-like	1S2 5S	(2S)j= .5 -	1S2 2P	(2P*)j= .5	7.391	gypsum 020	2	15.185	76.770
Fe24	Li-like	1S2 5D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.438	InSb 111	1	7.481	83.854
Fe24	Li-like	1S2 5D	(2D)j=2.5 -	1S2 2P	(2P*)j=1.5	7.438	gypsum 020	2	15.185	78.422
Fe24	Li-like	1S2 5S	(2S)j= .5 -	1S2 2P	(2P*)j=1.5	7.462	InSb 111	1	7.481	85.916
Fe24	Li-like	1S2 5S	(2S)j= .5 -	1S2 2P	(2P*)j=1.5	7.462	gypsum 020	2	15.185	79.362
Fe24	Li-like	1S2 4P	(2P*)j=1.5 -	1S2 2S	(2S)j= .5	7.983	topaz 002	1	8.374	72.422
Fe24	Li-like	1S2 4P	(2P*)j= .5 -	1S2 2S	(2S)j= .5	7.993	topaz 002	1	8.374	72.650
Fe24	Li-like	1S2 4D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.231	topaz 002	1	8.374	79.396
Fe24	Li-like	1S2 4D	(2D)j=1.5 -	1S2 2P	(2P*)j= .5	8.231	quartz 100	1	8.512	75.237

Fe24	Li-like	1S2 4D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.231	PET 002	1	8.742	70.313
Fe24	Li-like	1S2 4D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.231	TAP 100	3	25.763	73.429
Fe24	Li-like	1S2 4D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	8.231	RAP 100	3	26.116	70.999
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	topaz 002	1	8.374	81.639
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	quartz 100	1	8.512	76.738
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	PET 002	1	8.742	71.392
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	EDT 020	1	8.808	70.156
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	TAP 100	3	25.763	74.743
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	8.285	RAP 100	3	26.116	72.123
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	topaz 002	1	8.374	83.195
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	quartz 100	1	8.512	77.649
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	PET 002	1	8.742	72.018
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	EDT 020	1	8.808	70.739
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	TAP 100	3	25.763	75.523
Fe24	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	8.315	RAP 100	3	26.116	72.777
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	topaz 002	1	8.374	88.466
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	quartz 100	1	8.512	79.557
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	PET 002	1	8.742	73.248
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	EDT 020	1	8.808	71.876
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	TAP 100	3	25.763	77.102
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	RAP 100	3	26.116	74.069
Fe24	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	8.371	KAP 100	3	26.634	70.543
Fe24	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	10.619	ADP 101	1	10.640	86.400
Fe25	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.443	calcite 422	2	3.034	72.030
Fe25	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.443	tungsten 110	3	4.476	75.275
Fe25	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.443	quartz 112	3	4.564	71.534
Fe25	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.443	calcite 200	4	6.071	71.943
Fe25	He-like	1S 6P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.443	InSb 111	5	7.481	74.675
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	calcite 422	2	3.034	74.383
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	quartz 211	2	3.082	71.457
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	tungsten 110	3	4.476	78.300
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	quartz 112	3	4.564	73.810
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	topaz 200	3	4.638	70.912
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	calcite 200	4	6.071	74.283
Fe25	He-like	1S 5P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.461	InSb 111	5	7.481	77.547
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	calcite 422	2	3.034	80.230
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	quartz 211	2	3.082	75.965
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	quartz 112	3	4.564	79.324
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	topaz 200	3	4.638	75.242
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	Al 111	3	4.676	73.567
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	calcite 200	4	6.071	80.067
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	Si 111	4	6.271	72.477
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	sylvite 200	4	6.292	71.881
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	fluorite 111	4	6.308	71.442
Fe25	He-like	1S 4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.495	InSb 111	5	7.481	87.705
Fe25	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.573	quartz 502	1	1.624	75.603

Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	LiF 422	1	1.652	72.209
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	corundum 146	1	1.660	71.368
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	quartz 110	3	4.912	73.885
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	gypsum 002	3	4.990	71.030
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	fluorite 111	4	6.308	85.918
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	Ge 111	4	6.532	74.420
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	KBr 200	4	6.584	72.872
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S2		(1S)j= .0	1.573	quartz 101	4	6.687	70.208
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	quartz 502	1	1.624	75.890
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	LiF 422	1	1.652	72.438
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	corundum 146	1	1.660	71.585
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	quartz 110	3	4.912	74.140
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	gypsum 002	3	4.990	71.244
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	fluorite 111	4	6.308	87.114
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	Ge 111	4	6.532	74.684
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	KBr 200	4	6.584	73.110
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	quartz 101	4	6.687	70.412
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	graphite 002	4	6.696	70.197
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.575	topaz 002	5	8.374	70.121
Fe25	He-like	2P2		(1S)j= .0 - 1S 2P		(1P*)j=1.0	1.782	LiF 420	1	1.801	81.670
Fe25	He-like	2P2		(1S)j= .0 - 1S 2P		(1P*)j=1.0	1.782	quartz 112	2	3.636	78.579
Fe25	He-like	2P2		(1S)j= .0 - 1S 2P		(1P*)j=1.0	1.782	NaCl 200	3	5.641	71.388
Fe25	He-like	2P2		(1S)j= .0 - 1S 2P		(1P*)j=1.0	1.782	InSb 111	4	7.481	72.329
Fe25	He-like	2S	2P	(1P*)j=1.0 - 1S 2S		(1S)j= .0	1.786	LiF 420	1	1.801	82.600
Fe25	He-like	2S	2P	(1P*)j=1.0 - 1S 2S		(1S)j= .0	1.786	quartz 112	2	3.636	79.234
Fe25	He-like	2S	2P	(1P*)j=1.0 - 1S 2S		(1S)j= .0	1.786	NaCl 200	3	5.641	71.774
Fe25	He-like	2S	2P	(1P*)j=1.0 - 1S 2S		(1S)j= .0	1.786	InSb 111	4	7.481	72.737
Fe25	He-like	2S	2P	(3P*)j=2.0 - 1S 2S		(3S)j=1.0	1.787	LiF 420	1	1.801	82.851
Fe25	He-like	2S	2P	(3P*)j=2.0 - 1S 2S		(3S)j=1.0	1.787	quartz 112	2	3.636	79.404
Fe25	He-like	2S	2P	(3P*)j=2.0 - 1S 2S		(3S)j=1.0	1.787	NaCl 200	3	5.641	71.872
Fe25	He-like	2S	2P	(3P*)j=2.0 - 1S 2S		(3S)j=1.0	1.787	InSb 111	4	7.481	72.841
Fe25	He-like	2P2		(1D)j=2.0 - 1S 2P		(1P*)j=1.0	1.791	LiF 420	1	1.801	83.959
Fe25	He-like	2P2		(1D)j=2.0 - 1S 2P		(1P*)j=1.0	1.791	quartz 112	2	3.636	80.113
Fe25	He-like	2P2		(1D)j=2.0 - 1S 2P		(1P*)j=1.0	1.791	NaCl 200	3	5.641	72.268
Fe25	He-like	2P2		(1D)j=2.0 - 1S 2P		(1P*)j=1.0	1.791	InSb 111	4	7.481	73.261
Fe25	He-like	2P2		(3P)j=2.0 - 1S 2P		(3P*)j=2.0	1.791	LiF 420	1	1.801	83.959
Fe25	He-like	2P2		(3P)j=2.0 - 1S 2P		(3P*)j=2.0	1.791	quartz 112	2	3.636	80.113
Fe25	He-like	2P2		(3P)j=2.0 - 1S 2P		(3P*)j=2.0	1.791	NaCl 200	3	5.641	72.268
Fe25	He-like	2P2		(3P)j=2.0 - 1S 2P		(3P*)j=2.0	1.791	InSb 111	4	7.481	73.261
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	Si 220	2	3.840	74.481
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	fluorite 220	2	3.862	73.346
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	NaCl 200	3	5.641	79.695
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	InSb 111	4	7.481	81.561
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	Si 220	2	3.840	74.481
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	fluorite 220	2	3.862	73.346
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2		(1S)j= .0	1.850	NaCl 200	3	5.641	79.695

Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.850	InSb 111	4	7.481	81.561
Fe25	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	1.855	Si 220	2	3.840	75.049
Fe25	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	1.855	fluorite 220	2	3.862	73.872
Fe25	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	1.855	NaCl 200	3	5.641	80.584
Fe25	He-like	1S	2P	(3P*)j=2.0 - 1S2	(1S)j= .0	1.855	InSb 111	4	7.481	82.678
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.859	Si 220	2	3.840	75.519
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.859	fluorite 220	2	3.862	74.305
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.859	NaCl 200	3	5.641	81.361
Fe25	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.859	InSb 111	4	7.481	83.712
Fe25	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.868	Si 220	2	3.840	76.635
Fe25	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.868	fluorite 220	2	3.862	75.324
Fe25	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.868	NaCl 200	3	5.641	83.434
Fe25	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.868	InSb 111	4	7.481	87.189
Fe25	He-like	1S	4S	(1S)j= .0 - 1S 2P	(1P*)j=1.0	7.795	beryl 100	2	15.954	77.737
Fe25	He-like	1S	3P	(3P*)j=2.0 - 1S 2S	(3S)j=1.0	10.003	ADP 101	1	10.640	70.074
Fe25	He-like	1S	3P	(3P*)j=1.0 - 1S 2S	(3S)j=1.0	10.038	ADP 101	1	10.640	70.634
Fe25	He-like	1S	3P	(1P*)j=1.0 - 1S 2S	(1S)j= .0	10.221	ADP 101	1	10.640	73.867
Fe26	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.392	topaz 006	2	2.795	84.915
Fe26	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.392	LiF 220	2	2.848	77.830
Fe26	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.392	quartz 200	3	4.246	79.582
Fe26	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.392	NaCl 200	4	5.641	80.772
Fe26	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.425	tungsten 110	3	4.476	72.764
Fe26	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.425	InSb 111	5	7.481	72.253
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	calcite 422	2	3.034	81.936
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	quartz 211	2	3.082	77.082
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	quartz 112	3	4.564	80.856
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	topaz 200	3	4.638	76.298
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	Al 111	3	4.676	74.503
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	calcite 200	4	6.071	81.739
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	Si 111	4	6.271	73.348
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	sylvite 200	4	6.292	72.720
Fe26	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.502	fluorite 111	4	6.308	72.259
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	calcite 422	2	3.034	82.494
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	quartz 211	2	3.082	77.419
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	quartz 112	3	4.564	81.343
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	topaz 200	3	4.638	76.614
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	Al 111	3	4.676	74.781
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	calcite 200	4	6.071	82.282
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	Si 111	4	6.271	73.605
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	sylvite 200	4	6.292	72.967
Fe26	H -like	3P		(2P*)j= .5 - 1S	(2S)j= .5	1.504	fluorite 111	4	6.308	72.499
Fe26	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.778	LiF 420	1	1.801	80.833
Fe26	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.778	quartz 112	2	3.636	77.959
Fe26	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.778	NaCl 200	3	5.641	71.010
Fe26	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.778	InSb 111	4	7.481	71.929
Fe26	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.784	LiF 420	1	1.801	82.121

Fe26	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.784	quartz 112	2	3.636	78.902
Fe26	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.784	NaCl 200	3	5.641	71.580
Fe26	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.784	InSb 111	4	7.481	72.532
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	Ge 111	1	6.532	76.001
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	KBr 200	1	6.584	74.288
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	quartz 101	1	6.687	71.407
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	graphite 002	1	6.696	71.180
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	mica 002	3	19.942	72.452
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	TAP 100	4	25.763	79.752
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	RAP 100	4	26.116	76.107
Fe26	H -like	5P		(2P*)j=1.5 - 2S	(2S)j= .5	6.338	KAP 100	4	26.634	72.151
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	Ge 111	1	6.532	78.639
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	KBr 200	1	6.584	76.572
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	quartz 101	1	6.687	73.271
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	graphite 002	1	6.696	73.017
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	mica 002	3	19.942	74.449
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	TAP 100	4	25.763	83.876
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	RAP 100	4	26.116	78.770
Fe26	H -like	5D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.404	KAP 100	4	26.634	74.108
Fe26	H -like	4P		(2P*)j=1.5 - 2S	(2S)j= .5	7.090	InSb 111	1	7.481	71.394
Fe26	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	7.171	InSb 111	1	7.481	73.448
Fe26	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	7.171	gypsum 020	2	15.185	70.819
Fe26	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	9.536	mica 002	2	19.942	73.013
Fe26	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	9.674	mica 002	2	19.942	75.981
Co		K-alpha(1)				1.789	LiF 420	1	1.801	83.382
Co		K-alpha(1)				1.789	quartz 112	2	3.636	79.753
Co		K-alpha(1)				1.789	NaCl 200	3	5.641	72.069
Co		K-alpha(1)				1.789	InSb 111	4	7.481	73.049
Co17	Na-like	2P5 3S2		(2P*)j= .5 - 2P6 3S	(2S)j= .5	15.551	beryl 100	1	15.954	77.095
Co17	Na-like	2P5 3S2		(2P*)j=1.5 - 2P6 3S	(2S)j= .5	15.828	beryl 100	1	15.954	82.794
Co18	Ne-like	2S2 2P5	(2P*1)(7D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	9.371	mica 002	2	19.942	70.022
Co18	Ne-like	2S2 2P5	(2P*2)(7D	(23*)j=1.0 - 2S2 2P6	(1S)j= .0	9.501	mica 002	2	19.942	72.338
Co18	Ne-like	2S2 2P5	(2P*1)(6D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	9.609	mica 002	2	19.942	74.514
Co18	Ne-like	2S2 2P5	(2P*2)(6D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	9.633	mica 002	2	19.942	75.039
Co18	Ne-like	2S2 2P5	(2P*2)(6D	(23*)j=1.0 - 2S2 2P6	(1S)j= .0	9.736	mica 002	2	19.942	77.536
Co18	Ne-like	2S 2P6	(2S 1)(4P	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	10.030	ADP 101	1	10.640	70.505
Co18	Ne-like	2S2 2P5	(2P*1)(5D	(12*)j=1.0 - 2S2 2P6	(1S)j= .0	10.053	ADP 101	1	10.640	70.879
Co18	Ne-like	2S2 2P5	(2P*2)(5D	(22*)j=1.0 - 2S2 2P6	(1S)j= .0	10.066	ADP 101	1	10.640	71.094
Co18	Ne-like	2S2 2P5	(2P*2)(5D	(23*)j=1.0 - 2S2 2P6	(1S)j= .0	10.182	ADP 101	1	10.640	73.128
Co18	Ne-like	2S2 2P5	5D	(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	10.234	ADP 101	1	10.640	74.121
Co18	Ne-like	2S 2P6	3P	(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.596	TAP 100	2	25.763	77.915
Co18	Ne-like	2S 2P6	3P	(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.596	RAP 100	2	26.116	74.713
Co18	Ne-like	2S 2P6	3P	(1P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.596	KAP 100	2	26.634	71.060
Co18	Ne-like	2S 2P6	3P	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.654	TAP 100	2	25.763	79.216
Co18	Ne-like	2S 2P6	3P	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.654	RAP 100	2	26.116	75.711
Co18	Ne-like	2S 2P6	3P	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	12.654	KAP 100	2	26.634	71.844

Co18	Ne-like	2S2	2P5	(| 2P*1)	3S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	15.170	gypsum 020	1	15.185	87.453
Co18	Ne-like	2S2	2P5	(| 2P*1)	3S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	15.170	beryl 100	1	15.954	71.963
Co18	Ne-like	2S2	2P5	(| 2P*2)	3S	(21*)j=1.0	-	2S2	2P6	(1S)j= .0	15.439	beryl 100	1	15.954	75.402
Co19	F -like	2S2	2P4	(| 1S |)	4D (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	10.206	ADP 101	1	10.640	73.579
Co19	F -like	2S2	2P4	(| 1D |)	4D (2D)j=1.5	-	2S2	2P5	(2P*)j=1.5	10.275	ADP 101	1	10.640	74.949
Co19	F -like	2S2	2P4	(| 1D |)	4D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.290	ADP 101	1	10.640	75.263
Co19	F -like	2S2	2P4	(| 3P |)	4D (4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.373	ADP 101	1	10.640	77.137
Co19	F -like	2S2	2P4	(| 3P |)	4D (4F)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.406	ADP 101	1	10.640	77.961
Co19	F -like	2S2	2P4	(| 1D |)	4D (2S)j= .5	-	2S2	2P5	(2P*)j= .5	10.428	ADP 101	1	10.640	78.543
Co19	F -like	2S2	2P4	(| 3P |)	4D (2F)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.477	ADP 101	1	10.640	79.958
Co19	F -like	2S2	2P4	(| 1D |)	4S (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	10.568	ADP 101	1	10.640	83.331
Co19	F -like	2S2	2P4	(| 3P |)	4S (4P)j= .5	-	2S2	2P5	(2P*)j=1.5	10.583	ADP 101	1	10.640	84.067
Co19	F -like	2S	2P5	(| 3P* |)	3P (4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.155	TAP 100	2	25.763	70.665
Co19	F -like	2S	2P5	(| 3P* |)	3P (2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	12.168	TAP 100	2	25.763	70.841
Co19	F -like	2S	2P5	(| 3P* |)	3P (2S)j= .5	-	2S2	2P5	(2P*)j= .5	12.193	TAP 100	2	25.763	71.183
Co19	F -like	2S	2P5	(| 3P* |)	3P (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.212	TAP 100	2	25.763	71.446
Co19	F -like	2S	2P5	(| 3P* |)	3P (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	12.224	TAP 100	2	25.763	71.615
Co19	F -like	2S	2P5	(| 3P* |)	3P (4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	12.238	TAP 100	2	25.763	71.813
Co19	F -like	2S	2P5	(| 3P* |)	3P (4D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.281	TAP 100	2	25.763	72.436
Co19	F -like	2S	2P5	(| 3P* |)	3P (4D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.281	RAP 100	2	26.116	70.135
Co19	F -like	2S	2P5	(| 3P* |)	3P (4P)j=1.5	-	2S2	2P5	(2P*)j= .5	12.300	TAP 100	2	25.763	72.719
Co19	F -like	2S	2P5	(| 3P* |)	3P (4P)j=1.5	-	2S2	2P5	(2P*)j= .5	12.300	RAP 100	2	26.116	70.382
Co19	F -like	2S	2P5	(| 3P* |)	3P (2P)j= .5	-	2S2	2P5	(2P*)j= .5	12.338	TAP 100	2	25.763	73.297
Co19	F -like	2S	2P5	(| 3P* |)	3P (2P)j= .5	-	2S2	2P5	(2P*)j= .5	12.338	RAP 100	2	26.116	70.885
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.700	TAP 100	2	25.763	80.370
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.700	RAP 100	2	26.116	76.553
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.700	KAP 100	2	26.634	72.491
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	12.828	TAP 100	2	25.763	84.776
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	12.828	RAP 100	2	26.116	79.230
Co19	F -like	2S2	2P4	(| 1S |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	12.828	KAP 100	2	26.634	74.425
Co19	F -like	2S2	2P4	(| 1D |)	3D (2P)j= .5	-	2S2	2P5	(2P*)j=1.5	12.876	TAP 100	2	25.763	88.326
Co19	F -like	2S2	2P4	(| 1D |)	3D (2P)j= .5	-	2S2	2P5	(2P*)j=1.5	12.876	RAP 100	2	26.116	80.423
Co19	F -like	2S2	2P4	(| 1D |)	3D (2P)j= .5	-	2S2	2P5	(2P*)j=1.5	12.876	KAP 100	2	26.634	75.214
Co19	F -like	2S2	2P4	(| 1D |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j=1.5	12.890	RAP 100	2	26.116	80.799
Co19	F -like	2S2	2P4	(| 1D |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j=1.5	12.890	KAP 100	2	26.634	75.452
Co19	F -like	2S2	2P4	(| 1D |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.942	RAP 100	2	26.116	82.357
Co19	F -like	2S2	2P4	(| 1D |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	12.942	KAP 100	2	26.634	76.371
Co19	F -like	2S2	2P4	(| 1D |)	3D (2S)j= .5	-	2S2	2P5	(2P*)j=1.5	12.985	RAP 100	2	26.116	83.939
Co19	F -like	2S2	2P4	(| 1D |)	3D (2S)j= .5	-	2S2	2P5	(2P*)j=1.5	12.985	KAP 100	2	26.634	77.179
Co19	F -like	2S2	2P4	(| 3P |)	3D (2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	13.084	KAP 100	2	26.634	79.266
Co19	F -like	2S2	2P4	(| 1D |)	3D (2D)j=1.5	-	2S2	2P5	(2P*)j= .5	13.097	KAP 100	2	26.634	79.571
Co19	F -like	2S2	2P4	(| 3P |)	3D (4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	13.123	KAP 100	2	26.634	80.208
Co19	F -like	2S2	2P4	(| 1D |)	3D (2P)j=1.5	-	2S2	2P5	(2P*)j= .5	13.151	KAP 100	2	26.634	80.944
Co19	F -like	2S2	2P4	(| 3P |)	3D (4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	13.183	KAP 100	2	26.634	81.865
Co19	F -like	2S2	2P4	(| 1D |)	3D (2S)j= .5	-	2S2	2P5	(2P*)j= .5	13.192	KAP 100	2	26.634	82.143
Co19	F -like	2S2	2P4	(| 3P |)	3D (2F)j=2.5	-	2S2	2P5	(2P*)j=1.5	13.240	KAP 100	2	26.634	83.836

Co19	F -like	2S2 2P4	(3P)	3D (4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	13.258	KAP 100	2	26.634	84.605
Co19	F -like	2S2 2P4	(3P)	3D (4P)j= .5	-	2S2 2P5	(2P*)j=1.5	13.289	KAP 100	2	26.634	86.284
Co19	F -like	2S2 2P4	(3P)	3D (2P)j=1.5	-	2S2 2P5	(2P*)j= .5	13.314	KAP 100	2	26.634	88.784
Co19	F -like	2S2 2P4	(3P)	3S (2P)j= .5	-	2S2 2P5	(2P*)j=1.5	14.303	gypsum 020	1	15.185	70.376
Co19	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	14.355	gypsum 020	1	15.185	70.969
Co19	F -like	2S2 2P4	(1D)	3S (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	14.423	gypsum 020	1	15.185	71.772
Co19	F -like	2S2 2P4	(3P)	3S (2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	14.534	gypsum 020	1	15.185	73.162
Co19	F -like	2S2 2P4	(3P)	3S (2P)j= .5	-	2S2 2P5	(2P*)j= .5	14.557	gypsum 020	1	15.185	73.464
Co19	F -like	2S2 2P4	(3P)	3S (4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	14.594	gypsum 020	1	15.185	73.962
Co19	F -like	2S2 2P4	(3P)	3S (2P)j=1.5	-	2S2 2P5	(2P*)j= .5	14.794	gypsum 020	1	15.185	76.970
Co20	O -like	2S2 2P3	(2P*)	4D (3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	9.633	mica 002	2	19.942	75.039
Co20	O -like	2S2 2P3	(2D*)	4D (3S*)j=1.0	-	2S2 2P4	(3P)j=2.0	9.681	mica 002	2	19.942	76.148
Co20	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	9.694	mica 002	2	19.942	76.463
Co20	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	9.694	mica 002	2	19.942	76.463
Co20	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	9.742	mica 002	2	19.942	77.697
Co20	O -like	2S2 2P3	(2D*)	4D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	9.828	mica 002	2	19.942	80.285
Co20	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	9.856	mica 002	2	19.942	81.290
Co20	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	9.856	mica 002	2	19.942	81.290
Co20	O -like	2S2 2P3	(2D*)	4D (3D*)j=2.0	-	2S2 2P4	(1D)j=2.0	9.900	mica 002	2	19.942	83.158
Co20	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	9.924	mica 002	2	19.942	84.435
Co20	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(1D)j=2.0	10.020	ADP 101	1	10.640	70.344
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=1.0	-	2S2 2P4	(3P)j=2.0	12.144	TAP 100	2	25.763	70.518
Co20	O -like	2S2 2P3	(2P*)	3D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	12.238	TAP 100	2	25.763	71.813
Co20	O -like	2S2 2P3	(2D*)	3D (1F*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.258	TAP 100	2	25.763	72.101
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j= .0	-	2S2 2P4	(3P)j=1.0	12.281	TAP 100	2	25.763	72.436
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j= .0	-	2S2 2P4	(3P)j=1.0	12.281	RAP 100	2	26.116	70.135
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	12.300	TAP 100	2	25.763	72.719
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	12.300	RAP 100	2	26.116	70.382
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	12.331	TAP 100	2	25.763	73.189
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	12.331	RAP 100	2	26.116	70.791
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.348	TAP 100	2	25.763	73.453
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.348	RAP 100	2	26.116	71.019
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.348	TAP 100	2	25.763	73.453
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.348	RAP 100	2	26.116	71.019
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	-	2S2 2P4	(3P)j=1.0	12.382	TAP 100	2	25.763	73.992
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	-	2S2 2P4	(3P)j=1.0	12.382	RAP 100	2	26.116	71.483
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=1.0	-	2S2 2P4	(1D)j=2.0	12.420	TAP 100	2	25.763	74.617
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=1.0	-	2S2 2P4	(1D)j=2.0	12.420	RAP 100	2	26.116	72.016
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	12.493	TAP 100	2	25.763	75.893
Co20	O -like	2S2 2P3	(2D*)	3D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	12.493	RAP 100	2	26.116	73.084
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	12.513	TAP 100	2	25.763	76.262
Co20	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	12.513	RAP 100	2	26.116	73.388
Co20	O -like	2S2 2P3	(2P*)	3D (1P*)j=1.0	-	2S2 2P4	(1S)j= .0	12.551	TAP 100	2	25.763	76.993
Co20	O -like	2S2 2P3	(2P*)	3D (1P*)j=1.0	-	2S2 2P4	(1S)j= .0	12.551	RAP 100	2	26.116	73.982
Co20	O -like	2S2 2P3	(2P*)	3D (1P*)j=1.0	-	2S2 2P4	(1S)j= .0	12.551	KAP 100	2	26.634	70.472
Co20	O -like	2S2 2P3	(4S*)	3D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.606	TAP 100	2	25.763	78.129

Co20	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0 - 2S2 2P4		(3P)j=2.0	12.606	RAP 100	2	26.116	74.881
Co20	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0 - 2S2 2P4		(3P)j=2.0	12.606	KAP 100	2	26.634	71.193
Co20	O -like	2S2 2P3	(4S*)	3D	(3D*)j=2.0 - 2S2 2P4		(3P)j=2.0	12.628	TAP 100	2	25.763	78.614
Co20	O -like	2S2 2P3	(4S*)	3D	(3D*)j=2.0 - 2S2 2P4		(3P)j=2.0	12.628	RAP 100	2	26.116	75.255
Co20	O -like	2S2 2P3	(4S*)	3D	(3D*)j=2.0 - 2S2 2P4		(3P)j=2.0	12.628	KAP 100	2	26.634	71.489
Co20	O -like	2S2 2P3	(2P*)	3S	(3P*)j=1.0 - 2S2 2P4		(3P)j=2.0	13.157	KAP 100	2	26.634	81.109
Co20	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0 - 2S2 2P4		(3P)j=1.0	13.240	KAP 100	2	26.634	83.836
Co20	O -like	2S2 2P3	(2D*)	3S	(1D*)j=2.0 - 2S2 2P4		(3P)j=2.0	13.314	KAP 100	2	26.634	88.784
Co24	Be-like	1S2 2P		3P	(3S)j=1.0 - 1S2 2S	2P	(3P*)j=2.0	10.053	ADP 101	1	10.640	70.879
Co24	Be-like	1S2 2P		3S	(3D)j=3.0 - 1S2 2S	2P	(3P*)j=2.0	10.066	ADP 101	1	10.640	71.094
Co24	Be-like	1S2 2P		3P	(1P)j=1.0 - 1S2 2S	2P	(3P*)j=1.0	10.080	ADP 101	1	10.640	71.328
Co24	Be-like	1S2 2S	3P		(3P*)j=1.0 - 1S2 2S2		(1S)j= .0	10.115	ADP 101	1	10.640	71.926
Co24	Be-like	1S2 2P		3S	(3D)j=1.0 - 1S2 2S	2P	(3P*)j=1.0	10.156	ADP 101	1	10.640	72.652
Co24	Be-like	1S2 2S		3S	(1S)j= .0 - 1S2 2S	2P	(1P*)j=1.0	10.182	ADP 101	1	10.640	73.128
Co24	Be-like	1S2 2P		3P	(1D)j=2.0 - 1S2 2S	2P	(1P*)j=1.0	10.265	ADP 101	1	10.640	74.743
Co24	Be-like	1S2 2S	3D		(3D)j=2.0 - 1S2 2S	2P	(3P*)j=1.0	10.445	ADP 101	1	10.640	79.014
Co24	Be-like	1S2 2P		3P	(1P)j=1.0 - 1S2 2S	2P	(1P*)j=1.0	10.503	ADP 101	1	10.640	80.796
Co24	Be-like	1S2 2P		3D	(3P*)j= .0 - 1S2	2P2	(3P)j=1.0	10.543	ADP 101	1	10.640	82.257
Co24	Be-like	1S2 2S	3D		(3D)j=3.0 - 1S2 2S	2P	(3P*)j=2.0	10.552	ADP 101	1	10.640	82.626
Co24	Be-like	1S2 2S	3D		(3D)j=2.0 - 1S2 2S	2P	(3P*)j=2.0	10.571	ADP 101	1	10.640	83.471
Co24	Be-like	1S2 2P		3D	(1D*)j=2.0 - 1S2	2P2	(3P)j=1.0	10.582	ADP 101	1	10.640	84.015
Co24	Be-like	1S2 2P		3D	(3P*)j=2.0 - 1S2	2P2	(3P)j=2.0	10.593	ADP 101	1	10.640	84.613
Co25	Li-like	1S2 4P			(2P*)j=1.5 - 1S2 2S		(2S)j= .5	7.364	InSb 111	1	7.481	79.853
Co25	Li-like	1S2 4P			(2P*)j=1.5 - 1S2 2S		(2S)j= .5	7.364	gypsum 020	2	15.185	75.908
Co25	Li-like	1S2 4P			(2P*)j= .5 - 1S2 2S		(2S)j= .5	7.374	InSb 111	1	7.481	80.298
Co25	Li-like	1S2 4P			(2P*)j= .5 - 1S2 2S		(2S)j= .5	7.374	gypsum 020	2	15.185	76.221
Co25	Li-like	1S2 4D			(2D)j=1.5 - 1S2 2P		(2P*)j= .5	7.583	gypsum 020	2	15.185	87.133
Co25	Li-like	1S2 4D			(2D)j=1.5 - 1S2 2P		(2P*)j= .5	7.583	beryl 100	2	15.954	71.917
Co25	Li-like	1S2 4S			(2S)j= .5 - 1S2 2P		(2P*)j= .5	7.629	beryl 100	2	15.954	73.014
Co25	Li-like	1S2 4D			(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	7.667	beryl 100	2	15.954	73.974
Co25	Li-like	1S2 4S			(2S)j= .5 - 1S2 2P		(2P*)j=1.5	7.718	beryl 100	2	15.954	75.360
Co25	Li-like	1S2 3P			(2P*)j=1.5 - 1S2 2S		(2S)j= .5	9.795	mica 002	2	19.942	79.219
Co25	Li-like	1S2 3P			(2P*)j= .5 - 1S2 2S		(2S)j= .5	9.838	mica 002	2	19.942	80.631
Co25	Li-like	1S2 3D			(2D)j=1.5 - 1S2 2P		(2P*)j= .5	10.159	ADP 101	1	10.640	72.706
Co25	Li-like	1S2 3D			(2D)j=2.5 - 1S2 2P		(2P*)j=1.5	10.303	ADP 101	1	10.640	75.541
Co25	Li-like	1S2 3S			(2S)j= .5 - 1S2 2P		(2P*)j= .5	10.367	ADP 101	1	10.640	76.993
Co25	Li-like	1S2 3S			(2S)j= .5 - 1S2 2P		(2P*)j=1.5	10.533	ADP 101	1	10.640	81.868
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	topaz 303	2	2.712	85.078
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	corundum 030	2	2.748	79.502
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	quartz 203	2	2.749	79.390
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	topaz 006	2	2.795	75.178
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	LiF 220	2	2.848	71.575
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	quartz 200	3	4.246	72.659
Co26	He-like	1S 5P			(1P*)j=1.0 - 1S2		(1S)j= .0	1.351	NaCl 200	4	5.641	73.333
Co26	He-like	1S 5P			(3P*)j=1.0 - 1S2		(1S)j= .0	1.352	topaz 303	2	2.712	85.598
Co26	He-like	1S 5P			(3P*)j=1.0 - 1S2		(1S)j= .0	1.352	corundum 030	2	2.748	79.733

Co26	He-like	1S	5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	quartz 203	2	2.749	79.619
Co26	He-like	1S	5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	topaz 006	2	2.795	75.339
Co26	He-like	1S	5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	LiF 220	2	2.848	71.702
Co26	He-like	1S	5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	quartz 200	3	4.246	72.795
Co26	He-like	1S	5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	NaCl 200	4	5.641	73.475
Co26	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.382	topaz 006	2	2.795	81.459
Co26	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.382	LiF 220	2	2.848	76.050
Co26	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.382	quartz 200	3	4.246	77.540
Co26	He-like	1S	4P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.382	NaCl 200	4	5.641	78.512
Co26	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.383	topaz 006	2	2.795	81.739
Co26	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.383	LiF 220	2	2.848	76.218
Co26	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.383	quartz 200	3	4.246	77.729
Co26	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.383	NaCl 200	4	5.641	78.718
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	calcite 422	2	3.034	73.563
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	quartz 211	2	3.082	70.768
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	tungsten 110	3	4.476	77.213
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	quartz 112	3	4.564	73.018
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	topaz 200	3	4.638	70.244
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	calcite 200	4	6.071	73.467
Co26	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.455	InSb 111	5	7.481	76.523
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	calcite 422	2	3.034	73.832
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	quartz 211	2	3.082	70.995
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	tungsten 110	3	4.476	77.565
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	quartz 112	3	4.564	73.278
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	topaz 200	3	4.638	70.464
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	calcite 200	4	6.071	73.734
Co26	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.457	InSb 111	5	7.481	76.856
Co26	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.712	LiF 420	1	1.801	71.912
Co26	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.712	quartz 112	2	3.636	70.338
Co26	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.712	PET 002	5	8.742	78.288
Co26	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.712	EDT 020	5	8.808	76.371
Co26	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.720	LiF 420	1	1.801	72.751
Co26	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.720	quartz 112	2	3.636	71.102
Co26	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.720	PET 002	5	8.742	79.659
Co26	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.720	EDT 020	5	8.808	77.524
Co26	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.728	LiF 420	1	1.801	73.631
Co26	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.728	quartz 112	2	3.636	71.896
Co26	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.728	PET 002	5	8.742	81.239
Co26	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.728	EDT 020	5	8.808	78.792
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	topaz 303	2	2.712	72.050
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	Ge 220	3	4.000	75.353
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	LiF 200	3	4.027	73.948
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	Al 200	3	4.048	72.946
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	Ge 111	5	6.532	80.912
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	KBr 200	5	6.584	78.421
Co27	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.290	quartz 101	5	6.687	74.700

Co27	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	1.290	graphite 002	5	6.696	74.421
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	topaz 303	2	2.712	76.768
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	corundum 030	2	2.748	73.883
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	quartz 203	2	2.749	73.811
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	topaz 006	2	2.795	70.829
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	Ge 220	3	4.000	81.890
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	LiF 200	3	4.027	79.534
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	Al 200	3	4.048	78.031
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	quartz 101	5	6.687	80.748
Co27	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.320	graphite 002	5	6.696	80.286
Co27	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.392	topaz 006	2	2.795	84.915
Co27	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.392	LiF 220	2	2.848	77.830
Co27	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.392	quartz 200	3	4.246	79.582
Co27	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.392	NaCl 200	4	5.641	80.772
Co27	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.393	topaz 006	2	2.795	85.401
Co27	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.393	LiF 220	2	2.848	78.023
Co27	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.393	quartz 200	3	4.246	79.808
Co27	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.393	NaCl 200	4	5.641	81.029
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	LiF 422	1	1.652	85.541
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	corundum 146	1	1.660	82.825
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	gypsum 002	3	4.990	81.964
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	quartz 101	4	6.687	80.129
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	graphite 002	4	6.696	79.695
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	topaz 002	5	8.374	79.546
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	quartz 100	5	8.512	75.343
Co27	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.647	PET 002	5	8.742	70.391
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	corundum 146	1	1.660	84.736
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	gypsum 002	3	4.990	83.610
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	quartz 101	4	6.687	81.411
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	graphite 002	4	6.696	80.915
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	topaz 002	5	8.374	80.745
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	quartz 100	5	8.512	76.164
Co27	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.653	PET 002	5	8.742	70.985
Co27	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	5.871	calcite 200	1	6.071	75.252
Co27	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	5.937	calcite 200	1	6.071	77.940
Co27	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	5.937	Si 111	1	6.271	71.216
Co27	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	5.937	sylvite 200	1	6.292	70.662
Co27	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	5.937	fluorite 111	1	6.308	70.252
Co27	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.567	KBr 200	1	6.584	85.882
Co27	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.567	quartz 101	1	6.687	79.129
Co27	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.567	graphite 002	1	6.696	78.735
Co27	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.567	mica 002	3	19.942	81.083
Co27	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.567	KAP 100	4	26.634	80.490
Co27	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	6.649	quartz 101	1	6.687	83.889
Co27	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	6.649	graphite 002	1	6.696	83.207
Co27	H -like	4D	(2D)j=2.5 - 2P	(2P*)j=1.5	6.649	KAP 100	4	26.634	86.939

Co27	H -like	3P		(2P*)j=1.5 - 2S		(2S)j= .5	8.831	KAP 100	3	26.634	84.102
Ni		K-alpha(1)					1.658	corundum 146	1	1.660	87.187
Ni		K-alpha(1)					1.658	gypsum 002	3	4.990	85.411
Ni		K-alpha(1)					1.658	quartz 101	4	6.687	82.646
Ni		K-alpha(1)					1.658	graphite 002	4	6.696	82.072
Ni		K-alpha(1)					1.658	topaz 002	5	8.374	81.878
Ni		K-alpha(1)					1.658	quartz 100	5	8.512	76.886
Ni		K-alpha(1)					1.658	PET 002	5	8.742	71.495
Ni		K-alpha(1)					1.658	EDT 020	5	8.808	70.252
Ni17	Mg-like	2P5 3S2		3D (1P*)j=1.0 - 2P6 3S2		(1S)j= .0	12.830	TAP 100	2	25.763	84.875
Ni17	Mg-like	2P5 3S2		3D (1P*)j=1.0 - 2P6 3S2		(1S)j= .0	12.830	RAP 100	2	26.116	79.277
Ni17	Mg-like	2P5 3S2		3D (1P*)j=1.0 - 2P6 3S2		(1S)j= .0	12.830	KAP 100	2	26.634	74.457
Ni18	Na-like	2P5 3S2		(2P*)j=1.5 - 2P6 3S		(2S)j= .5	14.370	gypsum 020	1	15.185	71.143
Ni18	Na-like	2P6 8D		(2D)j=1.5 - 2P6 3P		(2P*)j= .5	24.881	TAP 100	1	25.763	74.964
Ni18	Na-like	2P6 8D		(2D)j=1.5 - 2P6 3P		(2P*)j= .5	24.881	RAP 100	1	26.116	72.309
Ni18	Na-like	2P6 8D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	25.070	TAP 100	1	25.763	76.681
Ni18	Na-like	2P6 8D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	25.070	RAP 100	1	26.116	73.729
Ni18	Na-like	2P6 8D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	25.070	KAP 100	1	26.634	70.267
Ni18	Na-like	2P6 6P		(2P*)j=1.5 - 2P6 3S		(2S)j= .5	26.020	RAP 100	1	26.116	85.086
Ni18	Na-like	2P6 6P		(2P*)j=1.5 - 2P6 3S		(2S)j= .5	26.020	KAP 100	1	26.634	77.673
Ni18	Na-like	2P6 6P		(2P*)j= .5 - 2P6 3S		(2S)j= .5	26.046	RAP 100	1	26.116	85.804
Ni18	Na-like	2P6 6P		(2P*)j= .5 - 2P6 3S		(2S)j= .5	26.046	KAP 100	1	26.634	77.938
Ni18	Na-like	2P6 7D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	26.218	KAP 100	1	26.634	79.860
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	quartz 100	1	8.512	85.608
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	PET 002	1	8.742	76.127
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	EDT 020	1	8.808	74.484
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	TAP 100	3	25.763	81.219
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	RAP 100	3	26.116	77.141
Ni19	Ne-like	2S2 2P5	(2P*2)	8D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.487	KAP 100	3	26.634	72.932
Ni19	Ne-like	2S2 2P5	(2P*1)	7D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.512	PET 002	1	8.742	76.828
Ni19	Ne-like	2S2 2P5	(2P*1)	7D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.512	EDT 020	1	8.808	75.104
Ni19	Ne-like	2S2 2P5	(2P*1)	7D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.512	TAP 100	3	25.763	82.388
Ni19	Ne-like	2S2 2P5	(2P*1)	7D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.512	RAP 100	3	26.116	77.902
Ni19	Ne-like	2S2 2P5	(2P*1)	7D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.512	KAP 100	3	26.634	73.491
Ni19	Ne-like	2S2 2P5	(2P*2)	7D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.614	PET 002	1	8.742	80.183
Ni19	Ne-like	2S2 2P5	(2P*2)	7D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.614	EDT 020	1	8.808	77.952
Ni19	Ne-like	2S2 2P5	(2P*2)	7D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.614	RAP 100	3	26.116	81.693
Ni19	Ne-like	2S2 2P5	(2P*2)	7D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.614	KAP 100	3	26.634	75.992
Ni19	Ne-like	2S2 2P5	(2P*1)	6D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.725	PET 002	1	8.742	86.426
Ni19	Ne-like	2S2 2P5	(2P*1)	6D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.725	EDT 020	1	8.808	82.128
Ni19	Ne-like	2S2 2P5	(2P*1)	6D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	8.725	KAP 100	3	26.634	79.348
Ni19	Ne-like	2S2 2P5	(2P*2)	6D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	8.838	KAP 100	3	26.634	84.559
Ni19	Ne-like	2S2 2P5	(2P*1)	4D (12*)j=1.0 - 2S2 2P6		(1S)j= .0	9.967	mica 002	2	19.942	88.377
Ni19	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0 - 2S2 2P6		(1S)j= .0	10.102	ADP 101	1	10.640	71.702
Ni19	Ne-like	2S2 2P5	(2P*2)	4D (22*)j=1.0 - 2S2 2P6		(1S)j= .0	10.157	ADP 101	1	10.640	72.670
Ni19	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0 - 2S2 2P6		(1S)j= .0	10.306	ADP 101	1	10.640	75.606

Ni19	Ne-like	2S2 2P5	(2P*2)	4S	(21*)j=1.0	-	2S2 2P6	(1S)j= .0	10.417	ADP 101	1	10.640	78.249
Ni19	Ne-like	2S2 2P5	(2P*1)	3P	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	12.430	TAP 100	2	25.763	74.785
Ni19	Ne-like	2S2 2P5	(2P*1)	3P	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	12.430	RAP 100	2	26.116	72.158
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	12.654	TAP 100	2	25.763	79.216
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	12.654	RAP 100	2	26.116	75.711
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	12.654	KAP 100	2	26.634	71.844
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	12.809	TAP 100	2	25.763	83.918
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	12.809	RAP 100	2	26.116	78.793
Ni19	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	12.809	KAP 100	2	26.634	74.123
Ni19	Ne-like	8			( )j= .0	-	8	( )j= .0	9.441	mica 002	2	19.942	71.235
Ni19	Ne-like	8			( )j= .0	-	8	( )j= .0	9.545	mica 002	2	19.942	73.191
Ni20	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	9.385	mica 002	2	19.942	70.259
Ni20	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	9.385	mica 002	2	19.942	70.259
Ni20	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	9.446	mica 002	2	19.942	71.325
Ni20	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	9.455	mica 002	2	19.942	71.487
Ni20	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	9.497	mica 002	2	19.942	72.262
Ni20	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	9.558	mica 002	2	19.942	73.452
Ni20	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	9.581	mica 002	2	19.942	73.922
Ni20	F -like	2S2 2P4	(3P)	4D	(4F)j=1.5	-	2S2 2P5	(2P*)j= .5	9.630	mica 002	2	19.942	74.972
Ni20	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	9.693	mica 002	2	19.942	76.439
Ni20	F -like	2S2 2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	9.821	mica 002	2	19.942	80.049
Ni20	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	12.112	TAP 100	2	25.763	70.096
Ni20	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	12.130	TAP 100	2	25.763	70.332
Ni20	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	12.157	TAP 100	2	25.763	70.692
Ni20	F -like	2S2 2P4	(3P)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	12.181	TAP 100	2	25.763	71.018
Ni20	F -like	2S2 2P4	(1D)	3S	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	12.927	RAP 100	2	26.116	81.877
Ni20	F -like	2S2 2P4	(1D)	3S	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	12.927	KAP 100	2	26.634	76.099
Ni20	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	13.032	RAP 100	2	26.116	86.384
Ni20	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	13.032	KAP 100	2	26.634	78.125
Ni20	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	13.075	KAP 100	2	26.634	79.060
Ni20	F -like	2S2 2P4	(3P)	3S	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	13.135	KAP 100	2	26.634	80.517
Ni20	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	13.161	KAP 100	2	26.634	81.221
Ni20	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	13.256	KAP 100	2	26.634	84.514
Ni20	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	13.282	KAP 100	2	26.634	85.845
Ni20	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	13.309	KAP 100	2	26.634	88.014
Ni21	O -like	2S2 2P3	(2P*)	4D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.775	EDT 020	1	8.808	85.039
Ni21	O -like	2S2 2P3	(2P*)	4D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.775	KAP 100	3	26.634	81.264
Ni21	O -like	2S2 2P3	(2P*)	4D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.802	EDT 020	1	8.808	87.885
Ni21	O -like	2S2 2P3	(2P*)	4D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.802	KAP 100	3	26.634	82.498
Ni21	O -like	2S2 2P3	(2D*)	4D	(3S*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.849	KAP 100	3	26.634	85.368
Ni21	O -like	2S2 2P3	(2D*)	4D	(3S*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.849	KAP 100	3	26.634	85.368
Ni21	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(1D)j=2.0	12.181	TAP 100	2	25.763	71.018
Ni21	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	12.208	TAP 100	2	25.763	71.391
Ni21	O -like	2S2 2P3	(2P*)	3S	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	12.245	TAP 100	2	25.763	71.913
Ni21	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	12.277	TAP 100	2	25.763	72.378
Ni21	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	12.277	RAP 100	2	26.116	70.083

Ni21	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(3P)j=1.0	12.370	TAP	100	2	25.763	73.800
Ni21	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(3P)j=1.0	12.370	RAP	100	2	26.116	71.318
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=2.0	12.435	TAP	100	2	25.763	74.870
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=2.0	12.435	RAP	100	2	26.116	72.230
Ni21	O -like	2S2	2P3	(2D*)	3S	(3D*)j=2.0	-	2S2	2P4		(3P)j=1.0	12.472	TAP	100	2	25.763	75.514
Ni21	O -like	2S2	2P3	(2D*)	3S	(3D*)j=2.0	-	2S2	2P4		(3P)j=1.0	12.472	RAP	100	2	26.116	72.770
Ni21	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(1D)j=2.0	12.502	TAP	100	2	25.763	76.058
Ni21	O -like	2S2	2P3	(2D*)	3S	(1D*)j=2.0	-	2S2	2P4		(1D)j=2.0	12.502	RAP	100	2	26.116	73.220
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j= .0	12.592	TAP	100	2	25.763	77.830
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j= .0	12.592	RAP	100	2	26.116	74.647
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j= .0	12.592	KAP	100	2	26.634	71.007
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=1.0	12.656	TAP	100	2	25.763	79.263
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=1.0	12.656	RAP	100	2	26.116	75.746
Ni21	O -like	2S2	2P3	(4S*)	3S	(3S*)j=1.0	-	2S2	2P4		(3P)j=1.0	12.656	KAP	100	2	26.634	71.872
Ni22	N -like		10			( )j= .0	-		10		( )j= .0	8.798	EDT	020	1	8.808	87.270
Ni22	N -like		10			( )j= .0	-		10		( )j= .0	8.798	KAP	100	3	26.634	82.302
Ni23	C -like	2S2	2P	3D		(3D*)j=3.0	-	2S2	2P2		(3P)j=2.0	10.450	ADP	101	1	10.640	79.156
Ni23	C -like	2S2	2P	3D		(1F*)j=3.0	-	2S2	2P2		(1D)j=2.0	10.490	ADP	101	1	10.640	80.368
Ni23	C -like	2S2	2P	3D		(3D*)j=3.0	-	2P4			(3P)j=2.0	12.693	TAP	100	2	25.763	80.186
Ni23	C -like	2S2	2P	3D		(3D*)j=3.0	-	2P4			(3P)j=2.0	12.693	RAP	100	2	26.116	76.421
Ni23	C -like	2S2	2P	3D		(3D*)j=3.0	-	2P4			(3P)j=2.0	12.693	KAP	100	2	26.634	72.391
Ni24	B -like	2S	2P	(3P*)	3P	(2P)j= .5	-	2S2	2P		(2P*)j= .5	9.690	mica	002	2	19.942	76.365
Ni24	B -like	2S	2P	(3P*)	3P	(2P)j=1.5	-	2S2	2P		(2P*)j=1.5	9.740	mica	002	2	19.942	77.643
Ni24	B -like	2S	2P	(1P*)	3D	(2D*)j=2.5	-	2S	2P2		(2D)j=1.5	9.883	mica	002	2	19.942	82.382
Ni24	B -like	2S	2P	(3P*)	3P	(2D)j=1.5	-	2S2	2P		(2P*)j= .5	9.900	mica	002	2	19.942	83.158
Ni24	B -like	2S	2P	(3P*)	3P	(2D)j=2.5	-	2S2	2P		(2P*)j=1.5	9.920	mica	002	2	19.942	84.203
Ni24	B -like	2S	2P	(1P*)	3D	(2D*)j=2.5	-	2S	2P2		(2D)j=2.5	9.933	mica	002	2	19.942	84.996
Ni24	B -like	2S	2P	(3P*)	3D	(4D*)j=3.5	-	2S	2P2		(4P)j=2.5	9.966	mica	002	2	19.942	88.185
Ni24	B -like	2S	2P	(1P*)	3D	(2F*)j=3.5	-	2S	2P2		(2D)j=2.5	10.000	ADP	101	1	10.640	70.026
Ni24	B -like	2S	2P	(3P*)	3D	(4P*)j=2.5	-	2S	2P2		(4P)j=2.5	10.100	ADP	101	1	10.640	71.668
Ni24	B -like	2S	2P	(1P*)	3D	(2D*)j=2.5	-	2S	2P2		(2P)j=1.5	10.195	ADP	101	1	10.640	73.371
Ni24	B -like	2S	2P	(3P*)	3D	(2F*)j=2.5	-	2S	2P2		(2D)j=1.5	10.261	ADP	101	1	10.640	74.661
Ni24	B -like	2S	2P	(3P*)	3D	(2D*)j=2.5	-	2S	2P2		(2D)j=2.5	10.350	ADP	101	1	10.640	76.592
Ni25	Be-like	1S2	2S		3P	(3P*)j=1.0	-	1S2	2S2		(1S)j= .0	9.390	mica	002	2	19.942	70.344
Ni25	Be-like	1S2	2S		3S	(1S)j= .0	-	1S2	2S	2P	(1P*)j=1.0	9.407	mica	002	2	19.942	70.637
Ni25	Be-like	1S2	2P		3P	(1D)j=2.0	-	1S2	2S	2P	(1P*)j=1.0	9.471	mica	002	2	19.942	71.778
Ni25	Be-like	1S2	2S		3D	(3D)j=1.0	-	1S2	2S	2P	(3P*)j= .0	9.601	mica	002	2	19.942	74.343
Ni25	Be-like	1S2	2S		3D	(3D)j=2.0	-	1S2	2S	2P	(3P*)j=1.0	9.633	mica	002	2	19.942	75.039
Ni25	Be-like	1S2	2P		3P	(1P)j=1.0	-	1S2	2S	2P	(1P*)j=1.0	9.695	mica	002	2	19.942	76.488
Ni25	Be-like	1S2	2P		3D	(3P*)j=2.0	-	1S2		2P2	(3P)j=1.0	9.707	mica	002	2	19.942	76.786
Ni25	Be-like	1S2	2S		3D	(3D)j=3.0	-	1S2	2S	2P	(3P*)j=2.0	9.744	mica	002	2	19.942	77.751
Ni25	Be-like	1S2	2S		3D	(3D)j=2.0	-	1S2	2S	2P	(3P*)j=2.0	9.753	mica	002	2	19.942	77.997
Ni25	Be-like	1S2	2P		3D	(3P*)j=2.0	-	1S2		2P2	(3P)j=2.0	9.759	mica	002	2	19.942	78.164
Ni25	Be-like	1S2	2P		3D	(3D*)j=3.0	-	1S2		2P2	(3P)j=2.0	9.776	mica	002	2	19.942	78.650
Ni25	Be-like	1S2	2P		3D	(1F*)j=3.0	-	1S2		2P2	(1D)j=2.0	9.860	mica	002	2	19.942	81.443
Ni25	Be-like	1S2	2P		3D	(3D*)j=2.0	-	1S2		2P2	(3P)j=2.0	9.873	mica	002	2	19.942	81.960

Ni25	Be-like	1S2 2P	3D (3F*)j=3.0 - 1S2 2P2	(3P)j=2.0	9.934	mica 002	2	19.942	85.063
Ni25	Be-like	1S2 2S	3D (1D)j=2.0 - 1S2 2S 2P	(1P*)j=1.0	9.967	mica 002	2	19.942	88.377
Ni25	Be-like	1S2 2S	3S (3S)j=1.0 - 1S2 2S 2P	(3P*)j=2.0	10.103	ADP 101	1	10.640	71.719
Ni25	Be-like	1S2 2P	3S (1P*)j=1.0 - 1S2 2P2	(1D)j=2.0	10.276	ADP 101	1	10.640	74.970
Ni25	Be-like	1S2 2S	3P (1P*)j=1.0 - 1S2 2P2	(3P)j= .0	10.354	ADP 101	1	10.640	76.685
Ni25	Be-like	1S2 2P	3S (1P*)j=1.0 - 1S2 2P2	(1S)j= .0	10.529	ADP 101	1	10.640	81.717
Ni26	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	7.048	InSb 111	1	7.481	70.411
Ni26	Li-like	1S2 4D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	7.091	InSb 111	1	7.481	71.418
Ni26	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	7.138	InSb 111	1	7.481	72.583
Ni26	Li-like	1S2 4S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	7.138	gypsum 020	2	15.185	70.075
Ni26	Li-like	1S2 3D	(2D)j=1.5 - 1S2 2P	(2P*)j= .5	9.390	mica 002	2	19.942	70.344
Ni26	Li-like	1S2 3D	(2D)j=2.5 - 1S2 2P	(2P*)j=1.5	9.535	mica 002	2	19.942	72.994
Ni26	Li-like	1S2 3D	(2D)j=1.5 - 1S2 2P	(2P*)j=1.5	9.550	mica 002	2	19.942	73.291
Ni26	Li-like	1S2 3S	(2S)j= .5 - 1S2 2P	(2P*)j= .5	9.564	mica 002	2	19.942	73.573
Ni26	Li-like	1S2 3S	(2S)j= .5 - 1S2 2P	(2P*)j=1.5	9.732	mica 002	2	19.942	77.430
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	Si 220	3	3.840	75.282
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	fluorite 220	3	3.862	74.087
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	gypsum 002	4	4.990	82.925
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	Si 111	5	6.271	80.781
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	sylvite 200	5	6.292	79.669
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	fluorite 111	5	6.308	78.900
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	Ge 111	5	6.532	71.377
Ni27	He-like	1S 6P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.238	KBr 200	5	6.584	70.078
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	Si 220	3	3.840	78.432
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	fluorite 220	3	3.862	76.933
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	Ge 220	3	4.000	70.136
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	Si 111	5	6.271	88.977
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	sylvite 200	5	6.292	85.207
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	fluorite 111	5	6.308	83.708
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	Ge 111	5	6.532	73.717
Ni27	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.254	KBr 200	5	6.584	72.234
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	topaz 303	2	2.712	71.114
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	fluorite 220	3	3.862	85.298
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	Ge 220	3	4.000	74.207
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	LiF 200	3	4.027	72.901
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	Al 200	3	4.048	71.960
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	Ge 111	5	6.532	79.139
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	KBr 200	5	6.584	76.990
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	quartz 101	5	6.687	73.602
Ni27	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.283	graphite 002	5	6.696	73.342
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	topaz 303	2	2.712	84.608
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	corundum 030	2	2.748	79.275
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	quartz 203	2	2.749	79.166
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	topaz 006	2	2.795	75.019
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	LiF 220	2	2.848	71.448
Ni27	He-like	1S 3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	quartz 200	3	4.246	72.523

Ni27	He-like	1S	3P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.350	NaCl 200	4	5.641	73.192
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	topaz 303	2	2.712	85.598
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	corundum 030	2	2.748	79.733
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	quartz 203	2	2.749	79.619
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	topaz 006	2	2.795	75.339
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	LiF 220	2	2.848	71.702
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	quartz 200	3	4.246	72.795
Ni27	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.352	NaCl 200	4	5.641	73.475
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	quartz 502	1	1.624	77.913
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	LiF 422	1	1.652	73.999
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	corundum 146	1	1.660	73.063
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	quartz 110	3	4.912	75.899
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	gypsum 002	3	4.990	72.690
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	Ge 111	4	6.532	76.518
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	KBr 200	4	6.584	74.745
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	quartz 101	4	6.687	71.787
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	graphite 002	4	6.696	71.555
Ni27	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.588	topaz 002	5	8.374	71.473
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	quartz 502	1	1.624	79.345
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	LiF 422	1	1.652	75.039
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	corundum 146	1	1.660	74.038
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	quartz 110	3	4.912	77.099
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	gypsum 002	3	4.990	73.642
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	Ge 111	4	6.532	77.780
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	KBr 200	4	6.584	75.842
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	quartz 101	4	6.687	72.686
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	graphite 002	4	6.696	72.441
Ni27	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.596	topaz 002	5	8.374	72.354
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	quartz 502	1	1.624	80.776
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	LiF 422	1	1.652	76.010
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	corundum 146	1	1.660	74.942
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	quartz 110	3	4.912	78.246
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	gypsum 002	3	4.990	74.521
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	Ge 111	4	6.532	79.001
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	KBr 200	4	6.584	76.875
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	quartz 101	4	6.687	73.511
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	graphite 002	4	6.696	73.253
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	topaz 002	5	8.374	73.162
Ni27	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.603	quartz 100	5	8.512	70.324
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	quartz 220	2	2.451	77.839
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	quartz 112	3	3.636	81.283
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	quartz 110	4	4.912	77.309
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	gypsum 002	4	4.990	73.806
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	calcite 200	5	6.071	80.630
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	Si 111	5	6.271	72.783
Ni28	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.198	sylvite 200	5	6.292	72.176

Ni28	H -like	5P	(2P*)j=1.5 - 1S	(2S)j= .5	1.198	fluorite 111	5	6.308	71.730
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	Si 220	3	3.840	73.454
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	fluorite 220	3	3.862	72.389
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	quartz 110	4	4.912	87.688
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	gypsum 002	4	4.990	79.599
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	Si 111	5	6.271	78.046
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	sylvite 200	5	6.292	77.174
Ni28	H -like	4P	(2P*)j=1.5 - 1S	(2S)j= .5	1.227	fluorite 111	5	6.308	76.550
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	topaz 303	2	2.712	72.466
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	corundum 030	2	2.748	70.228
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	quartz 203	2	2.749	70.170
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	Ge 220	3	4.000	75.871
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	LiF 200	3	4.027	74.418
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	Al 200	3	4.048	73.386
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	Ge 111	5	6.532	81.787
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	KBr 200	5	6.584	79.090
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	quartz 101	5	6.687	75.195
Ni28	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	1.293	graphite 002	5	6.696	74.906
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	topaz 303	2	2.712	72.749
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	corundum 030	2	2.748	70.476
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	quartz 203	2	2.749	70.418
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	Ge 220	3	4.000	76.228
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	LiF 200	3	4.027	74.739
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	Al 200	3	4.048	73.685
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	Ge 111	5	6.532	82.425
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	KBr 200	5	6.584	79.560
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	quartz 101	5	6.687	75.534
Ni28	H -like	3P	(2P*)j= .5 - 1S	(2S)j= .5	1.295	graphite 002	5	6.696	75.239
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	quartz 502	1	1.624	70.410
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	quartz 211	2	3.082	83.150
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	topaz 200	3	4.638	81.750
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	Al 111	3	4.676	78.994
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	Si 111	4	6.271	77.401
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	sylvite 200	4	6.292	76.572
Ni28	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	1.530	fluorite 111	4	6.308	75.977
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	quartz 502	1	1.624	71.052
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	quartz 211	2	3.082	85.383
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	topaz 200	3	4.638	83.480
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	Al 111	3	4.676	80.217
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	Si 111	4	6.271	78.449
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	sylvite 200	4	6.292	77.548
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	fluorite 111	4	6.308	76.906
Ni28	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	1.536	Ge 111	4	6.532	70.153
Ni28	H -like	5P	(2P*)j=1.5 - 2S	(2S)j= .5	5.453	NaCl 200	1	5.641	75.166
Ni28	H -like	5D	(2D)j=2.5 - 2P	(2P*)j=1.5	5.519	NaCl 200	1	5.641	78.062
Ni28	H -like	4P	(2P*)j=1.5 - 2S	(2S)j= .5	6.100	Si 111	1	6.271	76.589

Ni28	H -like	4P		(2P*)j=1.5 - 2S	(2S)j= .5	6.100	sylvite 200	1	6.292	75.809
Ni28	H -like	4P		(2P*)j=1.5 - 2S	(2S)j= .5	6.100	fluorite 111	1	6.308	75.246
Ni28	H -like	4P		(2P*)j=1.5 - 2S	(2S)j= .5	6.100	TAP 100	4	25.763	71.279
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	Si 111	1	6.271	80.281
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	sylvite 200	1	6.292	79.222
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	fluorite 111	1	6.308	78.483
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	Ge 111	1	6.532	71.132
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	TAP 100	4	25.763	73.673
Ni28	H -like	4D		(2D)j=2.5 - 2P	(2P*)j=1.5	6.181	RAP 100	4	26.116	71.209
Ni28	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	8.199	topaz 002	1	8.374	78.266
Ni28	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	8.199	quartz 100	1	8.512	74.414
Ni28	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	8.199	TAP 100	3	25.763	72.696
Ni28	H -like	3P		(2P*)j=1.5 - 2S	(2S)j= .5	8.199	RAP 100	3	26.116	70.362
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	topaz 002	1	8.374	84.612
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	quartz 100	1	8.512	78.362
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	PET 002	1	8.742	72.491
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	EDT 020	1	8.808	71.178
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	TAP 100	3	25.763	76.123
Ni28	H -like	3D		(2D)j=2.5 - 2P	(2P*)j=1.5	8.337	RAP 100	3	26.116	73.273
Cu		K-alpha(1)				1.541	quartz 502	1	1.624	71.558
Cu		K-alpha(1)				1.541	quartz 211	2	3.082	88.694
Cu		K-alpha(1)				1.541	topaz 200	3	4.638	85.210
Cu		K-alpha(1)				1.541	Al 111	3	4.676	81.268
Cu		K-alpha(1)				1.541	quartz 110	3	4.912	70.207
Cu		K-alpha(1)				1.541	Si 111	4	6.271	79.321
Cu		K-alpha(1)				1.541	sylvite 200	4	6.292	78.351
Cu		K-alpha(1)				1.541	fluorite 111	4	6.308	77.666
Cu		K-alpha(1)				1.541	Ge 111	4	6.532	70.634
Cu19	Na-like	2P5 3S2		(2P*)j=1.5 - 2P6 3S	(2S)j= .5	13.110	KAP 100	2	26.634	79.885
Cu19	Na-like	2P6 8F		(2F*)j=2.5 - 2P6 3D	(2D)j=1.5	25.142	TAP 100	1	25.763	77.394
Cu19	Na-like	2P6 8F		(2F*)j=2.5 - 2P6 3D	(2D)j=1.5	25.142	RAP 100	1	26.116	74.303
Cu19	Na-like	2P6 8F		(2F*)j=2.5 - 2P6 3D	(2D)j=1.5	25.142	KAP 100	1	26.634	70.731
Cu19	Na-like	2P6 8F		(2F*)j=3.5 - 2P6 3D	(2D)j=2.5	25.175	TAP 100	1	25.763	77.735
Cu19	Na-like	2P6 8F		(2F*)j=3.5 - 2P6 3D	(2D)j=2.5	25.175	RAP 100	1	26.116	74.573
Cu19	Na-like	2P6 8F		(2F*)j=3.5 - 2P6 3D	(2D)j=2.5	25.175	KAP 100	1	26.634	70.948
Cu19	Na-like	2P6 6D		(2D)j=1.5 - 2P6 3P	(2P*)j= .5	25.297	TAP 100	1	25.763	79.086
Cu19	Na-like	2P6 6D		(2D)j=1.5 - 2P6 3P	(2P*)j= .5	25.297	RAP 100	1	26.116	75.613
Cu19	Na-like	2P6 6D		(2D)j=1.5 - 2P6 3P	(2P*)j= .5	25.297	KAP 100	1	26.634	71.769
Cu19	Na-like	2P6 6D		(2D)j=2.5 - 2P6 3P	(2P*)j=1.5	25.526	TAP 100	1	25.763	82.222
Cu19	Na-like	2P6 6D		(2D)j=2.5 - 2P6 3P	(2P*)j=1.5	25.526	RAP 100	1	26.116	77.798
Cu19	Na-like	2P6 6D		(2D)j=2.5 - 2P6 3P	(2P*)j=1.5	25.526	KAP 100	1	26.634	73.415
Cu19	Na-like	2P6 7F		(2F*)j=2.5 - 2P6 3D	(2D)j=1.5	26.416	KAP 100	1	26.634	82.664
Cu19	Na-like	2P6 7F		(2F*)j=3.5 - 2P6 3D	(2D)j=2.5	26.452	KAP 100	1	26.634	83.298
Cu20	Ne-like	2S2 2P5	6D	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	7.955	topaz 002	1	8.374	71.799
Cu20	Ne-like	2S2 2P5	6D	(3P*)j=1.0 - 2S2 2P6	(1S)j= .0	7.955	beryl 100	2	15.954	85.744
Cu20	Ne-like	2S2 2P5	6D	(3D*)j=1.0 - 2S2 2P6	(1S)j= .0	8.070	topaz 002	1	8.374	74.514

Cu20	Ne-like	2S2 2P5	6D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.070	quartz 100	1	8.512	71.455
Cu20	Ne-like	2S2 2P5	6D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.070	TAP 100	3	25.763	70.005
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	topaz 002	1	8.374	84.124
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	quartz 100	1	8.512	78.130
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	PET 002	1	8.742	72.340
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	EDT 020	1	8.808	71.037
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	TAP 100	3	25.763	75.929
Cu20	Ne-like	2S2 2P5	5D		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.330	RAP 100	3	26.116	73.114
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	quartz 100	1	8.512	80.012
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	PET 002	1	8.742	73.523
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	EDT 020	1	8.808	72.129
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	TAP 100	3	25.763	77.466
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	RAP 100	3	26.116	74.360
Cu20	Ne-like	2S 2P6	4P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.383	KAP 100	3	26.634	70.777
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	quartz 100	1	8.512	80.489
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	PET 002	1	8.742	73.803
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	EDT 020	1	8.808	72.385
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	TAP 100	3	25.763	77.840
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	RAP 100	3	26.116	74.655
Cu20	Ne-like	2S 2P6	4P		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	8.395	KAP 100	3	26.634	71.014
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	quartz 100	1	8.512	82.753
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	PET 002	1	8.742	74.997
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	EDT 020	1	8.808	73.471
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	TAP 100	3	25.763	79.505
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	RAP 100	3	26.116	75.925
Cu20	Ne-like	2S2 2P5	5D		(3D*)j=1.0 -	2S2 2P6	(1S)j= .0	8.444	KAP 100	3	26.634	72.011
Cu20	Ne-like	2S2 2P5	4S		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	9.371	mica 002	2	19.942	70.022
Cu20	Ne-like	2S2 2P5	4S		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	9.423	mica 002	2	19.942	70.916
Cu20	Ne-like	2S2 2P5	4S		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	9.522	mica 002	2	19.942	72.740
Cu20	Ne-like	2S 2P6	3P		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	10.599	ADP 101	1	10.640	84.968
Cu20	Ne-like	2S2 2P5	3S		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.573	TAP 100	2	25.763	77.435
Cu20	Ne-like	2S2 2P5	3S		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.573	RAP 100	2	26.116	74.335
Cu20	Ne-like	2S2 2P5	3S		(1P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.573	KAP 100	2	26.634	70.757
Cu20	Ne-like	2S2 2P5	3S		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.830	TAP 100	2	25.763	84.875
Cu20	Ne-like	2S2 2P5	3S		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.830	RAP 100	2	26.116	79.277
Cu20	Ne-like	2S2 2P5	3S		(3P*)j=1.0 -	2S2 2P6	(1S)j= .0	12.830	KAP 100	2	26.634	74.457
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	quartz 100	1	8.512	82.388
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	PET 002	1	8.742	74.821
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	EDT 020	1	8.808	73.311
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	TAP 100	3	25.763	79.252
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	RAP 100	3	26.116	75.737
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	8.437	KAP 100	3	26.634	71.865
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=1.5 -	2S2 2P5	(2P*)j= .5	8.554	PET 002	1	8.742	78.096
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=1.5 -	2S2 2P5	(2P*)j= .5	8.554	EDT 020	1	8.808	76.207
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=1.5 -	2S2 2P5	(2P*)j= .5	8.554	TAP 100	3	25.763	84.925
Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=1.5 -	2S2 2P5	(2P*)j= .5	8.554	RAP 100	3	26.116	79.301

Cu21	F -like	2S2 2P4	(1S)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.554	KAP 100	3	26.634	74.473
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.574	PET 002	1	8.742	78.749
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.574	EDT 020	1	8.808	76.764
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.574	TAP 100	3	25.763	86.767
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.574	RAP 100	3	26.116	80.035
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.574	KAP 100	3	26.634	74.963
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	PET 002	1	8.742	79.335
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	EDT 020	1	8.808	77.255
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	RAP 100	3	26.116	80.704
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	KAP 100	3	26.634	75.392
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	PET 002	1	8.742	79.335
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	EDT 020	1	8.808	77.255
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	RAP 100	3	26.116	80.704
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.591	KAP 100	3	26.634	75.392
Cu21	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.652	PET 002	1	8.742	81.771
Cu21	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.652	EDT 020	1	8.808	79.201
Cu21	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.652	RAP 100	3	26.116	83.655
Cu21	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.652	KAP 100	3	26.634	77.044
Cu21	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.691	PET 002	1	8.742	83.808
Cu21	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.691	EDT 020	1	8.808	80.651
Cu21	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.691	RAP 100	3	26.116	86.712
Cu21	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.691	KAP 100	3	26.634	78.219
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.707	PET 002	1	8.742	84.871
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.707	EDT 020	1	8.808	81.315
Cu21	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.707	KAP 100	3	26.634	78.736
Cu21	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.754	EDT 020	1	8.808	83.652
Cu21	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.754	KAP 100	3	26.634	80.413
Cu21	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5	(2P*)j= .5	8.777	EDT 020	1	8.808	85.192
Cu21	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5	(2P*)j= .5	8.777	KAP 100	3	26.634	81.349
Cu21	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.808	KAP 100	3	26.634	82.800
Cu21	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.811	KAP 100	3	26.634	82.956
Cu21	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.870	KAP 100	3	26.634	87.567
Cu21	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	9.912	mica 002	2	19.942	83.764
Cu21	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.057	ADP 101	1	10.640	70.945
Cu21	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	- 2S2 2P5	(2P*)j= .5	10.074	ADP 101	1	10.640	71.228
Cu21	F -like	2S 2P5	(1P*)	3P	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	10.121	ADP 101	1	10.640	72.031
Cu21	F -like	2S 2P5	(3P*)	3P	(4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.203	ADP 101	1	10.640	73.522
Cu21	F -like	2S 2P5	(3P*)	3P	(2P)j= .5	- 2S2 2P5	(2P*)j=1.5	10.234	ADP 101	1	10.640	74.121
Cu21	F -like	2S 2P5	(3P*)	3P	(2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.260	ADP 101	1	10.640	74.641
Cu21	F -like	2S 2P5	(3P*)	3P	(2S)j= .5	- 2S2 2P5	(2P*)j= .5	10.282	ADP 101	1	10.640	75.095
Cu21	F -like	2S 2P5	(3P*)	3P	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.291	ADP 101	1	10.640	75.285
Cu21	F -like	2S 2P5	(3P*)	3P	(2D)j=1.5	- 2S2 2P5	(2P*)j= .5	10.306	ADP 101	1	10.640	75.606
Cu21	F -like	2S 2P5	(3P*)	3P	(4D)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.316	ADP 101	1	10.640	75.824
Cu21	F -like	2S 2P5	(3P*)	3P	(4D)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.354	ADP 101	1	10.640	76.685
Cu21	F -like	2S 2P5	(3P*)	3P	(4P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.392	ADP 101	1	10.640	77.605
Cu21	F -like	2S2 2P4	(1S)	3D	(2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.625	ADP 101	1	10.640	86.957

Cu21	F -like	2S2 2P4	(3P)	3S (2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	12.140	TAP 100	2	25.763	70.465
Cu21	F -like	2S2 2P4	(3P)	3S (2P)j= .5	-	2S2 2P5	(2P*)j= .5	12.165	TAP 100	2	25.763	70.800
Cu21	F -like	2S2 2P4	(3P)	3S (4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	12.186	TAP 100	2	25.763	71.086
Cu21	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	-	2S2 2P5	(2P*)j= .5	12.203	TAP 100	2	25.763	71.321
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.086	topaz 002	1	8.374	74.930
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.086	quartz 100	1	8.512	71.797
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.086	TAP 100	3	25.763	70.319
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	topaz 002	1	8.374	75.993
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	quartz 100	1	8.512	72.657
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	TAP 100	3	25.763	71.107
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	topaz 002	1	8.374	75.993
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	quartz 100	1	8.512	72.657
Cu22	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.125	TAP 100	3	25.763	71.107
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.158	topaz 002	1	8.374	76.958
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.158	quartz 100	1	8.512	73.418
Cu22	O -like	2S2 2P3	(2P*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.158	TAP 100	3	25.763	71.799
Cu22	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.171	topaz 002	1	8.374	77.358
Cu22	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.171	quartz 100	1	8.512	73.727
Cu22	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.171	TAP 100	3	25.763	72.079
Cu22	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.222	topaz 002	1	8.374	79.067
Cu22	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.222	quartz 100	1	8.512	75.001
Cu22	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.222	PET 002	1	8.742	70.139
Cu22	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.222	TAP 100	3	25.763	73.220
Cu22	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.222	RAP 100	3	26.116	70.818
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	topaz 002	1	8.374	81.181
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	quartz 100	1	8.512	76.448
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	PET 002	1	8.742	71.188
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	TAP 100	3	25.763	74.492
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	RAP 100	3	26.116	71.909
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	topaz 002	1	8.374	81.181
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	quartz 100	1	8.512	76.448
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	PET 002	1	8.742	71.188
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	TAP 100	3	25.763	74.492
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.275	RAP 100	3	26.116	71.909
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	topaz 002	1	8.374	81.453
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	quartz 100	1	8.512	76.621
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	PET 002	1	8.742	71.310
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	EDT 020	1	8.808	70.080
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	TAP 100	3	25.763	74.642
Cu22	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.281	RAP 100	3	26.116	72.037
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	topaz 002	1	8.374	84.328
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	quartz 100	1	8.512	78.229
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	PET 002	1	8.742	72.405
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	EDT 020	1	8.808	71.098
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	TAP 100	3	25.763	76.012
Cu22	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	-	2S2 2P4	(3P)j= .0	8.333	RAP 100	3	26.116	73.182

Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	quartz 100	1	8.512	80.090
Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	PET 002	1	8.742	73.569
Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	EDT 020	1	8.808	72.171
Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	TAP 100	3	25.763	77.528
Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	RAP 100	3	26.116	74.409
Cu22	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.385	KAP 100	3	26.634	70.816
Cu22	O -like	2S2 2P3	(2P*)	3D	(1D*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.277	ADP 101	1	10.640	74.991
Cu22	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.316	ADP 101	1	10.640	75.824
Cu22	O -like	2S2 2P3	(2P*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j=1.0	10.328	ADP 101	1	10.640	76.091
Cu22	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.342	ADP 101	1	10.640	76.408
Cu22	O -like	2S2 2P3	(2P*)	3D	(3P*)j= .0	-	2S2 2P4		(3P)j=1.0	10.356	ADP 101	1	10.640	76.732
Cu22	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	10.371	ADP 101	1	10.640	77.089
Cu22	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	10.371	ADP 101	1	10.640	77.089
Cu22	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4		(3P)j=2.0	10.392	ADP 101	1	10.640	77.605
Cu22	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.406	ADP 101	1	10.640	77.961
Cu22	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.406	ADP 101	1	10.640	77.961
Cu22	O -like	2S2 2P3	(2P*)	3D	(3D*)j=1.0	-	2S2 2P4		(1D)j=2.0	10.422	ADP 101	1	10.640	78.382
Cu22	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4		(3P)j=2.0	10.438	ADP 101	1	10.640	78.818
Cu22	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.501	ADP 101	1	10.640	80.729
Cu22	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.507	ADP 101	1	10.640	80.931
Cu22	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(3P)j=2.0	10.523	ADP 101	1	10.640	81.495
Cu22	O -like	2S2 2P3	(2P*)	3D	(3F*)j=2.0	-	2S2 2P4		(1D)j=2.0	10.547	ADP 101	1	10.640	82.419
Cu22	O -like	2S2 2P3	(2D*)	3D	(3P*)j=1.0	-	2S2 2P4		(3P)j=1.0	10.551	ADP 101	1	10.640	82.584
Cu22	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4		(3P)j=1.0	10.562	ADP 101	1	10.640	83.058
Cu22	O -like	2S2 2P3	(2D*)	3D	(1F*)j=3.0	-	2S2 2P4		(1D)j=2.0	10.597	ADP 101	1	10.640	84.847
Cu22	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.611	ADP 101	1	10.640	85.769
Cu22	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.611	ADP 101	1	10.640	85.769
Cu23	N -like	2S2 2P2	3D		(2P)j=1.5	-	2S2 2P3		(2P*)j=1.5	9.772	mica 002	2	19.942	78.534
Cu24	C -like	2S2 2P	3S		(1P*)j=1.0	-	2S2 2P2		(3P)j= .0	10.103	ADP 101	1	10.640	71.719
Cu24	C -like	2S2 2P	3S		(3P*)j=2.0	-	2S2 2P2		(1D)j=2.0	10.170	ADP 101	1	10.640	72.907
Cu24	C -like	2S2 2P	3S		(1P*)j=1.0	-	2S2 2P2		(3P)j=1.0	10.229	ADP 101	1	10.640	74.023
Cu24	C -like	2S2 2P	3S		(1P*)j=1.0	-	2S2 2P2		(1D)j=2.0	10.400	ADP 101	1	10.640	77.808
Cu26	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.530	PET 002	1	8.742	77.356
Cu26	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.530	EDT 020	1	8.808	75.567
Cu26	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.530	TAP 100	3	25.763	83.356
Cu26	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.530	RAP 100	3	26.116	78.481
Cu26	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.530	KAP 100	3	26.634	73.905
Cu26	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(3P*)j=2.0	8.551	PET 002	1	8.742	78.001
Cu26	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(3P*)j=2.0	8.551	EDT 020	1	8.808	76.125
Cu26	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(3P*)j=2.0	8.551	TAP 100	3	25.763	84.703
Cu26	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(3P*)j=2.0	8.551	RAP 100	3	26.116	79.195
Cu26	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(3P*)j=2.0	8.551	KAP 100	3	26.634	74.401
Cu26	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.616	PET 002	1	8.742	80.260
Cu26	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.616	EDT 020	1	8.808	78.015
Cu26	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.616	RAP 100	3	26.116	81.785
Cu26	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.616	KAP 100	3	26.634	76.046

Cu26	Be-like	1S2 2P	3P (3D)j=3.0 - 1S2 2S	2P (3P*)j=2.0	8.626	PET 002	1	8.742	80.656
Cu26	Be-like	1S2 2P	3P (3D)j=3.0 - 1S2 2S	2P (3P*)j=2.0	8.626	EDT 020	1	8.808	78.332
Cu26	Be-like	1S2 2P	3P (3D)j=3.0 - 1S2 2S	2P (3P*)j=2.0	8.626	RAP 100	3	26.116	82.259
Cu26	Be-like	1S2 2P	3P (3D)j=3.0 - 1S2 2S	2P (3P*)j=2.0	8.626	KAP 100	3	26.634	76.316
Cu26	Be-like	1S2 2P	3P (3P)j=2.0 - 1S2 2S	2P (3P*)j=2.0	8.653	PET 002	1	8.742	81.817
Cu26	Be-like	1S2 2P	3P (3P)j=2.0 - 1S2 2S	2P (3P*)j=2.0	8.653	EDT 020	1	8.808	79.235
Cu26	Be-like	1S2 2P	3P (3P)j=2.0 - 1S2 2S	2P (3P*)j=2.0	8.653	RAP 100	3	26.116	83.714
Cu26	Be-like	1S2 2P	3P (3P)j=2.0 - 1S2 2S	2P (3P*)j=2.0	8.653	KAP 100	3	26.634	77.073
Cu26	Be-like	1S2 2S	3P (1P*)j=1.0 - 2S2	(1S)j= .0	8.663	PET 002	1	8.742	82.291
Cu26	Be-like	1S2 2S	3P (1P*)j=1.0 - 2S2	(1S)j= .0	8.663	EDT 020	1	8.808	79.589
Cu26	Be-like	1S2 2S	3P (1P*)j=1.0 - 2S2	(1S)j= .0	8.663	RAP 100	3	26.116	84.347
Cu26	Be-like	1S2 2S	3P (1P*)j=1.0 - 2S2	(1S)j= .0	8.663	KAP 100	3	26.634	77.365
Cu26	Be-like	1S2 2P	3P (3D)j=1.0 - 1S2 2S	2P (3P*)j= .0	8.675	PET 002	1	8.742	82.902
Cu26	Be-like	1S2 2P	3P (3D)j=1.0 - 1S2 2S	2P (3P*)j= .0	8.675	EDT 020	1	8.808	80.031
Cu26	Be-like	1S2 2P	3P (3D)j=1.0 - 1S2 2S	2P (3P*)j= .0	8.675	RAP 100	3	26.116	85.216
Cu26	Be-like	1S2 2P	3P (3D)j=1.0 - 1S2 2S	2P (3P*)j= .0	8.675	KAP 100	3	26.634	77.724
Cu26	Be-like	1S2 2S	3P (3P*)j=1.0 - 2S2	(1S)j= .0	8.705	PET 002	1	8.742	84.727
Cu26	Be-like	1S2 2S	3P (3P*)j=1.0 - 2S2	(1S)j= .0	8.705	EDT 020	1	8.808	81.229
Cu26	Be-like	1S2 2S	3P (3P*)j=1.0 - 2S2	(1S)j= .0	8.705	RAP 100	3	26.116	89.499
Cu26	Be-like	1S2 2S	3P (3P*)j=1.0 - 2S2	(1S)j= .0	8.705	KAP 100	3	26.634	78.670
Cu26	Be-like	1S2 2S	3S (1S)j= .0 - 1S2 2S	2P (1P*)j=1.0	8.717	PET 002	1	8.742	85.666
Cu26	Be-like	1S2 2S	3S (1S)j= .0 - 1S2 2S	2P (1P*)j=1.0	8.717	EDT 020	1	8.808	81.757
Cu26	Be-like	1S2 2S	3S (1S)j= .0 - 1S2 2S	2P (1P*)j=1.0	8.717	KAP 100	3	26.634	79.072
Cu26	Be-like	1S2 2P	3P (1D)j=2.0 - 1S2 2S	2P (1P*)j=1.0	8.772	EDT 020	1	8.808	84.818
Cu26	Be-like	1S2 2P	3P (1D)j=2.0 - 1S2 2S	2P (1P*)j=1.0	8.772	KAP 100	3	26.634	81.137
Cu26	Be-like	1S2 2P	3D (3P*)j=2.0 - 1S2 2P2	(1D)j=2.0	9.373	mica 002	2	19.942	70.056
Cu26	Be-like	1S2 2P	3S (1P*)j=1.0 - 1S2 2P2	(1D)j=2.0	9.520	mica 002	2	19.942	72.702
Cu26	Be-like	1S2 2P	3S (1P*)j=1.0 - 1S2 2P2	(1S)j= .0	9.737	mica 002	2	19.942	77.563
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	calcite 422	2	3.034	77.668
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	quartz 211	2	3.082	74.094
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	tungsten 110	3	4.476	83.363
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	quartz 112	3	4.564	76.943
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	topaz 200	3	4.638	73.456
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	Al 111	3	4.676	71.955
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	calcite 200	4	6.071	77.540
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	Si 111	4	6.271	70.962
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	sylvite 200	4	6.292	70.416
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	fluorite 111	4	6.308	70.011
Cu27	Li-like	1S (2S 2P (1P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.482	InSb 111	5	7.481	82.100
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	calcite 422	2	3.034	79.584
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	quartz 211	2	3.082	75.513
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	quartz 112	3	4.564	78.730
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	topaz 200	3	4.638	74.812
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	Al 111	3	4.676	73.182
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	calcite 200	4	6.071	79.431
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	Si 111	4	6.271	72.116

Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	sylvite 200	4	6.292	71.533
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	fluorite 111	4	6.308	71.103
Cu27	Li-like	1S (2S 2P (3P*))	(2P*)j= .5 - 1S2 2S	(2S)j= .5	1.492	InSb 111	5	7.481	85.706
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	quartz 100	1	8.512	80.948
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	PET 002	1	8.742	74.063
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	EDT 020	1	8.808	72.623
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	TAP 100	3	25.763	78.194
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	RAP 100	3	26.116	74.931
Cu27	Li-like	1S2 3P	(2P*)j=1.5 - 1S2 2S	(2S)j= .5	8.406	KAP 100	3	26.634	71.233
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	quartz 100	1	8.512	82.970
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	PET 002	1	8.742	75.098
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	EDT 020	1	8.808	73.562
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	TAP 100	3	25.763	79.652
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	RAP 100	3	26.116	76.034
Cu27	Li-like	1S2 3P	(2P*)j= .5 - 1S2 2S	(2S)j= .5	8.448	KAP 100	3	26.634	72.095
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	quartz 310	2	2.360	81.165
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	quartz 220	2	2.451	72.073
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	quartz 112	3	3.636	74.164
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	Al 111	4	4.676	85.894
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	quartz 110	4	4.912	71.716
Cu28	He-like	1S 5P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.166	calcite 200	5	6.071	73.802
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	quartz 220	2	2.451	76.775
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	quartz 112	3	3.636	79.841
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	quartz 110	4	4.912	76.288
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	gypsum 002	4	4.990	73.002
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	calcite 200	5	6.071	79.278
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	Si 111	5	6.271	72.027
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	sylvite 200	5	6.292	71.447
Cu28	He-like	1S 4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.193	fluorite 111	5	6.308	71.019
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	Si 220	3	3.840	79.122
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	fluorite 220	3	3.862	77.537
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	Ge 220	3	4.000	70.519
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	sylvite 200	5	6.292	87.297
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	fluorite 111	5	6.308	85.106
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	Ge 111	5	6.532	74.193
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	KBr 200	5	6.584	72.667
Cu28	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.257	quartz 101	5	6.687	70.032
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	calcite 422	2	3.034	76.980
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	quartz 211	2	3.082	73.560
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	tungsten 110	3	4.476	82.145
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	quartz 112	3	4.564	76.292
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	topaz 200	3	4.638	72.943
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	Al 111	3	4.676	71.486
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	calcite 200	4	6.071	76.858
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	Si 111	4	6.271	70.519
Cu28	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.478	InSb 111	5	7.481	81.054

Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	calcite 422	2	3.034	78.211
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	quartz 211	2	3.082	74.506
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	tungsten 110	3	4.476	84.448
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	quartz 112	3	4.564	77.453
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	topaz 200	3	4.638	73.851
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	Al 111	3	4.676	72.314
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	calcite 200	4	6.071	78.076
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	Si 111	4	6.271	71.301
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	sylvite 200	4	6.292	70.744
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	fluorite 111	4	6.308	70.332
Cu28	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.485	InSb 111	5	7.481	82.985
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	calcite 422	2	3.034	79.584
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	quartz 211	2	3.082	75.513
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	quartz 112	3	4.564	78.730
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	topaz 200	3	4.638	74.812
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	Al 111	3	4.676	73.182
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	calcite 200	4	6.071	79.431
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	Si 111	4	6.271	72.116
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	sylvite 200	4	6.292	71.533
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	fluorite 111	4	6.308	71.103
Cu28	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.492	InSb 111	5	7.481	85.706
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	Ge 422	2	2.310	75.068
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	quartz 310	2	2.360	71.043
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	tungsten 110	4	4.476	85.804
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	quartz 112	4	4.564	77.984
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	topaz 200	4	4.638	74.256
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	Al 111	4	4.676	72.681
Cu29	H -like	5P		(2P*)j=1.5 - 1S	(2S)j= .5	1.116	NaCl 200	5	5.641	81.566
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	Ge 422	2	2.310	81.734
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	quartz 310	2	2.360	75.614
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	quartz 112	3	3.636	70.574
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	topaz 200	4	4.638	80.323
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	Al 111	4	4.676	77.893
Cu29	H -like	4P		(2P*)j=1.5 - 1S	(2S)j= .5	1.143	calcite 200	5	6.071	70.281
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	quartz 220	2	2.451	79.505
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	quartz 112	3	3.636	83.839
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	Si 220	3	3.840	70.289
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	quartz 110	4	4.912	78.893
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	gypsum 002	4	4.990	75.001
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	calcite 200	5	6.071	82.942
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	Si 111	5	6.271	73.898
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	sylvite 200	5	6.292	73.249
Cu29	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	1.205	fluorite 111	5	6.308	72.773
Cu29	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.425	tungsten 110	3	4.476	72.764
Cu29	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.425	InSb 111	5	7.481	72.253
Cu29	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.431	calcite 422	2	3.034	70.615

Cu29	H -like	2P				(2P*)j= .5 - 1S			(2S)j= .5	1.431	tungsten 110	3	4.476	73.560		
Cu29	H -like	2P				(2P*)j= .5 - 1S			(2S)j= .5	1.431	quartz 112	3	4.564	70.156		
Cu29	H -like	2P				(2P*)j= .5 - 1S			(2S)j= .5	1.431	calcite 200	4	6.071	70.535		
Cu29	H -like	2P				(2P*)j= .5 - 1S			(2S)j= .5	1.431	InSb 111	5	7.481	73.023		
Cu29	H -like	5P				(2P*)j=1.5 - 2S			(2S)j= .5	5.078	ADP 101	2	10.640	72.652		
Cu29	H -like	5P				(2P*)j=1.5 - 2S			(2S)j= .5	5.078	beryl 100	3	15.954	72.721		
Cu29	H -like	5P				(2P*)j=1.5 - 2S			(2S)j= .5	5.078	TAP 100	5	25.763	80.238		
Cu29	H -like	5P				(2P*)j=1.5 - 2S			(2S)j= .5	5.078	RAP 100	5	26.116	76.459		
Cu29	H -like	5P				(2P*)j=1.5 - 2S			(2S)j= .5	5.078	KAP 100	5	26.634	72.419		
Cu29	H -like	5D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.144	ADP 101	2	10.640	75.221		
Cu29	H -like	5D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.144	beryl 100	3	15.954	75.303		
Cu29	H -like	5D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.144	TAP 100	5	25.763	86.689		
Cu29	H -like	5D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.144	RAP 100	5	26.116	80.010		
Cu29	H -like	5D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.144	KAP 100	5	26.634	74.946		
Cu29	H -like	4D				(2D)j=2.5 - 2P			(2P*)j=1.5	5.761	calcite 200	1	6.071	71.611		
Cu29	H -like	3P				(2P*)j=1.5 - 2S			(2S)j= .5	7.632	beryl 100	2	15.954	73.088		
Cu29	H -like	3D				(2D)j=2.5 - 2P			(2P*)j=1.5	7.770	beryl 100	2	15.954	76.919		
Zn		K-alpha(1)								1.435	calcite 422	2	3.034	71.099		
Zn		K-alpha(1)								1.435	tungsten 110	3	4.476	74.140		
Zn		K-alpha(1)								1.435	quartz 112	3	4.564	70.628		
Zn		K-alpha(1)								1.435	calcite 200	4	6.071	71.016		
Zn		K-alpha(1)								1.435	InSb 111	5	7.481	73.583		
Zn20	Na-like	2P6	5P			(2P*)j=1.5 - 2P6	3S		(2S)j= .5	24.624	TAP 100	1	25.763	72.899		
Zn20	Na-like	2P6	5P			(2P*)j=1.5 - 2P6	3S		(2S)j= .5	24.624	RAP 100	1	26.116	70.539		
Zn20	Na-like	2P6	5P			(2P*)j= .5 - 2P6	3S		(2S)j= .5	24.674	TAP 100	1	25.763	73.282		
Zn20	Na-like	2P6	5P			(2P*)j= .5 - 2P6	3S		(2S)j= .5	24.674	RAP 100	1	26.116	70.871		
Zn20	Na-like	2P6	6F			(2F*)j=2.5 - 2P6	3D		(2D)j=1.5	25.869	RAP 100	1	26.116	82.114		
Zn20	Na-like	2P6	6F			(2F*)j=2.5 - 2P6	3D		(2D)j=1.5	25.869	KAP 100	1	26.634	76.234		
Zn20	Na-like	2P6	6F			(2F*)j=3.5 - 2P6	3D		(2D)j=2.5	25.914	RAP 100	1	26.116	82.869		
Zn20	Na-like	2P6	6F			(2F*)j=3.5 - 2P6	3D		(2D)j=2.5	25.914	KAP 100	1	26.634	76.647		
Zn20	Na-like	2P6	5D			(2D)j=1.5 - 2P6	3P		(2P*)j= .5	26.340	KAP 100	1	26.634	81.479		
Zn20	Na-like	2P6	5D			(2D)j=2.5 - 2P6	3P		(2P*)j=1.5	26.632	KAP 100	1	26.634	89.298		
Zn21	Ne-like	2S2	2P5	(2P*2)	8D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.073	InSb 111	1	7.481	70.990		
Zn21	Ne-like	2S2	2P5	(2P*1)	7D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	7.102	InSb 111	1	7.481	71.684		
Zn21	Ne-like	2S2	2P5	(2P*2)	7D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.198	InSb 111	1	7.481	74.190		
Zn21	Ne-like	2S2	2P5	(2P*2)	7D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.198	gypsum 020	2	15.185	71.449		
Zn21	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	7.287	InSb 111	1	7.481	76.923		
Zn21	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	7.287	gypsum 020	2	15.185	73.691		
Zn21	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.390	InSb 111	1	7.481	81.054		
Zn21	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.390	gypsum 020	2	15.185	76.737		
Zn21	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	7.625	beryl 100	2	15.954	72.916		
Zn21	Ne-like	2S	2P6		4P	(1P*)j=1.0 - 2S2	2P6		(1S)j= .0	7.710	beryl 100	2	15.954	75.134		
Zn21	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 - 2S2	2P6		(1S)j= .0	7.738	beryl 100	2	15.954	75.939		
Zn21	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	8.340	topaz 002	1	8.374	84.835		
Zn21	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	8.340	quartz 100	1	8.512	78.462		
Zn21	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 - 2S2	2P6		(1S)j= .0	8.340	PET 002	1	8.742	72.557		

Zn21	Ne-like	2S2 2P5	(2P*1)	4D (12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.340	EDT 020	1	8.808	71.239
Zn21	Ne-like	2S2 2P5	(2P*1)	4D (12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.340	TAP 100	3	25.763	76.206
Zn21	Ne-like	2S2 2P5	(2P*1)	4D (12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.340	RAP 100	3	26.116	73.342
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	quartz 100	1	8.512	84.106
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	PET 002	1	8.742	75.591
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	EDT 020	1	8.808	74.005
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	TAP 100	3	25.763	80.384
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	RAP 100	3	26.116	76.562
Zn21	Ne-like	2S2 2P5	(2P*2)	4D (23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.467	KAP 100	3	26.634	72.498
Zn21	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.658	PET 002	1	8.742	82.051
Zn21	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.658	EDT 020	1	8.808	79.411
Zn21	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.658	RAP 100	3	26.116	84.022
Zn21	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.658	KAP 100	3	26.634	77.218
Zn21	Ne-like	2S2 2P5	(2P*2)	4S (22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.722	PET 002	1	8.742	86.124
Zn21	Ne-like	2S2 2P5	(2P*2)	4S (22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.722	EDT 020	1	8.808	81.987
Zn21	Ne-like	2S2 2P5	(2P*2)	4S (22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.722	KAP 100	3	26.634	79.243
Zn21	Ne-like	2S 2P6		3P (1P*)j=1.0	-	2S2 2P6	(1S)j= .0	9.762	mica 002	2	19.942	78.248
Zn21	Ne-like	2S 2P6		3P (3P*)j=1.0	-	2S2 2P6	(1S)j= .0	9.815	mica 002	2	19.942	79.852
Zn21	Ne-like	2S2 2P5	(2P*1)	3D (12*)j=1.0	-	2S2 2P6	(1S)j= .0	10.462	ADP 101	1	10.640	79.505
Zn22	F -like	2S2 2P4	(1S)	4D (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.747	beryl 100	2	15.954	76.208
Zn22	F -like	2S2 2P4	(1S)	4D (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	7.847	beryl 100	2	15.954	79.642
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.879	topaz 002	1	8.374	70.201
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.879	beryl 100	2	15.954	81.010
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.890	topaz 002	1	8.374	70.425
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.890	beryl 100	2	15.954	81.530
Zn22	F -like	2S2 2P4	(1S)	4S (2S)j= .5	-	2S2 2P5	(2P*)j=1.5	7.941	topaz 002	1	8.374	71.494
Zn22	F -like	2S2 2P4	(1S)	4S (2S)j= .5	-	2S2 2P5	(2P*)j=1.5	7.941	beryl 100	2	15.954	84.555
Zn22	F -like	2S2 2P4	(3P)	4D (4F)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.993	topaz 002	1	8.374	72.650
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.005	topaz 002	1	8.374	72.928
Zn22	F -like	2S2 2P4	(1D)	4D (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.005	quartz 100	1	8.512	70.125
Zn22	F -like	2S2 2P4	(3P)	4D (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.047	topaz 002	1	8.374	73.935
Zn22	F -like	2S2 2P4	(3P)	4D (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.047	quartz 100	1	8.512	70.974
Zn22	F -like	2S2 2P4	(3P)	4D (2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.069	topaz 002	1	8.374	74.489
Zn22	F -like	2S2 2P4	(3P)	4D (2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.069	quartz 100	1	8.512	71.434
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.086	topaz 002	1	8.374	74.930
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.086	quartz 100	1	8.512	71.797
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.086	TAP 100	3	25.763	70.319
Zn22	F -like	2S2 2P4	(3P)	4S (4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.154	topaz 002	1	8.374	76.838
Zn22	F -like	2S2 2P4	(3P)	4S (4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.154	quartz 100	1	8.512	73.324
Zn22	F -like	2S2 2P4	(3P)	4S (4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.154	TAP 100	3	25.763	71.714
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.198	topaz 002	1	8.374	78.232
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.198	quartz 100	1	8.512	74.389
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.198	TAP 100	3	25.763	72.674
Zn22	F -like	2S2 2P4	(1D)	4S (2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.198	RAP 100	3	26.116	70.343
Zn22	F -like	2S2 2P4	(3P)	4S (2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.257	topaz 002	1	8.374	80.411
Zn22	F -like	2S2 2P4	(3P)	4S (2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.257	quartz 100	1	8.512	75.940

Zn22	F -like	2S2 2P4	(3P)	4S (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.257	PET 002	1	8.742	70.825
Zn22	F -like	2S2 2P4	(3P)	4S (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.257	TAP 100	3	25.763	74.049
Zn22	F -like	2S2 2P4	(3P)	4S (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.257	RAP 100	3	26.116	71.532
Zn22	F -like	2S 2P5	(3P*)	3P (4D)j= .5	- 2S2 2P5	(2P*)j=1.5	9.425	mica 002	2	19.942	70.951
Zn22	F -like	2S 2P5	(3P*)	3P (2P)j= .5	- 2S2 2P5	(2P*)j=1.5	9.440	mica 002	2	19.942	71.217
Zn22	F -like	2S 2P5	(3P*)	3P (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.468	mica 002	2	19.942	71.723
Zn22	F -like	2S 2P5	(3P*)	3P (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	9.507	mica 002	2	19.942	72.452
Zn22	F -like	2S 2P5	(3P*)	3P (4D)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.518	mica 002	2	19.942	72.663
Zn22	F -like	2S 2P5	(3P*)	3P (4D)j=2.5	- 2S2 2P5	(2P*)j=1.5	9.562	mica 002	2	19.942	73.533
Zn22	F -like	2S 2P5	(3P*)	3P (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.601	mica 002	2	19.942	74.343
Zn22	F -like	2S2 2P4	(1S)	3D (2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.751	mica 002	2	19.942	77.942
Zn22	F -like	2S2 2P4	(1S)	3D (2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	9.795	mica 002	2	19.942	79.219
Zn22	F -like	2S2 2P4	(1S)	3D (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	9.947	mica 002	2	19.942	86.024
Zn22	F -like	2S2 2P4	(1D)	3D (2D)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.962	mica 002	2	19.942	87.565
Zn22	F -like	2S2 2P4	(1D)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.007	ADP 101	1	10.640	70.137
Zn22	F -like	2S2 2P4	(1D)	3D (2S)j= .5	- 2S2 2P5	(2P*)j=1.5	10.022	ADP 101	1	10.640	70.376
Zn22	F -like	2S2 2P4	(3P)	3D (2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.099	ADP 101	1	10.640	71.651
Zn22	F -like	2S2 2P4	(3P)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.118	ADP 101	1	10.640	71.978
Zn22	F -like	2S2 2P4	(1D)	3D (2P)j= .5	- 2S2 2P5	(2P*)j= .5	10.144	ADP 101	1	10.640	72.437
Zn22	F -like	2S2 2P4	(3P)	3D (4D)j= .5	- 2S2 2P5	(2P*)j=1.5	10.158	ADP 101	1	10.640	72.688
Zn22	F -like	2S2 2P4	(3P)	3D (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.201	ADP 101	1	10.640	73.484
Zn22	F -like	2S2 2P4	(1D)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.206	ADP 101	1	10.640	73.579
Zn22	F -like	2S2 2P4	(1D)	3D (2S)j= .5	- 2S2 2P5	(2P*)j= .5	10.229	ADP 101	1	10.640	74.023
Zn22	F -like	2S2 2P4	(3P)	3D (2F)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.245	ADP 101	1	10.640	74.339
Zn22	F -like	2S2 2P4	(3P)	3D (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.262	ADP 101	1	10.640	74.682
Zn22	F -like	2S2 2P4	(3P)	3D (4P)j= .5	- 2S2 2P5	(2P*)j=1.5	10.285	ADP 101	1	10.640	75.158
Zn22	F -like	2S2 2P4	(3P)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.307	ADP 101	1	10.640	75.628
Zn22	F -like	2S2 2P4	(3P)	3D (4D)j=1.5	- 2S2 2P5	(2P*)j= .5	10.353	ADP 101	1	10.640	76.662
Zn22	F -like	2S2 2P4	(3P)	3D (4F)j=1.5	- 2S2 2P5	(2P*)j= .5	10.408	ADP 101	1	10.640	78.013
Zn22	F -like	2S2 2P4	(3P)	3D (4P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.472	ADP 101	1	10.640	79.805
Zn22	F -like	2S2 2P4	(3P)	3D (4P)j= .5	- 2S2 2P5	(2P*)j= .5	10.496	ADP 101	1	10.640	80.563
Zn22	F -like	2S2 2P4	(1S)	3S (2S)j= .5	- 2S2 2P5	(2P*)j=1.5	10.561	ADP 101	1	10.640	83.014
Zn23	O -like	2S2 2P3	(2P*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j=1.0	7.445	InSb 111	1	7.481	84.377
Zn23	O -like	2S2 2P3	(2P*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j=1.0	7.445	gypsum 020	2	15.185	78.688
Zn23	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.486	gypsum 020	2	15.185	80.392
Zn23	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.525	gypsum 020	2	15.185	82.354
Zn23	O -like	2S2 2P3	(2D*)	4D (3F*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.525	beryl 100	2	15.954	70.620
Zn23	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	7.583	gypsum 020	2	15.185	87.133
Zn23	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	7.583	beryl 100	2	15.954	71.917
Zn23	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.623	beryl 100	2	15.954	72.867
Zn23	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.623	beryl 100	2	15.954	72.867
Zn23	O -like	2S2 2P3	(2D*)	4D (1F*)j=3.0	- 2S2 2P4	(1D)j=2.0	7.631	beryl 100	2	15.954	73.063
Zn23	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	7.688	beryl 100	2	15.954	74.530
Zn23	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	7.741	beryl 100	2	15.954	76.028
Zn23	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	9.499	mica 002	2	19.942	72.300
Zn23	O -like	2S2 2P3	(2P*)	3D (1D*)j=2.0	- 2S2 2P4	(3P)j=1.0	9.518	mica 002	2	19.942	72.663

Zn23	O -like	2S2 2P3	(2P*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j=1.0	9.534	mica 002	2	19.942	72.974
Zn23	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4		(3P)j=2.0	9.541	mica 002	2	19.942	73.112
Zn23	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4		(3P)j=1.0	9.557	mica 002	2	19.942	73.432
Zn23	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	9.568	mica 002	2	19.942	73.655
Zn23	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4		(3P)j=2.0	9.586	mica 002	2	19.942	74.026
Zn23	O -like	2S2 2P3	(2P*)	3D	(1F*)j=3.0	-	2S2 2P4		(1D)j=2.0	9.601	mica 002	2	19.942	74.343
Zn23	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4		(3P)j=2.0	9.628	mica 002	2	19.942	74.928
Zn23	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	9.635	mica 002	2	19.942	75.084
Zn23	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4		(3P)j=2.0	9.686	mica 002	2	19.942	76.268
Zn23	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4		(3P)j=2.0	9.695	mica 002	2	19.942	76.488
Zn23	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4		(1D)j=2.0	9.713	mica 002	2	19.942	76.938
Zn23	O -like	2S2 2P3	(2P*)	3D	(3D*)j=3.0	-	2S2 2P4		(1D)j=2.0	9.723	mica 002	2	19.942	77.194
Zn23	O -like	2S2 2P3	(2P*)	3D	(3F*)j=2.0	-	2S2 2P4		(1D)j=2.0	9.744	mica 002	2	19.942	77.751
Zn23	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4		(3P)j=1.0	9.753	mica 002	2	19.942	77.997
Zn23	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4		(3P)j=1.0	9.761	mica 002	2	19.942	78.220
Zn23	O -like	2S2 2P3	(2P*)	3D	(1P*)j=1.0	-	2S2 2P4		(1S)j= .0	9.794	mica 002	2	19.942	79.188
Zn23	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	9.823	mica 002	2	19.942	80.116
Zn23	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	9.893	mica 002	2	19.942	82.829
Zn23	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.229	ADP 101	1	10.640	74.023
Zn23	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4		(1D)j=2.0	10.285	ADP 101	1	10.640	75.158
Zn23	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	10.307	ADP 101	1	10.640	75.628
Zn23	O -like	2S2 2P3	(2P*)	3S	(3P*)j= .0	-	2S2 2P4		(3P)j=1.0	10.380	ADP 101	1	10.640	77.308
Zn23	O -like	2S2 2P3	(2D*)	3S	(1D*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.474	ADP 101	1	10.640	79.866
Zn23	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0	-	2S2 2P4		(3P)j=2.0	10.539	ADP 101	1	10.640	82.099
Zn23	O -like	2S2 2P3	(2D*)	3S	(3D*)j=1.0	-	2S2 2P4		(3P)j=1.0	10.557	ADP 101	1	10.640	82.839
Zn23	O -like	2S2 2P3	(2D*)	3S	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	10.569	ADP 101	1	10.640	83.377
Zn23	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4		(3P)j=1.0	10.574	ADP 101	1	10.640	83.615
Zn27	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S	2P	(3P*)j=1.0	7.939	topaz 002	1	8.374	71.451
Zn27	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S	2P	(3P*)j=1.0	7.939	beryl 100	2	15.954	84.405
Zn27	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S	2P	(3P*)j= .0	7.999	topaz 002	1	8.374	72.788
Zn27	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S	2P	(3P*)j= .0	7.999	quartz 100	1	8.512	70.007
Zn27	Be-like	1S2 2P		3P	(3D)j=3.0	-	1S2 2S	2P	(3P*)j=2.0	8.009	topaz 002	1	8.374	73.021
Zn27	Be-like	1S2 2P		3P	(3D)j=3.0	-	1S2 2S	2P	(3P*)j=2.0	8.009	quartz 100	1	8.512	70.204
Zn27	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.034	topaz 002	1	8.374	73.617
Zn27	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	8.034	quartz 100	1	8.512	70.707
Zn27	Be-like	1S2 2S		3P	(1P*)j=1.0	-	1S2 2S2		(1S)j= .0	8.056	topaz 002	1	8.374	74.160
Zn27	Be-like	1S2 2S		3P	(1P*)j=1.0	-	1S2 2S2		(1S)j= .0	8.056	quartz 100	1	8.512	71.161
Zn27	Be-like	1S2 2S		3P	(1P*)j=1.0	-	1S2 2S2		(1S)j= .0	8.056	topaz 002	1	8.374	74.160
Zn27	Be-like	1S2 2S		3P	(1P*)j=1.0	-	1S2 2S2		(1S)j= .0	8.056	quartz 100	1	8.512	71.161
Zn27	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.078	topaz 002	1	8.374	74.721
Zn27	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.078	quartz 100	1	8.512	71.625
Zn27	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	8.078	TAP 100	3	25.763	70.161
Zn27	Be-like	1S2 2S		3S	(1S)j= .0	-	1S2 2S	2P	(1P*)j=1.0	8.092	topaz 002	1	8.374	75.088
Zn27	Be-like	1S2 2S		3S	(1S)j= .0	-	1S2 2S	2P	(1P*)j=1.0	8.092	quartz 100	1	8.512	71.926
Zn27	Be-like	1S2 2S		3S	(1S)j= .0	-	1S2 2S	2P	(1P*)j=1.0	8.092	TAP 100	3	25.763	70.438
Zn27	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	8.147	topaz 002	1	8.374	76.629

Zn27	Be-like	1S2 2P	3P (1D)j=2.0 -	1S2 2S	2P (1P*)j=1.0	8.147	quartz 100	1	8.512	73.160
Zn27	Be-like	1S2 2P	3P (1D)j=2.0 -	1S2 2S	2P (1P*)j=1.0	8.147	TAP 100	3	25.763	71.566
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j= .0	8.249	topaz 002	1	8.374	80.088
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j= .0	8.249	quartz 100	1	8.512	75.720
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j= .0	8.249	PET 002	1	8.742	70.666
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j= .0	8.249	TAP 100	3	25.763	73.856
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j= .0	8.249	RAP 100	3	26.116	71.366
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	topaz 002	1	8.374	81.686
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	quartz 100	1	8.512	76.768
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	PET 002	1	8.742	71.413
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	EDT 020	1	8.808	70.175
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	TAP 100	3	25.763	74.768
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=1.0	8.286	RAP 100	3	26.116	72.144
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	topaz 002	1	8.374	84.835
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	quartz 100	1	8.512	78.462
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	PET 002	1	8.742	72.557
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	EDT 020	1	8.808	71.239
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	TAP 100	3	25.763	76.206
Zn27	Be-like	1S2 2P	3P (1P)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.340	RAP 100	3	26.116	73.342
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	quartz 100	1	8.512	80.248
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	PET 002	1	8.742	73.662
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	EDT 020	1	8.808	72.256
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	TAP 100	3	25.763	77.652
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	RAP 100	3	26.116	74.507
Zn27	Be-like	1S2 2P	3D (3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.389	KAP 100	3	26.634	70.895
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	quartz 100	1	8.512	80.779
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	PET 002	1	8.742	73.968
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	EDT 020	1	8.808	72.536
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	TAP 100	3	25.763	78.064
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	RAP 100	3	26.116	74.830
Zn27	Be-like	1S2 2P	3P (3D)j=1.0 -	1S2 2S	2P (1P*)j=1.0	8.402	KAP 100	3	26.634	71.153
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	quartz 100	1	8.512	81.297
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	PET 002	1	8.742	74.255
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	EDT 020	1	8.808	72.798
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	TAP 100	3	25.763	78.458
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	RAP 100	3	26.116	75.135
Zn27	Be-like	1S2 2S	3D (3D)j=1.0 -	1S2 2S	2P (3P*)j=2.0	8.414	KAP 100	3	26.634	71.394
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	quartz 100	1	8.512	85.269
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	PET 002	1	8.742	76.018
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	EDT 020	1	8.808	74.387
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	TAP 100	3	25.763	81.045
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	RAP 100	3	26.116	77.023
Zn27	Be-like	1S2 2P	3D (1F*)j=3.0 -	1S2 2P2	(1D)j=2.0	8.483	KAP 100	3	26.634	72.845
Zn27	Be-like	1S2 2P	3D (3D*)j=1.0 -	1S2 2P2	(3P)j=1.0	8.500	quartz 100	1	8.512	86.957
Zn27	Be-like	1S2 2P	3D (3D*)j=1.0 -	1S2 2P2	(3P)j=1.0	8.500	PET 002	1	8.742	76.487
Zn27	Be-like	1S2 2P	3D (3D*)j=1.0 -	1S2 2P2	(3P)j=1.0	8.500	EDT 020	1	8.808	74.803

Zn27	Be-like	1S2 2P	3D	(3D*)j=1.0	1S2 2P2		(3P)j=1.0	8.500	TAP 100	3	25.763	81.806
Zn27	Be-like	1S2 2P	3D	(3D*)j=1.0	1S2 2P2		(3P)j=1.0	8.500	RAP 100	3	26.116	77.531
Zn27	Be-like	1S2 2P	3D	(3D*)j=1.0	1S2 2P2		(3P)j=1.0	8.500	KAP 100	3	26.634	73.220
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(3P)j=2.0	8.550	PET 002	1	8.742	77.970
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(3P)j=2.0	8.550	EDT 020	1	8.808	76.098
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(3P)j=2.0	8.550	TAP 100	3	25.763	84.632
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(3P)j=2.0	8.550	RAP 100	3	26.116	79.160
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(3P)j=2.0	8.550	KAP 100	3	26.634	74.377
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=1.0	8.566	PET 002	1	8.742	78.484
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=1.0	8.566	EDT 020	1	8.808	76.538
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=1.0	8.566	TAP 100	3	25.763	85.929
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=1.0	8.566	RAP 100	3	26.116	79.735
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=1.0	8.566	KAP 100	3	26.634	74.765
Zn27	Be-like	1S2 2S	3D	(1D)j=2.0	1S2 2S	2P	(1P*)j=1.0	8.576	PET 002	1	8.742	78.817
Zn27	Be-like	1S2 2S	3D	(1D)j=2.0	1S2 2S	2P	(1P*)j=1.0	8.576	EDT 020	1	8.808	76.820
Zn27	Be-like	1S2 2S	3D	(1D)j=2.0	1S2 2S	2P	(1P*)j=1.0	8.576	TAP 100	3	25.763	87.013
Zn27	Be-like	1S2 2S	3D	(1D)j=2.0	1S2 2S	2P	(1P*)j=1.0	8.576	RAP 100	3	26.116	80.111
Zn27	Be-like	1S2 2S	3D	(1D)j=2.0	1S2 2S	2P	(1P*)j=1.0	8.576	KAP 100	3	26.634	75.013
Zn27	Be-like	1S2 2P	3D	(1P*)j=1.0	1S2 2P2		(1S)j= .0	8.658	PET 002	1	8.742	82.051
Zn27	Be-like	1S2 2P	3D	(1P*)j=1.0	1S2 2P2		(1S)j= .0	8.658	EDT 020	1	8.808	79.411
Zn27	Be-like	1S2 2P	3D	(1P*)j=1.0	1S2 2P2		(1S)j= .0	8.658	RAP 100	3	26.116	84.022
Zn27	Be-like	1S2 2P	3D	(1P*)j=1.0	1S2 2P2		(1S)j= .0	8.658	KAP 100	3	26.634	77.218
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=2.0	8.702	PET 002	1	8.742	84.517
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=2.0	8.702	EDT 020	1	8.808	81.102
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=2.0	8.702	RAP 100	3	26.116	88.414
Zn27	Be-like	1S2 2S	3S	(3S)j=1.0	1S2 2S	2P	(3P*)j=2.0	8.702	KAP 100	3	26.634	78.572
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(1D)j=2.0	8.720	PET 002	1	8.742	85.934
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(1D)j=2.0	8.720	EDT 020	1	8.808	81.894
Zn27	Be-like	1S2 2P	3D	(3P*)j=2.0	1S2 2P2		(1D)j=2.0	8.720	KAP 100	3	26.634	79.174
Zn27	Be-like	1S2 2P	3S	(1P*)j=1.0	1S2 2P2		(1D)j=2.0	8.856	KAP 100	3	26.634	85.966
Zn28	Li-like	1S (2S 2P (1P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.382	topaz 006	2	2.795	81.459
Zn28	Li-like	1S (2S 2P (1P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.382	LiF 220	2	2.848	76.050
Zn28	Li-like	1S (2S 2P (1P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.382	quartz 200	3	4.246	77.540
Zn28	Li-like	1S (2S 2P (1P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.382	NaCl 200	4	5.641	78.512
Zn28	Li-like	1S (2S 2P (3P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.387	topaz 006	2	2.795	82.972
Zn28	Li-like	1S (2S 2P (3P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.387	LiF 220	2	2.848	76.910
Zn28	Li-like	1S (2S 2P (3P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.387	quartz 200	3	4.246	78.516
Zn28	Li-like	1S (2S 2P (3P*))	(2P*)j= .5		1S2 2S		(2S)j= .5	1.387	NaCl 200	4	5.641	79.582
Zn29	He-like	1S 5P	(3P*)j=1.0		1S2		(1S)j= .0	1.087	Si 422	2	2.217	78.697
Zn29	He-like	1S 5P	(3P*)j=1.0		1S2		(1S)j= .0	1.087	Ge 422	2	2.310	70.241
Zn29	He-like	1S 5P	(3P*)j=1.0		1S2		(1S)j= .0	1.087	tungsten 110	4	4.476	76.265
Zn29	He-like	1S 5P	(3P*)j=1.0		1S2		(1S)j= .0	1.087	quartz 112	4	4.564	72.302
Zn29	He-like	1S 5P	(3P*)j=1.0		1S2		(1S)j= .0	1.087	NaCl 200	5	5.641	74.468
Zn29	He-like	1S 4P	(3P*)j=1.0		1S2		(1S)j= .0	1.113	Ge 422	2	2.310	74.501
Zn29	He-like	1S 4P	(3P*)j=1.0		1S2		(1S)j= .0	1.113	quartz 310	2	2.360	70.600
Zn29	He-like	1S 4P	(3P*)j=1.0		1S2		(1S)j= .0	1.113	tungsten 110	4	4.476	84.064

Zn29	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.113	quartz 112	4	4.564	77.281
Zn29	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.113	topaz 200	4	4.638	73.719
Zn29	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.113	Al 111	4	4.676	72.194
Zn29	He-like	1S	4P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.113	NaCl 200	5	5.641	80.584
Zn29	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.172	quartz 310	2	2.360	83.324
Zn29	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.172	quartz 220	2	2.451	73.008
Zn29	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.172	quartz 112	3	3.636	75.239
Zn29	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.172	quartz 110	4	4.912	72.630
Zn29	He-like	1S	3P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.172	calcite 200	5	6.071	74.850
Zn29	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.378	topaz 006	2	2.795	80.417
Zn29	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.378	LiF 220	2	2.848	75.397
Zn29	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.378	quartz 200	3	4.246	76.811
Zn29	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.378	NaCl 200	4	5.641	77.723
Zn29	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.385	topaz 006	2	2.795	82.331
Zn29	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.385	LiF 220	2	2.848	76.560
Zn29	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.385	quartz 200	3	4.246	78.116
Zn29	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.385	NaCl 200	4	5.641	79.142
Zn29	He-like	1S	2S	(3S)j= .0 - 1S2	(1S)j= .0	1.391	topaz 006	2	2.795	84.472
Zn29	He-like	1S	2S	(3S)j= .0 - 1S2	(1S)j= .0	1.391	LiF 220	2	2.848	77.641
Zn29	He-like	1S	2S	(3S)j= .0 - 1S2	(1S)j= .0	1.391	quartz 200	3	4.246	79.360
Zn29	He-like	1S	2S	(3S)j= .0 - 1S2	(1S)j= .0	1.391	NaCl 200	4	5.641	80.522
Ga		K-alpha(1)				1.340	topaz 303	2	2.712	81.217
Ga		K-alpha(1)				1.340	corundum 030	2	2.748	77.246
Ga		K-alpha(1)				1.340	quartz 203	2	2.749	77.154
Ga		K-alpha(1)				1.340	topaz 006	2	2.795	73.522
Ga		K-alpha(1)				1.340	LiF 220	2	2.848	70.234
Ga		K-alpha(1)				1.340	LiF 200	3	4.027	86.694
Ga		K-alpha(1)				1.340	Al 200	3	4.048	83.293
Ga		K-alpha(1)				1.340	quartz 200	3	4.246	71.235
Ga		K-alpha(1)				1.340	NaCl 200	4	5.641	71.852
Ga21	Na-like	2P5 3P (3D (2D 3))(03)j=2.5 - 2P6 3P			(2P*)j=1.5	9.685	mica 002	2	19.942	76.244
Ga21	Na-like	2P5 3S (3D (2D 2))(12*)j=1.5 - 2P6 3S			(2S)j= .5	9.720	mica 002	2	19.942	77.117
Ga21	Na-like	2P5 (2P*1)(3D2 (1(14*)j=3.5 - 2P6 3D			(2D)j=2.5	9.739	mica 002	2	19.942	77.616
Ga21	Na-like	2P5 (2P*1)(3D2 (3(13*)j=2.5 - 2P6 3D			(2D)j=2.5	9.752	mica 002	2	19.942	77.969
Ga21	Na-like	2P5 3S (3D (2D 3))(13*)j=1.5 - 2P6 3S			(2S)j= .5	9.772	mica 002	2	19.942	78.534
Ga21	Na-like	2P5 3P (3D (2D 2))(12)j=1.5 - 2P6 3P			(2P*)j= .5	9.780	mica 002	2	19.942	78.767
Ga21	Na-like	2P5 3P (3D (2D 3))(23)j=2.5 - 2P6 3P			(2P*)j=1.5	9.791	mica 002	2	19.942	79.097
Ga21	Na-like	2P5 (2P*1)(3D2 (3(12*)j=2.5 - 2P6 3D			(2D)j=1.5	9.812	mica 002	2	19.942	79.754
Ga21	Na-like	2P5 (2P*2)(3D2 (1(20*)j=1.5 - 2P6 3D			(2D)j=2.5	9.905	mica 002	2	19.942	83.404
Ga21	Na-like	2P5 (2P*2)(3D2 (3(24*)j=2.5 - 2P6 3D			(2D)j=1.5	9.920	mica 002	2	19.942	84.203
Ga21	Na-like	2P5 (2P*2)(3D2 (3(24*)j=2.5 - 2P6 3D			(2D)j=2.5	9.939	mica 002	2	19.942	85.408
Ga21	Na-like	2P5 (2P*2)(3D2 (1(24*)j=3.5 - 2P6 3D			(2D)j=2.5	9.961	mica 002	2	19.942	87.434
Ga21	Na-like	2P6 5D (2D)j=2.5 - 2P6 3P			(2P*)j=1.5	24.326	TAP 100	1	25.763	70.773
Ga22	Ne-like	2S2 2P5 (2P*1) 6D (12*)j=1.0 - 2S2 2P6			(1S)j= .0	6.695	graphite 002	1	6.696	89.010
Ga22	Ne-like	2S2 2P5 (2P*2) 5D (23*)j=1.0 - 2S2 2P6			(1S)j= .0	7.119	InSb 111	1	7.481	72.103
Ga22	Ne-like	2S2 2P5 (2P*2) 5D (22*)j=1.0 - 2S2 2P6			(1S)j= .0	7.130	InSb 111	1	7.481	72.379

Ga22	Ne-like	2S2 2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	7.673	beryl 100	2	15.954	74.131
Ga22	Ne-like	2S2 2P5	(2P*2)	4D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	7.794	beryl 100	2	15.954	77.704
Ga22	Ne-like	2S2 2P5	(2P*2)	4D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	7.827	beryl 100	2	15.954	78.871
Ga22	Ne-like	2S2 2P5	(2P*1)	4S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	7.887	topaz 002	1	8.374	70.364
Ga22	Ne-like	2S2 2P5	(2P*1)	4S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	7.887	beryl 100	2	15.954	81.385
Ga22	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.028	topaz 002	1	8.374	73.472
Ga22	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.028	quartz 100	1	8.512	70.586
Ga22	Ne-like	2S2 2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	9.643	mica 002	2	19.942	75.263
Ga22	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	9.842	mica 002	2	19.942	80.774
Ga22	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	9.961	mica 002	2	19.942	87.434
Ga22	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	10.583	ADP 101	1	10.640	84.067
Ga23	F -like	2S2 2P2	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	7.234	InSb 111	1	7.481	75.236
Ga23	F -like	2S2 2P2	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	7.234	gypsum 020	2	15.185	72.323
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.264	InSb 111	1	7.481	76.166
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.264	gypsum 020	2	15.185	73.084
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.275	InSb 111	1	7.481	76.523
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.275	gypsum 020	2	15.185	73.372
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.275	InSb 111	1	7.481	76.523
Ga23	F -like	2S2 2P2	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.275	gypsum 020	2	15.185	73.372
Ga23	F -like	2S2 2P2	(3P)	4D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.319	InSb 111	1	7.481	78.055
Ga23	F -like	2S2 2P2	(3P)	4D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.319	gypsum 020	2	15.185	74.575
Ga23	F -like	2S2 2P4	(3P)	4D	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.371	InSb 111	1	7.481	80.162
Ga23	F -like	2S2 2P4	(3P)	4D	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.371	gypsum 020	2	15.185	76.126
Ga23	F -like	2S2 2P2	(3P)	4D	(4F)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.386	InSb 111	1	7.481	80.859
Ga23	F -like	2S2 2P2	(3P)	4D	(4F)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.386	gypsum 020	2	15.185	76.606
Ga23	F -like	2S2 2P2	(1D)	4D	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	7.404	InSb 111	1	7.481	81.772
Ga23	F -like	2S2 2P2	(1D)	4D	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	7.404	gypsum 020	2	15.185	77.206
Ga23	F -like	2S2 2P2	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.424	InSb 111	1	7.481	82.923
Ga23	F -like	2S2 2P2	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.424	gypsum 020	2	15.185	77.907
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	quartz 100	1	8.512	84.041
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	PET 002	1	8.742	75.564
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	EDT 020	1	8.808	73.981
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	TAP 100	3	25.763	80.344
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	RAP 100	3	26.116	76.534
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.466	KAP 100	3	26.634	72.476
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.617	PET 002	1	8.742	80.299
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.617	EDT 020	1	8.808	78.046
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.617	RAP 100	3	26.116	81.831
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.617	KAP 100	3	26.634	76.073
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.633	PET 002	1	8.742	80.943
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.633	EDT 020	1	8.808	78.560
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.633	RAP 100	3	26.116	82.609
Ga23	F -like	2S 2P5	(1P)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.633	KAP 100	3	26.634	76.508
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.672	PET 002	1	8.742	82.744
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.672	EDT 020	1	8.808	79.918
Ga23	F -like	2S 2P5	(1P)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.672	RAP 100	3	26.116	84.984

Ga23	F -like	2S	2P5	(1P)	3P (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.672	KAP 100	3	26.634	77.633
Ga23	F -like	2S	2P5	(3P)	3P (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.712	PET 002	1	8.742	85.252
Ga23	F -like	2S	2P5	(3P)	3P (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.712	EDT 020	1	8.808	81.533
Ga23	F -like	2S	2P5	(3P)	3P (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.712	KAP 100	3	26.634	78.903
Ga23	F -like	2S	2P5	(3P)	3P (2P)j= .5	- 2S2 2P5	(2P*)j=1.5	8.730	PET 002	1	8.742	86.998
Ga23	F -like	2S	2P5	(3P)	3P (2P)j= .5	- 2S2 2P5	(2P*)j=1.5	8.730	EDT 020	1	8.808	82.369
Ga23	F -like	2S	2P5	(3P)	3P (2P)j= .5	- 2S2 2P5	(2P*)j=1.5	8.730	KAP 100	3	26.634	79.523
Ga23	F -like	2S	2P5	(3P)	3P (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.761	EDT 020	1	8.808	84.078
Ga23	F -like	2S	2P5	(3P)	3P (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.761	KAP 100	3	26.634	80.688
Ga23	F -like	2S	2P5	(3P)	3P (2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.786	EDT 020	1	8.808	85.950
Ga23	F -like	2S	2P5	(3P)	3P (2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.786	KAP 100	3	26.634	81.744
Ga23	F -like	2S	2P5	(3P)	3P (2S)j= .5	- 2S2 2P5	(2P*)j= .5	8.807	EDT 020	1	8.808	89.137
Ga23	F -like	2S	2P5	(3P)	3P (2S)j= .5	- 2S2 2P5	(2P*)j= .5	8.807	KAP 100	3	26.634	82.749
Ga23	F -like	2S	2P5	(3P)	3P (4D)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.846	KAP 100	3	26.634	85.134
Ga23	F -like	2S2	2P2	(1D)	3D (2P)j= .5	- 2S2 2P5	(2P*)j= .5	9.381	mica 002	2	19.942	70.191
Ga23	F -like	2S2	2P2	(1D)	3D (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	9.395	mica 002	2	19.942	70.430
Ga23	F -like	2S2	2P4	(3P)	3D (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	9.421	mica 002	2	19.942	70.881
Ga23	F -like	2S2	2P4	(3P)	3D (4F)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.431	mica 002	2	19.942	71.057
Ga23	F -like	2S2	2P2	(1D)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j= .5	9.442	mica 002	2	19.942	71.253
Ga23	F -like	2S2	2P2	(1D)	3D (2S)j= .5	- 2S2 2P5	(2P*)j= .5	9.470	mica 002	2	19.942	71.760
Ga23	F -like	2S2	2P2	(3P)	3D (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	9.486	mica 002	2	19.942	72.056
Ga23	F -like	2S2	2P2	(3P)	3D (4P)j= .5	- 2S2 2P5	(2P*)j=1.5	9.507	mica 002	2	19.942	72.452
Ga23	F -like	2S2	2P2	(3P)	3D (2P)j=1.5	- 2S2 2P5	(2P*)j= .5	9.529	mica 002	2	19.942	72.876
Ga23	F -like	2S2	2P4	(3P)	3D (4D)j=2.5	- 2S2 2P5	(2P*)j=1.5	9.548	mica 002	2	19.942	73.251
Ga23	F -like	2S2	2P2	(1S)	3S (2S)j= .5	- 2S2 2P5	(2P*)j= .5	9.961	mica 002	2	19.942	87.434
Ga23	F -like	2S2	2P2	(1D)	3S (2D)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.013	ADP 101	1	10.640	70.232
Ga23	F -like	2S2	2P2	(3P)	3S (2P)j= .5	- 2S2 2P5	(2P*)j=1.5	10.083	ADP 101	1	10.640	71.379
Ga23	F -like	2S2	2P2	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.109	ADP 101	1	10.640	71.822
Ga23	F -like	2S2	2P2	(3P)	3S (4P)j= .5	- 2S2 2P5	(2P*)j=1.5	10.198	ADP 101	1	10.640	73.427
Ga23	F -like	2S2	2P2	(1D)	3S (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	10.239	ADP 101	1	10.640	74.220
Ga23	F -like	2S2	2P2	(3P)	3S (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	10.298	ADP 101	1	10.640	75.434
Ga23	F -like	2S2	2P2	(3P)	3S (2P)j= .5	- 2S2 2P5	(2P*)j= .5	10.319	ADP 101	1	10.640	75.890
Ga23	F -like	2S2	2P2	(3P)	3S (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	10.333	ADP 101	1	10.640	76.203
Ga23	F -like	2S2	2P2	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j= .5	10.347	ADP 101	1	10.640	76.523
Ga24	O -like	2S2	2P3	(2P*)	3D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	8.807	EDT 020	1	8.808	89.137
Ga24	O -like	2S2	2P3	(2P*)	3D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	8.807	KAP 100	3	26.634	82.749
Ga24	O -like	2S2	2P3	(2D*)	3D (1F*)j=3.0	- 2S2 2P4	(3P)j=2.0	8.827	KAP 100	3	26.634	83.856
Ga24	O -like	2S2	2P3	(2P*)	3D (3P*)j=1.0	- 2S2 2P4	(3P)j=1.0	8.846	KAP 100	3	26.634	85.134
Ga24	O -like	2S2	2P3	(2D*)	3D (3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	8.864	KAP 100	3	26.634	86.782
Ga24	O -like	2S2	2P3	(2P*)	3S (3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	9.442	mica 002	2	19.942	71.253
Ga24	O -like	2S2	2P3	(2D*)	3S (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	9.508	mica 002	2	19.942	72.471
Ga24	O -like	2S2	2P3	(2D*)	3S (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	9.508	mica 002	2	19.942	72.471
Ga24	O -like	2S2	2P3	(2D*)	3S (3D*)j=2.0	- 2S2 2P4	(3P)j=2.0	9.575	mica 002	2	19.942	73.798
Ga24	O -like	2S2	2P3	(2P*)	3S (3P*)j= .0	- 2S2 2P4	(3P)j=1.0	9.609	mica 002	2	19.942	74.514
Ga24	O -like	2S2	2P3	(2D*)	3S (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	9.668	mica 002	2	19.942	75.839
Ga24	O -like	2S2	2P3	(2D*)	3S (1D*)j=2.0	- 2S2 2P4	(3P)j=1.0	9.685	mica 002	2	19.942	76.244

Ga24	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0 -	2S2 2P4	(3P)j=2.0	9.739	mica 002	2	19.942	77.616
Ga24	O -like	2S2 2P3	(2D*)	3S	(3D*)j=1.0 -	2S2 2P4	(3P)j=1.0	9.761	mica 002	2	19.942	78.220
Ga24	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0 -	2S2 2P4	(3P)j=1.0	9.772	mica 002	2	19.942	78.534
Ga24	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0 -	2S2 2P4	(3P)j= .0	9.859	mica 002	2	19.942	81.404
Ga24	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0 -	2S2 2P4	(3P)j=1.0	9.946	mica 002	2	19.942	85.942
Ga28	Be-like	1S2 2P	3D		(3D*)j=2.0 -	1S2 2P2	(3P)j=2.0	7.790	beryl 100	2	15.954	77.569
Ga28	Be-like	1S2 2P	3D		(3P*)j=2.0 -	1S2 2P2	(3P)j=2.0	7.950	topaz 002	1	8.374	71.689
Ga28	Be-like	1S2 2P	3D		(3P*)j=2.0 -	1S2 2P2	(3P)j=2.0	7.950	beryl 100	2	15.954	85.285
Ga28	Be-like	1S2 2P	3D		(3F*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.000	topaz 002	1	8.374	72.812
Ga28	Be-like	1S2 2P	3D		(3F*)j=2.0 -	1S2 2P2	(3P)j=2.0	8.000	quartz 100	1	8.512	70.026
Ga28	Be-like	1S2 2P	3D		(3P*)j=2.0 -	1S2 2P2	(1D)j=2.0	8.110	topaz 002	1	8.374	75.575
Ga28	Be-like	1S2 2P	3D		(3P*)j=2.0 -	1S2 2P2	(1D)j=2.0	8.110	quartz 100	1	8.512	72.321
Ga28	Be-like	1S2 2P	3D		(3P*)j=2.0 -	1S2 2P2	(1D)j=2.0	8.110	TAP 100	3	25.763	70.800
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	Si 422	2	2.217	81.387
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	Ge 422	2	2.310	71.608
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	tungsten 110	4	4.476	78.363
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	quartz 112	4	4.564	73.855
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	topaz 200	4	4.638	70.950
Ga30	He-like	1S	3P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.096	NaCl 200	5	5.641	76.278
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	topaz 303	2	2.712	71.778
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	Ge 220	3	4.000	75.016
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	LiF 200	3	4.027	73.643
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	Al 200	3	4.048	72.659
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	Ge 111	5	6.532	80.372
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	KBr 200	5	6.584	77.995
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	quartz 101	5	6.687	74.379
Ga30	He-like	1S	2P		(1P*)j=1.0 -	1S2	(1S)j= .0	1.288	graphite 002	5	6.696	74.106
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	topaz 303	2	2.712	72.749
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	corundum 030	2	2.748	70.476
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	quartz 203	2	2.749	70.418
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	Ge 220	3	4.000	76.228
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	LiF 200	3	4.027	74.739
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	Al 200	3	4.048	73.685
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	Ge 111	5	6.532	82.425
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	KBr 200	5	6.584	79.560
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	quartz 101	5	6.687	75.534
Ga30	He-like	1S	2P		(3P*)j=1.0 -	1S2	(1S)j= .0	1.295	graphite 002	5	6.696	75.239
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	topaz 303	2	2.712	73.476
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	corundum 030	2	2.748	71.110
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	quartz 203	2	2.749	71.049
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	Ge 220	3	4.000	77.161
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	LiF 200	3	4.027	75.572
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	Al 200	3	4.048	74.459
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	Ge 111	5	6.532	84.326
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	KBr 200	5	6.584	80.838
Ga30	He-like	1S	2S		(3S)j=1.0 -	1S2	(1S)j= .0	1.300	quartz 101	5	6.687	76.418

Ga30	He-like	1S 2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.300	graphite 002	5	6.696	76.103
Ga31	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	1.053	Si 422	2	2.217	71.793
Ga31	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	1.053	tungsten 110	4	4.476	70.223
Ga31	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	1.053	quartz 200	4	4.246	82.744
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	Si 220	3	3.840	76.570
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	fluorite 220	3	3.862	75.266
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	gypsum 002	4	4.990	86.372
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	Si 111	5	6.271	83.056
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	sylvite 200	5	6.292	81.631
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	fluorite 111	5	6.308	80.695
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	Ge 111	5	6.532	72.364
Ga31	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.245	KBr 200	5	6.584	70.992
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	Si 220	3	3.840	77.571
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	fluorite 220	3	3.862	76.168
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	Si 111	5	6.271	85.310
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	sylvite 200	5	6.292	83.376
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	fluorite 111	5	6.308	82.224
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	Ge 111	5	6.532	73.103
Ga31	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.250	KBr 200	5	6.584	71.672
Ge		K-alpha(1)					1.254	Si 220	3	3.840	78.454
Ge		K-alpha(1)					1.254	fluorite 220	3	3.862	76.953
Ge		K-alpha(1)					1.254	Ge 220	3	4.000	70.148
Ge		K-alpha(1)					1.254	Si 111	5	6.271	89.276
Ge		K-alpha(1)					1.254	sylvite 200	5	6.292	85.262
Ge		K-alpha(1)					1.254	fluorite 111	5	6.308	83.749
Ge		K-alpha(1)					1.254	Ge 111	5	6.532	73.733
Ge		K-alpha(1)					1.254	KBr 200	5	6.584	72.248
Ge21	Mg-like	3S 5F		(3F*)j=4.0 - 3S 3D		(3D)j=3.0	26.220	KAP 100	1	26.634	79.885
Ge22	Na-like	2P6 6D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	19.410	mica 002	1	19.942	76.736
Ge22	Na-like	2P6 7F		(2F*)j=3.5 - 2P6 3D		(2D)j=2.5	19.790	mica 002	1	19.942	82.921
Ge22	Na-like	2P6 5F		(2F*)j=2.5 - 2P6 3D		(2D)j=1.5	24.920	TAP 100	1	25.763	75.302
Ge22	Na-like	2P6 5F		(2F*)j=2.5 - 2P6 3D		(2D)j=1.5	24.920	RAP 100	1	26.116	72.593
Ge22	Na-like	2P6 5F		(2F*)j=3.5 - 2P6 3D		(2D)j=2.5	24.979	TAP 100	1	25.763	75.829
Ge22	Na-like	2P6 5F		(2F*)j=3.5 - 2P6 3D		(2D)j=2.5	24.979	RAP 100	1	26.116	73.031
Ge23	Ne-like	2S2 2P5 (2P*1) 8D		(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.923	calcite 200	1	6.071	77.323
Ge23	Ne-like	2S2 2P5 (2P*1) 8D		(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.923	Si 111	1	6.271	70.823
Ge23	Ne-like	2S2 2P5 (2P*1) 8D		(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.923	sylvite 200	1	6.292	70.280
Ge23	Ne-like	2S2 2P5 (2P*2) 9D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.936	calcite 200	1	6.071	77.895
Ge23	Ne-like	2S2 2P5 (2P*2) 9D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.936	Si 111	1	6.271	71.188
Ge23	Ne-like	2S2 2P5 (2P*2) 9D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.936	sylvite 200	1	6.292	70.634
Ge23	Ne-like	2S2 2P5 (2P*2) 9D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.936	fluorite 111	1	6.308	70.225
Ge23	Ne-like	2S2 2P5 (2P*2) 8D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	6.003	calcite 200	1	6.071	81.416
Ge23	Ne-like	2S2 2P5 (2P*2) 8D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	6.003	Si 111	1	6.271	73.189
Ge23	Ne-like	2S2 2P5 (2P*2) 8D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	6.003	sylvite 200	1	6.292	72.567
Ge23	Ne-like	2S2 2P5 (2P*2) 8D		(23*)j=1.0 - 2S2 2P6		(1S)j= .0	6.003	fluorite 111	1	6.308	72.110
Ge23	Ne-like	2S2 2P5 (2P*1) 7D		(12*)j=1.0 - 2S2 2P6		(1S)j= .0	6.016	calcite 200	1	6.071	82.282

Ge23	Ne-like	2S2	2P5	(	2P*1)	7D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.016	Si 111	1	6.271	73.605
Ge23	Ne-like	2S2	2P5	(	2P*1)	7D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.016	sylvite 200	1	6.292	72.967
Ge23	Ne-like	2S2	2P5	(	2P*1)	7D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.016	fluorite 111	1	6.308	72.499
Ge23	Ne-like	2S2	2P5	(	2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.112	Si 111	1	6.271	77.070
Ge23	Ne-like	2S2	2P5	(	2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.112	sylvite 200	1	6.292	76.262
Ge23	Ne-like	2S2	2P5	(	2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.112	fluorite 111	1	6.308	75.680
Ge23	Ne-like	2S2	2P5	(	2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.112	TAP 100	4	25.763	71.615
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	Si 111	1	6.271	80.067
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	sylvite 200	1	6.292	79.029
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	fluorite 111	1	6.308	78.303
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	Ge 111	1	6.532	71.024
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	TAP 100	4	25.763	73.546
Ge23	Ne-like	2S2	2P5	(	2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.177	RAP 100	4	26.116	71.100
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	sylvite 200	1	6.292	85.787
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	fluorite 111	1	6.308	84.137
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	Ge 111	1	6.532	73.874
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	KBr 200	1	6.584	72.377
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	mica 002	3	19.942	70.732
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	TAP 100	4	25.763	76.973
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	RAP 100	4	26.116	73.966
Ge23	Ne-like	2S2	2P5	(	2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.275	KAP 100	4	26.634	70.459
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	Ge 111	1	6.532	81.725
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	KBr 200	1	6.584	79.044
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	quartz 101	1	6.687	75.162
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	graphite 002	1	6.696	74.874
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	mica 002	3	19.942	76.512
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	RAP 100	4	26.116	81.908
Ge23	Ne-like	2S2	2P5	(	2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.464	KAP 100	4	26.634	76.117
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.574	KBr 200	1	6.584	86.842
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.574	quartz 101	1	6.687	79.452
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.574	graphite 002	1	6.696	79.046
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.574	mica 002	3	19.942	81.481
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.574	KAP 100	4	26.634	80.862
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.584	quartz 101	1	6.687	79.931
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.584	graphite 002	1	6.696	79.506
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.584	mica 002	3	19.942	82.085
Ge23	Ne-like	2S2	2P5	(	2P*2)	5D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.584	KAP 100	4	26.634	81.421
Ge23	Ne-like	2S2	2P5	(	2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	7.081	InSb 111	1	7.481	71.179
Ge23	Ne-like	2S2	2P5	(	2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	7.205	InSb 111	1	7.481	74.388
Ge23	Ne-like	2S2	2P5	(	2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	7.205	gypsum 020	2	15.185	71.616
Ge23	Ne-like	2S2	2P5	(	2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	7.359	InSb 111	1	7.481	79.638
Ge23	Ne-like	2S2	2P5	(	2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	7.359	gypsum 020	2	15.185	75.754
Ge23	Ne-like	2S2	2P5	(	2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	7.411	InSb 111	1	7.481	82.156
Ge23	Ne-like	2S2	2P5	(	2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	7.411	gypsum 020	2	15.185	77.447
Ge23	Ne-like	2S	2P6			3P	(1P*)j=1.0	-	2S2	2P6	(1S)j= .0	8.369	topaz 002	1	8.374	88.020
Ge23	Ne-like	2S	2P6			3P	(1P*)j=1.0	-	2S2	2P6	(1S)j= .0	8.369	quartz 100	1	8.512	79.483

Ge23	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.369	PET 002	1	8.742	73.203
Ge23	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.369	EDT 020	1	8.808	71.834
Ge23	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.369	TAP 100	3	25.763	77.043
Ge23	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.369	RAP 100	3	26.116	74.021
Ge23	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.369	KAP 100	3	26.634	70.504
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	quartz 100	1	8.512	81.707
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	PET 002	1	8.742	74.474
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	EDT 020	1	8.808	72.997
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	TAP 100	3	25.763	78.762
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	RAP 100	3	26.116	75.368
Ge23	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	8.423	KAP 100	3	26.634	71.577
Ge23	Ne-like	2S2	2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	9.762	mica 002	2	19.942	78.248
Ge23	Ne-like	2S2	2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	10.010	ADP 101	1	10.640	70.185
Ge23	Ne-like		0			( )j= .0	-	0	( )j= .0	7.273	InSb 111	1	7.481	76.457
Ge23	Ne-like		0			( )j= .0	-	0	( )j= .0	7.273	gypsum 020	2	15.185	73.319
Ge24	F -like	2S2	2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.594	quartz 101	1	6.687	80.433
Ge24	F -like	2S2	2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.594	graphite 002	1	6.696	79.987
Ge24	F -like	2S2	2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.594	mica 002	3	19.942	82.737
Ge24	F -like	2S2	2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.594	KAP 100	4	26.634	82.019
Ge24	F -like	2S2	2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.043	InSb 111	1	7.481	70.297
Ge24	F -like	2S	2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.859	beryl 100	2	15.954	80.133
Ge24	F -like	2S	2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.012	topaz 002	1	8.374	73.092
Ge24	F -like	2S	2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.012	quartz 100	1	8.512	70.264
Ge24	F -like	2S	2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.027	topaz 002	1	8.374	73.448
Ge24	F -like	2S	2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	8.027	quartz 100	1	8.512	70.565
Ge24	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.068	topaz 002	1	8.374	74.463
Ge24	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.068	quartz 100	1	8.512	71.413
Ge24	F -like	2S	2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.099	topaz 002	1	8.374	75.276
Ge24	F -like	2S	2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.099	quartz 100	1	8.512	72.079
Ge24	F -like	2S	2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.099	TAP 100	3	25.763	70.578
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	8.110	topaz 002	1	8.374	75.575
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	8.110	quartz 100	1	8.512	72.321
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j=1.5	8.110	TAP 100	3	25.763	70.800
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.136	topaz 002	1	8.374	76.307
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.136	quartz 100	1	8.512	72.907
Ge24	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.136	TAP 100	3	25.763	71.335
Ge24	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.176	topaz 002	1	8.374	77.516
Ge24	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.176	quartz 100	1	8.512	73.848
Ge24	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	8.176	TAP 100	3	25.763	72.188
Ge24	F -like	2S	2P5	(3P*)	3P	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	8.182	topaz 002	1	8.374	77.707
Ge24	F -like	2S	2P5	(3P*)	3P	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	8.182	quartz 100	1	8.512	73.994
Ge24	F -like	2S	2P5	(3P*)	3P	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	8.182	TAP 100	3	25.763	72.319
Ge24	F -like	2S	2P5	(3P*)	3P	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	8.182	RAP 100	3	26.116	70.032
Ge24	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.212	topaz 002	1	8.374	78.712
Ge24	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.212	quartz 100	1	8.512	74.743
Ge24	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.212	TAP 100	3	25.763	72.990

Ge24	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.212	RAP	100	3	26.116	70.618
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	8.512	PET	002	1	8.742	76.828
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	8.512	EDT	020	1	8.808	75.104
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	8.512	TAP	100	3	25.763	82.388
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	8.512	RAP	100	3	26.116	77.902
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	8.512	KAP	100	3	26.634	73.491
Ge24	F -like	2S2	2P4	(1S)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.527	PET	002	1	8.742	77.267
Ge24	F -like	2S2	2P4	(1S)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.527	EDT	020	1	8.808	75.488
Ge24	F -like	2S2	2P4	(1S)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.527	TAP	100	3	25.763	83.186
Ge24	F -like	2S2	2P4	(1S)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.527	RAP	100	3	26.116	78.383
Ge24	F -like	2S2	2P4	(1S)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.527	KAP	100	3	26.634	73.835
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.560	PET	002	1	8.742	78.288
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.560	EDT	020	1	8.808	76.371
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.560	TAP	100	3	25.763	85.400
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.560	RAP	100	3	26.116	79.516
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.560	KAP	100	3	26.634	74.619
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.567	PET	002	1	8.742	78.516
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.567	EDT	020	1	8.808	76.566
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.567	TAP	100	3	25.763	86.024
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.567	RAP	100	3	26.116	79.772
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.567	KAP	100	3	26.634	74.790
Ge24	F -like	2S2	2P4	(1D)	3D	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	8.588	PET	002	1	8.742	79.230
Ge24	F -like	2S2	2P4	(1D)	3D	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	8.588	EDT	020	1	8.808	77.167
Ge24	F -like	2S2	2P4	(1D)	3D	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	8.588	RAP	100	3	26.116	80.582
Ge24	F -like	2S2	2P4	(1D)	3D	(2S)j= .5	-	2S2	2P5	(2P*)j=1.5	8.588	KAP	100	3	26.634	75.315
Ge24	F -like	2S2	2P4	(3P)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.643	PET	002	1	8.742	81.369
Ge24	F -like	2S2	2P4	(3P)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.643	EDT	020	1	8.808	78.892
Ge24	F -like	2S2	2P4	(3P)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.643	RAP	100	3	26.116	83.139
Ge24	F -like	2S2	2P4	(3P)	3D	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.643	KAP	100	3	26.634	76.788
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.653	PET	002	1	8.742	81.817
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.653	EDT	020	1	8.808	79.235
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.653	RAP	100	3	26.116	83.714
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	8.653	KAP	100	3	26.634	77.073
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j= .5	-	2S2	2P5	(2P*)j=1.5	8.676	PET	002	1	8.742	82.955
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j= .5	-	2S2	2P5	(2P*)j=1.5	8.676	EDT	020	1	8.808	80.068
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j= .5	-	2S2	2P5	(2P*)j=1.5	8.676	RAP	100	3	26.116	85.295
Ge24	F -like	2S2	2P4	(3P)	3D	(4D)j= .5	-	2S2	2P5	(2P*)j=1.5	8.676	KAP	100	3	26.634	77.754
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	8.710	PET	002	1	8.742	85.096
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	8.710	EDT	020	1	8.808	81.445
Ge24	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	8.710	KAP	100	3	26.634	78.836
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.724	PET	002	1	8.742	86.323
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.724	EDT	020	1	8.808	82.081
Ge24	F -like	2S2	2P4	(1D)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	8.724	KAP	100	3	26.634	79.313
Ge24	F -like	2S2	2P4	(3P)	3D	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.734	PET	002	1	8.742	87.549
Ge24	F -like	2S2	2P4	(3P)	3D	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.734	EDT	020	1	8.808	82.568
Ge24	F -like	2S2	2P4	(3P)	3D	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	8.734	KAP	100	3	26.634	79.666

Ge24	F -like	2S2 2P4	(1D)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.754	EDT 020	1	8.808	83.652
Ge24	F -like	2S2 2P4	(1D)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.754	KAP 100	3	26.634	80.413
Ge24	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.767	EDT 020	1	8.808	84.470
Ge24	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.767	KAP 100	3	26.634	80.930
Ge24	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.788	EDT 020	1	8.808	86.138
Ge24	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	8.788	KAP 100	3	26.634	81.835
Ge24	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	8.805	EDT 020	1	8.808	88.505
Ge24	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	8.805	KAP 100	3	26.634	82.647
Ge24	F -like	2S2 2P4	(3P)	3D	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.826	KAP 100	3	26.634	83.796
Ge24	F -like	2S2 2P4	(3P)	3S	(4P)j= .5	-	2S2 2P5	(2P*)j=1.5	9.439	mica 002	2	19.942	71.199
Ge24	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	9.481	mica 002	2	19.942	71.963
Ge24	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j=1.5	9.533	mica 002	2	19.942	72.955
Ge24	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	9.553	mica 002	2	19.942	73.351
Ge24	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	9.762	mica 002	2	19.942	78.248
Ge25	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.176	topaz 002	1	8.374	77.516
Ge25	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.176	quartz 100	1	8.512	73.848
Ge25	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	8.176	TAP 100	3	25.763	72.188
Ge25	O -like	2S2 2P3	(2D*)	3D	(1F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.200	topaz 002	1	8.374	78.300
Ge25	O -like	2S2 2P3	(2D*)	3D	(1F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.200	quartz 100	1	8.512	74.439
Ge25	O -like	2S2 2P3	(2D*)	3D	(1F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.200	TAP 100	3	25.763	72.719
Ge25	O -like	2S2 2P3	(2D*)	3D	(1F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.200	RAP 100	3	26.116	70.382
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.212	topaz 002	1	8.374	78.712
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.212	quartz 100	1	8.512	74.743
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.212	TAP 100	3	25.763	72.990
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.212	RAP 100	3	26.116	70.618
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	8.233	topaz 002	1	8.374	79.471
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	8.233	quartz 100	1	8.512	75.290
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	8.233	PET 002	1	8.742	70.352
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	8.233	TAP 100	3	25.763	73.476
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	-	2S2 2P4	(3P)j=2.0	8.233	RAP 100	3	26.116	71.039
Ge25	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.246	topaz 002	1	8.374	79.969
Ge25	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.246	quartz 100	1	8.512	75.638
Ge25	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.246	PET 002	1	8.742	70.607
Ge25	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.246	TAP 100	3	25.763	73.784
Ge25	O -like	2S2 2P3	(2D*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.246	RAP 100	3	26.116	71.305
Ge25	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.274	topaz 002	1	8.374	81.137
Ge25	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.274	quartz 100	1	8.512	76.419
Ge25	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.274	PET 002	1	8.742	71.167
Ge25	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.274	TAP 100	3	25.763	74.467
Ge25	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	8.274	RAP 100	3	26.116	71.888
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	topaz 002	1	8.374	82.481
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	quartz 100	1	8.512	77.247
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	PET 002	1	8.742	71.744
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	EDT 020	1	8.808	70.485
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	TAP 100	3	25.763	75.180
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j= .0	8.302	RAP 100	3	26.116	72.491

Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	topaz 002	1	8.374	83.195
Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	quartz 100	1	8.512	77.649
Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	PET 002	1	8.742	72.018
Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	EDT 020	1	8.808	70.739
Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	TAP 100	3	25.763	75.523
Ge25	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.315	RAP 100	3	26.116	72.777
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	topaz 002	1	8.374	83.736
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	quartz 100	1	8.512	77.936
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	PET 002	1	8.742	72.210
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	EDT 020	1	8.808	70.918
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	TAP 100	3	25.763	75.765
Ge25	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.324	RAP 100	3	26.116	72.979
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	quartz 100	1	8.512	79.858
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	PET 002	1	8.742	73.431
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	EDT 020	1	8.808	72.044
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	TAP 100	3	25.763	77.344
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	RAP 100	3	26.116	74.262
Ge25	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=1.0	8.379	KAP 100	3	26.634	70.699
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	quartz 100	1	8.512	80.449
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	PET 002	1	8.742	73.779
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	EDT 020	1	8.808	72.363
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	TAP 100	3	25.763	77.809
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	RAP 100	3	26.116	74.630
Ge25	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	8.394	KAP 100	3	26.634	70.994
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	quartz 100	1	8.512	81.121
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	PET 002	1	8.742	74.159
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	EDT 020	1	8.808	72.710
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	TAP 100	3	25.763	78.325
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	RAP 100	3	26.116	75.033
Ge25	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	8.410	KAP 100	3	26.634	71.313
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	quartz 100	1	8.512	81.896
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	PET 002	1	8.742	74.572
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	EDT 020	1	8.808	73.086
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	TAP 100	3	25.763	78.900
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	RAP 100	3	26.116	75.472
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	8.427	KAP 100	3	26.634	71.659
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	quartz 100	1	8.512	82.491
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	PET 002	1	8.742	74.871
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	EDT 020	1	8.808	73.357
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	TAP 100	3	25.763	79.323
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	RAP 100	3	26.116	75.791
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	KAP 100	3	26.634	71.907
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	quartz 100	1	8.512	82.491
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	PET 002	1	8.742	74.871
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	EDT 020	1	8.808	73.357
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4	(1D)j=2.0	8.439	TAP 100	3	25.763	79.323

Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4		(1D)j=2.0	8.439	RAP 100	3	26.116	75.791
Ge25	O -like	2S2 2P3	(2P*)	3D	(3F*)j=3.0	-	2S2 2P4		(1D)j=2.0	8.439	KAP 100	3	26.634	71.907
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	quartz 100	1	8.512	82.970
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	PET 002	1	8.742	75.098
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	EDT 020	1	8.808	73.562
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	TAP 100	3	25.763	79.652
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	RAP 100	3	26.116	76.034
Ge25	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4		(1D)j=2.0	8.448	KAP 100	3	26.634	72.095
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	8.512	PET 002	1	8.742	76.828
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	8.512	EDT 020	1	8.808	75.104
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	8.512	TAP 100	3	25.763	82.388
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	8.512	RAP 100	3	26.116	77.902
Ge25	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4		(3P)j= .0	8.512	KAP 100	3	26.634	73.491
Ge25	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.754	EDT 020	1	8.808	83.652
Ge25	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4		(3P)j=1.0	8.754	KAP 100	3	26.634	80.413
Ge25	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4		(1D)j=2.0	8.805	EDT 020	1	8.808	88.505
Ge25	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4		(1D)j=2.0	8.805	KAP 100	3	26.634	82.647
Ge25	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	8.825	KAP 100	3	26.634	83.736
Ge25	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4		(3P)j=2.0	8.825	KAP 100	3	26.634	83.736
Ge29	Be-like	1S2 2S		3P	(3P*)j=1.0	-	1S2 2S2		(1S)j= .0	7.041	InSb 111	1	7.481	70.251
Ge29	Be-like	1S2 2S		3	(1S)j= .0	-	1S2 2S	2P	(1P*)j=1.0	7.081	InSb 111	1	7.481	71.179
Ge29	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	7.205	InSb 111	1	7.481	74.388
Ge29	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	7.205	gypsum 020	2	15.185	71.616
Ge29	Be-like	1S2 2P		3D	(3D*)j=2.0	-	1S2 2P2		(3P)j=1.0	7.230	InSb 111	1	7.481	75.116
Ge29	Be-like	1S2 2P		3D	(3D*)j=2.0	-	1S2 2P2		(3P)j=1.0	7.230	gypsum 020	2	15.185	72.224
Ge29	Be-like	1S2 2P		3D	(3D*)j=2.0	-	1S2 2P2		(3P)j=2.0	7.274	InSb 111	1	7.481	76.490
Ge29	Be-like	1S2 2P		3D	(3D*)j=2.0	-	1S2 2P2		(3P)j=2.0	7.274	gypsum 020	2	15.185	73.346
Ge29	Be-like	1S2 2S		3D	(3D)j=3.0	-	1S2 2S	2P	(3P*)j=2.0	7.281	InSb 111	1	7.481	76.722
Ge29	Be-like	1S2 2S		3D	(3D)j=3.0	-	1S2 2S	2P	(3P*)j=2.0	7.281	gypsum 020	2	15.185	73.531
Ge29	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	7.333	InSb 111	1	7.481	78.584
Ge29	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	7.333	gypsum 020	2	15.185	74.977
Ge29	Be-like	1S2 2P		3D	(1F*)j=3.0	-	1S2 2P2		(1D)j=2.0	7.377	InSb 111	1	7.481	80.435
Ge29	Be-like	1S2 2P		3D	(1F*)j=3.0	-	1S2 2P2		(1D)j=2.0	7.377	gypsum 020	2	15.185	76.316
Ge29	Be-like	1S2 2S		3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	7.428	InSb 111	1	7.481	83.176
Ge29	Be-like	1S2 2S		3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=1.0	7.428	gypsum 020	2	15.185	78.051
Ge29	Be-like	1S2 2S		3	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	7.442	InSb 111	1	7.481	84.147
Ge29	Be-like	1S2 2S		3	(1D)j=2.0	-	1S2 2S	2P	(1P*)j=1.0	7.442	gypsum 020	2	15.185	78.573
Ge29	Be-like	1S2 2P		3D	(1P*)j=1.0	-	1S2 2P2		(1S)j= .0	7.520	gypsum 020	2	15.185	82.076
Ge29	Be-like	1S2 2P		3D	(1P*)j=1.0	-	1S2 2P2		(1S)j= .0	7.520	beryl 100	2	15.954	70.512
Ge29	Be-like	1S2 2S		3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	7.562	gypsum 020	2	15.185	84.863
Ge29	Be-like	1S2 2S		3S	(3S)j=1.0	-	1S2 2S	2P	(3P*)j=2.0	7.562	beryl 100	2	15.954	71.437
Ge29	Be-like	1S2 2P		3S	(1P*)j=1.0	-	1S2 2P2		(1D)j=2.0	7.696	beryl 100	2	15.954	74.747
Ge29	Be-like	1S2 2P		3S	(1P*)j=1.0	-	1S2 2P2		(1S)j= .0	7.852	beryl 100	2	15.954	79.844
Ge31	He-like	1S 3P			(3P*)j=1.0	-	1S2		(1S)j= .0	1.026	quartz 211	3	3.082	87.081
Ge31	He-like	1S 3P			(3P*)j=1.0	-	1S2		(1S)j= .0	1.026	quartz 200	4	4.246	75.140
Ge31	He-like	1S 2P			(1P*)j=1.0	-	1S2		(1S)j= .0	1.206	quartz 220	2	2.451	79.765

Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	quartz 112	3	3.636	84.296
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	Si 220	3	3.840	70.422
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	quartz 110	4	4.912	79.138
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	gypsum 002	4	4.990	75.180
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	calcite 200	5	6.071	83.337
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	Si 111	5	6.271	74.064
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	sylvite 200	5	6.292	73.407
Ge31	He-like	1S	2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.206	fluorite 111	5	6.308	72.927
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	quartz 220	2	2.451	81.810
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	Si 220	3	3.840	71.380
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	fluorite 220	3	3.862	70.434
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	quartz 110	4	4.912	81.035
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	gypsum 002	4	4.990	76.494
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	calcite 200	5	6.071	87.453
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	Si 111	5	6.271	75.274
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	sylvite 200	5	6.292	74.563
Ge31	He-like	1S	2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.213	fluorite 111	5	6.308	74.045
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	quartz 220	2	2.451	83.658
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	Si 220	3	3.840	72.094
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	fluorite 220	3	3.862	71.110
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	quartz 110	4	4.912	82.683
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	gypsum 002	4	4.990	77.515
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	Si 111	5	6.271	76.201
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	sylvite 200	5	6.292	75.442
Ge31	He-like	1S	2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.218	fluorite 111	5	6.308	74.893
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	quartz 223	2	2.024	77.238
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	calcite 422	3	3.034	77.406
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	quartz 211	3	3.082	73.892
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	Ge 220	4	4.000	80.751
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	LiF 200	4	4.027	78.632
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	Al 200	4	4.048	77.238
Ge32	H -like	3P		(2P*)j=1.5 - 1S	(2S)j= .5	.987	gypsum 002	5	4.990	81.485
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	quartz 310	2	2.360	81.487
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	quartz 220	2	2.451	72.225
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	quartz 112	3	3.636	74.338
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	Al 111	4	4.676	86.648
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	quartz 110	4	4.912	71.865
Ge32	H -like	2P		(2P*)j=1.5 - 1S	(2S)j= .5	1.167	calcite 200	5	6.071	73.972
Ge32	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.172	quartz 310	2	2.360	83.324
Ge32	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.172	quartz 220	2	2.451	73.008
Ge32	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.172	quartz 112	3	3.636	75.239
Ge32	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.172	quartz 110	4	4.912	72.630
Ge32	H -like	2P		(2P*)j= .5 - 1S	(2S)j= .5	1.172	calcite 200	5	6.071	74.850
As		K-alpha(1)				1.176	quartz 310	2	2.360	85.222
As		K-alpha(1)				1.176	quartz 220	2	2.451	73.643
As		K-alpha(1)				1.176	quartz 112	3	3.636	75.981

As		K-alpha(1)			1.176	quartz 110	4	4.912	73.250
As		K-alpha(1)			1.176	gypsum 002	4	4.990	70.494
As		K-alpha(1)			1.176	calcite 200	5	6.071	75.571
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	topaz 002	1	8.374	83.024
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	quartz 100	1	8.512	77.555
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	PET 002	1	8.742	71.955
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	EDT 020	1	8.808	70.680
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	TAP 100	3	25.763	75.443
As23	Na-like	2P5 (2P*1) 3P (3D (03)j=2.5 - 2P6 3P	(2P*)j=1.5	8.312	RAP 100	3	26.116	72.711
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	topaz 002	1	8.374	84.259
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	quartz 100	1	8.512	78.196
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	PET 002	1	8.742	72.383
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	EDT 020	1	8.808	71.078
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	TAP 100	3	25.763	75.984
As23	Na-like	2P5 (2P*1) 3S (3D (12*)j=1.5 - 2P6 3S	(2S)j= .5	8.332	RAP 100	3	26.116	73.159
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	topaz 002	1	8.374	84.912
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	quartz 100	1	8.512	78.496
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	PET 002	1	8.742	72.579
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	EDT 020	1	8.808	71.259
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	TAP 100	3	25.763	76.234
As23	Na-like	2P5 (2P*1) (3D2 ((12*)j=1.5 - 2P6 3D	(2D)j=1.5	8.341	RAP 100	3	26.116	73.365
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	topaz 002	1	8.374	86.243
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	quartz 100	1	8.512	79.014
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	PET 002	1	8.742	72.910
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	EDT 020	1	8.808	71.565
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	TAP 100	3	25.763	76.661
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	RAP 100	3	26.116	73.714
As23	Na-like	2P5 (2P*1) (3D2 ((14*)j=3.5 - 2P6 3D	(2D)j=2.5	8.356	KAP 100	3	26.634	70.255
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	quartz 100	1	8.512	79.669
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	PET 002	1	8.742	73.316
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	EDT 020	1	8.808	71.939
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	TAP 100	3	25.763	77.192
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	RAP 100	3	26.116	74.141
As23	Na-like	2P5 (2P*1) (3D2 ((13*)j=2.5 - 2P6 3D	(2D)j=2.5	8.374	KAP 100	3	26.634	70.601
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	quartz 100	1	8.512	80.368
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	PET 002	1	8.742	73.732
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	EDT 020	1	8.808	72.321
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	TAP 100	3	25.763	77.746
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	RAP 100	3	26.116	74.581
As23	Na-like	2P5 (2P*1) 3P (3D (12)j=1.5 - 2P6 3P	(2P*)j= .5	8.392	KAP 100	3	26.634	70.954
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	quartz 100	1	8.512	80.948
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	PET 002	1	8.742	74.063
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	EDT 020	1	8.808	72.623
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	TAP 100	3	25.763	78.194
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	RAP 100	3	26.116	74.931
As23	Na-like	2P5 (2P*2) 3P (3D (23)j=2.5 - 2P6 3P	(2P*)j=1.5	8.406	KAP 100	3	26.634	71.233

As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	quartz 100	1	8.512	81.661
As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	PET 002	1	8.742	74.450
As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	EDT 020	1	8.808	72.975
As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	TAP 100	3	25.763	78.728
As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	RAP 100	3	26.116	75.342
As23	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	8.422	KAP 100	3	26.634	71.557
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	quartz 100	1	8.512	88.036
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	PET 002	1	8.742	76.685
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	EDT 020	1	8.808	74.978
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	TAP 100	3	25.763	82.141
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	RAP 100	3	26.116	77.746
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=1.5	8.507	KAP 100	3	26.634	73.378
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=2.5	8.517	PET 002	1	8.742	76.973
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=2.5	8.517	EDT 020	1	8.808	75.231
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=2.5	8.517	TAP 100	3	25.763	82.645
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=2.5	8.517	RAP 100	3	26.116	78.060
As23	Na-like	2P5	(2P*2)	(3D2	(	(20*)j=1.5	-	2P6	3D	(2D)j=2.5	8.517	KAP 100	3	26.634	73.605
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=1.5	8.534	PET 002	1	8.742	77.476
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=1.5	8.534	EDT 020	1	8.808	75.671
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=1.5	8.534	TAP 100	3	25.763	83.591
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=1.5	8.534	RAP 100	3	26.116	78.614
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=1.5	8.534	KAP 100	3	26.634	73.998
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	8.543	PET 002	1	8.742	77.751
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	8.543	EDT 020	1	8.808	75.910
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	8.543	TAP 100	3	25.763	84.154
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	8.543	RAP 100	3	26.116	78.918
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	8.543	KAP 100	3	26.634	74.210
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	8.567	PET 002	1	8.742	78.516
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	8.567	EDT 020	1	8.808	76.566
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	8.567	TAP 100	3	25.763	86.024
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	8.567	RAP 100	3	26.116	79.772
As23	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	8.567	KAP 100	3	26.634	74.790
As23	Na-like	2P6	5P			(2P*)j= .5	-	2P6	3S	(2S)j= .5	19.090	mica 002	1	19.942	73.191
As23	Na-like	2P6	6F			(2F*)j=3.5	-	2P6	3D	(2D)j=2.5	19.649	mica 002	1	19.942	80.166
As23	Na-like	2P6	4P			(2P*)j=1.5	-	2P6	3S	(2S)j= .5	26.495	KAP 100	1	26.634	84.144
As24	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	5.801	calcite 200	1	6.071	72.848
As24	Ne-like	2S2	2P5	(2P*2)	6D	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	5.811	calcite 200	1	6.071	73.171
As24	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.973	calcite 200	1	6.071	79.691
As24	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.973	Si 111	1	6.271	72.266
As24	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.973	sylvite 200	1	6.292	71.677
As24	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.973	fluorite 111	1	6.308	71.243
As24	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.081	Si 111	1	6.271	75.860
As24	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.081	sylvite 200	1	6.292	75.120
As24	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.081	fluorite 111	1	6.308	74.582
As24	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.081	TAP 100	4	25.763	70.760
As24	Ne-like	2S	2P6		4P	(1P*)j=1.0	-	2S2	2P6	(1S)j= .0	6.106	Si 111	1	6.271	76.828

As24	Ne-like	2S	2P6		4P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.106	sylvite 200	1	6.292	76.034
As24	Ne-like	2S	2P6		4P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.106	fluorite 111	1	6.308	75.461
As24	Ne-like	2S	2P6		4P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.106	TAP 100	4	25.763	71.446
As24	Ne-like	2S	2P6		4P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.117	Si 111	1	6.271	77.276
As24	Ne-like	2S	2P6		4P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.117	sylvite 200	1	6.292	76.455
As24	Ne-like	2S	2P6		4P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.117	fluorite 111	1	6.308	75.865
As24	Ne-like	2S	2P6		4P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	6.117	TAP 100	4	25.763	71.756
As24	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	6.551	KBr 200	1	6.584	84.261
As24	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	6.551	quartz 101	1	6.687	78.425
As24	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	6.551	graphite 002	1	6.696	78.055
As24	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	6.551	mica 002	3	19.942	80.234
As24	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	6.551	KAP 100	4	26.634	79.690
As24	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	6.676	quartz 101	1	6.687	86.713
As24	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	6.676	graphite 002	1	6.696	85.571
As24	Ne-like	2S	2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.777	beryl 100	2	15.954	77.143
As24	Ne-like	2S	2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.829	beryl 100	2	15.954	78.946
As24	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.271	topaz 002	1	8.374	81.004
As24	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.271	quartz 100	1	8.512	76.333
As24	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.271	PET 002	1	8.742	71.107
As24	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.271	TAP 100	3	25.763	74.392
As24	Ne-like	2S2	2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	8.271	RAP 100	3	26.116	71.825
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	quartz 100	1	8.512	83.912
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	PET 002	1	8.742	75.512
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	EDT 020	1	8.808	73.934
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	TAP 100	3	25.763	80.265
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	RAP 100	3	26.116	76.477
As24	Ne-like	2S2	2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	8.464	KAP 100	3	26.634	72.434
As24	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.567	PET 002	1	8.742	78.516
As24	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.567	EDT 020	1	8.808	76.566
As24	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.567	TAP 100	3	25.763	86.024
As24	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.567	RAP 100	3	26.116	79.772
As24	Ne-like	2S2	2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.567	KAP 100	3	26.634	74.790
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	Si 111	1	6.271	82.476
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	sylvite 200	1	6.292	81.145
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	fluorite 111	1	6.308	80.256
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	Ge 111	1	6.532	72.134
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	KBr 200	1	6.584	70.780
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	TAP 100	4	25.763	74.853
As25	F -like	2S2	2P4	(1S)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	6.217	RAP 100	4	26.116	72.216
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	Si 111	1	6.271	83.944
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	sylvite 200	1	6.292	82.350
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	fluorite 111	1	6.308	81.335
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	Ge 111	1	6.532	72.685
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	KBr 200	1	6.584	71.288
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	TAP 100	4	25.763	75.514
As25	F -like	2S2	2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.236	RAP 100	4	26.116	72.770

As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	sylvite 200	1	6.292	85.665
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	fluorite 111	1	6.308	84.049
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	Ge 111	1	6.532	73.843
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	KBr 200	1	6.584	72.348
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	mica 002	3	19.942	70.706
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	TAP 100	4	25.763	76.934
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	RAP 100	4	26.116	73.934
As25	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.274	KAP 100	4	26.634	70.434
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	Ge 111	1	6.532	75.749
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	KBr 200	1	6.584	74.065
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	quartz 101	1	6.687	71.220
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	graphite 002	1	6.696	70.995
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	mica 002	3	19.942	72.253
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	TAP 100	4	25.763	79.408
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	RAP 100	4	26.116	75.853
As25	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.331	KAP 100	4	26.634	71.955
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	Ge 111	1	6.532	76.220
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	KBr 200	1	6.584	74.482
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	quartz 101	1	6.687	71.569
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	graphite 002	1	6.696	71.340
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	mica 002	3	19.942	72.624
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	TAP 100	4	25.763	80.056
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	RAP 100	4	26.116	76.328
As25	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	6.344	KAP 100	4	26.634	72.320
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	Ge 111	1	6.532	77.453
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	KBr 200	1	6.584	75.560
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	quartz 101	1	6.687	72.457
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	graphite 002	1	6.696	72.215
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	mica 002	3	19.942	73.573
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	TAP 100	4	25.763	81.869
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	RAP 100	4	26.116	77.572
As25	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	6.376	KAP 100	4	26.634	73.250
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	Ge 111	1	6.532	78.031
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	KBr 200	1	6.584	76.057
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	quartz 101	1	6.687	72.860
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	graphite 002	1	6.696	72.612
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	mica 002	3	19.942	74.005
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	TAP 100	4	25.763	82.803
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	RAP 100	4	26.116	78.156
As25	F -like	2S2 2P4	(3P)	4D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	6.390	KAP 100	4	26.634	73.674
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	Ge 111	1	6.532	79.047
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	KBr 200	1	6.584	76.913
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	quartz 101	1	6.687	73.541
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	graphite 002	1	6.696	73.283
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	mica 002	3	19.942	74.741
As25	F -like	2S2 2P4	(3P)	4S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	6.413	TAP 100	4	25.763	84.679

As25	F -like	2S2 2P4 (3P) 4S (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.413	RAP 100	4	26.116	79.183
As25	F -like	2S2 2P4 (3P) 4S (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.413	KAP 100	4	26.634	74.393
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	Ge 111	1	6.532	83.656
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	KBr 200	1	6.584	80.411
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	quartz 101	1	6.687	76.129
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	graphite 002	1	6.696	75.821
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	mica 002	3	19.942	77.589
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	RAP 100	4	26.116	83.897
As25	F -like	2S2 2P4 (1D) 4S (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.492	KAP 100	4	26.634	77.160
As25	F -like	2S2 2P4 (3P) 4S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.551	KBr 200	1	6.584	84.261
As25	F -like	2S2 2P4 (3P) 4S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.551	quartz 101	1	6.687	78.425
As25	F -like	2S2 2P4 (3P) 4S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.551	graphite 002	1	6.696	78.055
As25	F -like	2S2 2P4 (3P) 4S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.551	mica 002	3	19.942	80.234
As25	F -like	2S2 2P4 (3P) 4S (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.551	KAP 100	4	26.634	79.690
As25	F -like	2S 2P5 (1P*) 3P (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.306	InSb 111	1	7.481	77.583
As25	F -like	2S 2P5 (1P*) 3P (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.306	gypsum 020	2	15.185	74.210
As25	F -like	2S 2P5 (3P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	7.438	InSb 111	1	7.481	83.854
As25	F -like	2S 2P5 (3P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	7.438	gypsum 020	2	15.185	78.422
As25	F -like	2S 2P5 (1P*) 3P (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	7.459	InSb 111	1	7.481	85.605
As25	F -like	2S 2P5 (1P*) 3P (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	7.459	gypsum 020	2	15.185	79.240
As25	F -like	2S 2P5 (1P*) 3P (2P)j= .5 - 2S2 2P5	(2P*)j= .5	7.473	InSb 111	1	7.481	87.350
As25	F -like	2S 2P5 (1P*) 3P (2P)j= .5 - 2S2 2P5	(2P*)j= .5	7.473	gypsum 020	2	15.185	79.821
As25	F -like	2S 2P5 (1P*) 3P (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	7.515	gypsum 020	2	15.185	81.807
As25	F -like	2S 2P5 (1P*) 3P (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	7.515	beryl 100	2	15.954	70.404
As25	F -like	2S 2P5 (3P*) 3P (4P)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.529	gypsum 020	2	15.185	82.585
As25	F -like	2S 2P5 (3P*) 3P (4P)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.529	beryl 100	2	15.954	70.707
As25	F -like	2S 2P5 (3P*) 3P (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	7.569	gypsum 020	2	15.185	85.491
As25	F -like	2S 2P5 (3P*) 3P (2P)j=1.5 - 2S2 2P5	(2P*)j=1.5	7.569	beryl 100	2	15.954	71.596
As25	F -like	2S 2P5 (3P*) 3P (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.581	gypsum 020	2	15.185	86.846
As25	F -like	2S 2P5 (3P*) 3P (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.581	beryl 100	2	15.954	71.871
As25	F -like	2S 2P5 (3P*) 3P (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	7.602	beryl 100	2	15.954	72.362
As25	F -like	2S 2P5 (3P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j= .5	7.613	beryl 100	2	15.954	72.625
As25	F -like	2S 2P5 (3P*) 3P (4D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.655	beryl 100	2	15.954	73.665
As25	F -like	2S 2P5 (3P*) 3P (4P)j=1.5 - 2S2 2P5	(2P*)j= .5	7.701	beryl 100	2	15.954	74.884
As25	F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	7.902	topaz 002	1	8.374	70.671
As25	F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	7.902	beryl 100	2	15.954	82.137
As25	F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	7.923	topaz 002	1	8.374	71.110
As25	F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	7.923	beryl 100	2	15.954	83.329
As25	F -like	2S2 2P4 (1D) 3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.951	topaz 002	1	8.374	71.711
As25	F -like	2S2 2P4 (1D) 3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.951	beryl 100	2	15.954	85.373
As25	F -like	2S2 2P4 (1D) 3D (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	7.969	topaz 002	1	8.374	72.108
As25	F -like	2S2 2P4 (1D) 3D (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	7.969	beryl 100	2	15.954	87.434
As25	F -like	2S2 2P4 (3P) 3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.020	topaz 002	1	8.374	73.281
As25	F -like	2S2 2P4 (3P) 3D (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.020	quartz 100	1	8.512	70.424
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.047	topaz 002	1	8.374	73.935
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.047	quartz 100	1	8.512	70.974

As25	F -like	2S2 2P4 (3P) 3D (4D)j= .5 - 2S2 2P5	(2P*)j=1.5	8.070	topaz 002	1	8.374	74.514
As25	F -like	2S2 2P4 (3P) 3D (4D)j= .5 - 2S2 2P5	(2P*)j=1.5	8.070	quartz 100	1	8.512	71.455
As25	F -like	2S2 2P4 (3P) 3D (4D)j= .5 - 2S2 2P5	(2P*)j=1.5	8.070	TAP 100	3	25.763	70.005
As25	F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j= .5	8.097	topaz 002	1	8.374	75.222
As25	F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j= .5	8.097	quartz 100	1	8.512	72.035
As25	F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j= .5	8.097	TAP 100	3	25.763	70.538
As25	F -like	2S2 2P4 (3P) 3D (4F)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.137	topaz 002	1	8.374	76.336
As25	F -like	2S2 2P4 (3P) 3D (4F)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.137	quartz 100	1	8.512	72.930
As25	F -like	2S2 2P4 (3P) 3D (4F)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.137	TAP 100	3	25.763	71.356
As25	F -like	2S2 2P4 (3P) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.150	topaz 002	1	8.374	76.718
As25	F -like	2S2 2P4 (3P) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.150	quartz 100	1	8.512	73.230
As25	F -like	2S2 2P4 (3P) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.150	TAP 100	3	25.763	71.629
As25	F -like	2S2 2P4 (1D) 3D (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.166	topaz 002	1	8.374	77.203
As25	F -like	2S2 2P4 (1D) 3D (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.166	quartz 100	1	8.512	73.608
As25	F -like	2S2 2P4 (1D) 3D (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.166	TAP 100	3	25.763	71.971
As25	F -like	2S2 2P4 (3P) 3D (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.181	topaz 002	1	8.374	77.675
As25	F -like	2S2 2P4 (3P) 3D (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.181	quartz 100	1	8.512	73.969
As25	F -like	2S2 2P4 (3P) 3D (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.181	TAP 100	3	25.763	72.297
As25	F -like	2S2 2P4 (3P) 3D (4P)j=1.5 - 2S2 2P5	(2P*)j=1.5	8.181	RAP 100	3	26.116	70.013
As25	F -like	2S2 2P4 (3P) 3D (4P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.200	topaz 002	1	8.374	78.300
As25	F -like	2S2 2P4 (3P) 3D (4P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.200	quartz 100	1	8.512	74.439
As25	F -like	2S2 2P4 (3P) 3D (4P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.200	TAP 100	3	25.763	72.719
As25	F -like	2S2 2P4 (3P) 3D (4P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.200	RAP 100	3	26.116	70.382
As25	F -like	2S2 2P4 (3P) 3D (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	8.217	topaz 002	1	8.374	78.888
As25	F -like	2S2 2P4 (3P) 3D (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	8.217	quartz 100	1	8.512	74.872
As25	F -like	2S2 2P4 (3P) 3D (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	8.217	PET 002	1	8.742	70.042
As25	F -like	2S2 2P4 (3P) 3D (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	8.217	TAP 100	3	25.763	73.105
As25	F -like	2S2 2P4 (3P) 3D (2P)j=1.5 - 2S2 2P5	(2P*)j= .5	8.217	RAP 100	3	26.116	70.718
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	8.248	topaz 002	1	8.374	80.048
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	8.248	quartz 100	1	8.512	75.693
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	8.248	PET 002	1	8.742	70.646
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	8.248	TAP 100	3	25.763	73.832
As25	F -like	2S2 2P4 (3P) 3D (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	8.248	RAP 100	3	26.116	71.346
As25	F -like	2S2 2P4 (1S) 3S (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.534	PET 002	1	8.742	77.476
As25	F -like	2S2 2P4 (1S) 3S (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.534	EDT 020	1	8.808	75.671
As25	F -like	2S2 2P4 (1S) 3S (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.534	TAP 100	3	25.763	83.591
As25	F -like	2S2 2P4 (1S) 3S (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.534	RAP 100	3	26.116	78.614
As25	F -like	2S2 2P4 (1S) 3S (2S)j= .5 - 2S2 2P5	(2P*)j= .5	8.534	KAP 100	3	26.634	73.998
As25	F -like	2S2 2P4 (1D) 3S (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.588	PET 002	1	8.742	79.230
As25	F -like	2S2 2P4 (1D) 3S (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.588	EDT 020	1	8.808	77.167
As25	F -like	2S2 2P4 (1D) 3S (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.588	RAP 100	3	26.116	80.582
As25	F -like	2S2 2P4 (1D) 3S (2D)j=2.5 - 2S2 2P5	(2P*)j=1.5	8.588	KAP 100	3	26.634	75.315
As25	F -like	2S2 2P4 (3P) 3S (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.641	PET 002	1	8.742	81.282
As25	F -like	2S2 2P4 (3P) 3S (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.641	EDT 020	1	8.808	78.825
As25	F -like	2S2 2P4 (3P) 3S (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.641	RAP 100	3	26.116	83.030
As25	F -like	2S2 2P4 (3P) 3S (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	8.641	KAP 100	3	26.634	76.731

As25	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.661	PET 002	1	8.742	82.194
As25	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.661	EDT 020	1	8.808	79.518
As25	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.661	RAP 100	3	26.116	84.215
As25	F -like	2S2 2P4	(3P)	3S (4P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.661	KAP 100	3	26.634	77.306
As25	F -like	2S2 2P4	(3P)	3S (4P)j= .5	- 2S2 2P5	(2P*)j=1.5	8.753	EDT 020	1	8.808	83.594
As25	F -like	2S2 2P4	(3P)	3S (4P)j= .5	- 2S2 2P5	(2P*)j=1.5	8.753	KAP 100	3	26.634	80.374
As25	F -like	2S2 2P4	(1D)	3S (2D)j=1.5	- 2S2 2P5	(2P*)j= .5	8.810	KAP 100	3	26.634	82.904
As25	F -like	2S2 2P4	(3P)	3S (2P)j=1.5	- 2S2 2P5	(2P*)j=1.5	8.855	KAP 100	3	26.634	85.875
As25	F -like	2S2 2P4	(3P)	3S (4P)j=2.5	- 2S2 2P5	(2P*)j=1.5	8.873	KAP 100	3	26.634	88.077
As26	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.916	calcite 200	1	6.071	77.025
As26	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.916	Si 111	1	6.271	70.629
As26	O -like	2S2 2P3	(2P*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.916	sylvite 200	1	6.292	70.092
As26	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.973	calcite 200	1	6.071	79.691
As26	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.973	Si 111	1	6.271	72.266
As26	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.973	sylvite 200	1	6.292	71.677
As26	O -like	2S2 2P3	(2D*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.973	fluorite 111	1	6.308	71.243
As26	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	6.047	calcite 200	1	6.071	84.904
As26	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	6.047	Si 111	1	6.271	74.640
As26	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	6.047	sylvite 200	1	6.292	73.958
As26	O -like	2S2 2P3	(2P*)	4D (3F*)j=3.0	- 2S2 2P4	(1D)j=2.0	6.047	fluorite 111	1	6.308	73.461
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	6.081	Si 111	1	6.271	75.860
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	6.081	sylvite 200	1	6.292	75.120
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	6.081	fluorite 111	1	6.308	74.582
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	6.081	TAP 100	4	25.763	70.760
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	6.117	Si 111	1	6.271	77.276
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	6.117	sylvite 200	1	6.292	76.455
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	6.117	fluorite 111	1	6.308	75.865
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=1.0	- 2S2 2P4	(3P)j= .0	6.117	TAP 100	4	25.763	71.756
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	Si 111	1	6.271	79.962
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	sylvite 200	1	6.292	78.933
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	fluorite 111	1	6.308	78.214
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	Ge 111	1	6.532	70.970
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	TAP 100	4	25.763	73.484
As26	O -like	2S2 2P3	(4S*)	4D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.175	RAP 100	4	26.116	71.046
As26	O -like	2S2 2P3	(2P*)	3D (3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	7.602	beryl 100	2	15.954	72.362
As26	O -like	2S2 2P3	(2P*)	3D (3F*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.632	beryl 100	2	15.954	73.088
As26	O -like	2S2 2P3	(2D*)	3D (3P*)j=1.0	- 2S2 2P4	(3P)j=1.0	7.655	beryl 100	2	15.954	73.665
As26	O -like	2S2 2P3	(2P*)	3D (1F*)j=3.0	- 2S2 2P4	(1D)j=2.0	7.665	beryl 100	2	15.954	73.922
As26	O -like	2S2 2P3	(2P*)	3D (3P*)j=2.0	- 2S2 2P4	(1D)j=2.0	7.829	beryl 100	2	15.954	78.946
As26	O -like	2S2 2P3	(4S*)	3D (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	7.847	beryl 100	2	15.954	79.642
As26	O -like	2S2 2P3	(2D*)	3D (1F*)j=3.0	- 2S2 2P4	(1D)j=2.0	7.861	beryl 100	2	15.954	80.217
As26	O -like	2S2 2P3	(2P*)	3S (3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	8.133	topaz 002	1	8.374	76.221
As26	O -like	2S2 2P3	(2P*)	3S (3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	8.133	quartz 100	1	8.512	72.838
As26	O -like	2S2 2P3	(2P*)	3S (3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	8.133	TAP 100	3	25.763	71.272
As26	O -like	2S2 2P3	(2D*)	3S (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	8.182	topaz 002	1	8.374	77.707
As26	O -like	2S2 2P3	(2D*)	3S (3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	8.182	quartz 100	1	8.512	73.994

As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	8.182	TAP 100	3	25.763	72.319
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=3.0 - 2S2 2P4	(3P)j=2.0	8.182	RAP 100	3	26.116	70.032
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	topaz 002	1	8.374	81.975
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	quartz 100	1	8.512	76.945
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	PET 002	1	8.742	71.536
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	EDT 020	1	8.808	70.291
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	TAP 100	3	25.763	74.922
As26	O -like	2S2 2P3 (2P*) 3S	(3P*)j= .0 - 2S2 2P4	(3P)j=1.0	8.292	RAP 100	3	26.116	72.273
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	quartz 100	1	8.512	80.368
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	PET 002	1	8.742	73.732
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	EDT 020	1	8.808	72.321
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	TAP 100	3	25.763	77.746
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	RAP 100	3	26.116	74.581
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=2.0	8.392	KAP 100	3	26.634	70.954
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	quartz 100	1	8.512	81.661
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	PET 002	1	8.742	74.450
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	EDT 020	1	8.808	72.975
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	TAP 100	3	25.763	78.728
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	RAP 100	3	26.116	75.342
As26	O -like	2S2 2P3 (2D*) 3S	(1D*)j=2.0 - 2S2 2P4	(1D)j=2.0	8.422	KAP 100	3	26.634	71.557
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	quartz 100	1	8.512	82.388
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	PET 002	1	8.742	74.821
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	EDT 020	1	8.808	73.311
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	TAP 100	3	25.763	79.252
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	RAP 100	3	26.116	75.737
As26	O -like	2S2 2P3 (2D*) 3S	(3D*)j=2.0 - 2S2 2P4	(3P)j=1.0	8.437	KAP 100	3	26.634	71.865
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	quartz 100	1	8.512	85.975
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	PET 002	1	8.742	76.237
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	EDT 020	1	8.808	74.582
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	TAP 100	3	25.763	81.395
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	RAP 100	3	26.116	77.260
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	8.491	KAP 100	3	26.634	73.020
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=1.0	8.600	PET 002	1	8.742	79.659
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=1.0	8.600	EDT 020	1	8.808	77.524
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=1.0	8.600	RAP 100	3	26.116	81.078
As26	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j=1.0	8.600	KAP 100	3	26.634	75.624
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	quartz 223	2	2.024	72.098
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	calcite 422	3	3.034	72.215
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	fluorite 220	4	3.862	85.876
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	Ge 220	4	4.000	74.365
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	LiF 200	4	4.027	73.047
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	Al 200	4	4.048	72.098
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	quartz 110	5	4.912	78.595
As32	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.963	gypsum 002	5	4.990	74.781
As32	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.132	Ge 422	2	2.310	78.547
As32	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.132	quartz 310	2	2.360	73.602

As32	He-like	1S	2P		(1P*)j=1.0 - 1S2		(1S)j= .0	1.132	quartz 112	4	4.564	82.799
As32	He-like	1S	2P		(1P*)j=1.0 - 1S2		(1S)j= .0	1.132	topaz 200	4	4.638	77.497
As32	He-like	1S	2P		(1P*)j=1.0 - 1S2		(1S)j= .0	1.132	Al 111	4	4.676	75.546
As32	He-like	1S	2P		(3P*)j=1.0 - 1S2		(1S)j= .0	1.138	Ge 422	2	2.310	80.158
As32	He-like	1S	2P		(3P*)j=1.0 - 1S2		(1S)j= .0	1.138	quartz 310	2	2.360	74.667
As32	He-like	1S	2P		(3P*)j=1.0 - 1S2		(1S)j= .0	1.138	quartz 112	4	4.564	85.844
As32	He-like	1S	2P		(3P*)j=1.0 - 1S2		(1S)j= .0	1.138	topaz 200	4	4.638	78.949
As32	He-like	1S	2P		(3P*)j=1.0 - 1S2		(1S)j= .0	1.138	Al 111	4	4.676	76.776
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	Ge 422	2	2.310	81.734
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	quartz 310	2	2.360	75.614
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	quartz 112	3	3.636	70.574
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	topaz 200	4	4.638	80.323
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	Al 111	4	4.676	77.893
As32	He-like	1S	2S		(3S)j=1.0 - 1S2		(1S)j= .0	1.143	calcite 200	5	6.071	70.281
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	topaz 006	3	2.795	84.263
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	LiF 220	3	2.848	77.547
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	Si 220	4	3.840	74.934
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	fluorite 220	4	3.862	73.765
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	topaz 200	5	4.638	87.939
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	Al 111	5	4.676	82.407
As33	H -like	3P			(2P*)j=1.5 - 1S		(2S)j= .5	.927	quartz 110	5	4.912	70.666
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	Si 422	2	2.217	81.387
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	Ge 422	2	2.310	71.608
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	tungsten 110	4	4.476	78.363
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	quartz 112	4	4.564	73.855
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	topaz 200	4	4.638	70.950
As33	H -like	2P			(2P*)j=1.5 - 1S		(2S)j= .5	1.096	NaCl 200	5	5.641	76.278
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	Si 422	2	2.217	83.792
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	Ge 422	2	2.310	72.576
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	tungsten 110	4	4.476	80.000
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	quartz 112	4	4.564	74.976
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	topaz 200	4	4.638	71.880
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	Al 111	4	4.676	70.508
As33	H -like	2P			(2P*)j= .5 - 1S		(2S)j= .5	1.102	NaCl 200	5	5.641	77.628
Se		K-alpha(1)						1.105	Si 422	2	2.217	85.317
Se		K-alpha(1)						1.105	Ge 422	2	2.310	73.046
Se		K-alpha(1)						1.105	tungsten 110	4	4.476	80.863
Se		K-alpha(1)						1.105	quartz 112	4	4.564	75.529
Se		K-alpha(1)						1.105	topaz 200	4	4.638	72.331
Se		K-alpha(1)						1.105	Al 111	4	4.676	70.923
Se		K-alpha(1)						1.105	NaCl 200	5	5.641	78.310
Se23	Mg-like	3S	4P		(1P*)j=1.0 - 3S2		(1S)j= .0	25.360	TAP 100	1	25.763	79.852
Se23	Mg-like	3S	4P		(1P*)j=1.0 - 3S2		(1S)j= .0	25.360	RAP 100	1	26.116	76.180
Se23	Mg-like	3S	4P		(1P*)j=1.0 - 3S2		(1S)j= .0	25.360	KAP 100	1	26.634	72.207
Se24	Na-like	2P5	(2P*1)	3P (3D	(03)j=2.5 - 2P6	3P	(2P*)j=1.5	7.718	beryl 100	2	15.954	75.360
Se24	Na-like	2P5	(2P*1)	(3D2 (	(14*)j=3.5 - 2P6	3D	(2D)j=2.5	7.757	beryl 100	2	15.954	76.512

Se24	Na-like	2P5	(2P*1)	(3D2	(	(13*)j=2.5	-	2P6	3D	(2D)j=2.5	7.782	beryl 100	2	15.954	77.305
Se24	Na-like	2P5	(2P*1)	3P	(3D	(12)j=1.5	-	2P6	3P	(2P*)j= .5	7.790	beryl 100	2	15.954	77.569
Se24	Na-like	2P5	(2P*2)	3P	(3D	(23)j=2.5	-	2P6	3P	(2P*)j=1.5	7.805	beryl 100	2	15.954	78.080
Se24	Na-like	2P5	(2P*1)	(3D2	(	(12*)j=2.5	-	2P6	3D	(2D)j=1.5	7.821	beryl 100	2	15.954	78.650
Se24	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	7.945	topaz 002	1	8.374	71.581
Se24	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=2.5	-	2P6	3D	(2D)j=2.5	7.945	beryl 100	2	15.954	84.866
Se24	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	7.969	topaz 002	1	8.374	72.108
Se24	Na-like	2P5	(2P*2)	(3D2	(	(24*)j=3.5	-	2P6	3D	(2D)j=2.5	7.969	beryl 100	2	15.954	87.434
Se24	Na-like	2P6	5D			(2D)j=2.5	-	2P6	3P	(2P*)j=1.5	18.980	mica 002	1	19.942	72.131
Se24	Na-like	2P6	4P			(2P*)j=1.5	-	2P6	3S	(2S)j= .5	24.530	TAP 100	1	25.763	72.202
Se24	Na-like	2P6	4P			(2P*)j= .5	-	2P6	3S	(2S)j= .5	24.730	TAP 100	1	25.763	73.720
Se24	Na-like	2P6	4P			(2P*)j= .5	-	2P6	3S	(2S)j= .5	24.730	RAP 100	1	26.116	71.250
Se24	Na-like	2P6	4D			(2D)j=1.5	-	2P6	3P	(2P*)j= .5	25.830	RAP 100	1	26.116	81.513
Se24	Na-like	2P6	4D			(2D)j=1.5	-	2P6	3P	(2P*)j= .5	25.830	KAP 100	1	26.634	75.886
Se24	Na-like	2P6	4D			(2D)j=2.5	-	2P6	3P	(2P*)j=1.5	26.350	KAP 100	1	26.634	81.625
Se25	Ne-like	2S2	2P5	(2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	5.252	ADP 101	2	10.640	80.829
Se25	Ne-like	2S2	2P5	(2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	5.252	beryl 100	3	15.954	80.964
Se25	Ne-like	2S2	2P5	(2P*2)	7D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	5.252	KAP 100	5	26.634	80.387
Se25	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.300	ADP 101	2	10.640	85.030
Se25	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.300	beryl 100	3	15.954	85.285
Se25	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.300	KAP 100	5	26.634	84.250
Se25	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	5.395	NaCl 200	1	5.641	73.017
Se25	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	5.547	NaCl 200	1	5.641	79.526
Se25	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.078	Si 111	1	6.271	75.748
Se25	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.078	sylvite 200	1	6.292	75.014
Se25	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.078	fluorite 111	1	6.308	74.480
Se25	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0	-	2S2	2P6	(1S)j= .0	6.078	TAP 100	4	25.763	70.679
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	Si 111	1	6.271	81.431
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	sylvite 200	1	6.292	80.244
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	fluorite 111	1	6.308	79.432
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	Ge 111	1	6.532	71.682
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	KBr 200	1	6.584	70.361
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	TAP 100	4	25.763	74.318
Se25	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0	-	2S2	2P6	(1S)j= .0	6.201	RAP 100	4	26.116	71.762
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	Ge 111	1	6.532	75.432
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	KBr 200	1	6.584	73.782
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	quartz 101	1	6.687	70.982
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	graphite 002	1	6.696	70.760
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	mica 002	3	19.942	72.000
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	TAP 100	4	25.763	78.981
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	RAP 100	4	26.116	75.534
Se25	Ne-like	2S2	2P5	(2P*1)	4S	(11*)j=1.0	-	2S2	2P6	(1S)j= .0	6.322	KAP 100	4	26.634	71.707
Se25	Ne-like	2S2	2P5	(2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.368	Ge 111	1	6.532	77.134
Se25	Ne-like	2S2	2P5	(2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.368	KBr 200	1	6.584	75.283
Se25	Ne-like	2S2	2P5	(2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.368	quartz 101	1	6.687	72.231
Se25	Ne-like	2S2	2P5	(2P*2)	4S	(22*)j=1.0	-	2S2	2P6	(1S)j= .0	6.368	graphite 002	1	6.696	71.992

Se25	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	6.368	mica 002	3	19.942	73.331
Se25	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	6.368	TAP 100	4	25.763	81.380
Se25	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	6.368	RAP 100	4	26.116	77.250
Se25	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	6.368	KAP 100	4	26.634	73.013
Se25	Ne-like	2S 2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.243	InSb 111	1	7.481	75.509
Se25	Ne-like	2S 2P6		3P	(1P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.243	gypsum 020	2	15.185	72.548
Se25	Ne-like	2S 2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.294	InSb 111	1	7.481	77.162
Se25	Ne-like	2S 2P6		3P	(3P*)j=1.0	-	2S2 2P6	(1S)j= .0	7.294	gypsum 020	2	15.185	73.881
Se25	Ne-like	2S2 2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	7.685	beryl 100	2	15.954	74.450
Se25	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	7.874	topaz 002	1	8.374	70.101
Se25	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	7.874	beryl 100	2	15.954	80.783
Se25	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	7.967	topaz 002	1	8.374	72.063
Se25	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	7.967	beryl 100	2	15.954	87.131
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	quartz 100	1	8.512	79.669
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	PET 002	1	8.742	73.316
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	EDT 020	1	8.808	71.939
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	TAP 100	3	25.763	77.192
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	RAP 100	3	26.116	74.141
Se25	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	8.374	KAP 100	3	26.634	70.601
Se25	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.615	PET 002	1	8.742	80.222
Se25	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.615	EDT 020	1	8.808	77.984
Se25	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.615	RAP 100	3	26.116	81.739
Se25	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.615	KAP 100	3	26.634	76.019
Se26	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.781	calcite 200	1	6.071	72.219
Se26	F -like	2S2 2P4	(1D)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.796	calcite 200	1	6.071	72.689
Se26	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.829	calcite 200	1	6.071	73.768
Se26	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.889	calcite 200	1	6.071	75.935
Se26	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	5.906	calcite 200	1	6.071	76.611
Se26	F -like	2S2 2P4	(1D)	4D	(2D)j=1.5	-	2S2 2P5	(2P*)j= .5	5.906	Si 111	1	6.271	70.355
Se26	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.930	calcite 200	1	6.071	77.627
Se26	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.930	Si 111	1	6.271	71.018
Se26	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.930	sylvite 200	1	6.292	70.470
Se26	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.930	fluorite 111	1	6.308	70.064
Se26	F -like	2S2 2P4	(1D)	4S	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.045	calcite 200	1	6.071	84.695
Se26	F -like	2S2 2P4	(1D)	4S	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.045	Si 111	1	6.271	74.571
Se26	F -like	2S2 2P4	(1D)	4S	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.045	sylvite 200	1	6.292	73.893
Se26	F -like	2S2 2P4	(1D)	4S	(2D)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.045	fluorite 111	1	6.308	73.397
Se26	F -like	2S2 2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.075	Si 111	1	6.271	75.637
Se26	F -like	2S2 2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.075	sylvite 200	1	6.292	74.909
Se26	F -like	2S2 2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.075	fluorite 111	1	6.308	74.379
Se26	F -like	2S2 2P4	(3P)	4S	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	6.075	TAP 100	4	25.763	70.598
Se26	F -like	2S 2P5	(3P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.057	InSb 111	1	7.481	70.617
Se26	F -like	2S 2P5	(3P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.085	InSb 111	1	7.481	71.274
Se26	F -like	2S 2P5	(3P*)	3P	(4D)j=1.5	-	2S2 2P5	(2P*)j=1.5	7.097	InSb 111	1	7.481	71.563
Se26	F -like	2S 2P5	(3P*)	3P	(2S)j= .5	-	2S2 2P5	(2P*)j= .5	7.116	InSb 111	1	7.481	72.028
Se26	F -like	2S 2P5	(3P*)	3P	(4D)j=2.5	-	2S2 2P5	(2P*)j=1.5	7.138	InSb 111	1	7.481	72.583

Se26	F -like	2S 2P5	(3P*)	3P	(4D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.138	gypsum 020	2	15.185	70.075
Se26	F -like	2S 2P5	(3P*)	3P	(4P)j=1.5	- 2S2 2P5		(2P*)j= .5	7.190	InSb 111	1	7.481	73.967
Se26	F -like	2S 2P5	(3P*)	3P	(4P)j=1.5	- 2S2 2P5		(2P*)j= .5	7.190	gypsum 020	2	15.185	71.260
Se26	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	- 2S2 2P5		(2P*)j=1.5	7.353	InSb 111	1	7.481	79.386
Se26	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	- 2S2 2P5		(2P*)j=1.5	7.353	gypsum 020	2	15.185	75.571
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j=1.5	7.368	InSb 111	1	7.481	80.029
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j=1.5	7.368	gypsum 020	2	15.185	76.032
Se26	F -like	2S2 2P4	(1S)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	7.379	InSb 111	1	7.481	80.528
Se26	F -like	2S2 2P4	(1S)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	7.379	gypsum 020	2	15.185	76.380
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.400	InSb 111	1	7.481	81.561
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.400	gypsum 020	2	15.185	77.070
Se26	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	- 2S2 2P5		(2P*)j=1.5	7.417	InSb 111	1	7.481	82.500
Se26	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	- 2S2 2P5		(2P*)j=1.5	7.417	gypsum 020	2	15.185	77.657
Se26	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.465	InSb 111	1	7.481	86.252
Se26	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.465	gypsum 020	2	15.185	79.485
Se26	F -like	2S2 2P4	(3P)	3D	(4D)j=1.5	- 2S2 2P5		(2P*)j=1.5	7.487	gypsum 020	2	15.185	80.437
Se26	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	- 2S2 2P5		(2P*)j= .5	7.548	gypsum 020	2	15.185	83.794
Se26	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	- 2S2 2P5		(2P*)j= .5	7.548	beryl 100	2	15.954	71.124
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	7.565	gypsum 020	2	15.185	85.122
Se26	F -like	2S2 2P4	(1D)	3D	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	7.565	beryl 100	2	15.954	71.505
Se26	F -like	2S2 2P4	(1D)	3D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	7.596	beryl 100	2	15.954	72.220
Se26	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.610	beryl 100	2	15.954	72.553
Se26	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	7.623	beryl 100	2	15.954	72.867
Se26	F -like	2S2 2P4	(3P)	3D	(4P)j= .5	- 2S2 2P5		(2P*)j=1.5	7.637	beryl 100	2	15.954	73.211
Se26	F -like	2S2 2P4	(3P)	3D	(2P)j=1.5	- 2S2 2P5		(2P*)j= .5	7.658	beryl 100	2	15.954	73.742
Se26	F -like	2S2 2P4	(3P)	3D	(4D)j=1.5	- 2S2 2P5		(2P*)j= .5	7.685	beryl 100	2	15.954	74.450
Se26	F -like	2S2 2P4	(1S)	3S	(2S)j= .5	- 2S2 2P5		(2P*)j= .5	7.945	topaz 002	1	8.374	71.581
Se26	F -like	2S2 2P4	(1S)	3S	(2S)j= .5	- 2S2 2P5		(2P*)j= .5	7.945	beryl 100	2	15.954	84.866
Se26	F -like	2S2 2P4	(1D)	3S	(2D)j=2.5	- 2S2 2P5		(2P*)j=1.5	7.978	topaz 002	1	8.374	72.309
Se26	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	- 2S2 2P5		(2P*)j=1.5	8.026	topaz 002	1	8.374	73.424
Se26	F -like	2S2 2P4	(3P)	3S	(2P)j= .5	- 2S2 2P5		(2P*)j=1.5	8.026	quartz 100	1	8.512	70.545
Se26	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.042	topaz 002	1	8.374	73.812
Se26	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.042	quartz 100	1	8.512	70.871
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j= .5	- 2S2 2P5		(2P*)j=1.5	8.156	topaz 002	1	8.374	76.898
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j= .5	- 2S2 2P5		(2P*)j=1.5	8.156	quartz 100	1	8.512	73.371
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j= .5	- 2S2 2P5		(2P*)j=1.5	8.156	TAP 100	3	25.763	71.756
Se26	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	8.197	topaz 002	1	8.374	78.199
Se26	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	8.197	quartz 100	1	8.512	74.364
Se26	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	8.197	TAP 100	3	25.763	72.651
Se26	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	- 2S2 2P5		(2P*)j= .5	8.197	RAP 100	3	26.116	70.323
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.237	topaz 002	1	8.374	79.622
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.237	quartz 100	1	8.512	75.396
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.237	PET 002	1	8.742	70.430
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.237	TAP 100	3	25.763	73.570
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	- 2S2 2P5		(2P*)j=1.5	8.237	RAP 100	3	26.116	71.121
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	- 2S2 2P5		(2P*)j=1.5	8.259	topaz 002	1	8.374	80.494

Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.259	quartz 100	1	8.512	75.996
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.259	PET 002	1	8.742	70.865
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.259	TAP 100	3	25.763	74.097
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	8.259	RAP 100	3	26.116	71.573
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	quartz 100	1	8.512	85.269
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	PET 002	1	8.742	76.018
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	EDT 020	1	8.808	74.387
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	TAP 100	3	25.763	81.045
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	RAP 100	3	26.116	77.023
Se26	F -like	2S2 2P4	(3P)	3S	(4P)j=1.5	-	2S2 2P5	(2P*)j= .5	8.483	KAP 100	3	26.634	72.845
Se27	O -like	2S2 2P3	(2D*)	4D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	5.537	NaCl 200	1	5.641	78.981
Se27	O -like	2S2 2P3	(4S*)	4D	(3D*)j=1.0	-	2S2 2P4	(3P)j= .0	5.713	calcite 200	1	6.071	70.225
Se27	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	5.781	calcite 200	1	6.071	72.219
Se27	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=1.0	7.091	InSb 111	1	7.481	71.418
Se27	O -like	2S2 2P3	(2D*)	3D	(3S*)j=1.0	-	2S2 2P4	(3P)j=2.0	7.124	InSb 111	1	7.481	72.228
Se27	O -like	2S2 2P3	(2P*)	3D	(1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	7.138	InSb 111	1	7.481	72.583
Se27	O -like	2S2 2P3	(2P*)	3D	(1F*)j=3.0	-	2S2 2P4	(1D)j=2.0	7.138	gypsum 020	2	15.185	70.075
Se27	O -like	2S2 2P3	(2D*)	3D	(3F*)j=2.0	-	2S2 2P4	(3P)j=2.0	7.150	InSb 111	1	7.481	72.893
Se27	O -like	2S2 2P3	(2D*)	3D	(3F*)j=2.0	-	2S2 2P4	(3P)j=2.0	7.150	gypsum 020	2	15.185	70.342
Se27	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(1D)j=2.0	7.170	InSb 111	1	7.481	73.421
Se27	O -like	2S2 2P3	(2P*)	3D	(3P*)j=1.0	-	2S2 2P4	(1D)j=2.0	7.170	gypsum 020	2	15.185	70.796
Se27	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	7.177	InSb 111	1	7.481	73.610
Se27	O -like	2S2 2P3	(2D*)	3D	(1P*)j=1.0	-	2S2 2P4	(3P)j=2.0	7.177	gypsum 020	2	15.185	70.957
Se27	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.207	InSb 111	1	7.481	74.445
Se27	O -like	2S2 2P3	(2D*)	3D	(3G*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.207	gypsum 020	2	15.185	71.664
Se27	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.214	InSb 111	1	7.481	74.646
Se27	O -like	2S2 2P3	(2D*)	3D	(3F*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.214	gypsum 020	2	15.185	71.832
Se27	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4	(3P)j=1.0	7.290	InSb 111	1	7.481	77.025
Se27	O -like	2S2 2P3	(2D*)	3D	(1D*)j=2.0	-	2S2 2P4	(3P)j=1.0	7.290	gypsum 020	2	15.185	73.772
Se27	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	7.294	InSb 111	1	7.481	77.162
Se27	O -like	2S2 2P3	(2P*)	3D	(3P*)j=2.0	-	2S2 2P4	(1D)j=2.0	7.294	gypsum 020	2	15.185	73.881
Se27	O -like	2S2 2P3	(2P*)	3D	(3F*)j=2.0	-	2S2 2P4	(1D)j=2.0	7.301	InSb 111	1	7.481	77.406
Se27	O -like	2S2 2P3	(2P*)	3D	(3F*)j=2.0	-	2S2 2P4	(1D)j=2.0	7.301	gypsum 020	2	15.185	74.072
Se27	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	7.316	InSb 111	1	7.481	77.944
Se27	O -like	2S2 2P3	(2D*)	3D	(3P*)j= .0	-	2S2 2P4	(3P)j=1.0	7.316	gypsum 020	2	15.185	74.490
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.329	InSb 111	1	7.481	78.430
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=3.0	-	2S2 2P4	(3P)j=2.0	7.329	gypsum 020	2	15.185	74.861
Se27	O -like	2S2 2P3	(2P*)	3D	(1P*)j=1.0	-	2S2 2P4	(1S)j= .0	7.340	InSb 111	1	7.481	78.858
Se27	O -like	2S2 2P3	(2P*)	3D	(1P*)j=1.0	-	2S2 2P4	(1S)j= .0	7.340	gypsum 020	2	15.185	75.182
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	7.353	InSb 111	1	7.481	79.386
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=2.0	-	2S2 2P4	(3P)j=2.0	7.353	gypsum 020	2	15.185	75.571
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4	(3P)j= .0	7.400	InSb 111	1	7.481	81.561
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4	(3P)j= .0	7.400	gypsum 020	2	15.185	77.070
Se27	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4	(3P)j=1.0	7.565	gypsum 020	2	15.185	85.122
Se27	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	-	2S2 2P4	(3P)j=1.0	7.565	beryl 100	2	15.954	71.505
Se27	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4	(1D)j=2.0	7.610	beryl 100	2	15.954	72.553

Se27	O -like	2S2 2P3	(2D*)	3S	(3D*)j=3.0	-	2S2 2P4			(3P)j=2.0	7.623	beryl 100	2	15.954	72.867
Se27	O -like	2S2 2P3	(4S*)	3D	(3D*)j=1.0	-	2S2 2P4			(1S)j= .0	7.782	beryl 100	2	15.954	77.305
Se27	O -like	2S2 2P3	(2D*)	3S	(1D*)j=2.0	-	2S2 2P4			(3P)j=1.0	7.801	beryl 100	2	15.954	77.942
Se27	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0	-	2S2 2P4			(3P)j=2.0	7.821	beryl 100	2	15.954	78.650
Se27	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	-	2S2 2P4			(1S)j= .0	7.846	beryl 100	2	15.954	79.602
Se27	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4			(3P)j=1.0	7.874	topaz 002	1	8.374	70.101
Se27	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	-	2S2 2P4			(3P)j=1.0	7.874	beryl 100	2	15.954	80.783
Se31	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.011	calcite 200	1	6.071	81.938
Se31	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.011	Si 111	1	6.271	73.444
Se31	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.011	sylvite 200	1	6.292	72.812
Se31	Be-like	1S2 2P		3P	(3P)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.011	fluorite 111	1	6.308	72.348
Se31	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.048	calcite 200	1	6.071	85.011
Se31	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.048	Si 111	1	6.271	74.674
Se31	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.048	sylvite 200	1	6.292	73.991
Se31	Be-like	1S2 2P		3P	(3P)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.048	fluorite 111	1	6.308	73.492
Se31	Be-like	1S2 2P		3P	(3P)j= .0	-	1S2 2S	2P		(3P*)j=1.0	6.129	Si 111	1	6.271	77.784
Se31	Be-like	1S2 2P		3P	(3P)j= .0	-	1S2 2S	2P		(3P*)j=1.0	6.129	sylvite 200	1	6.292	76.930
Se31	Be-like	1S2 2P		3P	(3P)j= .0	-	1S2 2S	2P		(3P*)j=1.0	6.129	fluorite 111	1	6.308	76.318
Se31	Be-like	1S2 2P		3P	(3P)j= .0	-	1S2 2S	2P		(3P*)j=1.0	6.129	TAP 100	4	25.763	72.101
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	Si 111	1	6.271	80.067
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	sylvite 200	1	6.292	79.029
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	fluorite 111	1	6.308	78.303
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	Ge 111	1	6.532	71.024
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	TAP 100	4	25.763	73.546
Se31	Be-like	1S2 2P		3P	(1D)j=2.0	-	1S2 2S		2P	(3P*)j=2.0	6.177	RAP 100	4	26.116	71.100
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	Si 111	1	6.271	83.773
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	sylvite 200	1	6.292	82.214
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	fluorite 111	1	6.308	81.215
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	Ge 111	1	6.532	72.626
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	KBr 200	1	6.584	71.234
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	TAP 100	4	25.763	75.443
Se31	Be-like	1S2 2P		3P	(1P)j=1.0	-	1S2 2S		2P	(1P*)j=1.0	6.234	RAP 100	4	26.116	72.711
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	Si 111	1	6.271	84.119
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	sylvite 200	1	6.292	82.488
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	fluorite 111	1	6.308	81.456
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	Ge 111	1	6.532	72.744
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	KBr 200	1	6.584	71.343
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	TAP 100	4	25.763	75.586
Se31	Be-like	1S2 2P		3P	(3S)j=1.0	-	1S2 2S		2P	(3P*)j=2.0	6.238	RAP 100	4	26.116	72.829
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	Ge 111	1	6.532	74.952
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	KBr 200	1	6.584	73.351
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	quartz 101	1	6.687	70.617
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	graphite 002	1	6.696	70.400
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	mica 002	3	19.942	71.614
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	TAP 100	4	25.763	78.347
Se31	Be-like	1S2 2S		3D	(3D)j=1.0	-	1S2 2S	2P		(3P*)j=1.0	6.308	RAP 100	4	26.116	75.050

Se31	Be-like	1S2	2S		3D (3D)j=1.0 -	1S2	2S	2P	(3P*)j=1.0	6.308	KAP 100	4	26.634	71.327
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	Ge 111	1	6.532	75.432
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	KBr 200	1	6.584	73.782
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	quartz 101	1	6.687	70.982
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	graphite 002	1	6.696	70.760
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	mica 002	3	19.942	72.000
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	TAP 100	4	25.763	78.981
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	RAP 100	4	26.116	75.534
Se31	Be-like	1S2	2P		3D (3P*)j=1.0 -	1S2	2P2		(3P)j=2.0	6.322	KAP 100	4	26.634	71.707
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	Ge 111	1	6.532	77.134
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	KBr 200	1	6.584	75.283
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	quartz 101	1	6.687	72.231
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	graphite 002	1	6.696	71.992
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	mica 002	3	19.942	73.331
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	TAP 100	4	25.763	81.380
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	RAP 100	4	26.116	77.250
Se31	Be-like	1S2	2P		3D (3D*)j=2.0 -	1S2	2P2		(3P)j=2.0	6.368	KAP 100	4	26.634	73.013
Se31	Be-like			0	( )j= .0 -			0	( )j= .0	5.952	calcite 200	1	6.071	78.637
Se31	Be-like			0	( )j= .0 -			0	( )j= .0	5.952	Si 111	1	6.271	71.646
Se31	Be-like			0	( )j= .0 -			0	( )j= .0	5.952	sylvite 200	1	6.292	71.078
Se31	Be-like			0	( )j= .0 -			0	( )j= .0	5.952	fluorite 111	1	6.308	70.659
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	corundum 030	3	2.748	81.112
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	quartz 203	3	2.749	80.979
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	topaz 006	3	2.795	76.259
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	LiF 220	3	2.848	72.421
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	quartz 112	4	3.636	84.623
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	Si 220	4	3.840	70.511
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	quartz 112	5	4.564	82.504
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	topaz 200	5	4.638	77.326
Se33	He-like	1S	3P		(3P*)j=1.0 -	1S2			(1S)j= .0	.905	Al 111	5	4.676	75.400
Se33	He-like	1S	2P		(1P*)j=1.0 -	1S2			(1S)j= .0	1.064	Si 422	2	2.217	73.710
Se33	He-like	1S	2P		(1P*)j=1.0 -	1S2			(1S)j= .0	1.064	tungsten 110	4	4.476	71.962
Se33	He-like	1S	2P		(1P*)j=1.0 -	1S2			(1S)j= .0	1.064	NaCl 200	5	5.641	70.578
Se33	He-like	1S	2P		(3P*)j=1.0 -	1S2			(1S)j= .0	1.071	Si 422	2	2.217	75.054
Se33	He-like	1S	2P		(3P*)j=1.0 -	1S2			(1S)j= .0	1.071	tungsten 110	4	4.476	73.157
Se33	He-like	1S	2P		(3P*)j=1.0 -	1S2			(1S)j= .0	1.071	NaCl 200	5	5.641	71.677
Se33	He-like	1S	2S		(3S)j=1.0 -	1S2			(1S)j= .0	1.075	Si 422	2	2.217	75.878
Se33	He-like	1S	2S		(3S)j=1.0 -	1S2			(1S)j= .0	1.075	tungsten 110	4	4.476	73.879
Se33	He-like	1S	2S		(3S)j=1.0 -	1S2			(1S)j= .0	1.075	quartz 112	4	4.564	70.417
Se33	He-like	1S	2S		(3S)j=1.0 -	1S2			(1S)j= .0	1.075	NaCl 200	5	5.641	72.335
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	LiF 420	2	1.801	75.547
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	topaz 303	3	2.712	74.710
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	corundum 030	3	2.748	72.169
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	quartz 203	3	2.749	72.105
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	quartz 112	4	3.636	73.596
Se34	H -like	3P			(2P*)j=1.5 -	1S			(2S)j= .5	.872	tungsten 110	5	4.476	76.927

Se34	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	.872	quartz 112	5	4.564	72.805
Se34	H -like	3P		(2P*)j=1.5 - 1S		(2S)j= .5	.872	topaz 200	5	4.638	70.062
Se34	H -like	2P		(2P*)j=1.5 - 1S		(2S)j= .5	1.031	quartz 200	4	4.246	76.232
Se34	H -like	2P		(2P*)j= .5 - 1S		(2S)j= .5	1.037	quartz 200	4	4.246	77.666
Br		K-alpha(1)					1.040	quartz 200	4	4.246	78.395
Br24	Mg-like	3S 4D		(3D)j=3.0 - 3S	3P	(3P*)j=2.0	24.816	TAP 100	1	25.763	74.417
Br24	Mg-like	3S 4D		(3D)j=3.0 - 3S	3P	(3P*)j=2.0	24.816	RAP 100	1	26.116	71.846
Br25	Na-like	2P5 (2P*1) 3P	(3D	(03)j=2.5 - 2P6 3P		(2P*)j=1.5	7.188	InSb 111	1	7.481	73.911
Br25	Na-like	2P5 (2P*1) 3P	(3D	(03)j=2.5 - 2P6 3P		(2P*)j=1.5	7.188	gypsum 020	2	15.185	71.213
Br25	Na-like	2P5 (2P*1) 3S	(3D	(12*)j=1.5 - 2P6 3S		(2S)j= .5	7.200	InSb 111	1	7.481	74.246
Br25	Na-like	2P5 (2P*1) 3S	(3D	(12*)j=1.5 - 2P6 3S		(2S)j= .5	7.200	gypsum 020	2	15.185	71.496
Br25	Na-like	2P5 (2P*1)	(3D2 (	(14*)j=3.5 - 2P6 3D		(2D)j=2.5	7.232	InSb 111	1	7.481	75.176
Br25	Na-like	2P5 (2P*1)	(3D2 (	(14*)j=3.5 - 2P6 3D		(2D)j=2.5	7.232	gypsum 020	2	15.185	72.273
Br25	Na-like	2P5 (2P*1)	(3D2 (	(13*)j=2.5 - 2P6 3D		(2D)j=2.5	7.246	InSb 111	1	7.481	75.601
Br25	Na-like	2P5 (2P*1)	(3D2 (	(13*)j=2.5 - 2P6 3D		(2D)j=2.5	7.246	gypsum 020	2	15.185	72.623
Br25	Na-like	2P5 (2P*1) 3P	(3D	(12)j=1.5 - 2P6 3P		(2P*)j= .5	7.254	InSb 111	1	7.481	75.849
Br25	Na-like	2P5 (2P*1) 3P	(3D	(12)j=1.5 - 2P6 3P		(2P*)j= .5	7.254	gypsum 020	2	15.185	72.827
Br25	Na-like	2P5 (2P*1)	(3D2 (	(13*)j=2.5 - 2P6 3D		(2D)j=1.5	7.285	InSb 111	1	7.481	76.856
Br25	Na-like	2P5 (2P*1)	(3D2 (	(13*)j=2.5 - 2P6 3D		(2D)j=1.5	7.285	gypsum 020	2	15.185	73.638
Br25	Na-like	2P5 (2P*2)	(3D2 (	(20*)j=1.5 - 2P6 3D		(2D)j=2.5	7.391	InSb 111	1	7.481	81.104
Br25	Na-like	2P5 (2P*2)	(3D2 (	(20*)j=1.5 - 2P6 3D		(2D)j=2.5	7.391	gypsum 020	2	15.185	76.770
Br25	Na-like	2P5 (2P*2)	(3D2 (	(24*)j=2.5 - 2P6 3D		(2D)j=2.5	7.413	InSb 111	1	7.481	82.269
Br25	Na-like	2P5 (2P*2)	(3D2 (	(24*)j=2.5 - 2P6 3D		(2D)j=2.5	7.413	gypsum 020	2	15.185	77.516
Br25	Na-like	2P5 (2P*2)	(3D2 (	(24*)j=3.5 - 2P6 3D		(2D)j=2.5	7.436	InSb 111	1	7.481	83.712
Br25	Na-like	2P5 (2P*2)	(3D2 (	(24*)j=3.5 - 2P6 3D		(2D)j=2.5	7.436	gypsum 020	2	15.185	78.347
Br25	Na-like	2P6 4D		(2D)j=2.5 - 2P6 3P		(2P*)j=1.5	24.465	TAP 100	1	25.763	71.735
Br26	Ne-like	2S2 2P5 (2P*2)	6D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.005	ADP 101	2	10.640	70.185
Br26	Ne-like	2S2 2P5 (2P*2)	6D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.005	gypsum 020	3	15.185	81.419
Br26	Ne-like	2S2 2P5 (2P*2)	6D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.005	beryl 100	3	15.954	70.244
Br26	Ne-like	2S2 2P5 (2P*2)	6D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.005	TAP 100	5	25.763	76.253
Br26	Ne-like	2S2 2P5 (2P*2)	6D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.005	RAP 100	5	26.116	73.380
Br26	Ne-like	2S2 2P5 (2P*1)	5D	(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.148	ADP 101	2	10.640	75.391
Br26	Ne-like	2S2 2P5 (2P*1)	5D	(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.148	beryl 100	3	15.954	75.474
Br26	Ne-like	2S2 2P5 (2P*1)	5D	(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.148	TAP 100	5	25.763	87.579
Br26	Ne-like	2S2 2P5 (2P*1)	5D	(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.148	RAP 100	5	26.116	80.266
Br26	Ne-like	2S2 2P5 (2P*1)	5D	(12*)j=1.0 - 2S2 2P6		(1S)j= .0	5.148	KAP 100	5	26.634	75.113
Br26	Ne-like	2S2 2P5 (2P*2)	5D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.251	ADP 101	2	10.640	80.762
Br26	Ne-like	2S2 2P5 (2P*2)	5D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.251	beryl 100	3	15.954	80.895
Br26	Ne-like	2S2 2P5 (2P*2)	5D	(23*)j=1.0 - 2S2 2P6		(1S)j= .0	5.251	KAP 100	5	26.634	80.323
Br26	Ne-like	2S 2P6		4P(1P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.292	ADP 101	2	10.640	84.119
Br26	Ne-like	2S 2P6		4P(1P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.292	beryl 100	3	15.954	84.332
Br26	Ne-like	2S 2P6		4P(1P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.292	KAP 100	5	26.634	83.447
Br26	Ne-like	2S 2P6		4P(3P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.305	NaCl 200	1	5.641	70.125
Br26	Ne-like	2S 2P6		4P(3P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.305	ADP 101	2	10.640	85.696
Br26	Ne-like	2S 2P6		4P(3P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.305	beryl 100	3	15.954	85.993
Br26	Ne-like	2S 2P6		4P(3P*)j=1.0 - 2S2 2P6		(1S)j= .0	5.305	KAP 100	5	26.634	84.815

Br26	Ne-like	2S2 2P5	(2P*2)	4D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	5.771	calcite 200	1	6.071	71.913
Br26	Ne-like	2S2 2P5	(2P*1)	4S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	5.793	calcite 200	1	6.071	72.594
Br26	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	5.928	calcite 200	1	6.071	77.540
Br26	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	5.928	Si 111	1	6.271	70.962
Br26	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	5.928	sylvite 200	1	6.292	70.416
Br26	Ne-like	2S2 2P5	(2P*2)	4S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	5.928	fluorite 111	1	6.308	70.011
Br26	Ne-like	2S2 2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	7.169	InSb 111	1	7.481	73.394
Br26	Ne-like	2S2 2P5	(2P*1)	3D	(12*)j=1.0	-	2S2 2P6	(1S)j= .0	7.169	gypsum 020	2	15.185	70.773
Br26	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	7.351	InSb 111	1	7.481	79.303
Br26	Ne-like	2S2 2P5	(2P*2)	3D	(23*)j=1.0	-	2S2 2P6	(1S)j= .0	7.351	gypsum 020	2	15.185	75.510
Br26	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	7.436	InSb 111	1	7.481	83.712
Br26	Ne-like	2S2 2P5	(2P*2)	3D	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	7.436	gypsum 020	2	15.185	78.347
Br26	Ne-like	2S2 2P5	(2P*1)	3S	(11*)j=1.0	-	2S2 2P6	(1S)j= .0	7.790	beryl 100	2	15.954	77.569
Br26	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.030	topaz 002	1	8.374	73.520
Br26	Ne-like	2S2 2P5	(2P*2)	3S	(22*)j=1.0	-	2S2 2P6	(1S)j= .0	8.030	quartz 100	1	8.512	70.626
Br27	F -like	2S2 2P4	(1S)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.400	NaCl 200	1	5.641	73.192
Br27	F -like	2S2 2P4	(1D)	4D	(2F)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.412	NaCl 200	1	5.641	73.618
Br27	F -like	2S2 2P4	(3P)	4D	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.429	NaCl 200	1	5.641	74.242
Br27	F -like	2S2 2P4	(3P)	4D	(4F)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.493	NaCl 200	1	5.641	76.846
Br27	F -like	2S2 2P4	(1D)	4S	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.507	NaCl 200	1	5.641	77.487
Br27	F -like	2S2 2P4	(3P)	4D	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	5.530	NaCl 200	1	5.641	78.615
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	Ge 111	1	6.532	76.784
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	KBr 200	1	6.584	74.978
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	quartz 101	1	6.687	71.980
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	graphite 002	1	6.696	71.745
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	mica 002	3	19.942	73.063
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	TAP 100	4	25.763	80.862
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	RAP 100	4	26.116	76.897
Br27	F -like	2S 2P5	(1P*)	3P	(2D)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.359	KAP 100	4	26.634	72.750
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	Ge 111	1	6.532	85.515
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	KBr 200	1	6.584	81.519
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	quartz 101	1	6.687	76.863
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	graphite 002	1	6.696	76.537
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	mica 002	3	19.942	78.419
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	RAP 100	4	26.116	85.864
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j=1.5	-	2S2 2P5	(2P*)j= .5	6.512	KAP 100	4	26.634	77.959
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	Ge 111	1	6.532	88.997
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	KBr 200	1	6.584	82.725
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	quartz 101	1	6.687	77.600
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	graphite 002	1	6.696	77.254
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	mica 002	3	19.942	79.265
Br27	F -like	2S 2P5	(1P*)	3P	(2P)j= .5	-	2S2 2P5	(2P*)j= .5	6.531	KAP 100	4	26.634	78.769
Br27	F -like	2S 2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.556	KBr 200	1	6.584	84.714
Br27	F -like	2S 2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.556	quartz 101	1	6.687	78.640
Br27	F -like	2S 2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.556	graphite 002	1	6.696	78.263
Br27	F -like	2S 2P5	(3P*)	3P	(4P)j=2.5	-	2S2 2P5	(2P*)j=1.5	6.556	mica 002	3	19.942	80.491

Br27	F -like	2S	2P5	(3P*)	3P	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	6.556	KAP 100	4	26.634	79.934
Br27	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.567	KBr 200	1	6.584	85.882
Br27	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.567	quartz 101	1	6.687	79.129
Br27	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.567	graphite 002	1	6.696	78.735
Br27	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.567	mica 002	3	19.942	81.083
Br27	F -like	2S	2P5	(1P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.567	KAP 100	4	26.634	80.490
Br27	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.598	quartz 101	1	6.687	80.642
Br27	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.598	graphite 002	1	6.696	80.185
Br27	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.598	mica 002	3	19.942	83.015
Br27	F -like	2S	2P5	(3P*)	3P	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.598	KAP 100	4	26.634	82.270
Br27	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.624	quartz 101	1	6.687	82.129
Br27	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.624	graphite 002	1	6.696	81.590
Br27	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.624	mica 002	3	19.942	85.198
Br27	F -like	2S	2P5	(3P*)	3P	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	6.624	KAP 100	4	26.634	84.165
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.633	quartz 101	1	6.687	82.714
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.633	graphite 002	1	6.696	82.134
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.633	mica 002	3	19.942	86.237
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=1.5	-	2S2	2P5	(2P*)j=1.5	6.633	KAP 100	4	26.634	84.984
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2	2P5	(2P*)j=1.5	6.674	quartz 101	1	6.687	86.427
Br27	F -like	2S	2P5	(3P*)	3P	(4D)j=2.5	-	2S2	2P5	(2P*)j=1.5	6.674	graphite 002	1	6.696	85.354
Br27	F -like	2S2	2P4	(1D)	3D	(2P)j= .5	-	2S2	2P5	(2P*)j= .5	7.057	InSb 111	1	7.481	70.617
Br27	F -like	2S2	2P4	(1D)	3D	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	7.071	InSb 111	1	7.481	70.943
Br27	F -like	2S2	2P4	(3P)	3D	(4F)j=1.5	-	2S2	2P5	(2P*)j=1.5	7.092	InSb 111	1	7.481	71.442
Br27	F -like	2S2	2P4	(3P)	3D	(2F)j=2.5	-	2S2	2P5	(2P*)j=1.5	7.111	InSb 111	1	7.481	71.905
Br27	F -like	2S2	2P4	(3P)	3D	(4F)j=2.5	-	2S2	2P5	(2P*)j=1.5	7.118	InSb 111	1	7.481	72.078
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j= .5	-	2S2	2P5	(2P*)j=1.5	7.140	InSb 111	1	7.481	72.634
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j= .5	-	2S2	2P5	(2P*)j=1.5	7.140	gypsum 020	2	15.185	70.119
Br27	F -like	2S2	2P4	(3P)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j= .5	7.169	InSb 111	1	7.481	73.394
Br27	F -like	2S2	2P4	(3P)	3D	(2P)j=1.5	-	2S2	2P5	(2P*)j= .5	7.169	gypsum 020	2	15.185	70.773
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j=1.5	-	2S2	2P5	(2P*)j= .5	7.330	InSb 111	1	7.481	78.469
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j=1.5	-	2S2	2P5	(2P*)j= .5	7.330	gypsum 020	2	15.185	74.890
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j= .5	-	2S2	2P5	(2P*)j= .5	7.348	InSb 111	1	7.481	79.180
Br27	F -like	2S2	2P4	(3P)	3D	(4P)j= .5	-	2S2	2P5	(2P*)j= .5	7.348	gypsum 020	2	15.185	75.420
Br27	F -like	2S2	2P4	(1S)	3S	(2S)j= .5	-	2S2	2P5	(2P*)j= .5	7.403	InSb 111	1	7.481	81.719
Br27	F -like	2S2	2P4	(1S)	3S	(2S)j= .5	-	2S2	2P5	(2P*)j= .5	7.403	gypsum 020	2	15.185	77.172
Br27	F -like	2S2	2P4	(1D)	3S	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	7.436	InSb 111	1	7.481	83.712
Br27	F -like	2S2	2P4	(1D)	3S	(2D)j=2.5	-	2S2	2P5	(2P*)j=1.5	7.436	gypsum 020	2	15.185	78.347
Br27	F -like	2S2	2P4	(3P)	3S	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	7.473	InSb 111	1	7.481	87.350
Br27	F -like	2S2	2P4	(3P)	3S	(2P)j= .5	-	2S2	2P5	(2P*)j=1.5	7.473	gypsum 020	2	15.185	79.821
Br27	F -like	2S2	2P4	(3P)	3S	(4P)j=1.5	-	2S2	2P5	(2P*)j=1.5	7.488	gypsum 020	2	15.185	80.483
Br27	F -like	2S2	2P4	(3P)	3S	(4P)j= .5	-	2S2	2P5	(2P*)j=1.5	7.608	beryl 100	2	15.954	72.505
Br27	F -like	2S2	2P4	(1D)	3S	(2D)j=1.5	-	2S2	2P5	(2P*)j= .5	7.651	beryl 100	2	15.954	73.563
Br27	F -like	2S2	2P4	(3P)	3S	(2P)j=1.5	-	2S2	2P5	(2P*)j=1.5	7.685	beryl 100	2	15.954	74.450
Br27	F -like	2S2	2P4	(3P)	3S	(4P)j=2.5	-	2S2	2P5	(2P*)j=1.5	7.704	beryl 100	2	15.954	74.967
Br27	F -like	2S2	2P4	(3P)	3S	(4P)j=1.5	-	2S2	2P5	(2P*)j= .5	7.720	beryl 100	2	15.954	75.417
Br28	O -like	2S2	2P3	(2P*)	4D	(3P*)j=2.0	-	2S2	2P4	(3P)j=2.0	5.148	ADP 101	2	10.640	75.391

Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	5.148	beryl 100	3	15.954	75.474
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	5.148	TAP 100	5	25.763	87.579
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	5.148	RAP 100	5	26.116	80.266
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	5.148	KAP 100	5	26.634	75.113
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.251	ADP 101	2	10.640	80.762
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.251	beryl 100	3	15.954	80.895
Br28	O -like	2S2 2P3	(2P*)	4D	(3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.251	KAP 100	5	26.634	80.323
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.292	ADP 101	2	10.640	84.119
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.292	beryl 100	3	15.954	84.332
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=3.0	- 2S2 2P4	(3P)j=2.0	5.292	KAP 100	5	26.634	83.447
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	NaCl 200	1	5.641	70.125
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	ADP 101	2	10.640	85.696
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	beryl 100	3	15.954	85.993
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	KAP 100	5	26.634	84.815
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	NaCl 200	1	5.641	70.125
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	ADP 101	2	10.640	85.696
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	beryl 100	3	15.954	85.993
Br28	O -like	2S2 2P3	(2D*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.305	KAP 100	5	26.634	84.815
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=1.0	- 2S2 2P4	(3P)j= .0	5.325	NaCl 200	1	5.641	70.731
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=1.0	- 2S2 2P4	(3P)j= .0	5.325	KAP 100	5	26.634	88.510
Br28	O -like	2S2 2P3	(4S*)	4D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	5.400	NaCl 200	1	5.641	73.192
Br28	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.624	quartz 101	1	6.687	82.129
Br28	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.624	graphite 002	1	6.696	81.590
Br28	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.624	mica 002	3	19.942	85.198
Br28	O -like	2S2 2P3	(2P*)	3D	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	6.624	KAP 100	4	26.634	84.165
Br28	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	6.675	quartz 101	1	6.687	86.567
Br28	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	6.675	graphite 002	1	6.696	85.461
Br28	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	6.675	quartz 101	1	6.687	86.567
Br28	O -like	2S2 2P3	(2D*)	3D	(3P*)j=2.0	- 2S2 2P4	(3P)j=2.0	6.675	graphite 002	1	6.696	85.461
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	- 2S2 2P4	(3P)j=1.0	7.071	InSb 111	1	7.481	70.943
Br28	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	- 2S2 2P4	(1D)j=2.0	7.110	InSb 111	1	7.481	71.880
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j=2.0	- 2S2 2P4	(1D)j=2.0	7.123	InSb 111	1	7.481	72.203
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j=1.0	- 2S2 2P4	(3P)j= .0	7.132	InSb 111	1	7.481	72.430
Br28	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	- 2S2 2P4	(3P)j=2.0	7.169	InSb 111	1	7.481	73.394
Br28	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	- 2S2 2P4	(3P)j=2.0	7.169	gypsum 020	2	15.185	70.773
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j= .0	- 2S2 2P4	(3P)j=1.0	7.246	InSb 111	1	7.481	75.601
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j= .0	- 2S2 2P4	(3P)j=1.0	7.246	gypsum 020	2	15.185	72.623
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j=1.0	- 2S2 2P4	(1D)j=2.0	7.271	InSb 111	1	7.481	76.392
Br28	O -like	2S2 2P3	(2P*)	3S	(3P*)j=1.0	- 2S2 2P4	(1D)j=2.0	7.271	gypsum 020	2	15.185	73.267
Br28	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0	- 2S2 2P4	(3P)j=2.0	7.285	InSb 111	1	7.481	76.856
Br28	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0	- 2S2 2P4	(3P)j=2.0	7.285	gypsum 020	2	15.185	73.638
Br28	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	- 2S2 2P4	(1S)j= .0	7.351	InSb 111	1	7.481	79.303
Br28	O -like	2S2 2P3	(2P*)	3S	(1P*)j=1.0	- 2S2 2P4	(1S)j= .0	7.351	gypsum 020	2	15.185	75.510
Br28	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	7.370	InSb 111	1	7.481	80.118
Br28	O -like	2S2 2P3	(2D*)	3S	(3D*)j=2.0	- 2S2 2P4	(3P)j=1.0	7.370	gypsum 020	2	15.185	76.095
Br28	O -like	2S2 2P3	(4S*)	3S	(3S*)j=1.0	- 2S2 2P4	(3P)j= .0	7.403	InSb 111	1	7.481	81.719

Br28	O -like	2S2 2P3 (4S*) 3S	(3S*)j=1.0 - 2S2 2P4	(3P)j= .0	7.403	gypsum 020	2	15.185	77.172
Br28	O -like	2S2 2P3 (2D*) 3S	(3D*)j=3.0 - 2S2 2P4	(1D)j=2.0	7.412	InSb 111	1	7.481	82.212
Br28	O -like	2S2 2P3 (2D*) 3S	(3D*)j=3.0 - 2S2 2P4	(1D)j=2.0	7.412	gypsum 020	2	15.185	77.482
Br34	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.853	LiF 420	2	1.801	71.307
Br34	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.853	topaz 303	3	2.712	70.662
Br34	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.853	tungsten 110	5	4.476	72.337
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	quartz 223	2	2.024	81.939
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	calcite 422	3	3.034	82.210
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	quartz 211	3	3.082	77.250
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	LiF 200	4	4.027	84.432
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	Al 200	4	4.048	81.939
Br34	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	1.002	quartz 200	4	4.246	70.725
Br34	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.009	quartz 223	2	2.024	85.587
Br34	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.009	calcite 422	3	3.034	86.107
Br34	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.009	quartz 211	3	3.082	79.159
Br34	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.009	Al 200	4	4.048	85.587
Br34	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	1.009	quartz 200	4	4.246	71.905
Br34	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.012	quartz 211	3	3.082	80.088
Br34	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	1.012	quartz 200	4	4.246	72.434
Br35	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.822	LiF 422	2	1.652	84.359
Br35	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.822	corundum 146	2	1.660	82.039
Br35	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.822	quartz 200	5	4.246	75.459
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	quartz 223	2	2.024	73.837
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	calcite 422	3	3.034	73.968
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	quartz 211	3	3.082	71.109
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	Ge 220	4	4.000	76.410
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	LiF 200	4	4.027	74.902
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	Al 200	4	4.048	73.837
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	quartz 110	5	4.912	81.656
Br35	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.972	gypsum 002	5	4.990	76.893
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	quartz 223	2	2.024	75.106
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	calcite 422	3	3.034	75.249
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	quartz 211	3	3.082	72.172
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	Ge 220	4	4.000	77.959
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	LiF 200	4	4.027	76.274
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	Al 200	4	4.048	75.106
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	quartz 110	5	4.912	84.575
Br35	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.978	gypsum 002	5	4.990	78.510
Kr		K-alpha(1)			.980	quartz 223	2	2.024	75.599
Kr		K-alpha(1)			.980	calcite 422	3	3.034	75.746
Kr		K-alpha(1)			.980	quartz 211	3	3.082	72.577
Kr		K-alpha(1)			.980	Ge 220	4	4.000	78.579
Kr		K-alpha(1)			.980	LiF 200	4	4.027	76.812
Kr		K-alpha(1)			.980	Al 200	4	4.048	75.599
Kr		K-alpha(1)			.980	quartz 110	5	4.912	86.165
Kr		K-alpha(1)			.980	gypsum 002	5	4.990	79.162

Kr26	Na-like	2P5	3S2			(2P*)j= .5 -	2P6	3S	(2S)j= .5	7.322	InSb 111	1	7.481	78.166
Kr26	Na-like	2P5	3S2			(2P*)j= .5 -	2P6	3S	(2S)j= .5	7.322	gypsum 020	2	15.185	74.660
Kr26	Na-like	2P5	3S		3D	(31*)j=2.5 -	2P6	3D	(2D)j=2.5	7.350	InSb 111	1	7.481	79.262
Kr26	Na-like	2P5	3S		3D	(31*)j=2.5 -	2P6	3D	(2D)j=2.5	7.350	gypsum 020	2	15.185	75.480
Kr26	Na-like	2P5	3S		3D	(29*)j=3.5 -	2P6	3D	(2D)j=2.5	7.376	InSb 111	1	7.481	80.389
Kr26	Na-like	2P5	3S		3D	(29*)j=3.5 -	2P6	3D	(2D)j=2.5	7.376	gypsum 020	2	15.185	76.284
Kr26	Na-like	2P5	3S		3D	(28*)j=2.5 -	2P6	3D	(2D)j=2.5	7.384	InSb 111	1	7.481	80.763
Kr26	Na-like	2P5	3S		3D	(28*)j=2.5 -	2P6	3D	(2D)j=2.5	7.384	gypsum 020	2	15.185	76.541
Kr26	Na-like	2P5	3S		3P	(8)j=2.5 -	2P6	3P	(2P*)j=1.5	7.393	InSb 111	1	7.481	81.203
Kr26	Na-like	2P5	3S		3P	(8)j=2.5 -	2P6	3P	(2P*)j=1.5	7.393	gypsum 020	2	15.185	76.836
Kr26	Na-like	2P5	3S		3P	(6)j=2.5 -	2P6	3P	(2P*)j=1.5	7.554	gypsum 020	2	15.185	84.228
Kr26	Na-like	2P5	3S		3P	(6)j=2.5 -	2P6	3P	(2P*)j=1.5	7.554	beryl 100	2	15.954	71.258
Kr26	Na-like	2P5	3S2			(2P*)j=1.5 -	2P6	3S	(2S)j= .5	7.570	gypsum 020	2	15.185	85.588
Kr26	Na-like	2P5	3S2			(2P*)j=1.5 -	2P6	3S	(2S)j= .5	7.570	beryl 100	2	15.954	71.619
Kr26	Na-like	2P5	3S		3D	(25*)j=3.5 -	2P6	3D	(2D)j=2.5	7.594	beryl 100	2	15.954	72.173
Kr26	Na-like	2P5	3S		3D	(24*)j=3.5 -	2P6	3D	(2D)j=2.5	7.604	beryl 100	2	15.954	72.409
Kr26	Na-like	2P5	3S		3D	(20*)j=2.5 -	2P6	3D	(2D)j=1.5	7.614	beryl 100	2	15.954	72.649
Kr26	Na-like	2P5	3S		3P	(5)j=2.5 -	2P6	3P	(2P*)j=1.5	7.623	beryl 100	2	15.954	72.867
Kr26	Na-like	2P5	3S		3P	(4)j=1.5 -	2P6	3P	(2P*)j=1.5	7.634	beryl 100	2	15.954	73.137
Kr26	Na-like	2P6	4F			(2F*)j=2.5 -	2P6	3D	(2D)j=1.5	25.605	TAP 100	1	25.763	83.651
Kr26	Na-like	2P6	4F			(2F*)j=2.5 -	2P6	3D	(2D)j=1.5	25.605	RAP 100	1	26.116	78.647
Kr26	Na-like	2P6	4F			(2F*)j=2.5 -	2P6	3D	(2D)j=1.5	25.605	KAP 100	1	26.634	74.022
Kr26	Na-like	2P6	4F			(2F*)j=3.5 -	2P6	3D	(2D)j=2.5	25.715	TAP 100	1	25.763	86.502
Kr26	Na-like	2P6	4F			(2F*)j=3.5 -	2P6	3D	(2D)j=2.5	25.715	RAP 100	1	26.116	79.947
Kr26	Na-like	2P6	4F			(2F*)j=3.5 -	2P6	3D	(2D)j=2.5	25.715	KAP 100	1	26.634	74.905
Kr26	Na-like		0			( )j= .0 -		0	( )j= .0	7.538	gypsum 020	2	15.185	83.131
Kr26	Na-like		0			( )j= .0 -		0	( )j= .0	7.538	beryl 100	2	15.954	70.903
Kr27	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.598	topaz 200	1	4.638	82.470
Kr27	Ne-like	2S2	2P5	(2P*1)	6D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.598	Al 111	1	4.676	79.520
Kr27	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.690	quartz 110	1	4.912	72.708
Kr27	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.690	gypsum 002	1	4.990	70.031
Kr27	Ne-like	2S2	2P5	(2P*2)	6D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.690	mica 002	4	19.942	70.174
Kr27	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.812	quartz 110	1	4.912	78.419
Kr27	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.812	gypsum 002	1	4.990	74.650
Kr27	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.812	gypsum 020	3	15.185	71.929
Kr27	Ne-like	2S2	2P5	(2P*1)	5D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	4.812	mica 002	4	19.942	74.840
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	quartz 110	1	4.912	88.844
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	gypsum 002	1	4.990	79.791
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	gypsum 020	3	15.185	75.985
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	mica 002	4	19.942	80.082
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	TAP 100	5	25.763	72.385
Kr27	Ne-like	2S2	2P5	(2P*2)	5D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	4.911	RAP 100	5	26.116	70.090
Kr27	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	5.277	ADP 101	2	10.640	82.710
Kr27	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	5.277	beryl 100	3	15.954	82.881
Kr27	Ne-like	2S2	2P5	(2P*1)	4D	(12*)j=1.0 -	2S2	2P6	(1S)j= .0	5.277	KAP 100	5	26.634	82.159
Kr27	Ne-like	2S2	2P5	(2P*2)	4D	(23*)j=1.0 -	2S2	2P6	(1S)j= .0	5.397	NaCl 200	1	5.641	73.087

Kr27	Ne-like	2S2 2P5	(2P*1)	4S (11*)j=1.0 -	2S2 2P6	(1S)j= .0	5.494	NaCl 200	1	5.641	76.891
Kr27	Ne-like	2S2 2P5	(2P*2)	4S (22*)j=1.0 -	2S2 2P6	(1S)j= .0	5.522	NaCl 200	1	5.641	78.210
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	Ge 111	1	6.532	75.929
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	KBr 200	1	6.584	74.224
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	quartz 101	1	6.687	71.354
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	graphite 002	1	6.696	71.127
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	mica 002	3	19.942	72.395
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	TAP 100	4	25.763	79.652
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	RAP 100	4	26.116	76.034
Kr27	Ne-like	2S 2P6		3P (1P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.336	KAP 100	4	26.634	72.095
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	Ge 111	1	6.532	77.822
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	KBr 200	1	6.584	75.877
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	quartz 101	1	6.687	72.715
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	graphite 002	1	6.696	72.469
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	mica 002	3	19.942	73.850
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	TAP 100	4	25.763	82.456
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	RAP 100	4	26.116	77.944
Kr27	Ne-like	2S 2P6		3P (3P*)j=1.0 -	2S2 2P6	(1S)j= .0	6.385	KAP 100	4	26.634	73.521
Kr27	Ne-like	2S2 2P5	(2P*1)	3S (11*)j=1.0 -	2S2 2P6	(1S)j= .0	7.269	InSb 111	1	7.481	76.327
Kr27	Ne-like	2S2 2P5	(2P*1)	3S (11*)j=1.0 -	2S2 2P6	(1S)j= .0	7.269	gypsum 020	2	15.185	73.214
Kr27	Ne-like	2S2 2P5	(2P*2)	3S (22*)j=1.0 -	2S2 2P6	(1S)j= .0	7.507	gypsum 020	2	15.185	81.393
Kr27	Ne-like	2S2 2P5	(2P*2)	3S (22*)j=1.0 -	2S2 2P6	(1S)j= .0	7.507	beryl 100	2	15.954	70.234
Kr28	F -like	2S 2P5	(3P*)	3P (2P)j=1.5 -	2S2 2P5	(2P*)j=1.5	6.129	Si 111	1	6.271	77.784
Kr28	F -like	2S 2P5	(3P*)	3P (2P)j=1.5 -	2S2 2P5	(2P*)j=1.5	6.129	sylvite 200	1	6.292	76.930
Kr28	F -like	2S 2P5	(3P*)	3P (2P)j=1.5 -	2S2 2P5	(2P*)j=1.5	6.129	fluorite 111	1	6.308	76.318
Kr28	F -like	2S 2P5	(3P*)	3P (2P)j=1.5 -	2S2 2P5	(2P*)j=1.5	6.129	TAP 100	4	25.763	72.101
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	Si 111	1	6.271	78.495
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	sylvite 200	1	6.292	77.591
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	fluorite 111	1	6.308	76.947
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	Ge 111	1	6.532	70.178
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	TAP 100	4	25.763	72.570
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	RAP 100	4	26.116	70.252
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	Si 111	1	6.271	78.495
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	sylvite 200	1	6.292	77.591
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	fluorite 111	1	6.308	76.947
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	Ge 111	1	6.532	70.178
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	TAP 100	4	25.763	72.570
Kr28	F -like	2S 2P5	(3P*)	3P (2S)j= .5 -	2S2 2P5	(2P*)j=1.5	6.145	RAP 100	4	26.116	70.252
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	Si 111	1	6.271	79.500
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	sylvite 200	1	6.292	78.514
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	fluorite 111	1	6.308	77.820
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	Ge 111	1	6.532	70.729
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	TAP 100	4	25.763	73.204
Kr28	F -like	2S 2P5	(1P*)	3P (2D)j=2.5 -	2S2 2P5	(2P*)j=1.5	6.166	RAP 100	4	26.116	70.804
Kr28	F -like	2S 2P5	(3P*)	3P (4P)j=1.5 -	2S2 2P5	(2P*)j= .5	6.171	Si 111	1	6.271	79.754
Kr28	F -like	2S 2P5	(3P*)	3P (4P)j=1.5 -	2S2 2P5	(2P*)j= .5	6.171	sylvite 200	1	6.292	78.745

Kr28 F -like	2S 2P5 (3P*) 3P (4P)j=1.5 - 2S2 2P5	(2P*)j= .5	6.171	fluorite 111	1	6.308	78.037
Kr28 F -like	2S 2P5 (3P*) 3P (4P)j=1.5 - 2S2 2P5	(2P*)j= .5	6.171	Ge 111	1	6.532	70.862
Kr28 F -like	2S 2P5 (3P*) 3P (4P)j=1.5 - 2S2 2P5	(2P*)j= .5	6.171	TAP 100	4	25.763	73.359
Kr28 F -like	2S 2P5 (3P*) 3P (4P)j=1.5 - 2S2 2P5	(2P*)j= .5	6.171	RAP 100	4	26.116	70.938
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	Si 111	1	6.271	82.269
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	sylvite 200	1	6.292	80.969
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	fluorite 111	1	6.308	80.096
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	Ge 111	1	6.532	72.048
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	KBr 200	1	6.584	70.700
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	TAP 100	4	25.763	74.752
Kr28 F -like	2S 2P5 (3P*) 3P (4D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.214	RAP 100	4	26.116	72.130
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	Si 111	1	6.271	86.455
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	sylvite 200	1	6.292	84.129
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	fluorite 111	1	6.308	82.854
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	Ge 111	1	6.532	73.377
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	KBr 200	1	6.584	71.923
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	mica 002	3	19.942	70.319
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	TAP 100	4	25.763	76.356
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	RAP 100	4	26.116	73.465
Kr28 F -like	2S 2P5 (1P*) 3P (2S)j= .5 - 2S2 2P5	(2P*)j=1.5	6.259	KAP 100	4	26.634	70.052
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	Ge 111	1	6.532	79.280
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	KBr 200	1	6.584	77.107
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	quartz 101	1	6.687	73.693
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	graphite 002	1	6.696	73.432
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	mica 002	3	19.942	74.906
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	TAP 100	4	25.763	85.183
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	RAP 100	4	26.116	79.420
Kr28 F -like	2S2 2P4 (1D) 3D (2P)j= .5 - 2S2 2P5	(2P*)j=1.5	6.418	KAP 100	4	26.634	74.554
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	Ge 111	1	6.532	79.762
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	KBr 200	1	6.584	77.503
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	quartz 101	1	6.687	74.001
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	graphite 002	1	6.696	73.735
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	mica 002	3	19.942	75.241
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	TAP 100	4	25.763	86.394
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	RAP 100	4	26.116	79.909
Kr28 F -like	2S2 2P4 (1D) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j=1.5	6.428	KAP 100	4	26.634	74.880
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	Ge 111	1	6.532	80.856
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	KBr 200	1	6.584	78.377
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	quartz 101	1	6.687	74.668
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	graphite 002	1	6.696	74.389
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	mica 002	3	19.942	75.969
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	RAP 100	4	26.116	81.022
Kr28 F -like	2S2 2P4 (1S) 3D (2D)j=1.5 - 2S2 2P5	(2P*)j= .5	6.449	KAP 100	4	26.634	75.589
Kr28 F -like	2S2 2P4 (1D) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	6.466	Ge 111	1	6.532	81.848
Kr28 F -like	2S2 2P4 (1D) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	6.466	KBr 200	1	6.584	79.136
Kr28 F -like	2S2 2P4 (1D) 3D (2F)j=2.5 - 2S2 2P5	(2P*)j=1.5	6.466	quartz 101	1	6.687	75.229

Kr28	F -like	2S2 2P4	(1D)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.466	graphite 002	1	6.696	74.939
Kr28	F -like	2S2 2P4	(1D)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.466	mica 002	3	19.942	76.586
Kr28	F -like	2S2 2P4	(1D)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.466	RAP 100	4	26.116	82.034
Kr28	F -like	2S2 2P4	(1D)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.466	KAP 100	4	26.634	76.189
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	Ge 111	1	6.532	82.696
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	KBr 200	1	6.584	79.754
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	quartz 101	1	6.687	75.672
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	graphite 002	1	6.696	75.374
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	mica 002	3	19.942	77.078
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	RAP 100	4	26.116	82.905
Kr28	F -like	2S2 2P4	(1D)	3D	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	6.479	KAP 100	4	26.634	76.666
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	Ge 111	1	6.532	84.507
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	KBr 200	1	6.584	80.948
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	quartz 101	1	6.687	76.491
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	graphite 002	1	6.696	76.174
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	mica 002	3	19.942	77.997
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	RAP 100	4	26.116	84.788
Kr28	F -like	2S2 2P4	(3P)	3D	(2F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.502	KAP 100	4	26.634	77.553
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	Ge 111	1	6.532	86.385
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	KBr 200	1	6.584	81.942
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	quartz 101	1	6.687	77.130
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	graphite 002	1	6.696	76.797
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	mica 002	3	19.942	78.723
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	RAP 100	4	26.116	86.829
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.519	KAP 100	4	26.634	78.251
Kr28	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	-	2S2 2P5		(2P*)j= .5	6.614	quartz 101	1	6.687	81.526
Kr28	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	-	2S2 2P5		(2P*)j= .5	6.614	graphite 002	1	6.696	81.024
Kr28	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	-	2S2 2P5		(2P*)j= .5	6.614	mica 002	3	19.942	84.260
Kr28	F -like	2S2 2P4	(1D)	3D	(2P)j= .5	-	2S2 2P5		(2P*)j= .5	6.614	KAP 100	4	26.634	83.372
Kr28	F -like	2S2 2P4	(1S)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.626	quartz 101	1	6.687	82.255
Kr28	F -like	2S2 2P4	(1S)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.626	graphite 002	1	6.696	81.708
Kr28	F -like	2S2 2P4	(1S)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.626	mica 002	3	19.942	85.408
Kr28	F -like	2S2 2P4	(1S)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.626	KAP 100	4	26.634	84.337
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.639	quartz 101	1	6.687	83.131
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.639	graphite 002	1	6.696	82.519
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.639	mica 002	3	19.942	87.131
Kr28	F -like	2S2 2P4	(3P)	3D	(4F)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.639	KAP 100	4	26.634	85.614
Kr28	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.663	quartz 101	1	6.687	85.144
Kr28	F -like	2S2 2P4	(3P)	3D	(2D)j=2.5	-	2S2 2P5		(2P*)j=1.5	6.663	graphite 002	1	6.696	84.309
Kr28	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.678	quartz 101	1	6.687	87.027
Kr28	F -like	2S2 2P4	(3P)	3D	(4P)j=1.5	-	2S2 2P5		(2P*)j=1.5	6.678	graphite 002	1	6.696	85.798
Kr28	F -like	2S2 2P4	(1S)	3S	(2S)j= .5	-	2S2 2P5		(2P*)j=1.5	7.123	InSb 111	1	7.481	72.203
Kr28	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5		(2P*)j= .5	7.162	InSb 111	1	7.481	73.208
Kr28	F -like	2S2 2P4	(1D)	3S	(2D)j=1.5	-	2S2 2P5		(2P*)j= .5	7.162	gypsum 020	2	15.185	70.613
Kr28	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5	-	2S2 2P5		(2P*)j=1.5	7.193	InSb 111	1	7.481	74.050
Kr28	F -like	2S2 2P4	(3P)	3S	(2P)j=1.5	-	2S2 2P5		(2P*)j=1.5	7.193	gypsum 020	2	15.185	71.331

Kr28	F -like	2S2 2P4 (3P) 3S	(4P)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.209	InSb 111	1	7.481	74.502
Kr28	F -like	2S2 2P4 (3P) 3S	(4P)j=2.5 - 2S2 2P5	(2P*)j=1.5	7.209	gypsum 020	2	15.185	71.712
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	quartz 502	2	1.624	82.471
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	LiF 422	2	1.652	77.053
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	corundum 146	2	1.660	75.902
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	quartz 220	3	2.451	80.168
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	LiF 200	5	4.027	88.194
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	Al 200	5	4.048	83.889
Kr35	He-like	1S 3P	(3P*)j=1.0 - 1S2	(1S)j= .0	.805	quartz 200	5	4.246	71.433
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	LiF 220	3	2.848	85.197
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	Si 220	4	3.840	80.203
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	fluorite 220	4	3.862	78.465
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	Ge 220	4	4.000	71.085
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	quartz 110	5	4.912	74.354
Kr35	He-like	1S 2P	(1P*)j=1.0 - 1S2	(1S)j= .0	.946	gypsum 002	5	4.990	71.423
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	quartz 223	2	2.024	70.171
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	calcite 422	3	3.034	70.276
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	Si 220	4	3.840	82.598
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	fluorite 220	4	3.862	80.407
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	Ge 220	4	4.000	72.176
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	LiF 200	4	4.027	71.017
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	Al 200	4	4.048	70.171
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	quartz 110	5	4.912	75.709
Kr35	He-like	1S 2P	(3P*)j=1.0 - 1S2	(1S)j= .0	.952	gypsum 002	5	4.990	72.536
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	quartz 223	2	2.024	70.678
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	calcite 422	3	3.034	70.786
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	Si 220	4	3.840	84.150
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	fluorite 220	4	3.862	81.542
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	Ge 220	4	4.000	72.746
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	LiF 200	4	4.027	71.549
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	Al 200	4	4.048	70.678
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	quartz 110	5	4.912	76.436
Kr35	He-like	1S 2S	(3S)j=1.0 - 1S2	(1S)j= .0	.955	gypsum 002	5	4.990	73.120
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	quartz 502	2	1.624	73.116
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	LiF 422	2	1.652	70.166
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	quartz 310	3	2.360	81.009
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	quartz 220	3	2.451	71.997
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	Ge 220	5	4.000	76.228
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	LiF 200	5	4.027	74.739
Kr36	H -like	3P	(2P*)j=1.5 - 1S	(2S)j= .5	.777	Al 200	5	4.048	73.685
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	topaz 006	3	2.795	80.174
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	LiF 220	3	2.848	75.238
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	Si 220	4	3.840	72.989
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	fluorite 220	4	3.862	71.953
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	topaz 200	5	4.638	81.750
Kr36	H -like	2P	(2P*)j=1.5 - 1S	(2S)j= .5	.918	Al 111	5	4.676	78.994

Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	topaz 006	3	2.795	82.179
Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	LiF 220	3	2.848	76.473
Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	Si 220	4	3.840	74.041
Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	fluorite 220	4	3.862	72.937
Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	topaz 200	5	4.638	84.292
Kr36	H -like	2P	(2P*)j= .5 - 1S	(2S)j= .5	.923	Al 111	5	4.676	80.735
Rb		K-alpha(1)			.926	topaz 006	3	2.795	83.458
Rb		K-alpha(1)			.926	LiF 220	3	2.848	77.161
Rb		K-alpha(1)			.926	Si 220	4	3.840	74.615
Rb		K-alpha(1)			.926	fluorite 220	4	3.862	73.471
Rb		K-alpha(1)			.926	topaz 200	5	4.638	86.237
Rb		K-alpha(1)			.926	Al 111	5	4.676	81.783
Rb		K-alpha(1)			.926	quartz 110	5	4.912	70.421
Sr		K-alpha(1)			.846	LiF 420	2	1.801	70.020
Sr		K-alpha(1)			.846	tungsten 110	5	4.476	70.975
Sr		K-alpha(1)			.846	quartz 200	5	4.246	85.264
Y		K-alpha(1)			.829	corundum 146	2	1.660	87.050
Y		K-alpha(1)			.829	quartz 200	5	4.246	77.447
Zr		K-alpha(1)			.786	quartz 502	2	1.624	75.462
Zr		K-alpha(1)			.786	LiF 422	2	1.652	72.096
Zr		K-alpha(1)			.786	corundum 146	2	1.660	71.260
Zr		K-alpha(1)			.786	quartz 310	3	2.360	87.641
Zr		K-alpha(1)			.786	quartz 220	3	2.451	74.166
Zr		K-alpha(1)			.786	Ge 220	5	4.000	79.265
Zr		K-alpha(1)			.786	LiF 200	5	4.027	77.399
Zr		K-alpha(1)			.786	Al 200	5	4.048	76.132
Nb		K-alpha(1)			.746	Ge 422	3	2.310	75.717
Nb		K-alpha(1)			.746	quartz 310	3	2.360	71.543
Nb		K-alpha(1)			.746	calcite 422	4	3.034	79.668
Nb		K-alpha(1)			.746	quartz 211	4	3.082	75.572
Nb		K-alpha(1)			.746	Si 220	5	3.840	76.316
Nb		K-alpha(1)			.746	fluorite 220	5	3.862	75.034
Mo		K-alpha(1)			.709	Si 422	3	2.217	73.701
Mo		K-alpha(1)			.709	LiF 220	4	2.848	85.009
Mo		K-alpha(1)			.709	quartz 112	5	3.636	77.261
Tc		K-alpha(1)			.675	topaz 303	4	2.712	84.608
Tc		K-alpha(1)			.675	corundum 030	4	2.748	79.275
Tc		K-alpha(1)			.675	quartz 203	4	2.749	79.166
Tc		K-alpha(1)			.675	topaz 006	4	2.795	75.019
Tc		K-alpha(1)			.675	LiF 220	4	2.848	71.448
Ru		K-alpha(1)			.643	quartz 223	3	2.024	72.404
Ru		K-alpha(1)			.643	topaz 303	4	2.712	71.536
Rh		K-alpha(1)			.613	quartz 211	5	3.082	84.251
Pd		K-alpha(1)			.586	LiF 420	3	1.801	77.237
Pd		K-alpha(1)			.586	quartz 310	4	2.360	82.919
Pd		K-alpha(1)			.586	quartz 220	4	2.451	72.849

Pd	K-alpha(1)
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Cd	K-alpha(1)
In	K-alpha(1)
In	K-alpha(1)
Sn	K-alpha(1)

.586	calcite 422	5	3.034	74.774
.586	quartz 211	5	3.082	71.781
.559	Ge 422	4	2.310	75.617
.559	quartz 310	4	2.360	71.466
.559	LiF 220	5	2.848	79.141
.535	quartz 502	3	1.624	81.227
.535	LiF 422	3	1.652	76.300
.535	corundum 146	3	1.660	75.210
.535	Si 422	4	2.217	74.855
.535	topaz 303	5	2.712	80.525
.535	corundum 030	5	2.748	76.764
.535	quartz 203	5	2.749	76.676
.535	topaz 006	5	2.795	73.150
.512	quartz 502	3	1.624	71.084
.512	topaz 303	5	2.712	70.758
.491	quartz 223	4	2.024	75.828

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