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Rotational Transitions of
Molecules of Astrophysical Interest**

by

Susan Ames
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EMISSION CROSS SECTIONS FOR ROTATIONAL
TRANSITIONS OF MOLECULES OF ASTROPHYSICAL INTEREST

by

Susan Ames and Walter F. Huebner

ABSTRACT

The emission cross sections and Einstein A coefficients of the microwave transitions of numerous molecules of astrophysical interest are presented.

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I. INTRODUCTION

In recent years, radio observations of the interstellar medium and of comets have revealed the presence of numerous molecules by detecting their rotational and some vibrational transitions, which generally lie in the microwave frequency range. For recent reviews on interstellar molecules, see Zuckerman and Palmer¹ and Turner,² and for a review of radio observations on comets, see Snyder.³ We have computed emission cross sections and Einstein A coefficients for transitions whose frequencies are known securely for molecules of astrophysical interest. We hope that these cross sections will prove useful both in identifying observed lines and in suggesting lines for which to search, because for comparable column densities of the molecular species the observed line intensities would be proportional to the cross sections. The Einstein coefficients for spontaneous emission are useful to compare with collisional excitation rates in assessing the departure from thermal equilibrium.

Only molecules whose rotational constants have been measured are considered. For these molecules, we have chosen only those transitions for which $J \leq 20$ and whose frequencies have been measured in the laboratory or calculated with confidence. That is, the calculated frequencies must lie near other observed transitions that agree well with similarly calculated values. We have not calculated any frequencies; all frequencies given are taken from the references. Hyperfine

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Fig

splitting is treated as unresolved; the total line strength is assumed to be in the theoretically strongest component when the line was resolved in the laboratory; otherwise, the blended value of the frequency is used as reported in the reference. All calculations are made using the approximation that the molecules are rigid rotors, but we emphasize that this affects only the cross sections, not the line frequencies, because the frequency values are obtained from observations. Nevertheless, because many molecules differ significantly from rigid rotors, our calculations should be regarded as only a first approximation, and the original literature should be checked for comments and for correction procedures for the particular molecule, when more precise values are desired. Linear molecules are listed in Table I, symmetric rotors in Table II, and asymmetric rotors in Table III. Within each table, the molecules are ordered as follows: First, those containing hydrogen and second, by increasing total number of atoms of the next higher atomic number. For detail see the contents listed for each table.

When the data were available, we included rotational transitions within excited vibrational states. Each vibrational mode is identified using the notation of the reference from which we took the data.

All frequencies, ν , in the tables are in gigahertz, as are the rotation constants. The dipole moment, μ , is in debyes (10^{-18} esu cm); the Einstein coefficient, A , (spontaneous transitions integrated over the normalized line shape) is in inverse seconds; and the cross sections, σ , are averaged over the line width in square centimeters.

II. CALCULATIONS

Townes and Schawlow⁴ (TS) give the general expression for optical depth as

$$\tau(\nu') = \frac{8\pi^3 N f |\mu|^2 \nu^2}{3c kT} \varphi(\nu') \quad , \quad (1)$$

where N is the column density of molecules, f is the fraction of molecules in the initial state, $|\mu|^2$ is the electric dipole moment matrix element, and φ is the normalized line profile function. The component of μ appropriate to the particular transition was used when it was known; otherwise it was assumed that the total value reported in the reference applies to the strongest moment. The mean optical depth in the line is then

$$\tau = \frac{1}{\Delta\nu} \int_{-\infty}^{\infty} \tau \, d\nu' = \frac{8\pi^3 N f |\mu|^2 \nu^2}{3c kT \Delta\nu} \quad , \quad (2)$$

where $\Delta\nu$ is the observed FWHM. The cross section is defined as $\sigma \equiv \bar{\tau}/N$. These cross sections are computed for four temperature values, 20, 50, 100, and 200 K. A value of $\Delta\nu = 1$ MHz has been used in calculating the cross sections, σ_{calc} . Hence, $N = \bar{\tau}/\sigma_{\text{calc}} \left(\frac{\Delta\nu}{1 \text{ MHz}} \right)$. The general expression for the Einstein A coefficient is

$$A = \frac{64\pi^4 \nu^3}{3h c^3} |\mu|^2 \quad . \quad (3)$$

The fractional occupation of the upper level is

$$f = \frac{(2J+1)e^{-W/kT}}{Q_r Q_v} \quad , \quad (4)$$

where Q_r and Q_v are the rotational and vibrational partition functions, respectively,

$$Q_r = \sum_J (2J+1) e^{-W_J/kT} \quad , \quad (5a)$$

$$Q_v = \prod_v \left(1 - e^{-W_v/kT} \right)^{-g_v} \quad , \quad (5b)$$

g_v is the degeneracy of the vibrational level v , W is the energy of the upper level as measured from the absolute ground state, W_J is the energy of this level as measured from the ground rotational level of the particular vibrational state, and W_v is the energy of the ground rotational level in the particular vibrational state involved (in the vibrational ground state, $W_v = 0$).

A. Linear Molecules

For emission, $J \rightarrow J-1$,^{*} the dipole moment element is (TS)

$$|\mu|^2 = \mu^2 \frac{J}{2J+1} \quad (6)$$

Using the relation for the rotation constant B,

$$B = \frac{h^2}{8\pi^2 I} ,$$

we obtain

$$\sigma = \frac{4\pi^3 \nu \mu^2}{3ckT B \Delta\nu Q_r Q_v} e^{-W/kT} \quad (7)$$

The energy of the upper level is given by

$$W = W_J + W_v = hB J(J+1) + W_v \quad (8)$$

Q_v is set equal to 1 in our calculations, but Q_r is evaluated by performing Summation (5a).

Transitions associated with ℓ doublet bending in linear molecules are listed in Table Ib. For these transitions, the dipole moment matrix element is given by

$$|\mu|^2 = \begin{cases} \mu^2 \frac{\ell^2}{(J+1)J} , & \Delta J = 0 , \\ \mu^2 \frac{J^2 - \ell^2}{J(2J+1)} , & J \rightarrow J-1 , \end{cases} \quad (9)$$

^{*}In our notation, J always refers to the upper level.

and the energy of the upper level is given by

$$W = W_v + Bh[J(J+1) - k^2] \quad , \quad (10)$$

where W_v is the bending mode energy.

Transitions between $^3\Sigma$ states for low J represent a case intermediate between Hund's Case a and Case b. The only molecule we have included to which this applies is SO. We have used the line strength factors that were computed taking this into account, and W values from the appropriate reference listed in Table Ic.

B. Symmetric Rotors

For these molecules, TS gives the dipole matrix element as

$$|\mu|^2 = \begin{cases} \frac{\mu^2 K^2}{J(J+1)} F \quad , & \Delta J = 0 \\ \mu^2 \frac{J^2 - K^2}{J(2J+1)} F \quad , & J \rightarrow J-1 \quad , \end{cases} \quad (11)$$

with the selection rule $\Delta K = 0$. Here F is the factor that accounts for nuclear spin degeneracy.

$$F = \frac{S(I,K)}{4I^2 + 4I + 1} \quad , \quad (12)$$

where I is the nuclear spin and $S(I,K)$ is given by

$$S(I,K) = \begin{cases} 2(4I^2 + 4I + 3), & K \text{ a multiple of } 3 \\ 4I^2 + 4I + 3 \quad , & K = 0 \\ 2(4I^2 + 4I) \quad , & K \text{ not a multiple of } 3. \end{cases} \quad (13)$$

The population factor f is given as in Eq. (4) with Q_v as given by Eq. (5b). In this case (assuming $A = B$),

$$W = B h J (J + 1) + (C - B) h K^2 + \epsilon_v$$

and

$$Q_r = \sum_{J=0}^{\infty} \sum_{K=-J}^{+J} (2J + 1) e^{-W_J/kT} \quad (14)$$

The cross section is given by

$$\sigma = \frac{8\pi^3 \mu^2 \nu^2}{3ckT \Delta\nu Q_r Q_v} F \begin{cases} \frac{K^2(2J+1)}{J(J+1)} & , \Delta J = 0 \\ \frac{J^2 - K^2}{J} & , J \rightarrow J - 1 \end{cases} \quad (15)$$

As above, Q_v was set equal to 1 and Q_r was evaluated by using Summation (14). These cross sections are given in Table II.

C. Asymmetric Rotors

For asymmetric rotors, the dipole matrix element for emission $J \rightarrow J - 1$ is given by

$$|\mu|^2 = \frac{\mu^2 S}{2J + 1} \quad (16)$$

where S is the line strength factor. This transition strength factor is computed for each transition, for each molecule, using the program by Wacker and Pratto⁵ which R. Beebe of New Mexico State University kindly furnished us. The population factor is given by Eq. (4), and the energy of the upper level, assuming $A > B > C$,

is given by

$$W = \frac{h}{2} \left[(A + C)J(J + 1) + (A - C)E_T(\kappa) \right] + W_V = W_J + W_V, \quad (17)$$

where $E_T(\kappa)$ is the energy parameter for level J_T of a molecule with asymmetry parameter

$$\kappa = \frac{2B - A - C}{A - C}. \quad (18)$$

For an energy level $J_{K_-1 K_+1}$, τ is defined as $\tau \equiv K_-1 - K_+1$. $E_T(\kappa)$ is computed for each J level, for each molecule, by diagonalizing the energy matrix, as described by Turner, Hicks, and Reitwiesner.⁶ Hence, the cross section is given by

$$\sigma = \frac{8\pi^3 \mu^2 S_V^2}{3ckT \Delta\nu Q_r Q_V} e^{-W/kT}. \quad (19)$$

As above, Q_V was set equal to 1. For the calculations at 20 K, Q_r was evaluated using the summation

$$Q_r = \sum_{J=0}^{\infty} \sum_{\tau=-J}^{+J} (2J + 1) e^{-W_J/kT}. \quad (20)$$

At higher temperatures, we used the approximation given by Herzberg:⁷

$$Q_r = e^{\frac{\sqrt{BC} h}{4kT}} \sqrt{\frac{\pi}{ABC} \left(\frac{kT}{h}\right)^3} \left[1 + \frac{1}{12} \left(1 - \frac{\sqrt{BC}}{A} \right) \frac{\sqrt{BC} h}{kT} + \dots \right].$$

This expression assumes that B and C are the two most nearly equal rotation constants. Otherwise, BC is replaced by AB and A by C . These cross sections are given in Table III.

III. FINDING LIST OF ALL LINES

All transitions contained in Tables Ia-c, II, and III have been sorted together by frequency. This frequency-ordered list appears in Table IV, which lists the chemical formula of the molecule and the Table (I - III) in which it appears, for each transition frequency.

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TABLE I
LINEAR MOLECULES

- (A) rotational transitions
(B) λ -doubling transitions
(C) transitions between $^3\Sigma$ states

Table IA - Contents

1. HCN	hydrogen cyanide
2. HCNO	fulminic acid
3. C ₂ H	ethynyl radical
4. HC ₃ N	cyanoacetylene
5. OH	hydroxyl radical
6. ClO	chlorine monoxide
7. CN	cyano-radical
8. NCO	
9. FCN	fluorine cyanide
10. CO	carbon monoxide
11. OCS	carbonyl sulfide
12. CS	carbon monosulfide
13. FCCH	fluoroacetylene
14. NO	nitric oxide
15. SiN	
16. NS	nitrogen sulfide
17. N ₂ O	nitrous oxide
18. SiO ⁺	
19. SiO	silicon monoxide
20. SiS	silicon monosulfide

Table IB - Contents

1. HCN	hydrogen cyanide
2. OCS	carbonyl sulfide
3. HCNO	fulminic acid

Table IC - Contents

1. SO	sulfur monoxide
-------	-----------------

Notes to Table IA

- a. Value of μ is assumed to be 1.
b. See also Table IB.

JO	JO	JO	JO	JO	JO	JO	JO	JO	JO
NITROGEN CHAIN b									
HCN		MW = 27	MO = 2.934	B = .44415470E+01					
1.0	0.0	.00031000E+02	.50010E-14	.10774E-18	.20000E-19	.20000E-19	.20000E-19	.20000E-19	.20000E-19
2.0	1.0	.17720110E+03	.40330E-13	.70700E-14	.10797E-14	.10797E-14	.10797E-14	.10797E-14	.10797E-14
3.0	2.0	.20500020E+03	.54074E-13	.14009E-13	.01770E-14	.01770E-14	.01770E-14	.01770E-14	.01770E-14
HCN1		MW = 27	MO = 2.9420	B = .44014000E+01					
HCN	0.0 1	.00007200E+02	.10400E-79	.03900E-41	.21200E-20	.19440E-22	.19440E-22	.19440E-22	.19440E-22
HCN2		MW = 27	MO = 2.9420	B = .44422000E+02					
HCN	0.1 0	.17720110E+03	.13440E-35	.01707E-23	.00700E-19	.41001E-17	.41001E-17	.41001E-17	.41001E-17
2.0	1.0	.17720110E+03	.13040E-35	.01010E-23	.00700E-19	.41001E-17	.41001E-17	.41001E-17	.41001E-17
HCN3		MW = 27	MO = 2.9490	B = .44544000E+01					
HCN	0.0 0	.05007700E+02	.57103E-30	.20150E-32	.50003E-24	.50003E-24	.50003E-24	.50003E-24	.50003E-24
FULMINIC ACID b									
HCNO		MW = 43	MO = 3.0000	B = .11340900E+02					
1.0	0.0	.20930070E+02	.12700E-15	.21152E-10	.5574E-17	.10344E-17	.10344E-17	.10344E-17	.10344E-17
2.0	1.0	.45070070E+02	.91061E-15	.10193E-15	.43250E-18	.12470E-16	.12470E-16	.12470E-16	.12470E-16
3.0	2.0	.00013000E+02	.20005E-14	.51157E-15	.14124E-15	.43003E-16	.43003E-16	.43003E-16	.43003E-16
4.0	3.0	.91751320E+02	.49552E-14	.11104E-14	.20037E-15	.40003E-16	.40003E-16	.40003E-16	.40003E-16
5.0	4.0	.11460030E+03	.73494E-14	.19425E-14	.59220E-15	.10497E-15	.10497E-15	.10497E-15	.10497E-15
6.0	5.0	.13702490E+03	.91273E-14	.29412E-14	.95703E-15	.31710E-15	.31710E-15	.31710E-15	.31710E-15
7.0	6.0	.16055009E+03	.90587E-14	.40032E-14	.14002E-14	.40402E-15	.40402E-15	.40402E-15	.40402E-15
8.0	7.0	.18349006E+03	.94730E-14	.50104E-14	.19340E-14	.04220E-15	.04220E-15	.04220E-15	.04220E-15
9.0	8.0	.20043349E+03	.02107E-14	.50512E-14	.24019E-14	.93790E-15	.93790E-15	.93790E-15	.93790E-15
10.0	9.0	.22930397E+03	.65011E-14	.04390E-14	.30495E-14	.12170E-14	.12170E-14	.12170E-14	.12170E-14
ETHYNYL RADICAL									
C2H		MW = 25	MO = .0000	B = .43674350E+02					
1.5	.5	.07317000E+02	.33290E-15	.60070E-10	.10759E-10	.49017E-17	.49017E-17	.49017E-17	.49017E-17
.5	.5	.07402100E+02	.45732E-15	.70330E-10	.20035E-10	.50731E-17	.50731E-17	.50731E-17	.50731E-17
CYANOACETYLENE									
HC3N		MW = 51	MO = 3.7200	B = .45490700E+01					
1.0	0.0	.90983000E+01	.12196E-10	.21171E-17	.60770E-10	.25195E-10	.25195E-10	.25195E-10	.25195E-10
2.0	1.0	.18190000E+02	.93309E-10	.10041E-10	.52557E-17	.20000E-17	.20000E-17	.20000E-17	.20000E-17
3.0	2.0	.27294000E+02	.29520E-15	.54712E-10	.17039E-10	.67201E-10	.67201E-10	.67201E-10	.67201E-10
4.0	3.0	.36392000E+02	.64122E-15	.12523E-15	.41000E-10	.15009E-10	.15009E-10	.15009E-10	.15009E-10
5.0	4.0	.45490000E+02	.11229E-14	.23415E-15	.70513E-10	.30543E-10	.30543E-10	.30543E-10	.30543E-10
6.0	5.0	.54580200E+02	.17021E-14	.36390E-15	.13210E-15	.52041E-10	.52041E-10	.52041E-10	.52041E-10
7.0	6.0	.63060000E+02	.23197E-14	.57354E-15	.20355E-15	.01403E-10	.01403E-10	.01403E-10	.01403E-10
8.0	7.0	.72780000E+02	.30077E-14	.79035E-15	.29341E-15	.11549E-15	.11549E-15	.11549E-15	.11549E-15
11.0	10.0	.10007640E+03	.39201E-14	.15470E-14	.00900E-15	.29045E-15	.29045E-15	.29045E-15	.29045E-15
12.0	11.0	.10917300E+03	.52222E-14	.10070E-14	.07420E-15	.30794E-15	.30794E-15	.30794E-15	.30794E-15
17.0	16.0	.15465730E+03	.21682E-14	.27509E-14	.10000E-14	.00000E-15	.00000E-15	.00000E-15	.00000E-15
18.0	17.0	.16375340E+03	.17375E-14	.27904E-14	.10531E-14	.10134E-14	.10134E-14	.10134E-14	.10134E-14
HYDROXYL RADICAL									
OH		MW = 17	MO = 1.0000	B = .55507000E+03					
.5	.5	.47507000E+01	.80872E-19	.31705E-19	.10609E-19	.30659E-20	.30659E-20	.30659E-20	.30659E-20
1.5	1.5	.78201000E+01	.06314E-20	.28593E-19	.21277E-19	.91701E-20	.91701E-20	.91701E-20	.91701E-20
2.5	2.5	.01890700E+01	.97535E-23	.22079E-20	.04490E-20	.54100E-20	.54100E-20	.54100E-20	.54100E-20
5.5	5.5	.05340100E+01	.26401E-30	.14627E-20	.54070E-23	.10770E-21	.10770E-21	.10770E-21	.10770E-21
OH1		MW = 17	MO = 1.0000	B = .55507000E+03					
OH	1.5 1.5	.10074000E+01	.64202E-22	.27717E-21	.20725E-21	.00090E-22	.00090E-22	.00090E-22	.00090E-22
2.5	2.5	.00351000E+01	.39033E-23	.91547E-21	.27012E-20	.21654E-20	.21654E-20	.21654E-20	.21654E-20
3.5	3.5	.13441400E+02	.30460E-20	.24270E-21	.44174E-20	.94150E-20	.94150E-20	.94150E-20	.94150E-20
4.5	4.5	.23826000E+02	.13312E-30	.11175E-22	.22371E-20	.15014E-19	.15014E-19	.15014E-19	.15014E-19
5.5	5.5	.36994400E+02	.21506E-30	.11912E-24	.44005E-21	.13074E-19	.13074E-19	.13074E-19	.13074E-19
OH2		MW = 17	MO = 1.0000	B = .55507000E+03					
OH	1.5 1.5	.15387000E+01	.50510E-22	.21702E-21	.10200E-21	.09055E-22	.09055E-22	.09055E-22	.09055E-22
CHLORINE MONOXIDE									
ClO		MW = 51	MO = 1.2390	B = .10002000E+02					
1.5	.5	.56197000E+02	.27224E-15	.40594E-16	.12547E-16	.34170E-17	.34170E-17	.34170E-17	.34170E-17
2.5	1.5	.93447500E+02	.10013E-14	.20455E-15	.55610E-16	.15304E-16	.15304E-16	.15304E-16	.15304E-16

TABLE 1 A. 1

CL	OL	AL	20	30	SLUPH	100	200	300	400
CL RING MONOSULFIDE									90
CL	11.5	MW = 51 MU = 1.2350 B = 1.0600000E+02							
2.0	1.0	.420710E+02	.40237E-15	.20001E-15	.5459E-16	.15001E-16	.54041E-05		
CL RING MONOSULFIDE									90
CL	1.0	MW = 26 MU = 1.0000 B = .96004140E+02							
1.0	1.0	.11249000E+03	.20091E-12	.02000E-13	.41E-15E-13	.20043E-13	.56713E-05		
ALU									130
ALU	1.0	MW = 42 MU = .0400 B = .11677400E+02							
2.0	1.0	.5015000E+02	.74000E-16	.13900E-16	.50040E-17	.11507E-17	.39000E-06		
3.0	2.0	.01410000E+02	.10004E-15	.35430E-16	.99055E-17	.30040E-17	.11254E-05		
FLUORINE CYANIDE									164
FLC	1.0	MW = 45 MU = 2.1700 B = .10554E00E+02							
1.0	0.0	.21100000E+02	.50057E-16	.03129E-17	.21913E-17	.00412E-16	.17103E-06		
2.0	1.0	.42100400E+02	.36100E-15	.03000E-16	.17170E-16	.52933E-17	.16499E-05		
3.0	2.0	.03324000E+02	.10491E-14	.20201E-15	.02400E-16	.17402E-16	.59047E-05		
CARBON MONOSULFIDE									90
CS	1.0	MW = 26 MU = .1120 B = .57030000E+02							
1.0	0.0	.11527000E+02	.10079E-17	.32394E-17	.00307E-16	.22309E-16	.74541E-07		
2.0	1.0	.23054000E+03	.70730E-16	.20770E-16	.01071E-17	.10007E-17	.71559E-06		
3.0	2.0	.34500000E+03	.11292E-15	.50293E-16	.17000E-16	.52449E-17	.25074E-05		
CARBON SULFIDE									102103
CS2	1.0	MW = 60 MU = .7151 B = .4006144E+02							
1.0	0.0	.12102970E+02	.04300E-10	.14235E-10	.39029E-19	.10455E-19	.35700E-06		
2.0	1.0	.24325930E+02	.20470E-17	.70735E-16	.26033E-16	.70271E-16	.34272E-07		
3.0	2.0	.36400000E+02	.17300E-17	.12279E-17	.07407E-16	.22415E-16	.12393E-06		
4.0	3.0	.48051400E+02	.04921E-16	.17317E-17	.11035E-17	.44102E-16	.30463E-06		
5.0	4.0	.60014000E+02	.12039E-16	.13447E-17	.13010E-17	.00522E-16	.00043E-06		
6.0	5.0	.72970000E+02	.13727E-14	.70023E-16	.13531E-17	.09700E-16	.10070E-05		
7.0	6.0	.87301190E+02	.32222E-22	.11445E-16	.00400E-16	.10000E-17	.20000E-05		
8.0	7.0	.12102400E+02	.90520E-26	.07171E-20	.27222E-10	.00040E-16	.50031E-05		
9.0	8.0	.14544079E+03	.42129E-30	.16677E-21	.56303E-19	.51030E-16	.00010E-05		
10.0	9.0	.17026749E+03	.20170E-35	.10193E-23	.74207E-20	.23090E-16	.14104E-04		
11.0	10.0	.19450644E+03	.24157E-41	.50190E-26	.03401E-21	.04675E-19	.21202E-04		
12.0	11.0	.21890327E+03	.33022E-46	.15945E-26	.35810E-22	.23999E-14	.30373E-04		
13.0	12.0	.24321809E+03	.71270E-56	.20544E-31	.13403E-25	.54491E-20	.41773E-04		
CARBON MONOSULFIDE									90
CS	1.0	MW = 44 MU = 1.9500 B = .24490000E+02							
1.0	0.0	.48991000E+02	.47122E-15	.01600E-16	.21049E-16	.54097E-17	.17490E-05		
2.0	1.0	.97981000E+02	.29797E-14	.59012E-15	.10005E-15	.12733E-16	.16790E-04		
3.0	2.0	.14690900E+03	.70072E-14	.17471E-14	.50525E-15	.13924E-15	.60710E-04		
4.0	3.0	.19595420E+03	.10460E-13	.34300E-14	.10900E-14	.31410E-15	.14922E-03		
5.0	4.0	.24433570E+03	.11355E-13	.52902E-14	.10927E-14	.57901E-15	.29805E-03		
6.0	5.0	.29391200E+03	.90094E-14	.09011E-14	.20390E-14	.93350E-15	.52290E-03		
CS1									90
CS	1.0	MW = 44 MU = 1.9300 B = .24318000E+02							
1.0	0.0	.40035900E+02	.31904E-55	.00199E-32	.10791E-24	.50579E-21	.10730E-05		
FLUOROACETYLENE									164
FCCH	1.0	MW = 44 MU = .7300 B = .97001900E+01							
1.0	0.0	.19412370E+02	.44271E-17	.73390E-16	.19555E-16	.60009E-19	.15125E-07		
2.0	1.0	.30824640E+02	.32200E-16	.56569E-17	.15355E-17	.40037E-16	.14520E-06		
3.0	2.0	.76640500E+02	.17919E-15	.30204E-16	.11069E-16	.35777E-17	.12414E-05		
NITRIC OXIDE									90
NO	1.0	MW = 30 MU = .1507 B = .50047000E+02							
1.0	1.0	.43119000E+00	.21209E-23	.36740E-24	.94314E-25	.23404E-25	.58753E-14		
2.0	2.0	.80191600E+00	.94603E-23	.20414E-23	.50305E-24	.14224E-24	.56690E-13		
3.0	3.0	.11607000E+01	.15500E-22	.40507E-23	.15137E-23	.42294E-24	.19104E-12		
4.0	4.0	.15147700E+01	.14744E-22	.70590E-23	.20355E-23	.00300E-24	.44576E-12		
5.0	5.0	.15020000E+03	.62163E-16	.13414E-16	.37050E-17	.97403E-18	.37250E-06		
6.0	6.0	.25044000E+03	.15655E-15	.40715E-16	.15202E-16	.42479E-17	.19186E-05		
NO1									90
NO	1.0	MW = 30 MU = .1507 B = .50047000E+02							
1.0	1.0	.10290000E-02	.19900E-31	.43131E-32	.11913E-32	.31319E-33	.11977E-21		
2.0	2.0	.39230000E-02	.60173E-30	.18724E-30	.54430E-31	.16320E-31	.73744E-20		
3.0	3.0	.32425000E-01	.12599E-20	.20304E-20	.17070E-20	.00370E-29	.45804E-17		
4.0	4.0	.51260000E-01	.10100E-20	.59200E-20	.49100E-20	.22357E-20	.10332E-16		
5.0	5.0	.70025000E-01	.53295E-29	.93011E-20	.11110E-27	.60730E-26	.00300E-16		
6.0	6.0	.10740000E+00	.18076E-29	.11437E-27	.20005E-27	.13910E-27	.17149E-15		
7.0	7.0	.25702500E+03	.17001E-15	.53173E-16	.10500E-16	.40349E-17	.20934E-05		

TABLE 1 n. 3

	JU	JL	NU	20	30	100	200	REF
SIN								
SIN	N	MW = 42	MU = 3.0000	B = .27831000E+02				
	1.0	0.0	.43687000E+02	.00721E-15	.15394E-15	.3507E-16	.43041E-17	.2951E-13
	2.0	1.0	.07548000E+02	.5190E-14	.10140E-14	.27144E-15	.72744E-16	.6011E-04
	3.0	2.0	.13120700E+03	.12774E-13	.30110E-14	.69604E-15	.25745E-15	.10141E-01
	4.0	3.0	.17466400E+03	.19005E-13	.60290E-14	.16070E-14	.53907E-15	.24094E-01
NITROGEN SULFIDE								
NS	P1.5	MW = 46	MU = 1.8100	B = .23150000E+02				
	1.5	.5	.69002800E+02	.16260E-14	.18050E-15	.49341E-16	.13019E-16	.46901E-07
	1.5	.5	.69411400E+02	.10470E-14	.18195E-15	.5024E-16	.13251E-16	.47020E-07
	2.5	1.5	.11515400E+03	.36200E-14	.76271E-15	.21710E-15	.56649E-16	.24201E-04
	2.5	1.5	.11555000E+03	.36300E-14	.79252E-15	.21930E-15	.5667E-16	.2451E-04
NS1								
NS	P11.5	MW = 46	MU = 1.8100	B = .23150000E+02				
	2.5	1.5	.11618180E+03	.37166E-14	.60546E-15	.22297E-15	.60439E-16	.24917E-04
NITROUS OXIDE								
N20	MW = 44	MU = .1660	B = .12561634E+02					
	1.0	0.0	.25120000E+02	.48610E-16	.81517E-19	.21143E-19	.61300E-20	.16947E-06
	2.0	1.0	.50230000E+02	.3403E-17	.62160E-18	.16521E-18	.4640E-19	.16279E-07
	3.0	2.0	.75370000E+02	.97539E-17	.19517E-17	.53767E-18	.10068E-18	.5085E-07
	4.0	3.0	.10049174E+03	.18165E-16	.42006E-17	.12144E-17	.37170E-18	.14606E-06
	5.0	4.0	.12561370E+03	.26244E-16	.76272E-17	.22330E-17	.70455E-18	.24906E-06
	6.0	5.0	.15073505E+03	.31583E-16	.10873E-16	.35093E-17	.11742E-17	.50699E-06
	7.0	6.0	.17585562E+03	.32804E-16	.14584E-16	.52381E-17	.17674E-17	.61400E-07
	8.0	7.0	.20047526E+03	.30302E-16	.17949E-16	.70997E-17	.25242E-17	.8252E-05
	10.0	9.0	.25121150E+03	.18622E-16	.22168E-16	.11020E-16	.44277E-17	.24213E-05
	12.0	11.0	.30144270E+03	.81265E-17	.21995E-16	.14437E-16	.66590E-17	.42170E-05
N201								
N20	0 1C 0	MW = 44	MU = .1660	B = .12566026E+02				
	5.0	4.0	.12566369E+03	.10560E-34	.31912E-24	.46804E-21	.10205E-19	.20930E-06
	6.0	5.0	.15079501E+03	.12716E-34	.47711E-24	.75229E-21	.17007E-19	.50759E-06
	7.0	6.0	.17592559E+03	.13237E-34	.63988E-24	.10978E-20	.25689E-19	.61497E-06
	10.0	9.0	.25131134E+03	.75716E-35	.97239E-24	.23106E-20	.64127E-19	.24242E-05
N202								
N20	0 1D 0	MW = 44	MU = .1660	B = .12590369E+02				
	5.0	4.0	.12590112E+03	.10609E-34	.32071E-24	.47046E-21	.10255E-19	.29095E-06
	6.0	5.0	.15107992E+03	.12757E-34	.47935E-24	.75607E-21	.17089E-19	.51042E-06
	7.0	6.0	.17625796E+03	.13270E-34	.64260E-24	.11032E-20	.26011E-19	.61960E-06
	10.0	9.0	.25178608E+03	.75669E-35	.97545E-24	.23205E-20	.64410E-19	.24379E-05
N203								
N20	1 0 0	MW = 44	MU = .1660	B = .12500897E+02				
	5.0	4.0	.12508704E+03	.18608E-56	.62901E-33	.20045E-25	.67402E-22	.2

TABLE I A . 4

	JU	JL	NU	ZU	DO	SICMA	100	200	A	KEE
SILICON MONOXIDE										
SIO			MW = 44 MU = 3.0900 B = .21707500E+02							97127
1.0	0.0	.43423800E+02	.03404E-15	.14359E-15	.30030E-10	.90757E-17			.30490E-05	
2.0	1.0	.06046000E+02	.54130E-14	.10505E-14	.20201E-15	.75002E-10			.29270E-04	
3.0	2.0	.13026000E+03	.13349E-13	.31450E-14	.09570E-15	.24792E-15			.10504E-03	
4.0	3.0	.17300000E+03	.20024E-13	.63050E-14	.19520E-14	.56355E-15			.20015E-03	
5.0	4.0	.21710400E+03	.24110E-13	.99910E-14	.34351E-14	.10445E-14			.51901E-03	
6.0	5.0	.26051700E+03	.22243E-13	.13431E-13	.52253E-14	.16950E-14			.91102E-03	
7.0	6.0	.30392600E+03	.16900E-13	.15913E-13	.71604E-14	.25014E-14			.14635E-02	
SIO1										95127
SIO		1	MW = 44 MU = 3.1180 B = .21707500E+02							
1.0	0.0	.43122000E+02	.30600E-53	.60441E-31	.75272E-24	.13776E-20			.30245E-05	
2.0	1.0	.06243300E+02	.19917E-52	.44471E-30	.57749E-23	.10792E-19			.29035E-04	
3.0	2.0	.12430310E+03	.49117E-52	.13230E-29	.10304E-22	.35297E-19			.10499E-03	
4.0	3.0	.17246000E+03	.70022E-52	.20543E-29	.39903E-22	.60235E-19			.25000E-03	
SIO2										95127
SIO		2	MW = 44 MU = 3.1370 B = .21707500E+02							
1.0	0.0	.42620500E+02	.23294E-91	.33972E-40	.17766E-31	.21070E-24			.24977E-05	
2.0	1.0	.05040300E+02	.15118E-90	.24990E-45	.13030E-30	.10507E-23			.20770E-04	
3.0	2.0	.12045070E+03	.37203E-90	.74409E-45	.43203E-30	.53907E-23			.10400E-03	
4.0	3.0	.17127490E+03	.50162E-90	.14919E-44	.94183E-30	.12272E-22			.25570E-03	
SIO3										95127
SIO		3	MW = 44 MU = 3.1570 B = .21707500E+02							
1.0	0.0	.42519300E+02	.52870E-129	.29002E-51	.52223E-39	.35971E-20			.29125E-05	
SILICON MONOSULFIDE										
SIS			MW = 60 MU = 1.7000 B = .90774030E+01							57 50
1.0	0.0	.18154970E+02	.19700E-10	.30049E-17	.07050E-10	.27730E-10			.07090E-07	
2.0	1.0	.30309720E+02	.14451E-15	.25224E-10	.09071E-17	.27991E-17			.64411E-00	
SIS1										57
SIS		V1	MW = 60 MU = 1.7000 B = .9033300E+01							
1.0	0.0	.10000600E+02	.73230E-40	.13745E-26	.17911E-22	.12452E-20			.66121E-07	
2.0	1.0	.36133020E+02	.53722E-39	.10621E-25	.14002E-21	.90753E-20			.63475E-06	
SIS2										57
SIS		V2	MW = 60 MU = 1.8000 B = .89831290E+01							
1.0	0.0	.17970150E+02	.30500E-63	.64867E-36	.40933E-27	.62680E-23			.73045E-07	

TABLE I B . 1

JU		JL	L	NU		SIGMA				A		REF
						20	30	100	200			
HYDROGEN CYANIDE												
HCN L DOUB MM = 27 MU = 2.9420 B = .44422000E+02 102												
1	1	1				.44894310E+01	.77019E-03	.67103E-37	.13005E-20	.97702E-25	.45579E-11	
2	2	1				.13467500E+01	.25334E-02	.20321E-30	.02025E-20	.40045E-24	.41014E-10	
3	3	1				.26933400E+01	.37412E-02	.61309E-30	.15477E-27	.12302E-23	.16403E-09	
4	4	1				.44404750E+01	.34101E-02	.93507E-30	.27970E-27	.24202E-23	.45549E-09	
5	5	1				.67316900E+01	.21501E-02	.11189E-35	.41405E-27	.39074E-23	.10245E-06	
6	6	1				.99233200E+01	.99232E-03	.11095E-35	.53020E-27	.50037E-23	.20071E-06	
7	7	1				.12562320E+02	.34309E-03	.93924E-30	.05050E-27	.70000E-23	.35007E-06	
8	8	1				.16140550E+02	.90777E-04	.09153E-36	.02050E-27	.54423E-23	.50923E-06	
9	9	1				.20181400E+02	.16005E-04	.44022E-30	.55012E-27	.10004E-22	.92009E-06	
10	10	1				.24660310E+02	.29790E-05	.25793E-30	.52547E-27	.11074E-22	.13735E-07	
11	11	1				.29504660E+02	.37494E-06	.13260E-36	.43101E-27	.12336E-22	.19703E-07	
12	12	1				.34953760E+02	.37200E-07	.61176E-37	.35234E-27	.12203E-22	.27579E-07	
13	13	1				.40760900E+02	.29353E-08	.25421E-37	.25040E-27	.11704E-22	.37503E-07	
14	14	1				.47023200E+02	.18373E-09	.95399E-38	.16309E-27	.10754E-22	.46001E-07	
15	15	1				.53721700E+02	.91596E-11	.32405E-30	.10554E-27	.95352E-23	.65001E-07	
16	16	1				.60601630E+02	.36434E-12	.99609E-39	.64310E-28	.61725E-23	.83490E-07	
17	17	1				.68441900E+02	.11500E-13	.27917E-39	.37137E-28	.67610E-23	.10555E-06	
18	18	1				.76461430E+02	.24446E-15	.70990E-40	.20348E-28	.54537E-23	.13150E-06	
19	19	1				.84919200E+02	.59967E-17	.10433E-40	.10590E-28	.42559E-23	.10235E-06	
20	20	1				.93013050E+02	.97691E-19	.34652E-41	.52394E-29	.32253E-23	.19005E-06	
CARBONYL SULFIDE												
OCS L DOUB MM = 60 MU = .7043 B = .60320762E+01 102												
1	1	1				.12722600E-01	.52227E-50	.26173E-37	.20100E-31	.10404E-26	.59453E-17	
2	2	1				.38168360E-01	.24630E-55	.13761E-30	.12930E-30	.01564E-20	.53500E-10	
3	3	1				.76336320E-01	.63171E-55	.37201E-30	.35595E-30	.22030E-27	.21402E-15	
4	4	1				.12722650E+00	.12042E-54	.76071E-36	.74511E-30	.47946E-27	.59450E-15	
5	5	1				.19083850E+00	.19074E-54	.13154E-35	.13200E-29	.06624E-27	.13370E-14	
6	6	1				.26717190E+00	.26481E-54	.20269E-35	.21193E-29	.14003E-26	.26210E-14	
7	7	1				.35622500E+00	.33190E-54	.20759E-35	.31296E-29	.21227E-26	.46005E-14	
8	8	1				.45799960E+00	.36264E-54	.30162E-35	.43517E-29	.30214E-26	.77039E-14	
9	9	1				.57244250E+00	.41108E-54	.47900E-35	.57670E-29	.41114E-26	.12037E-13	
10	10	1				.69976360E+00	.41452E-54	.57667E-35	.73400E-29	.53930E-20	.17900E-13	
11	11	1				.83963220E+00	.39494E-54	.66639E-35	.90564E-29	.60644E-20	.25090E-13	
12	12	1				.99227600E+00	.35719E-54	.74392E-35	.10645E-28	.85136E-20	.36159E-13	
HCNO1												
HCNO 11 MM = 43 MU = 3.0600 B = .11512100E+02 175												
1	0	0				.23028000E+02	.98802E-09	.12152E-37	.13320E-27	.00651E-23	.44363E-06	
2	1	0				.46056000E+02	.70772E-08	.93012E-37	.10423E-26	.63970E-22	.42569E-05	
3	2	2				.69061000E+02	.12540E-07	.17047E-30	.19315E-26	.11920E-21	.05472E-05	
3	2	0				.69079000E+02	.20234E-07	.29374E-30	.34026E-20	.21232E-21	.15397E-04	
3	2	0				.69086700E+02	.20239E-07	.29380E-30	.34033E-26	.21236E-21	.15402E-04	
4	3	2				.92081000E+02	.32191E-07	.49935E-36	.59136E-26	.37311E-21	.20304E-04	
4	3	0				.92105500E+02	.30452E-07	.46373E-36	.77165E-26	.49227E-21	.37040E-04	
4	3	0				.92114000E+02	.30459E-07	.46374E-36	.77100E-26	.49230E-21	.37059E-04	
5	4	2				.11510200E+03	.53420E-07	.97600E-36	.12241E-25	.79394E-21	.03457E-04	
5	4	0				.11513600E+03	.56976E-07	.11147E-35	.14202E-25	.93533E-21	.75011E-04	
6	5	2				.13812300E+03	.70120E-07	.15663E-35	.20947E-25	.14045E-20	.11702E-03	
6	5	0				.13816000E+03	.70670E-07	.16866E-35	.23063E-25	.15635E-20	.13266E-03	
7	6	2				.16114400E+03	.78140E-07	.22014E-35	.31809E-25	.22168E-20	.19545E-03	
7	6	0				.16118400E+03	.78222E-07	.22946E-35	.33690E-25	.23005E-20	.21290E-03	
8	7	2				.18415690E+03	.76524E-07	.26107E-35	.44365E-25	.32316E-20	.30030E-03	
8	7	2				.18417360E+03	.76530E-07	.26112E-35	.44373E-25	.32322E-20	.30030E-03	
8	7	0				.18420400E+03	.77123E-07	.26699E-35	.46312E-25	.34109E-20	.32050E-03	
9	8	2				.20717480E+03	.67191E-07	.33259E-35	.57900E-25	.44392E-20	.43039E-03	
9	8	2				.20719800E+03	.67206E-07	.33267E-35	.58001E-25	.44402E-20	.43055E-03	
9	8	0				.20722390E+03	.67310E-07	.33490E-35	.59695E-25	.46207E-20	.45939E-03	
10	9	2				.23019200E+03	.53564E-07	.36936E-35	.71923E-25	.58189E-20	.60771E-03	
10	9	2				.23022470E+03	.53579E-07	.36947E-35	.71944E-25	.58205E-20	.60797E-03	
10	9	0				.23023800E+03	.49976E-07	.30026E-35	.73312E-25	.59971E-20	.63341E-03	
10	9	0				.23024460E+03	.49981E-07	.30028E-35	.73316E-25	.59974E-20	.63347E-03	
11	12	2				.25320850E+03	.39102E-07	.30030E-35	.85304E-25	.73407E-20	.61023E-03	
11	12	0				.25324890E+03	.36220E-07	.30433E-35	.86400E-25	.75107E-20	.64661E-03	
11	12	2				.25325220E+03	.39116E-07	.30043E-35	.85413E-25	.73433E-20	.61065E-03	
11	12	0				.25326390E+03	.36224E-07	.30437E-35	.86410E-25	.75116E-20	.64670E-03	
12	11	2				.27622410E+03	.26300E-07	.30877E-35	.97612E-25	.69073E-20	.10719E-02	
12	11	0				.27625000E+03	.24227E-07	.30260E-35	.96229E-25	.91243E-20	.11029E-02	
12	11	0				.27628130E+03	.24232E-07	.30275E-35	.96247E-25	.91260E-20	.11032E-02	

TABLE I b . 2

J0		J1	L	NU		SIGMA				A	HEF
						20	50	100	200		
12	11	2				.2760130E+03	.46311E-07	.30074E-35	.97652E-25	.29771E-20	.10720E-02
HCNU2											
HCNU											
v3											
Mn = 43 MU = 3.0600 b = .11530500E+02											
13	13	1				.9095200E+01	.70990E-02	.00062E-44	.17699E-31	.15454E-25	.57320E-09
14	14	1				.11370440E+02	.45100E-02	.73312E-44	.18995E-31	.17721E-25	.76293E-09
15	15	1				.12799340E+02	.24202E-02	.64244E-44	.19052E-31	.19921E-25	.99017E-09
16	16	1				.14724270E+02	.11951E-02	.54377E-44	.19057E-31	.21992E-25	.12791E-09
17	17	1				.16562800E+02	.55644E-03	.44523E-44	.19624E-31	.23070E-25	.16183E-09
18	18	1				.16509000E+02	.24273E-03	.53306E-44	.16993E-31	.25531E-25	.20207E-09
19	19	1				.20502960E+02	.99302E-04	.27145E-44	.18020E-31	.26910E-25	.24937E-09
20	20	1				.22754310E+02	.30134E-04	.20253E-44	.16770E-31	.27944E-25	.30401E-09
21	21	1				.46017230E+02	.22700E-77	.12474E-40	.10451E-28	.55444E-23	.31801E-05
22	22	1				.46233940E+02	.22914E-77	.12592E-40	.10550E-28	.55967E-23	.32313E-05
23	23	1				.69025610E+02	.70900E-77	.46690E-40	.40439E-26	.21612E-22	.13654E-04
24	24	1				.69350670E+02	.77634E-77	.47131E-40	.40221E-26	.22010E-22	.13040E-04
25	25	1				.92033600E+02	.15409E-70	.10663E-39	.90710E-26	.53336E-22	.35400E-04
26	26	1				.92309620E+02	.90264E-77	.54799E-40	.47461E-26	.25600E-22	.16669E-04
27	27	1				.92407100E+02	.15554E-70	.10704E-39	.97631E-26	.36795E-22	.35902E-04
28	28	1				.11504130E+03	.23360E-76	.19128E-39	.16302E-27	.10376E-21	.72406E-04
29	29	1				.11538610E+03	.19555E-70	.14016E-39	.12630E-27	.71146E-22	.46279E-04
30	30	1				.11556310E+03	.23500E-76	.19300E-39	.16475E-27	.10474E-21	.73455E-04
31	31	1				.13040600E+03	.29330E-76	.25309E-39	.29970E-27	.17565E-21	.12666E-03
32	32	1				.13646210E+03	.26410E-76	.24052E-39	.24311E-27	.13930E-21	.10015E-03
33	33	1				.13069670E+03	.29615E-76	.25506E-39	.30253E-27	.17730E-21	.13049E-03
34	34	1				.16105530E+03	.31664E-76	.40102E-39	.44370E-27	.27035E-21	.20014E-03
35	35	1				.16153750E+03	.33332E-76	.30707E-39	.30006E-27	.23172E-21	.17501E-03
36	36	1				.16161360E+03	.32165E-76	.40542E-39	.44795E-27	.27290E-21	.21109E-03
37	37	1				.16400130E+03	.36900E-76	.50465E-39	.60922E-27	.36795E-21	.31462E-03
38	38	1				.16461190E+03	.33640E-76	.46424E-39	.55927E-27	.34834E-21	.27732E-03
39	39	1				.16492790E+03	.30967E-76	.50941E-39	.61497E-27	.39161E-21	.31929E-03
40	40	1				.20706600E+03	.26645E-76	.59068E-39	.70777E-27	.52260E-21	.45269E-03
41	41	1				.20708560E+03	.30106E-76	.56431E-39	.74553E-27	.46000E-21	.41106E-03
42	42	1				.20604140E+03	.26900E-76	.59626E-39	.79521E-27	.53225E-21	.45911E-03
43	43	1				.23007100E+03	.21066E-76	.65069E-39	.96967E-27	.66595E-21	.62571E-03
44	44	1				.23075820E+03	.24306E-76	.65760E-39	.93723E-27	.64049E-21	.56672E-03
45	45	1				.23115390E+03	.21267E-76	.65703E-39	.97862E-27	.69243E-21	.63459E-03
46	46	1				.25307450E+03	.15201E-76	.64026E-39	.11446E-26	.86056E-21	.63768E-03
47	47	1				.25362970E+03	.17903E-76	.69784E-39	.11234E-26	.92600E-21	.78944E-03
48	48	1				.25426560E+03	.15425E-76	.68668E-39	.11554E-26	.86860E-21	.64976E-03
49	49	1				.27607700E+03	.10225E-76	.67001E-39	.13029E-26	.10468E-20	.10931E-02
50	50	1				.2768999E+03	.12117E-76	.70352E-39	.12934E-26	.10164E-20	.10413E-02
51	51	1				.27737610E+03	.10321E-76	.66441E-39	.13152E-26	.10567E-20	.11087E-02
HCNU3											
HCNU											
0022											
Mn = 43 MU = 3.0600 b = .11515700E+02											
1	0	0				.22031400E+02	.26540E-50	.11110E-32	.36547E-25	.13159E-21	.38849E-06
2	1	0				.46062700E+02	.22341E-55	.92960E-32	.32963E-24	.11370E-20	.42007E-05
3	2	0				.69093900E+02	.63879E-55	.29367E-31	.10702E-23	.37770E-20	.15407E-04
3	2	2				.69112400E+02	.39657E-55	.17062E-31	.61159E-24	.21226E-20	.65663E-05
4	3	0				.92124600E+02	.12138E-54	.63716E-31	.24407E-23	.87571E-20	.37872E-04
4	3	2				.92149400E+02	.10173E-54	.49976E-31	.16724E-23	.66444E-20	.26427E-04
5	4	0				.11515500E+03	.17963E-54	.11142E-30	.45105E-23	.16637E-19	.75646E-04
5	4	2				.11516000E+03	.16800E-54	.97079E-31	.38756E-23	.14138E-19	.63596E-04
6	5	0				.13610490E+03	.22303E-54	.16662E-30	.72939E-23	.27011E-19	.13273E-03
6	5	2				.13622200E+03	.22154E-54	.15674E-30	.66320E-23	.25009E-19	.11808E-03
7	6	0				.15121420E+03	.24053E-54	.22936E-30	.10720E-22	.42486E-19	.21310E-03
7	6	2				.16125700E+03	.24684E-54	.22028E-30	.10070E-22	.39473E-19	.19566E-03
8	7	0				.18424280E+03	.23073E-54	.28888E-30	.14647E-22	.60675E-19	.32076E-03
8	7	2				.18429100E+03	.24171E-54	.26124E-30	.14046E-22	.57545E-19	.30095E-03
9	8	0				.20727060E+03	.19976E-54	.33474E-30	.16879E-22	.82196E-19	.45970E-03
9	8	2				.20732500E+03	.21220E-54	.33277E-30	.18358E-22	.79047E-19	.43734E-03
10	9	0				.23029700E+03	.15760E-54	.36806E-30	.23167E-22	.10669E-18	.63390E-03
10	9	2				.23035800E+03	.16913E-54	.36953E-30	.22769E-22	.10361E-18	.60903E-03
11	10	0				.25332350E+03	.11424E-54	.38414E-30	.27327E-22	.13362E-18	.84736E-03
11	10	2				.25338900E+03	.12344E-54	.38844E-30	.27028E-22	.13071E-18	.81998E-03
12	11	0				.27634630E+03	.76407E-55	.36249E-30	.31069E-22	.16234E-18	.11040E-02
12	11	2				.27642000E+03	.63011E-55	.36666E-30	.30696E-22	.15966E-18	.10742E-02

TABLE I b . 3

JU	JL	L	NU	SIGMA				A	nbf
				20	50	100	200		
HCNO4									175
HCNU			Mw = 43 MU = 3.0000 B = .11498200E+02						
1	0	0	.22992000E+02	.23524E-04	.00205E-44	.99504E-31	.22001E-24	.44102E-00	
2	1	0	.45992000E+02	.10052E-03	.52267E-43	.77909E-30	.17470E-23	.42413E-05	
3	2	2	.06980700E+02	.29895E-03	.95030E-43	.14459E-29	.32509E-23	.05174E-05	
3	2	0	.06988400E+02	.40190E-03	.10510E-42	.25404E-29	.57993E-23	.15330E-04	
4	3	2	.91974100E+02	.70713E-03	.20070E-42	.44270E-29	.10194E-22	.20205E-04	
4	3	0	.91983500E+02	.91614E-03	.35026E-42	.57750E-29	.13440E-22	.37090E-04	
5	4	2	.11496700E+03	.12734E-02	.54990E-42	.91640E-29	.21093E-22	.03234E-04	
5	4	0	.11497780E+03	.13570E-02	.02050E-42	.10073E-28	.25540E-22	.75300E-04	
6	5	2	.13796000E+03	.16721E-02	.00091E-42	.15003E-28	.30370E-22	.11741E-03	
6	5	0	.13797110E+03	.10040E-02	.94030E-42	.17201E-28	.42705E-22	.13211E-03	
7	6	2	.16095300E+03	.18043E-02	.12383E-41	.23017E-28	.00573E-22	.19470E-03	
7	6	0	.16096320E+03	.18101E-02	.12903E-41	.25371E-28	.05242E-22	.21211E-03	
8	7	2	.18394600E+03	.18260E-02	.15015E-41	.33225E-28	.00315E-22	.29927E-03	
8	7	0	.18395300E+03	.17451E-02	.10142E-41	.34009E-28	.93177E-22	.31920E-03	
9	8	0	.20694270E+03	.15120E-02	.18041E-41	.44693E-28	.12023E-21	.45752E-03	
10	9	0	.22992980E+03	.11943E-02	.20724E-41	.54097E-28	.10305E-21	.037E-03	
11	10	0	.25291400E+03	.06620E-03	.21636E-41	.64710E-28	.20523E-21	.0450E-03	
12	11	0	.27509760E+03	.57980E-03	.21551E-41	.73504E-28	.24935E-21	.10900E-02	

TABLE 10.1

J0 J1 J2 J3				NU				SIGMA				A		REF	
SULFUR MONOXIDE															157
SU				M = 40 MU = 1.5500 D = .21523501E+02											
1	2	1	1	.13045700E+02	.44901E-00	.11007E-00	.34334E-09	.93074E-10	.29004E-07						
1	0	0	1	.30001700E+02	.32519E-07	.54074E-00	.13971E-00	.35240E-03	.24004E-06						
2	3	2	2	.30201000E+02	.33144E-00	.27279E-00	.70270E-09	.21779E-09	.19795E-06						
2	1	1	1	.00933000E+02	.14949E-00	.27027E-07	.72465E-00	.10050E-00	.26906E-05						
3	4	3	3	.00034940E+02	.00209E-00	.33739E-00	.11270E-00	.32793E-09	.50130E-00						
2	2	1	1	.00093950E+02	.10314E-00	.27704E-07	.90570E-00	.24904E-00	.5335E-05						
3	2	2	1	.99099070E+02	.31730E-00	.07000E-07	.10010E-07	.40021E-00	.11472E-04						
4	3	4	4	.10002904E+03	.09007E-00	.30937E-00	.13200E-00	.40272E-09	.11040E-05						
2	3	1	2	.10920210E+03	.15327E-00	.40002E-07	.14430E-07	.40150E-00	.11013E-04						
3	3	2	2	.12913005E+03	.21610E-00	.70132E-07	.24320E-07	.09210E-00	.22945E-04						
4	3	3	2	.13017000E+03	.40002E-00	.11903E-00	.30220E-07	.95502E-00	.32201E-04						
3	4	2	3	.15097100E+03	.20100E-00	.10775E-00	.30009E-07	.10400E-07	.43157E-04						
4	4	3	3	.17210146E+03	.27001E-00	.12301E-00	.43542E-07	.12911E-07	.59470E-04						
SU1															157
SU				M = 40 MU = 1.5500 D = .21351010E+02											
1	2	1	1	.12752900E+02	.42020E-00	.11077E-00	.32552E-09	.00234E-10	.27743E-07						
1	0	0	1	.29349300E+02	.32154E-07	.54270E-00	.13011E-00	.34037E-09	.23930E-06						
2	3	2	2	.35401400E+02	.79334E-00	.24007E-00	.74545E-09	.20730E-09	.10005E-06						
2	1	1	0	.02092050E+02	.14719E-00	.27200E-07	.71340E-00	.10270E-00	.20000E-05						
3	4	3	3	.04004470E+02	.04549E-00	.32207E-00	.10770E-00	.31140E-09	.53050E-00						

TABLE II
TRANSITIONS OF SYMMETRIC ROTORS

Table II - Contents

1. CH_3NO_2	nitromethane
2. CH_3OH	methanol
3. CH_3CN	methyl cyanide
4. CH_3NC	methyl isocyanide
5. CH_3NCO	methylisocyanate
6. CH_3NCS	methylisothiocyanate
7. $\text{CH}_3\text{C}_2\text{H}$	methylacetylene
8. NH_3	ammonia

Note to Table II

- a. Hindered internal motions affect this molecule severely,
so the cross sections are not very accurate.

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TABLE II.

TABLE 11

JU	JL	K	NU	LU	NU	SUMMA	LU	NU	A	PR
3	3	1	.1050443E+03	.10703E-16	.2917E-10	.6100E-17	.1130E-17	.1130E-17	.1130E-17	.1130E-17
4	4	1	.1051403E+03	.9022E-10	.10491E-10	.4204E-17	.9107E-10	.9107E-10	.9107E-10	.9107E-10
5	5	1	.1051044E+03	.40751E-10	.12437E-10	.3111E-17	.7004E-10	.7004E-10	.7004E-10	.7004E-10
6	6	1	.1050757E+03	.1690E-10	.7002E-17	.2000E-17	.2000E-10	.2000E-10	.2000E-10	.2000E-10
7	7	1	.1051042E+03	.04450E-17	.4075E-17	.1000E-17	.4444E-10	.4444E-10	.4444E-10	.4444E-10
3	2	2	.1700000E+03	.5051E-15	.5900E-10	.1040E-10	.3740E-17	.3740E-17	.3740E-17	.3740E-17
7	0	0	.1724459E+03	.1010E-15	.1373E-15	.4740E-10	.12470E-10	.12470E-10	.12470E-10	.12470E-10
9	0	2	.1041236E+03	.33100E-10	.0430E-10	.4300E-10	.1044E-10	.1044E-10	.1044E-10	.1044E-10
5	0	2	.1030730E+03	.5732E-15	.1720E-15	.4344E-10	.4417E-17	.4417E-17	.4417E-17	.4417E-17
9	0	2	.1035749E+03	.33443E-10	.04990E-10	.4404E-10	.1410E-10	.1410E-10	.1410E-10	.1410E-10
6	7	3	.1917330E+03	.0492E-15	.3017E-15	.0774E-17	.1104E-10	.1104E-10	.1104E-10	.1104E-10
10	9	0	.1900322E+03	.14043E-10	.7220E-10	.4747E-10	.1715E-10	.1715E-10	.1715E-10	.1715E-10
METHYL CYANIDE										
CH3CN										
Mh = 41 MU = 3.9100 B = .9190090E+01 C = .1900000E+01										
2	1	1	.3079400E+02	.4309E-15	.3443E-10	.7124E-17	.1550E-17	.1550E-17	.1550E-17	.1550E-17
2	1	0	.3579530E+02	.4095E-15	.4550E-10	.0544E-17	.2202E-17	.2202E-17	.2202E-17	.2202E-17
5	4	4	.9195920E+02	.4100E-12	.2037E-10	.1402E-15	.1000E-10	.1000E-10	.1000E-10	.1000E-10
5	4	3	.9197130E+02	.1199E-12	.2000E-15	.3024E-15	.0744E-10	.0744E-10	.0744E-10	.0744E-10
5	4	2	.9190000E+02	.1320E-13	.0500E-15	.1304E-15	.0744E-10	.0744E-10	.0744E-10	.0744E-10
5	4	1	.9190350E+02	.5100E-14	.0300E-15	.1201E-15	.2954E-10	.2954E-10	.2954E-10	.2954E-10
5	4	0	.9190707E+02	.3767E-14	.0701E-15	.1242E-15	.0900E-10	.0900E-10	.0900E-10	.0900E-10
6	5	5	.1103307E+03	.1149E-10	.9719E-14	.3707E-15	.2721E-10	.2721E-10	.2721E-10	.2721E-10
6	5	4	.1103490E+03	.0401E-12	.4007E-14	.3545E-15	.4470E-10	.4470E-10	.4470E-10	.4470E-10
6	5	3	.1103045E+03	.1003E-12	.4006E-14	.5000E-15	.1032E-10	.1032E-10	.1032E-10	.1032E-10
6	5	2	.1103750E+03	.10520E-13	.1409E-14	.2400E-15	.5101E-10	.5101E-10	.5101E-10	.5101E-10
6	5	1	.1103013E+03	.0939E-14	.1004E-14	.2120E-15	.0000E-10	.0000E-10	.0000E-10	.0000E-10
6	5	0	.1103034E+03	.4994E-14	.0950E-15	.2040E-15	.4442E-10	.4442E-10	.4442E-10	.4442E-10
7	6	6	.1200905E+03	.1181E-00	.1134E-12	.2175E-14	.1474E-15	.1474E-15	.1474E-15	.1474E-15
7	6	5	.1207170E+03	.2147E-10	.2100E-13	.0071E-15	.9103E-10	.9103E-10	.9103E-10	.9103E-10
7	6	4	.1207399E+03	.1107E-11	.0314E-14	.0410E-15	.9159E-10	.9159E-10	.9159E-10	.9159E-10
7	6	3	.1207570E+03	.2304E-12	.7417E-14	.9437E-15	.1729E-15	.1729E-15	.1729E-15	.1729E-15
7	6	2	.1207695E+03	.2230E-13	.2043E-14	.3715E-15	.0141E-10	.0141E-10	.0141E-10	.0141E-10
7	6	1	.1207770E+03	.0151E-14	.1420E-14	.3190E-15	.7002E-10	.7002E-10	.7002E-10	.7002E-10
7	6	0	.1207794E+03	.0226E-14	.1256E-14	.3040E-15	.7000E-10	.7000E-10	.7000E-10	.7000E-10
8	7	7	.1407350E+03	.5070E-07	.4170E-12	.3274E-14	.1490E-15	.1490E-15	.1490E-15	.1490E-15
8	7	6	.14070730E+03	.2042E-00	.2435E-12	.4033E-14	.3490E-15	.3490E-15	.3490E-15	.3490E-15
8	7	5	.1407100E+03	.2001E-10	.3525E-13	.1535E-14	.1400E-15	.1400E-15	.1400E-15	.1400E-15
8	7	4	.14071294E+03	.1300E-11	.1200E-13	.9930E-15	.1400E-15	.1400E-15	.1400E-15	.1400E-15
8	7	3	.14071492E+03	.2009E-12	.1012E-13	.1301E-14	.2024E-15	.2024E-15	.2024E-15	.2024E-15
8	7	2	.14071634E+03	.2307E-13	.2703E-14	.5275E-15	.1197E-15	.1197E-15	.1197E-15	.1197E-15
8	7	1	.14071795E+03	.0505E-14	.1049E-14	.44710E-15	.11297E-15	.11297E-15	.11297E-15	.11297E-15
8	7	0	.14071747E+03	.01050E-14	.1020E-14	.4229E-15	.1107E-15	.1107E-15	.1107E-15	.1107E-15
9	8	8	.1653654E+03	.10305E-04	.30070E-11	.1125E-13	.3110E-15	.3110E-15	.3110E-15	.3110E-15
9	8	7	.10541293E+03	.9153E-07	.0540E-12	.72590E-14	.3437E-15	.3437E-15	.3437E-15	.3437E-15
9	8	6	.16545434E+03	.24023E-00	.37554E-12	.00710E-14	.00011E-15	.00011E-15	.00011E-15	.00011E-15
9	8	5	.10540939E+03	.30410E-10	.40574E-13	.22903E-14	.2555E-15	.2555E-15	.2555E-15	.2555E-15
9	8	4	.16551793E+03	.14194E-11	.15594E-13	.13083E-14	.2151E-15	.2151E-15	.2151E-15	.2151E-15
9	8	3	.16554031E+03	.25027E-12	.12714E-13	.18796E-14	.3713E-15	.3713E-15	.3713E-15	.3713E-15
9	8	2	.16555610E+03	.2316E-13	.3329E-14	.70337E-15	.16014E-15	.16014E-15	.16014E-15	.16014E-15
9	8	1	.16556571E+03	.02457E-14	.22535E-14	.58990E-15	.15510E-15	.15510E-15	.15510E-15	.15510E-15
9	8	0	.16556695E+03	.58419E-14	.19701E-14	.55613E-15	.15153E-15	.15153E-15	.15153E-15	.15153E-15
10	9	0	.18373620E+03	.15591E-04	.76255E-11	.24234E-13	.7020E-15	.7020E-15	.7020E-15	.7020E-15
10	9	7	.18370931E+03	.10425E-06	.12004E-11	.11760E-13	.50247E-15	.50247E-15	.50247E-15	.50247E-15
10	9	6	.18383534E+03	.25224E-08	.49736E-12	.11677E-13	.91943E-15	.91943E-15	.91943E-15	.91943E-15
10	9	5	.18387421E+03	.29100E-10	.60579E-13	.31201E-14	.30380E-15	.30380E-15	.30380E-15	.30380E-15
10	9	4	.18390605E+03	.1310E-11	.18700E-13	.14381E-14	.29563E-15	.29563E-15	.29563E-15	.29563E-15
10	9	3	.18393079E+03	.23322E-12	.14904E-13	.24164E-14	.40099E-15	.40099E-15	.40099E-15	.40099E-15
10	9	2	.18394440E+03	.20630E-13	.30050E-14	.09199E-15	.22021E-15	.22021E-15	.22021E-15	.22021E-15
10	9	1	.18395900E+03	.72907E-14	.25969E-14	.74254E-15	.20404E-15	.20404E-15	.20404E-15	.20404E-15
10	9	0	.18390262E+03	.51530E-14	.22741E-14	.69837E-15	.19000E-15	.19000E-15	.19000E-15	.19000E-15
10	9	10	.20190702E+03	.23539E+01	.60042E-09	.10432E-12	.15499E-14	.15499E-14	.15499E-14	.15499E-14
11	10	9	.20204075E+03	.10147E-01	.17393E-09	.18090E-12	.24900E-14	.24900E-14	.24900E-14	.24900E-14
11	10	8	.20210600E+03	.16707E-04	.10936E-10	.38300E-13	.11640E-14	.11640E-14	.11640E-14	.11640E-14
11	10	7	.20216493E+03	.99610E-07	.16219E-11	.10502E-13	.06103E-15	.06103E-15	.06103E-15	.06103E-15
11	10	6	.20221507E+03	.22673E-08	.59030E-12	.15479E-13	.12795E-14	.12795E-14	.12795E-14	.12795E-14
11	10	5	.20225787E+03	.25209E-10	.70232E-13	.39063E-14	.40003E-15	.40003E-15	.40003E-15	.40003E-15
11	10	4	.20229370E+03	.11008E-11	.21247E-13	.22934E-14	.30721E-15	.30721E-15	.30721E-15	.30721E-15
11	10	3	.20232150E+03	.19427E-12	.16601E-13	.29605E-14	.04352E-15	.04352E-15	.04352E-15	.04352E-15
11	10	2	.20234010E+03	.17021E-13	.42665E-14	.10051E-14	.20121E-15	.20121E-15	.20121E-15	.20121E-15

TABLE II . 2

JO	JL	K	N	70	50	30	100	200	A	REF
11	10	1	.20025145E+03	.59009E-14	.20511E-14	.09030E-15	.25915E-15	.10490E-02		
11	10	0	.20025150E+03	.42199E-14	.24923E-14	.04340E-15	.25215E-15	.10570E-02		
12	11	9	.22004939E+03	.10203E-01	.24176E-09	.27955E-12	.40053E-14	.12033E-02		
12	11	0	.22004700E+03	.15055E-04	.15540E-10	.52743E-13	.10913E-14	.76203E-03		
12	11	7	.22053930E+03	.04405E-07	.10007E-11	.21460E-13	.11762E-14	.90004E-03		
12	11	6	.22054450E+03	.70500E-00	.07005E-12	.19290E-13	.10019E-14	.20030E-02		
12	11	5	.22064112E+03	.20000E-10	.70832E-13	.40404E-14	.02500E-15	.11373E-02		
12	11	4	.22067431E+03	.00001E-12	.20050E-15	.27432E-14	.40034E-15	.12239E-02		
12	11	3	.22070000E+03	.15030E-12	.17745E-13	.35107E-14	.00240E-15	.25027E-02		
12	11	2	.22074270E+03	.13000E-13	.45055E-14	.12740E-14	.34013E-15	.12390E-02		
12	11	1	.22074299E+03	.45771E-14	.29955E-14	.10504E-14	.31950E-15	.13005E-02		
12	11	0	.22074724E+03	.12252E-14	.26170E-14	.90490E-15	.31045E-15	.13702E-02		
METHYL ISOCYANIDE										45 71
CH3NC			MW = 41 MU = 3.0300 B = .10052900E+02 C = .10070000E+03							
2	1	1	.40010070E+02	.54915E-15	.49530E-10	.00420E-17	.10054E-17	.49952E-03		
2	1	0	.40011100E+02	.51000E-15	.52710E-10	.10900E-10	.24247E-17	.00007E-03		
METHYLISOCYANATE										26
CH3NCO			MW = 57 MU = 2.0100 B = .43239090E+01 C = .73049200E+02							
1	0	0	.00710000E+01	.21301E-17	.23707E-10	.54325E-19	.14997E-19	.29997E-07		
2	1	0	.17420000E+02	.16550E-16	.10095E-17	.43511E-10	.12002E-10	.29100E-00		
2	1	1	.17504300E+02	.14799E-16	.15200E-17	.34045E-10	.92012E-19	.22101E-00		
3	2	0	.20015200E+02	.51901E-10	.61004E-17	.14364E-17	.40067E-10	.10400E-05		
3	2	1	.20017000E+02	.54490E-10	.50900E-17	.13297E-17	.36470E-10	.93449E-05		
METHYLISOTHIOCYANATE										90
CH3NCS			MW = 74 MU = 3.4100 B = .25177000E+01 C = .01070000E+02							
1	0	0	.50394900E+01	.07340E-10	.00207E-19	.22705E-19	.09201E-20	.00036E-00		
2	1	0	.10073490E+02	.72351E-17	.00350E-10	.10077E-10	.55220E-19	.03171E-07		
1	0	0	.15024720E+02	.17050E-17	.22150E-17	.00000E-10	.10505E-10	.30113E-00		
METHYLACETYLENE										14 45
CH3C2H			MW = 40 MU = .7500 B = .05450700E+01 C = .05450700E+01							
2	1	1	.34102710E+02	.21475E-17	.23910E-10	.50900E-19	.14255E-19	.11700E-00		
2	1	0	.34103370E+02	.20035E-17	.31892E-10	.07959E-19	.19007E-19	.15091E-00		
3	2	2	.51270000E+02	.47400E-17	.56910E-10	.12431E-10	.35197E-19	.21514E-00		
3	2	1	.51273700E+02	.75954E-17	.91070E-10	.19691E-10	.50322E-19	.50431E-00		
3	2	0	.51274750E+02	.05451E-17	.10240E-17	.22370E-10	.03360E-19	.50739E-00		
5	4	4	.05431340E+02	.90395E-17	.14724E-17	.34621E-10	.10172E-10	.10020E-05		
5	4	3	.05442610E+02	.34994E-16	.52300E-17	.12313E-17	.30175E-10	.35004E-05		
5	4	2	.05450700E+02	.22909E-16	.34371E-17	.00020E-10	.23745E-10	.23390E-05		
5	4	1	.05455670E+02	.20254E-16	.39200E-17	.52370E-10	.27140E-10	.20743E-05		
5	4	0	.05457290E+02	.40925E-17	.40925E-17	.96229E-10	.20272E-10	.20599E-05		
7	6	0	.11955600E+03	.23329E-10	.40073E-17	.12576E-17	.30971E-10	.41557E-05		
7	6	5	.11956112E+03	.21544E-10	.44394E-17	.11013E-17	.35909E-10	.30304E-05		
7	6	4	.11960100E+03	.29633E-10	.01063E-17	.15974E-17	.49501E-10	.52000E-05		
7	6	3	.11961707E+03	.71857E-10	.14007E-10	.30735E-17	.12004E-17	.12007E-00		
7	6	2	.11962913E+03	.40427E-10	.03305E-17	.21793E-17	.07533E-10	.72050E-05		
7	6	1	.11963597E+03	.43127E-10	.06069E-17	.23240E-17	.72043E-10	.70075E-05		
7	6	0	.11963822E+03	.44027E-10	.90724E-17	.23733E-17	.73547E-10	.78401E-05		
8	7	7	.13660015E+03	.11073E-10	.27783E-17	.77011E-10	.24053E-10	.27609E-05		
8	7	6	.13663403E+03	.41301E-10	.10378E-17	.20403E-17	.92830E-10	.10315E-04		
8	7	5	.13660274E+03	.20017E-10	.72303E-17	.20197E-17	.04677E-10	.71002E-05		
8	7	4	.13660619E+03	.35479E-10	.09019E-17	.24867E-17	.79030E-10	.00510E-05		
8	7	3	.13670448E+03	.01329E-10	.20406E-16	.57002E-17	.16253E-17	.20293E-04		
8	7	2	.13671760E+03	.44370E-10	.11132E-16	.31098E-17	.99503E-10	.11072E-04		
8	7	1	.13672536E+03	.40593E-10	.11690E-16	.32650E-17	.10457E-17	.11020E-04		
8	7	0	.13672793E+03	.47335E-10	.11876E-16	.33170E-17	.10624E-17	.11813E-04		
9	8	0	.15371155E+03	.51697E-10	.10107E-16	.40602E-17	.10175E-17	.10772E-04		
9	8	5	.15374372E+03	.32180E-10	.10070E-16	.30304E-17	.10009E-17	.11008E-04		
9	8	4	.15377015E+03	.37305E-10	.11699E-16	.35185E-17	.11091E-17	.13573E-04		
9	8	3	.15379066E+03	.02000E-16	.25920E-16	.77971E-17	.25907E-17	.30002E-04		
9	8	2	.15380537E+03	.44204E-16	.13060E-16	.41701E-17	.13060E-17	.20090E-04		
9	8	1	.15381427E+03	.40014E-16	.14400E-16	.43331E-17	.14397E-17	.10720E-04		
9	8	0	.15381710E+03	.40591E-16	.14588E-16	.43074E-17	.14570E-17	.10930E-04		
10	9	7	.17074605E+03	.21587E-16	.06450E-17	.20223E-17	.97701E-10	.11873E-04		
10	9	6	.17078029E+03	.54205E-16	.21700E-16	.70000E-17	.24533E-17	.29020E-04		
10	9	5	.17082413E+03	.31774E-16	.12725E-16	.41542E-17	.14301E-17	.17000E-04		
10	9	4	.17083500E+03	.35599E-16	.14257E-16	.46543E-17	.10112E-17	.19092E-04		
10	9	3	.17087627E+03	.77152E-16	.30098E-16	.10087E-16	.34919E-17	.42400E-04		
10	9	2	.17089259E+03	.40703E-16	.10301E-16	.53216E-17	.18422E-17	.22400E-04		
10	9	1	.17090237E+03	.41900E-16	.10812E-16	.54800E-17	.19000E-17	.23110E-04		

TABLE 11. 4

JU	JL	K	NU	2U	50	SIGMA	100	200	A	REF
10	9	0	.17090500E+03	.42400E-10	.10903E-10	.55442E-17	.14193E-17	.23345E-04		
11	10	0	.16776390E+03	.16092E-10	.00074E-17	.31004E-17	.11470E-17	.14047E-04		
11	10	7	.18761795E+03	.21349E-10	.11200E-10	.40045E-17	.14503E-17	.10517E-04		
11	10	0	.16700442E+03	.50432E-10	.20470E-10	.94590E-17	.34259E-17	.43753E-04		
11	10	5	.16790390E+03	.20491E-10	.14950E-10	.53442E-17	.14555E-17	.24723E-04		
11	10	4	.16793034E+03	.31173E-10	.16300E-10	.50473E-17	.21170E-17	.27055E-04		
11	10	3	.16790141E+03	.00520E-16	.34923E-10	.12470E-10	.45100E-17	.57740E-04		
11	10	2	.16797934E+03	.34752E-16	.10244E-10	.05105E-17	.23607E-17	.30100E-04		
11	10	1	.16799002E+03	.35647E-10	.16714E-10	.00004E-17	.24215E-17	.30940E-04		
11	10	0	.18799309E+03	.35945E-10	.16071E-10	.07424E-17	.24410E-17	.31200E-04		
HAT1										
Cr3C2n										
2	1	1	Mu = 40 MU = .7500 B = .05097000E+01 C = .05097000E+01	.69037E-20	.15270E-22	.40000E-21	.12007E-20	.11005E-00		100
2	1	0	.34277050E+02	.72000E-20	.20371E-22	.54516E-21	.17070E-20	.15023E-00		
3	2	1	.51415300E+02	.24404E-21	.50102E-22	.15950E-20	.50599E-20	.50050E-00		
3	2	0	.51410230E+02	.27403E-27	.05439E-22	.17952E-20	.50530E-20	.57210E-00		
3	2	2	.51410750E+02	.19250E-27	.30356E-22	.94730E-21	.31620E-20	.31700E-00		
AMMONIA										
Nn3										
15	15	0	Mu = 17 MU = 1.4000 B = .29000000E+03 C = .16900000E+03	.72000E+01	.54300E-34	.12701E-47	.13470E-32	.16190E-25	.43654E-00	115
14	14	4	.73700500E+01	.51394E-03	.13410E-43	.00120E-31	.03790E-25	.11470E-00		
16	16	0	.76179000E+01	.37003E-10	.65010E-51	.29240E-35	.00504E-27	.23137E-00		
13	13	2	.70943700E+01	.10172E-73	.43077E-40	.21579E-29	.19931E-24	.40003E-09		
15	15	7	.01520000E+01	.15452E-95	.27904E-40	.50171E-33	.11037E-25	.41620E-00		
13	13	4	.07060900E+01	.36003E-74	.01330E-40	.50760E-29	.71765E-24	.22257E-00		
14	14	0	.07060900E+01	.17490E-04	.10950E-43	.15230E-30	.24074E-24	.00943E-00		
16	16	9	.00239000E+01	.14904E-100	.37741E-53	.40004E-35	.17630E-20	.15390E-07		
12	12	1	.00331300E+01	.10751E-05	.35910E-37	.36792E-20	.40537E-24	.17777E-09		
12	12	2	.92721000E+01	.32200E-05	.11057E-30	.13253E-27	.19000E-23	.76903E-09		
15	15	0	.92836500E+01	.51730E-97	.90309E-49	.44940E-33	.12620E-25	.00279E-00		
13	13	5	.94700000E+01	.07330E-75	.43099E-40	.04771E-29	.10302E-23	.43977E-07		
14	14	3	.90707000E+01	.02127E-02	.54055E-43	.19033E-30	.14041E-24	.23160E-07		
14	14	7	.90143000E+01	.49752E-00	.23001E-44	.05024E-31	.14013E-24	.02991E-00		
12	12	4	.10293400E+02	.68792E-00	.15529E-36	.34074E-27	.60674E-23	.42000E-00		
16	16	10	.10397120E+02	.09151E-111	.44301E-54	.12942E-35	.91917E-27	.15547E-07		
13	13	0	.10426700E+02	.13213E-75	.40200E-40	.12702E-20	.27097E-23	.16073E-07		
11	11	1	.10402020E+02	.09700E-50	.50399E-34	.10670E-26	.39806E-23	.32027E-07		
11	11	3	.10530300E+02	.15655E-57	.39800E-33	.19950E-25	.50013E-22	.60012E-00		
15	15	9	.10754500E+02	.20505E-50	.50419E-49	.02739E-33	.27492E-25	.31590E-07		
11	11	2	.10759020E+02	.13410E-57	.15519E-33	.00083E-26	.15535E-22	.14203E-00		
12	12	3	.10830100E+02	.53524E-65	.40273E-30	.02709E-27	.10202E-22	.55230E-00		
12	12	5	.11132700E+02	.11940E-66	.11000E-30	.39803E-27	.94100E-23	.03194E-00		
14	14	0	.11177300E+02	.10000E-07	.01320E-45	.50077E-31	.16722E-24	.16012E-07		
13	13	7	.11073100E+02	.37590E-77	.10550E-40	.54005E-29	.16450E-23	.16113E-07		
11	11	4	.11947140E+02	.20009E-58	.21805E-33	.15015E-25	.55970E-22	.77770E-00		
10	10	1	.12017300E+02	.60405E-51	.39204E-31	.55802E-25	.27600E-22	.59301E-09		
12	12	0	.12251400E+02	.23437E-67	.12212E-36	.78002E-27	.25945E-22	.31933E-07		
17	17	12	.12300400E+02	.93727E-120	.10077E-59	.30075E-30	.97253E-20	.06031E-07		
10	10	2	.12330400E+02	.13155E-50	.12092E-30	.20127E-24	.10790E-21	.25007E-00		
16	16	11	.12461040E+02	.63752E-113	.85540E-55	.74970E-36	.92235E-27	.32306E-07		
15	15	10	.12674120E+02	.12252E-100	.60247E-50	.19906E-33	.14330E-25	.31917E-07		
11	11	5	.12923100E+02	.49774E-59	.15545E-33	.16050E-25	.60000E-22	.15379E-07		
14	14	9	.12951320E+02	.66326E-09	.40002E-45	.71047E-31	.30429E-24	.03054E-07		
10	10	3	.13290370E+02	.16594E-50	.37462E-30	.00999E-24	.49492E-21	.14473E-07		
13	13	5	.13297490E+02	.12594E-70	.37219E-41	.42441E-29	.10033E-23	.31109E-07		
9	9	1	.13612300E+02	.15005E-44	.17000E-20	.13849E-23	.16421E-21	.10545E-00		
10	10	4	.13700900E+02	.20121E-51	.10997E-30	.53005E-24	.38695E-21	.14075E-07		
12	12	7	.13719510E+02	.00713E-69	.20742E-37	.33755E-27	.15759E-22	.30510E-07		
9	9	2	.13974540E+02	.30399E-44	.52303E-20	.49902E-23	.64002E-21	.45630E-00		
11	11	6	.14224740E+02	.97746E-00	.17159E-33	.35435E-25	.21160E-21	.59070E-07		
9	9	3	.14376500E+02	.39140E-44	.14735E-27	.16296E-22	.26745E-20	.22300E-07		
10	10	5	.14622700E+02	.40038E-52	.12122E-30	.60534E-24	.50211E-21	.27049E-07		
16	16	12	.15193340E+02	.55005E-115	.27201E-55	.79644E-36	.17002E-26	.13973E-00		
15	15	11	.15195900E+02	.87600E-103	.12002E-50	.11541E-33	.14399E-25	.06503E-07		
0	0	1	.15233300E+02	.06240E-39	.41041E-20	.25460E-22	.03330E-21	.16473E-00		
14	14	10	.15200240E+02	.39502E-91	.54820E-40	.22557E-31	.19012E-24	.63771E-07		
13	13	9	.15412520E+02	.50100E-00	.21370E-41	.59303E-29	.41052E-23	.12201E-00		
9	9	4	.15523900E+02	.65012E-45	.73600E-20	.13140E-22	.23001E-20	.25024E-07		
12	12	0	.15632000E+02	.22303E-70	.94396E-30	.20116E-27	.16051E-22	.50972E-07		

00	JL	K	NU	ZU	GU	SIGMA	100	200	A	REF
0	0	2	.17039040E+02	.16590E-30	.12042E-25	.41750E-22	.32403E-20	.77902E-08		
11	11	7	.15933520E+02	.27037E-01	.37597E-34	.15327E-25	.12099E-21	.50490E-07		
10	10	6	.16319300E+02	.95951E-33	.13500E-30	.11007E-23	.44110E-20	.16103E-06		
0	0	3	.16455130E+02	.22345E-30	.37520E-25	.25107E-21	.14197E-19	.41910E-07		
9	9	5	.16790200E+02	.11295E-45	.52595E-40	.15221E-22	.33370E-20	.49541E-07		
7	7	1	.16841100E+02	.11140E-33	.55320E-24	.34009E-21	.30201E-20	.32079E-08		
7	7	2	.17241540E+02	.21444E-33	.11049E-23	.12540E-20	.14144E-19	.13099E-07		
0	0	4	.17370140E+02	.35490E-34	.17100E-25	.24107E-21	.11770E-19	.45001E-07		
7	7	3	.18017420E+02	.20320E-33	.44392E-23	.47100E-20	.06033E-19	.70139E-07		
12	12	4	.18127320E+02	.09160E-72	.54640E-60	.30724E-27	.39303E-22	.23274E-08		
11	11	0	.18162540E+02	.93305E-33	.13201E-34	.11067E-25	.24741E-21	.16930E-06		
13	13	10	.18177990E+02	.29900E-02	.25132E-42	.10040E-29	.21444E-23	.12410E-06		
10	10	7	.18205550E+02	.27344E-34	.29340E-31	.21441E-24	.09493E-21	.10247E-06		
0	0	1	.18391050E+02	.34220E-25	.41033E-22	.32533E-20	.37000E-19	.55730E-06		
9	9	6	.18499200E+02	.22205E-40	.50071E-20	.29509E-22	.27411E-20	.19503E-06		
15	15	12	.18535100E+02	.75700E-105	.40050E-51	.12209E-33	.27931E-25	.20750E-06		
0	0	5	.18600500E+02	.61700E-40	.12090E-25	.27070E-21	.10152E-19	.00920E-07		
10	10	13	.18642700E+02	.71730E-110	.10000E-50	.19493E-30	.03921E-27	.15240E-07		
0	0	2	.18664700E+02	.05097E-29	.12009E-21	.12009E-19	.03950E-19	.24530E-07		
7	7	4	.19218300E+02	.45930E-24	.23944E-23	.33009E-20	.03900E-19	.76350E-07		
0	0	3	.19757400E+02	.07759E-29	.37024E-21	.40500E-19	.22930E-10	.12430E-06		
5	5	1	.19830410E+02	.25100E-25	.17052E-20	.27251E-19	.44244E-19	.97421E-06		
5	5	2	.20371400E+02	.40450E-25	.55012E-20	.90247E-19	.17253E-10	.15241E-07		
0	0	0	.20719210E+02	.12130E-40	.14030E-27	.54340E-21	.44449E-20	.33005E-06		
9	9	7	.20735440E+02	.03319E-20	.12741E-20	.12701E-22	.03194E-20	.10203E-06		
7	7	5	.20804030E+02	.79020E-35	.17134E-23	.37030E-20	.73005E-19	.15120E-06		
10	10	0	.20852510E+02	.91000E-29	.10370E-31	.39004E-24	.10200E-20	.19049E-06		
0	0	4	.20994610E+02	.14114E-25	.10154E-21	.33749E-19	.19104E-10	.13200E-06		
11	11	9	.21070700E+02	.37200E-04	.70392E-35	.10013E-25	.32192E-21	.43197E-06		
4	4	1	.21134290E+02	.44750E-22	.43440E-19	.15000E-10	.12999E-10	.17759E-07		
5	5	3	.21205270E+02	.64363E-25	.10017E-19	.37157E-10	.74300E-10	.21770E-06		
12	12	10	.21391550E+02	.53209E-74	.03000E-39	.11019E-27	.20595E-22	.25009E-06		
4	4	2	.21703360E+02	.00134E-22	.13309E-10	.57207E-10	.49130E-10	.70920E-07		
3	3	1	.22234530E+02	.19004E-19	.01404E-10	.71402E-10	.22033E-10	.34465E-07		
5	5	4	.222053000E+02	.10303E-25	.77521E-20	.25930E-10	.02345E-10	.23320E-06		
4	4	3	.22680290E+02	.11453E-21	.39023E-10	.21057E-17	.21201E-17	.39540E-06		
0	0	5	.22732430E+02	.24554E-30	.12909E-21	.30005E-19	.27742E-10	.20309E-06		
3	3	2	.22834170E+02	.37322E-19	.10944E-17	.25770E-17	.12494E-17	.14932E-06		
7	7	6	.22924940E+02	.15709E-35	.10953E-23	.74419E-20	.19370E-10	.50203E-06		
15	15	13	.23004000E+02	.90003E-100	.20990E-32	.29904E-34	.13370E-25	.32220E-06		
2	2	1	.23098790E+02	.22075E-17	.52730E-17	.25997E-17	.75054E-10	.77204E-07		
0	0	7	.23232240E+02	.34634E-42	.30017E-20	.23553E-21	.27057E-19	.32100E-06		
9	9	6	.23657400E+02	.21279E-49	.45000E-29	.99139E-23	.01007E-20	.35420E-06		
1	1	1	.23694490E+02	.73055E-10	.31301E-10	.07255E-17	.19125E-17	.25020E-06		
2	2	2	.23722630E+02	.42491E-17	.10253E-10	.93750E-17	.29507E-17	.33407E-06		
16	16	14	.23777400E+02	.11340E-120	.19713E-57	.07400E-37	.70400E-27	.30440E-06		
3	3	3	.23870130E+02	.50169E-19	.55209E-17	.97579E-17	.53907E-17	.70759E-06		
4	4	4	.24139410E+02	.18466E-22	.10070E-10	.15110E-17	.17704E-17	.42330E-06		
10	10	9	.24205280E+02	.30600E-57	.59754E-32	.55000E-24	.22440E-20	.70503E-06		
5	5	5	.24532900E+02	.10070E-20	.55400E-20	.29003E-10	.90207E-10	.40290E-06		
17	17	15	.24600100E+02	.30902E-134	.13202E-62	.34542E-39	.73420E-28	.03170E-06		
11	11	10	.24881900E+02	.22271E-06	.90063E-36	.52922E-20	.10057E-21	.43909E-06		
6	6	0	.25050020E+02	.40349E-31	.14354E-31	.70007E-19	.72794E-10	.10149E-05		
12	12	11	.25695230E+02	.30220E-76	.12308E-39	.07617E-20	.20750E-22	.49510E-06		
7	7	7	.25715170E+02	.44805E-37	.41644E-24	.32279E-20	.11009E-10	.55902E-06		
0	0	0	.26518910E+02	.11650E-43	.10916E-26	.10287E-21	.31102E-19	.02372E-06		
13	13	12	.26655000E+02	.18570E-00	.15583E-43	.11077E-29	.42000E-23	.11275E-05		
9	9	9	.27470000E+02	.05123E-51	.25997E-29	.13911E-22	.13372E-19	.14051E-05		
14	14	13	.27772520E+02	.32022E-09	.22442E-40	.34125E-32	.17400E-24	.04002E-06		
10	10	10	.28604730E+02	.21952E-59	.70553E-33	.17024E-24	.11773E-20	.00050E-06		
15	15	14	.29061140E+02	.15674E-110	.29634E-53	.13515E-34	.11993E-25	.75415E-06		
11	11	11	.29914660E+02	.16020E-60	.17501E-30	.30052E-20	.17022E-21	.92329E-06		
12	12	12	.31424970E+02	.33177E-76	.39745E-40	.72204E-26	.40491E-22	.21550E-05		
13	13	13	.33156950E+02	.24377E-09	.10344E-44	.20009E-30	.19033E-23	.12735E-05		
14	14	14	.33534440E+02	.50901E-101	.24702E-49	.15425E-32	.16017E-24	.15230E-05		
15	15	15	.37305180E+02	.30226E-113	.54163E-54	.11263E-34	.21341E-25	.36002E-05		
16	16	16	.39941540E+02	.63034E-127	.13630E-59	.13957E-37	.50071E-27	.22504E-05		

TABLE III
TRANSITIONS OF ASYMMETRIC ROTORS

Table III - Contents

1. CH_2NH	methylenimine
2. HNCO	isocyanic acid
3. CH_2NOH	formaldoxime
4. NH_2CHO	formamide
5. CH_3ONO_2	methyl nitrate
6. H_2CN_2	diazirine
7. HNCS	isothiocyanic acid
8. NH_2CN	cyanamide
9. N_4CH_2	tetrazole
10. HCO	formyl
11. H_2CO	formaldehyde
12. HCOF	formyl fluoride
13. SiH_3OCH_3	silyl methyl ether
14. CH_3OCl	methyl hypochlorite
15. HCOOH	formic acid
16. H_2CS	thioformaldehyde
17. CH_2Cl_2	methylene chloride
18. H_2CNHCH_2	ethylenimine
19. CH_2CHNH_2	vinylamine
20. CH_2CHNO_2	nitroethylene
21. CH_3SCN	methylthiocyanate
22. CH_2ClCN	monochloroacetonitrile
23. $\text{NH}_2\text{CH}_2\text{CN}$	amino acetonitrile
24. $\text{C}_2\text{H}_2\text{N}_2\text{O}$	furazan
25. CH_2CO	ketene
26. CH_3CHO	acetaldehyde
27. H_2COCH_2	ethylene oxide
28. $(\text{CH}_3)_2\text{O}$	dimethyl ether
29. $\text{CH}_3\text{CH}_2\text{OH}$	ethyl alcohol
30. $(\text{CH}_3)_2\text{SO}$	dimethylsulfoxide
31. CH_3COCl	acetyl chloride
32. HCOOCH_3	methyl formate
33. $\text{C}_2\text{H}_3\text{F}$	vinyl fluoride
34. $\text{C}_2\text{H}_4\text{S}$	ethylene sulfide
35. $(\text{CH}_3)_2\text{S}$	sulfide dimethyl
36. CH_2CHCl	vinyl chloride
37. CH_2CCL_2	vinylidene chloride
38. CHClCHCl	cis-dichloroethylene
39. C_3H_4	cyclopropene
40. CH_3CHCH_2	propylene
41. H_2CCHCN	vinyl cyanide
42. CH_3HCCHN	trans 1 nitropropene
43. $\text{C}_3\text{H}_5\text{NH}_2$	allylamine
44. $\text{CH}_2(\text{CN})_2$	methylene cyanide
45. HCCCHO	propynal

TABLE III (cont)

46.	HCCCH ₂ OH	propargyl alcohol
47.	CH ₂ CHCHO	s trans acrolein
48.	(CH ₂) ₃ O	oxetane
49.	(CH ₃) ₂ CHOH	isopropyl alcohol
50.	CH ₂ (CHO) ₂	vinyl formate
51.	C ₃ H ₂ O ₃	vinylene carbonate
52.	HCCSCH ₃	methylthioethyne
53.	CH ₂ CHCH ₂ SH	allyl mercaptan
54.	CH ₃ SC ₂ H ₃	methyl vinyl sulfide
55.	C ₄ H ₄	vinylacetylene
56.	CH ₃ CHCCH ₂	methylallene
57.	(CH ₃) ₂ CCCH ₂	isobutylene
58.	HCCCH ₂ CH ₂ OH	butynol
59.	CH ₂ CHCHCN	crotononitrile
60.	C ₄ N ₂ H ₄	pyrimidine
61.	NC ₄ NH ₂ H ₄	2 aminopyridine
62.	C ₂ H ₂ OC ₂ H ₂	furan
63.	CH ₂ CCH ₃ CHO	methacrolein
64.	(CH ₃) ₂ CCO	dimethyl ketene
65.	(H ₂ CCH) ₂ O	divinyl ether
66.	C ₄ SH ₆	3 methylthiophene
67.	C ₅ H ₆	trans 3 penten 1 yne
68.	CH ₃ C ₃ HCH ₂	penten
69.	(CH ₃) ₂ CCCH ₂	dimethylallene
70.	C ₅ H ₅ N	pyridine
71.	C ₅ OH ₈	cyclopentene oxide
72.	C ₆ H ₆	fulvene
73.	C ₆ OH ₄	cyclohexene oxide
74.	HNO	nitroxyl
75.	HNO ₃	nitric acid
76.	NH ₂ NO ₂	nitramide
77.	HN ₃	hydrazoic acid
78.	H ₂ O	water
79.	H ₂ S	hydrogen sulfide
80.	COCL ₂	phosgene
81.	NOF	nitrosyl fluoride
82.	NOCL	nitrosyl chloride
83.	NO ₂	nitrogen dioxide
84.	NO ₂ CL	nitryl chloride
85.	NSF	thionitrosyl fluoride
86.	OF ₂	oxygen difluoride
87.	S ₂ O	disulfurmonoxide
88.	CL ₂ O	chlorine monoxide
89.	SO ₂	sulfur dioxide
90.	(SO) ₂	polymer sulfur monoxide
91.	O ₃	ozone
92.	SiF ₂	silicon difluoride

TABLE III (cont)

Notes to Table III

- a. Value of μ is assumed to be 1.
- b. Cross sections are uncorrected for fraction of molecules in the vibration state v_j .

METHYLENEMINE CH2NH A MW = 29 MU = 1.3250 A = .19621105C+03 B = .34042396E+02 C = .293522230R+02 CAP = -.9366

• III ३७८५६

TABLE 111 . 2

JU		JL		NU		SIGMA		n	
KU1	KU2	KL1	KL2	20	50	100	200	per	
6 2 4	7 1 7	.1299040E+03	.72270E-17	.13300E-16	.62392E-17	.17900E-17	.30117E-05		
4 2 3	5 1 4	.1337390E+03	.30130E-16	.24007E-15	.79405E-17	.19230E-17	.40015E-05		
9 3 7	10 2 6	.13660820E+03	.49932E-19	.27402E-17	.39000E-17	.20031E-17	.51770E-05		
10 3 7	11 2 10	.14081030E+03	.12074E-19	.16030E-17	.33127E-17	.19530E-17	.54331E-05		
1 1 0	1 0 1	.16005180E+03	.16240E-14	.23230E-15	.40119E-16	.00305E-17	.03202E-04		
5 2 3	6 1 6	.17001590E+03	.20845E-16	.20447E-16	.11005E-16	.20179E-17	.01794E-05		
2 1 1	2 0 2	.17226710E+03	.20611E-14	.35735E-15	.75009E-16	.14063E-16	.00515E-04		
5 0 5	4 1 4	.17807340E+03	.50584E-15	.20556E-15	.57774E-16	.12670E-16	.32070E-04		
3 1 2	3 0 3	.18002760E+03	.19149E-14	.44255E-15	.10311E-15	.20942E-16	.17702E-04		
4 1 3	4 0 4	.19221240E+03	.14215E-14	.48233E-15	.12705E-15	.27011E-16	.09091E-04		
9 1 8	8 2 7	.19505680E+03	.27005E-17	.25981E-16	.20906E-16	.79190E-17	.21595E-04		
9 3 6	10 2 9	.19681820E+03	.97373E-19	.53729E-17	.77016E-17	.39243E-17	.14430E-04		
5 1 4	5 0 5	.20738030E+03	.87078E-15	.47708E-15	.14013E-15	.34704E-16	.10770E-03		
3 2 2	4 1 3	.21046760E+03	.10053E-15	.46190E-16	.13527E-16	.30770E-17	.14004E-04		
6 3 6	9 2 7	.21422290E+03	.41007E-16	.98206E-17	.10741E-16	.47232E-17	.10403E-04		
4 2 2	5 1 5	.21492650E+03	.72221E-16	.40112E-16	.15944E-16	.30592E-17	.15000E-04		
1 1 1	0 0 0	.22555470E+03	.20030E-14	.20454E-15	.50330E-16	.10530E-16	.10422E-04		
6 1 5	6 0 6	.22654880E+03	.44055E-15	.43453E-15	.16339E-15	.42124E-16	.13309E-03		
7 1 6	7 0 7	.25016190E+03	.19290E-15	.36074E-15	.17237E-15	.49064E-16	.10749E-03		
6 0 6	5 1 5	.25142140E+03	.52973E-15	.37191E-15	.12543E-15	.30625E-16	.10109E-03		
8 3 5	9 2 8	.25501600E+03	.55873E-18	.13398E-16	.14660E-16	.64470E-17	.24913E-04		
3 2 1	4 1 4	.26398610E+03	.13389E-15	.61583E-16	.18030E-16	.41045E-17	.24760E-04		
8 1 7	8 0 8	.27864270E+03	.70485E-16	.28754E-15	.17434E-15	.57075E-16	.21530E-03		
10 1 9	9 2 8	.28183800E+03	.14022E-17	.34933E-16	.38714E-16	.17135E-16	.71577E-04		
2 1 2	1 0 1	.28425410E+03	.35550E-14	.60253E-15	.12052E-15	.24375E-16	.10774E-03		
2 2 1	3 1 2	.28477820E+03	.12661E-15	.44120E-16	.11783E-16	.25000E-17	.22270E-04		
ISOCYANIC ACID									
HACO									
1 1 0	1 1 1	.16041000E+00	A = .95645700E+03	B = .11071020E+02	C = .10910580E+02	KAP = .72142			
2 1 1	2 1 2	.48123000E+00	.20844E-21	.87771E-22	.24734E-22	.55205E-23	.00881E-13		
3 1 2	3 1 3	.96247000E+00	.93746E-21	.42065E-21	.12108E-21	.27312E-22	.54793E-12		
4 1 3	4 1 4	.16041200E+01	.22393E-20	.11053E-20	.32842E-21	.75269E-22	.21916E-11		
5 1 4	5 1 5	.24061700E+01	.30824E-20	.21761E-20	.67456E-21	.15791E-21	.60883E-11		
1 0 1	0 0 0	.21981460E+02	.54616E-20	.35884E-20	.11729E-20	.26193E-21	.13699E-10		
2 0 2	1 0 1	.23962770E+02	.25260E-16	.27243E-17	.48750E-18	.86722E-19	.10444E-06		
3 0 3	2 0 2	.65943860E+02	.16180E-15	.20894E-16	.30190E-17	.60649E-18	.10011E-05		
4 1 4	3 1 3	.87597240E+02	.52383E-15	.66188E-16	.12487E-16	.22805E-17	.30255E-05		
4 3 1	3 3 0	.87866820E+02	.96849E-16	.54159E-16	.16770E-16	.39250E-17	.62019E-05		
4 3 2	3 3 1	.87867600E+02	.58964E-24	.17802E-19	.20842E-18	.29983E-18	.38912E-05		
4 2 3	3 2 2	.87898530E+02	.58965E-24	.17802E-19	.20842E-18	.29983E-18	.38912E-05		
4 2 4	3 2 3	.87899530E+02	.85892E-19	.20606E-17	.34603E-17	.10001E-17	.06779E-05		
4 0 4	3 0 3	.87925240E+02	.85892E-19	.20606E-17	.34603E-17	.10001E-17	.06779E-05		
4 1 3	3 1 2	.88239050E+02	.10054E-14	.14419E-15	.28376E-16	.52927E-17	.89120E-05		
5 1 5	4 1 4	.10949571E+03	.97896E-16	.54871E-16	.17009E-16	.39010E-17	.84440E-05		
5 4 1	4 4 0	.10977837E+03	.14892E-15	.97503E-16	.31833E-16	.76473E-17	.10899E-04		
5 4 2	4 4 1	.10977894E+03	.91424E-31	.44671E-22	.13229E-19	.95712E-19	.63003E-05		
5 3 2	4 3 1	.10983345E+03	.91425E-31	.44672E-22	.13229E-19	.95713E-19	.63004E-05		
5 3 3	4 3 2	.10983384E+03	.12940E-23	.45768E-19	.56485E-18	.83432E-18	.11370E-04		
5 2 3	4 2 2	.10987260E+03	.12940E-23	.45769E-19	.56486E-18	.83433E-18	.11371E-04		
5 2 4	4 2 3	.10987299E+03	.14431E-18	.50307E-17	.71802E-17	.34091E-17	.14940E-04		
5 0 5	4 0 4	.10990585E+03	.14431E-18	.50307E-17	.71803E-17	.34091E-17	.14940E-04		
5 1 4	4 1 3	.11029802E+03	.15082E-14	.25340E-15	.52572E-16	.10060E-16	.17802E-04		
6 0 6	5 0 5	.13988552E+03	.15024E-15	.98709E-16	.32263E-16	.77553E-17	.17273E-04		
7 0 7	6 0 6	.15386538E+03	.21361E-14	.43400E-15	.95926E-16	.18962E-16	.37209E-04		
8 0 8	7 0 7	.17584368E+03	.20839E-14	.52844E-15	.12576E-15	.25794E-16	.50147E-04		
9 0 9	8 0 8	.19782139E+03	.20393E-14	.66623E-15	.17252E-15	.36910E-16	.75481E-04		
			.18058E-14	.78444E-15	.22337E-15	.50114E-16	.10017E-03		
FORMALDOXIME A									
CH2NOH									
3 1 2	3 1 3	.10672880E+02	A = .67678280E+02	B = .11659250E+02	C = .10060070E+02	KAP = .91			
9 2 7	9 2 8	.13113340E+02	.38920E-19	.52303E-20	.10164E-20	.18830E-21	.18590E-09		
16 3 13	16 3 14	.15105640E+02	.68086E-20	.40441E-20	.12897E-20	.30623E-21	.17523E-09		
4 1 3	4 1 4	.17784100E+02	.45993E-22	.74372E-21	.71351E-21	.29384E-21	.19342E-09		
10 2 8	10 2 9	.19226210E+02	.67014E-19	.10270E-19	.20852E-20	.39504E-21	.51641E-09		
17 3 14	17 3 15	.20993060E+02	.75736E-20	.62157E-20	.22070E-20	.55325E-21	.44322E-09		
1 0 1	0 0 0	.21939170E+02	.32488E-22	.91909E-21	.10594E-20	.47800E-21	.45173E-09		
5 1 4	5 1 5	.25664830E+02	.42567E-18	.44668E-19	.79934E-20	.14217E-20	.64573E-08		
11 2 9	11 2 10	.26939140E+02	.93523E-19	.16890E-19	.30221E-20	.70524E-21	.11623E-08		
2 1 2	1 1 1	.42099350E+02	.73552E-20	.86245E-20	.34504E-20	.91758E-21	.10003E-08		
			.18566E-17	.22456E-16	.42122E-19	.76700E-20	.41064E-07		
2 0 2	1 0 1	.43836500E+02	.30587E-17	.34190E-18	.62484E-19	.11231E-19	.01802E-07		

TABLE I-1 . 3

JC			JL			AU			SIGMA			A			REF								
AU1 AU2			KL1 KL2			20			50			100			200								
2 1 1			1 1 0			.45657300E+02			.21581E-17			.26279E-1d			.49416E-19			.90097E-20			.52380E-07		
CH2NUH			B			M _u =			45 MU = .210U			A = .67678280E+02			B = .11859250E+02			C = .1008C070E+02			KAF = -.9362		
3	0	3	2	1	2	.11509210E+02	.27474E-19	.33755E-20	.63666E-21	.11625E-21	.12251E-09	.15417E-09	.10804E-09	.66418E-10	.37633E-09	.42700E-09	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91		
1	1	1	2	0	3	.11962640E+02	.16274E-19	.16507E-20	.34018E-21	.61320E-22	.15417E-09	.10804E-09	.66418E-10	.37633E-09	.42700E-09	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91			
12	3	9	13	2	12	.14294700E+02	.45528E-21	.11480E-20	.59276E-21	.17910E-21	.10804E-09	.66418E-10	.37633E-09	.42700E-09	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91				
5	2	4	6	1	10	.15205320E+02	.26843E-20	.17132E-20	.54637E-21	.12973E-21	.66418E-10	.37633E-09	.42700E-09	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91					
5	2	4	6	1	10	.20333550E+02	.27242E-19	.61600E-20	.15463E-20	.26837E-21	.10723E-08	.43616E-08	91										
10	3	0	11	2	9	.22022370E+02	.33337E-20	.40350E-20	.16314E-20	.43616E-21	.42700E-09	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91							
8	2	6	9	1	9	.22992070E+02	.10666E-19	.47406E-20	.13725E-20	.31051E-21	.33178E-09	.11774E-08	.10723E-08	.43616E-08	91								
11	3	0	12	2	11	.31633090E+02	.39014E-20	.67110E-20	.30507E-20	.86480E-21	.11774E-08	.10723E-08	.43616E-08	91									
7	2	5	8	1	8	.33029620E+02	.32490E-19	.11169E-19	.29662E-20	.64337E-21	.10723E-08	.43616E-08	91										
4	0	4	3	1	3	.35762590E+02	.33120E-18	.46149E-19	.90768E-20	.16925E-20	.10723E-08	.43616E-08	91										
8	1	7	7	2	6	.35078000E+02	.66675E-19	.23957E-19	.64616E-20	.14109E-20	.22705E-08	.52990E-07	91										
2	1	1	2	0	2	.59418760E+02	.16776E-17	.20428E-1d	.36413E-19	.70037E-20	.52990E-07	91											
b																							
CH2NUH			V1			M _u =			45 MU = .397U			A = .66633020E+02			B = .11829560E+02			C = .10087990E+02			KAF = -.9364		
10	2	8	10	2	9	.18770490E+02	.72584E-20	.59081E-20	.20928E-20	.52371E-21	.41261E-09	.64381E-08	.41047E-07	.61622E-07	91								
1	0	1	0	0	0	.21917400E+02	.42119E-1d	.44197E-19	.79089E-20	.14067E-20	.64381E-08	.41047E-07	.61622E-07	91									
2	1	2	1	1	1	.42093420E+02	.18467E-17	.22260E-18	.41769E-19	.76038E-20	.41047E-07	.61622E-07	91										
2	0	2	1	0	1	.43794020E+02	.30270E-17	.33632E-18	.61828E-19	.11513E-19	.61622E-07	91											
b																							
CH2NUH			V1			M _u =			45 MU = .210U			A = .66633020E+02			B = .11829560E+02			C = .10087990E+02			KAF = -.9364		
1	1	1	2	0	2	.11009050E+02	.13652E-19	.15502E-20	.26480E-21	.51326E-22	.11956E-09	.5006E-09	.16737E-09	91									
5	2	4	6	1	5	.17745950E+02	.20784E-19	.46757E-20	.10789E-20	.21749E-21	.5006E-09	.16737E-09	91										
8	2	6	9	1	9	.189938																	

TABLE 111 . 4

JU		JL		NU		SIGMA		A		REF	
KU1	KU2	KL1	KL2			20	50	100	200		
3	2	1	2	2	0	.63737600E+02	.21300E-15	.37210E-10	.70417E-17	.15200E-17	.93021E-03
3	1	2	2	1	1	.05913100E+02	.50393E-15	.75810E-10	.14735E-10	.27312E-17	.10000E-00
9	1	8	9	1	9	.00949630E+02	.63873E-17	.29414E-17	.00174E-10	.19011E-10	.50407E-00
16	2	14	16	2	15	.69629820E+02	.73412E-19	.73700E-18	.00412E-10	.22903E-10	.04440E-00
4	1	4	3	1	3	.81693540E+02	.10230E-14	.15277E-15	.30741E-10	.57974E-17	.34570E-04
10	1	9	10	1	10	.84073760E+02	.51279E-17	.32349E-17	.10520E-17	.25244E-10	.04410E-00
4	0	4	3	0	3	.84542400E+02	.13332E-14	.16305E-15	.30035E-10	.67077E-17	.40040E-00
17	2	15	17	2	16	.84779800E+02	.40940E-19	.70313E-10	.00021E-10	.20027E-10	.10040E-00
4	2	3	3	2	2	.84607940E+02	.55391E-15	.10932E-15	.24160E-10	.47714E-17	.30743E-04
4	3	2	3	3	1	.84609150E+02	.15357E-15	.47413E-10	.12150E-10	.25004E-17	.10103E-04
4	3	1	3	3	0	.84891150E+02	.15350E-15	.47415E-10	.12150E-10	.25005E-17	.10104E-04
4	2	2	3	2	1	.85093360E+02	.55700E-15	.11001E-15	.24304E-10	.40031E-17	.31257E-04
4	1	3	3	1	2	.87846930E+02	.11409E-14	.17400E-15	.35206E-10	.00790E-17	.42700E-00
11	1	10	11	1	11	.10057240E+03	.38005E-17	.33940E-17	.12395E-17	.31490E-10	.12104E-00
18	2	16	18	2	17	.10126930E+03	.21094E-19	.63090E-18	.75557E-10	.34547E-10	.15002E-00
5	1	5	4	1	4	.10200440E+03	.16000E-14	.27671E-15	.50470E-10	.11303E-10	.10394E-04
5	0	5	4	0	4	.10546430E+03	.20126E-14	.32307E-15	.00013E-10	.12710E-10	.01071E-04
5	2	4	4	2	3	.10597270E+03	.93801E-15	.21503E-15	.50163E-10	.10100E-10	.09151E-00
5	4	2	4	4	1	.10610810E+03	.07303E-16	.45320E-16	.15009E-10	.30532E-17	.24775E-04
5	4	1	4	4	0	.10610820E+03	.67303E-16	.45320E-10	.15009E-10	.30532E-17	.24775E-04
5	3	3	4	3	2	.10613460E+03	.34022E-15	.12239E-15	.33024E-10	.72125E-17	.25933E-04
5	3	2	4	3	1	.10614160E+03	.34020E-15	.12241E-15	.33020E-10	.72134E-17	.25943E-04
5	2	3	4	2	2	.10654180E+03	.94065E-15	.21795E-15	.50679E-10	.10275E-10	.10275E-00
5	1	4	4	1	3	.10675360E+03	.17513E-14	.31295E-15	.66074E-10	.12990E-10	.01700E-00
12	1	11	12	1	12	.11837600E+03	.20300E-17	.34102E-17	.14141E-17	.38253E-10	.17007E-00
19	2	17	19	2	18	.11933230E+03	.10080E-19	.55501E-18	.00200E-10	.40551E-10	.21033E-00
6	1	6	5	1	5	.12240200E+03	.20054E-14	.42997E-15	.90309E-10	.19102E-10	.12521E-00
6	0	6	5	0	5	.12624780E+03	.25540E-14	.49192E-15	.10777E-15	.21207E-10	.14110E-00
6	2	5	5	2	4	.12711290E+03	.12640E-14	.34900E-15	.00217E-10	.10071E-10	.12020E-00
6	5	2	5	5	1	.12733040E+03	.19020E-16	.34394E-16	.15097E-10	.45441E-17	.44310E-04
6	5	1	5	5	0	.12733040E+03	.19020E-16	.34394E-16	.15097E-10	.45441E-17	.44310E-04
6	4	3	5	4	2	.12734860E+03	.13230E-15	.10099E-15	.37012E-10	.94512E-17	.00597E-04
6	4	2	5	4	1	.12734860E+03	.13230E-15	.10099E-15	.37013E-10	.94513E-17	.00598E-04
6	3	4	5	3	3	.12739380E+03	.50707E-15	.21942E-15	.00930E-10	.14172E-10	.10092E-03
6	3	3	5	3	2	.12741240E+03	.50770E-15	.21947E-15	.02955E-10	.14176E-10	.10097E-03
6	2	4	5	2	3	.12810300E+03	.12777E-14	.35379E-15	.07484E-10	.18291E-10	.13124E-03
6	1	5	5	1	4	.13161800E+03	.22312E-14	.40195E-15	.10971E-15	.22007E-10	.15007E-03
13	1	12	13	1	13	.13740010E+03	.16953E-17	.33087E-17	.15087E-10	.45413E-10	.23303E-05
20	2	18	20	2	19	.13880640E+03	.44840E-20	.40454E-18	.02773E-18	.40455E-10	.30742E-05
7	1	7	6	1	6	.14270150E+03	.23652E-14	.59895E-15	.14376E-15	.29614E-10	.20212E-03
7	0	7	6	0	6	.14607160E+03	.20340E-14	.67424E-15	.15050E-15	.32311E-10	.22402E-03
7	2	6	6	2	5	.14622340E+03	.14513E-14	.49600E-15	.13159E-15	.20490E-10	.21237E-03
7	6	2	6	6	1	.14855640E+03	.35600E-17	.21337E-16	.14703E-10	.51310E-17	.01770E-00
7	6	1	6	6	0	.14855640E+03	.35600E-17	.21337E-16	.14703E-10	.51310E-17	.01770E-00
7	5	3	6	5	2	.14856730E+03	.33690E-16	.75924E-16	.37087E-10	.11164E-10	.11007E-03
7	5	2	6	5	1	.14856730E+03	.33690E-16	.75924E-16	.37087E-10	.11164E-10	.11007E-03
7	4	4	6	4	3	.14859940E+03	.17840E-15	.17803E-15	.07800E-10	.17502E-10	.15090E-03
7	4	3	6	4	2	.14859940E+03	.17840E-15	.17803E-15	.07800E-10	.17502E-10	.15090E-03
7	3	5	6	3	4	.14866760E+03	.61440E-15	.32896E-15	.10134E-15	.23650E-10	.19051E-03
7	3	4	6	3	3	.14870930E+03	.61464E-15	.32912E-15	.10140E-15	.23662E-10	.19067E-03
7	2	5	6	2	4	.14979280E+03	.14696E-14	.50493E-15	.13417E-15	.24079E-10	.21912E-03
7	1	6	6	1	5	.15343240E+03	.24057E-14	.66434E-15	.16279E-15	.33061E-10	.25121E-03
14	1	13	14	1	14	.15754880E+03	.10232E-17	.30931E-17	.16966E-17	.52830E-10	.31132E-05
8	1	8	7	1	7	.16295890E+03	.23950E-14	.76700E-15	.19900E-15	.42645E-10	.30497E-03
8	0	8	7	0	7	.16732090E+03	.28116E-14	.85122E-15	.21605E-15	.40010E-10	.33475E-03
8	2	7	7	2	6	.16929950E+03	.14710E-14	.64171E-15	.10464E-15	.41641E-10	.32574E-03
8	2	7	7	2	6	.16929950E+03	.14710E-14	.64171E-15	.10464E-15	.41641E-10	.32574E-03
8	7	2	7	7	1	.16978650E+03	.44960E-18	.11010E-16	.12129E-16	.53524E-17	.02161E-04
8	7	1	7	7	0	.16978650E+03	.44960E-18	.11010E-16	.12129E-16	.53524E-17	.02161E-04
8	6	3	7	6	2	.16979130E+03	.50319E-17	.44627E-16	.33364E-16	.12129E-16	.15330E-03
8	6	2	7	6	1	.16979130E+03	.50319E-17	.44627E-16	.33364E-16	.12129E-16	.15330E-03
8	5	4	7	5	3	.16981130E+03	.41807E-16	.11902E-15	.64526E-10	.19909E-10	.21371E-03
8	5	3	7	5	2	.16981130E+03	.41807E-16	.11902E-15	.64526E-10	.19909E-10	.21371E-03
8	4	5	7	4	4	.16986200E+03	.19733E-15	.25236E-15	.10392E-15	.28039E-10	.20326E-03
8	4	4	7	4	3	.16986200E+03	.19733E-15	.25236E-15	.10392E-15	.28039E-10	.20326E-03
8	3	6	7	3	5	.16995620E+03	.64230E-15	.43935E-15	.14680E-15	.35699E-10	.30215E-03
8	3	5	7	3	4	.17003950E+03	.64277E-15	.43971E-15	.14699E-15	.35732E-10	.30259E-03
8	2	6	7	2	5	.17162110E+03	.14906E-14	.65577E-15	.10922E-15	.42735E-10	.33935E-03
8	1	7	7	1	6	.17518570E+03	.24237E-14	.84050E-15	.22403E-15	.48029E-10	.37605E-03
15	1	14	15	1	15	.17868290E+03	.57971E-18	.27974E-17	.17934E-17	.60370E-10	.40803E-05

JU		JL		NU		SIGMA		A		REF	
AU1 AU2		AL1 AL2				20 50		100 200			
FUAMAMIDE											
hzLmU											
b		Mn =		45 MU = .0520		A = .72719950E+02		E = .11373454E+02		C = .96339040E+01	
20 2 12		15 3 12		.29259920E+01		.46441E-22		.42202E-21		.33411E-21	
3 0 3		2 1 2		.36756300E+01		.45542E-19		.55601E-20		.10465E-20	
10 4 15		13 3 10		.76411640E+01		.11007E-22		.95045E-21		.15543E-20	
12 3 10		13 2 11		.93050410E+01		.30202E-20		.94770E-20		.46642E-20	
13 2 11		14 1 14		.57023090E+01		.10309E-20		.44730E-20		.22055E-20	
0 1 7		7 2 0		.10001060E+02		.06715E-19		.30072E-19		.80154E-20	
19 4 15		20 3 10		.10700000E+02		.05749E-23		.12335E-20		.24520E-20	
12 2 10		13 1 13		.10770550E+02		.47344E-20		.76902E-20		.36444E-21	
14 2 12		15 1 15		.11213300E+02		.10506E-20		.39833E-20		.23503E-20	
14 3 11		15 2 14		.12101520E+02		.10020E-20		.94603E-20		.64155E-20	
11 2 9		12 1 12		.14123730E+02		.16115E-19		.16011E-19		.70914E-20	
15 2 13		16 1 15		.15079420E+02		.77630E-21		.47159E-20		.32644E-20	
17 2 10		16 2 15		.16556050E+02		.64050E-21		.90240E-20		.42311E-20	
0 2 7		7 1 6		.16960900E+02		.20055E-18		.79600E-19		.19081E-19	
1 1 1		2 0 2		.16956100E+02		.65022E-18		.75300E-19		.13064E-19	
14 2 12		13 3 11		.19020920E+02		.88019E-20		.33365E-19		.19737E-19	
20 3 17		19 4 10		.19600400E+02		.20041E-22		.42307E-19		.64645E-20	
10 2 6		11 1 11		.19740100E+02		.57043E-19		.45732E-19		.16062E-19	
10 2 14		17 1 17		.21360030E+02		.59702E-21		.60067E-20		.49179E-20	
4 0 4		3 1 3		.26924050E+02		.36741E-17		.42460E-18		.63225E-19	
5 2 7		10 1 10		.27513630E+02		.16049E-18		.10900E-18		.34704E-19	
13 3 10		14 2 13		.28335510E+02		.17607E-19		.65345E-19		.58370E-19	
16 2 17		17 3 14		.28591270E+02		.70544E-21		.20552E-19		.13140E-19	
17 2 15		16 1 18		.30000200E+02		.42632E-21		.73208E-20		.71655E-20	
16 4 14		19 3 17		.30736490E+02		.17677E-21		.14170E-19		.12197E-19	
17 4 14		16 3 15		.34253900E+02		.52855E-21		.24364E-19		.33143E-19	
11 3 9		12 2 10		.36609020E+02		.96795E-19		.16591E-18		.75327E-19	
0 2 6		9 1 9		.37261440E+02		.53363E-18		.23405E-18		.67766E-19	
9 1 0		0 2 7		.37567010E+02		.93553E-18		.43002E-18		.12622E-18	
19 2 10		18 3 15		.38627490E+02		.55290E-21		.25601E-19		.34906E-19	
18 2 16		19 1 19		.40939320E+02		.27123E-21		.62153E-20		.97155E-20	
5 2 4		0 1 5		.43260720E+02		.19201E-17		.44329E-18		.10303E-18	
12 3 9		13 2 12		.45559600E+02		.62757E-19		.20537E-18		.10546E-18	
20 2 19		19 3 16		.47069080E+02		.29070E-21		.24644E-19		.47073E-19	
15 2 13		14 3 12		.48349080E+02		.28813E-19		.17503E-18		.12116E-18	
7 2 5		8 1 8		.48810910E+02		.12695E-17		.44303E-18		.11772E-18	
5 0 5		4 1 4		.512093970E+02		.11677E-16		.18745E-17		.38649E-18	
17 4 13		16 3 16		.51508500E+02		.11561E-20		.53340E-19		.72580E-19	
19 2 17		20 1 20		.54061090E+02		.15329E-21		.84527E-20		.12206E-19	
16 4 13		17 3 14		.59731160E+02		.35404E-20		.96075E-19		.11075E-18	
6 2 4		7 1 7		.61977000E+02		.20457E-17		.73257E-18		.16115E-18	
1 1 0		1 0 1		.62881700E+02		.20859E-16		.23947E-17		.44150E-18	
10 3 0		11 2 9		.62901550E+02		.43761E-18		.53551E-18		.21730E-18	
11 3 0		12 2 11		.63728070E+02		.27247E-18		.46768E-18		.21244E-18	
2 1 1		2 0 2		.64450110E+02		.32469E-16		.38694E-17		.74742E-18	
10 1 9		9 2 8		.65690780E+02		.20338E-17		.12830E-17		.41745E-18	
3 1 2		3 0 3		.66656000E+02		.40903E-16		.55087E-17		.10702E-17	
4 2 3		5 1 4		.68926020E+02		.44297E-17		.67422E-18		.19310E-18	
20 2 16		21 1 21		.69249980E+02		.77500E-22		.80291E-20		.14506E-19	
4 1 3		4 0 4		.70162590E+02		.45768E-16		.69626E-17		.14155E-17	
16 4 12		17 3 15		.72023230E+02		.50721E-20		.13806E-18		.15878E-18	
5 1 4		5 0 5		.74451880E+02		.46609E-18		.63647E-17		.17875E-17	
0 0 0		5 1 5		.74877110E+02		.24369E-16		.46599E-17		.10287E-17	
5 2 3		6 1 6		.76575540E+02		.45617E-17		.10549E-17		.24528E-18	
10 2 14		15 3 13		.78633590E+02		.36444E-19		.36629E-18		.29990E-18	
6 1 5		6 0 6		.79822150E+02		.44496E-16		.96114E-17		.21679E-17	
1 1 1		0 0 0		.82549370E+02		.24065E-16		.27554E-17		.50762E-18	
10 3 7		11 2 10		.82576440E+02		.71716E-18		.67632E-18		.35515E-18	
4 4 12		6 6 13		.86384750E+02		.14071E-19		.24577E-18		.35051E-18	
7 1 0		7 0 7		.86382870E+02		.39612E-16		.10673E-16		.20153E-17	
9 3 7		5 2 0		.88225400E+02		.12298E-17		.11079E-17		.40596E-18	
4 2 2		5 1 5		.88235710E+02		.65682E-17		.12971E-17		.28656E-18	
15 4 11		16 3 14		.93093350E+02		.17679E-19		.29026E-18		.26763E-18	
3 2 2		4 1 3		.93671730E+02		.61599E-17		.10759E-17		.22016E-18	
8 1 7		0 0 8		.94247610E+02		.33147E-16		.11495E-16		.30639E-17	
11 1 10		10 2 9		.94313670E+02		.27083E-17		.24854E-17		.90747E-18	
7 0 7		0 1 0		.99346700E+02		.37041E-16		.69551E-17		.21052E-17	
										.23055E-18	
										.20160E-05	
										.26100E-00	
										.12231E-05	
										.20111E-00	
										.25059E-07	
										.13773E-05	
										.26100E-00	
										.15917E-06	
										.79919E-06	
										.24444E-06	
										.30023E-06	
										.15827E-05	
										.15043E-05	
										.35034E-06	
										.38015E-06	
										.39950E-06	
										.27875E-05	
										.42526E-06	
										.40033E-06	
										.51629E-06	
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										.39950E-06	
										.27875E-05	
										.42526E-06	
										.40033E-06	
										.51629E-06	
										.39950E-06	
										.27875E-05	
										.42526E-06	
										.40033E-06	
										.51629E-06	

Table III. 6

[illegible]

JU		JL		NU		SIGMA		A		NEF	
KU1	KU2	KL1	KL2			20	50	100	200		
4	1	4	1	3	.1209400E+02	.52301E-16	.59575E-19	.10963E-19	.19774E-20	.11359E-07	
4	1	4	1	1	.15042300E+02	.27373E-17	.26077E-16	.5120E-19	.2417E-20	.11230E-06	
2	1	1	1	0	.10135050E+02	.42504E-17	.44455E-16	.7955E-19	.14150E-19	.10403E-06	
2	1	1	1	0	.1756040E+02	.37066E-17	.39317E-16	.70092E-19	.12603E-19	.17939E-06	
3	1	3	2	1	.22441530E+02	.10270E-16	.11197E-17	.20313E-16	.30370E-19	.47474E-06	
3	0	3	2	0	.23024450E+02	.13033E-16	.14100E-17	.25537E-16	.45682E-19	.63236E-06	
3	1	3	2	0	.15044400E+02	.74900E-17	.85017E-16	.15631E-16	.2417E-19	.4131E-06	
3	1	3	2	1	.26237300E+02	.13707E-16	.15188E-17	.27053E-16	.49012E-19	.75037E-06	
4	1	4	3	1	.2765970E+02	.23031E-16	.26070E-17	.49459E-16	.09207E-19	.12097E-05	
4	1	4	3	0	.31149420E+02	.27346E-16	.30959E-17	.56884E-16	.10252E-16	.14537E-05	
3	2	2	3	0	.31652050E+02	.39531E-16	.44700E-17	.82310E-20	.14636E-20	.27467E-07	
3	2	2	3	2	.32461380E+02	.20909E-16	.24049E-17	.46470E-16	.04417E-19	.12573E-05	
4	3	1	3	3	.32932750E+02	.11409E-16	.14431E-17	.27451E-16	.50336E-19	.70782E-06	
4	2	2	4	0	.32908400E+02	.01305E-16	.90522E-19	.18018E-19	.32731E-20	.49506E-07	
4	2	2	3	2	.33093000E+02	.22709E-16	.27139E-17	.50716E-16	.92177E-19	.14342E-05	
4	1	3	3	1	.34771440E+02	.31234E-16	.30175E-17	.66975E-16	.12116E-16	.19251E-05	
DIAMINE											122
H2CN2											42
3	2	1	3	2	.79443300E+01	.12811E-17	.21116E-16	.43931E-19	.04248E-20	.45229E-07	
2	1	1	2	1	.20824340E+02	.52700E-17	.67039E-16	.12786E-16	.23476E-19	.44260E-06	
4	2	2	4	2	.20992020E+02	.41580E-17	.87904E-16	.19848E-16	.39760E-19	.45734E-07	
1	0	1	0	0	.40394020E+02	.31185E-16	.33705E-17	.60920E-16	.10809E-16	.64646E-06	
ISOTHIOCYANIC ACID											4
HNCS											72
2	1	2	1	1	.23424500E+02	.05469E-16	.06173E-16	.31514E-16	.80142E-19	.13270E-06	
2	0	2	1	0	.23450000E+02	.39634E-16	.47597E-17	.05655E-16	.15277E-16	.17740E-06	
2	1	1	1	0	.23499000E+02	.05994E-16	.80710E-16	.31718E-16	.80654E-19	.13400E-06	
0	1	0	7	1	.93692760E+02	.20367E-16	.49938E-16	.21909E-16	.61348E-17	.13119E-04	
0	0	0	7	0	.93029970E+02	.10075E-14	.21005E-15	.45520E-16	.09095E-17	.15306E-04	
0	2	6	7	2	.93863280E+02	.64921E-21	.67066E-16	.25025E-17	.20234E-17	.12563E-04	
0	2	7	7	2	.93803280E+02	.64921E-21	.67666E-16	.25025E-17	.20234E-17	.12563E-04	
0	3	5	7	3	.93875280E+02	.11858E-28	.51572E-21	.66153E-19	.31501E-16	.11520E-04	
0	3	6	7	3	.93875280E+02	.11858E-28	.51572E-21	.66153E-19	.31501E-16	.11520E-04	
0	1	7	7	1	.93994960E+02	.20470E-16	.50195E-16	.22116E-16	.61724E-17	.13247E-04	
9	1	9	0	1	.10540036E+03	.31487E-16	.64473E-16	.29862E-16	.85449E-17	.18865E-04	
9	0	9	0	0	.10555808E+03	.11068E-14	.27024E-15	.61600E-16	.12368E-16	.19105E-04	
9	2	7	0	2	.10559561E+03	.72746E-21	.80274E-16	.34343E-17	.28481E-17	.18257E-04	
9	2	0	0	2	.10559561E+03	.72746E-21	.80274E-16	.34343E-17	.28481E-17	.18257E-04	
9	3	0	0	3	.10560918E+03	.13554E-28	.60629E-21	.92609E-19	.45232E-16	.17078E-04	
9	3	7	0	3	.10560918E+03	.13554E-28	.60629E-21	.92609E-19	.45232E-16	.17078E-04	
9	1	4	0	1	.10574377E+03	.31562E-16	.64703E-16	.30031E-16	.85966E-17	.19048E-04	
10	1	10	9	1	.11711404E+03	.79219E-16	.32684E-16	.38015E-16	.12432E-16	.26075E-04	
10	0	10	9	0	.11728545E+03	.11456E-14	.33120E-15	.79841E-16	.16494E-16	.26455E-04	
10	2	0	9	2	.11732747E+03	.76041E-21	.10926E-17	.44969E-17	.38358E-17	.25424E-04	
10	2	9	9	2	.11732747E+03	.76041E-21	.10926E-17	.44969E-17	.38358E-17	.25424E-04	
10	3	7	9	3	.11734263E+03	.14363E-28	.86109E-21	.12293E-18	.61755E-18	.24109E-04	
10	3	7	9	3	.11734263E+03	.14363E-28	.86109E-21	.12293E-18	.61755E-18	.24109E-04	
10	1	9	9	1	.11749195E+03	.32731E-16	.79572E-16	.39027E-16	.11491E-16	.26329E-04	
16	1	16	15	1	.16737057E+03	.13814E-16	.13128E-15	.10143E-15	.37486E-16	.10940E-03	
16	0	16	15	0	.18764515E+03	.47946E-15	.54471E-15	.20732E-15	.53775E-16	.11031E-03	
16	2	15	15	2	.18771173E+03	.32634E-15	.18425E-17	.11967E-16	.12823E-16	.10070E-03	
16	2	14	15	2	.18771222E+03	.32634E-15	.18425E-17	.11967E-16	.12823E-16	.10070E-03	
16	3	13	15	3	.18773668E+03	.63735E-21	.15016E-20	.33827E-18	.21347E-17	.10659E-03	
16	3	14	15	3	.18773668E+03	.63735E-21	.15016E-20	.33827E-18	.21347E-17	.10659E-03	
16	1	15	15	1	.18797615E+03	.13733E-16	.13148E-15	.10184E-15	.37682E-16	.11046E-03	
CYANAMIDE											165
NH2CN											42
1	0	1	0	0	.19995100E+02	.82442E-16	.86271E-17	.15422E-17	.27416E-18	.57883E-06	
15	1	14	15	1	.31628600E+02	.41172E-19	.20940E-18	.13661E-18	.46391E-19	.26642E-01	
16	1	15	16	1	.35842800E+02	.22925E-19	.18541E-18	.14118E-18	.51798E-19	.36701E-07	
2	1	2	1	1	.39725600E+02	.21554E-15	.36834E-16	.77541E-17	.14958E-17	.40854E-05	
2	0	2	1	0	.39990800E+02	.59918E-15	.66419E-16	.12104E-16	.21724E-17	.55570E-05	
2	1	1	1	1	.40253000E+02	.22088E-15	.37790E-16	.79584E-17	.15355E-17	.45503E-05	
17	1	16	17	1	.40320800E+02	.12030E-19	.15927E-18	.14293E-18	.56928E-19	.46546E-07	
3	1	3	2	1	.59587700E+02	.74721E-15	.13914E-15	.30141E-16	.58983E-19	.17508E-04	
3	2	2	2	2	.59972800E+02	.54067E-16	.36993E-16	.12366E-16	.30061E-17	.11566E-04	
3	2	1	2	2	.59972800E+02	.54067E-16	.36993E-16	.12366E-16	.30061E-17	.11566E-04	
3	0	3	2	0	.59945700E+02	.17510E-14	.21161E-15	.39689E-16	.72268E-17	.20094E-04	
3	1	2	2	1	.60378500E+02	.76427E-15	.14264E-15	.30923E-16	.60536E-17	.18214E-04	

JL	KU1	KU2	JL	KL1	KL2	MU	ZU	SIGMA	100	200	M	PR1
Nd2O3												
V 1						Mu = 4.2700	A = .30450900e+04	B = .10112000e+02	C = .14000000e+01	NAF = .1900		
1	0	1	0	0	0	.19979700e+02	.70007e-10	.05000e-17	.14000e-17	.14000e-17	.14000e-17	.14000e-17
2	1	2	1	1	1	.39712500e+02	.20904e-15	.35000e-10	.74444e-17	.14000e-17	.14000e-17	.14000e-17
2	0	2	1	0	1	.39450500e+02	.57407e-15	.05000e-10	.11000e-10	.11000e-17	.14000e-17	.14000e-17
2	1	1	1	1	0	.40205200e+02	.21404e-15	.30000e-10	.70004e-17	.14000e-17	.14000e-17	.14000e-17
3	1	3	2	1	2	.59500000e+02	.70705e-15	.13000e-15	.24104e-10	.15000e-17	.14000e-17	.14000e-17
3	2	2	2	2	1	.59049000e+02	.50405e-10	.30071e-10	.10000e-10	.24000e-17	.14000e-17	.14000e-17
3	2	1	2	2	0	.59049000e+02	.50405e-10	.30071e-10	.10000e-10	.24000e-17	.14000e-17	.14000e-17
3	0	3	2	0	2	.59937200e+02	.10770e-14	.20000e-15	.10007e-10	.14000e-17	.14000e-17	.14000e-17
3	1	2	2	1	1	.60300900e+02	.74400e-15	.13797e-15	.20000e-10	.14000e-17	.14000e-17	.14000e-17
TETRAZOLE												
N4CH2						A	Mu = 1.9100	A = .10007320e+02	B = .10310910e+02	C = .10340700e+01	NAF = .1000	
3	2	1	3	2	2	.14000000e+02	.14000e-17	.10000e-10	.31041e-15	.15000e-10	.22000e-17	.22000e-17
1	0	1	0	0	0	.15551500e+02	.13473e-17	.13970e-10	.24411e-15	.14000e-10	.15000e-17	.15000e-17
2	2	1	2	0	2	.16249140e+02	.10019e-17	.11100e-10	.20107e-15	.10000e-10	.22000e-17	.22000e-17
2	1	2	1	1	1	.17059320e+02	.53150e-17	.57200e-10	.10330e-10	.10000e-10	.15000e-17	.15000e-17
4	2	2	4	2	3	.20034420e+02	.37254e-17	.44573e-10	.90000e-19	.17000e-15	.14000e-17	.14000e-17
3	2	2	3	0	3	.26256280e+02	.25942e-17	.30000e-10	.50944e-15	.10007e-15	.15000e-17	.15000e-17
2	0	2	1	0	1	.26370510e+02	.50300e-17	.60700e-10	.10900e-15	.15000e-15	.15000e-17	.15000e-17
2	1	1	1	1	0	.30172430e+02	.90941e-17	.10097e-17	.19000e-10	.15000e-15	.15000e-17	.15000e-17
TETRAZOLE												
N4CH2						B	Mu = 1.0700	A = .10007320e+02	B = .10310910e+02	C = .10340700e+01	NAF = .1000	
4	3	1	4	2	2	.14260200e+02	.50010e-10	.79030e-19	.15524e-15	.20000e-10	.11100e-17	.11100e-17
3	2	1	3	1	2	.14770550e+02	.51149e-10	.01033e-19	.11544e-15	.21010e-10	.15000e-17	.15000e-17
1	1	1	0	0	0	.15937570e+02	.44202e-10	.40074e-19	.01700e-10	.14010e-10	.17000e-17	.17000e-17
4	4	1	4	3	2	.17059320e+02	.05125e-10	.00425e-19	.17270e-15	.30000e-10	.15000e-17	.15000e-17
2	0	2	1	1	1	.20015700e+02	.10004e-17	.17350e-10	.31200e-19	.50007e-10	.07957e-17	.07957e-17
4	2	2	4	1	3	.26030740e+02	.13022e-17	.17350e-10	.33507e-15	.02110e-10	.43000e-17	.43000e-17
3	2	2	3	1	3	.26256280e+02	.00623e-10	.10400e-10	.19405e-15	.30000e-10	.30000e-17	.30000e-17
4	3	2	4	2	3	.26303600e+02	.13195e-17	.17100e-10	.34031e-15	.02970e-10	.44000e-17	.44000e-17
2	1	2	1	0	1	.26303400e+02	.17140e-17	.10000e-10	.33339e-15	.09900e-10	.73000e-17	.73000e-17
2	2	1	1	1	0	.37242150e+02	.32030e-17	.30214e-10	.05000e-15	.11010e-15	.21000e-10	.21000e-10
FORMYL												
HCO						Mu = 1.0000	A = .07033600e+03	B = .44709000e+02	C = .41970900e+02	NAF = .1000		
2	1	1	2	1	2	.06252000e+01	.52227e-10	.19563e-10	.55423e-19	.11730e-15	.12440e-10	.12440e-10
1	0	1	0	0	0	.06070550e+02	.43003e-15	.51330e-10	.95202e-19	.17255e-15	.25000e-10	.25000e-10
FORMALDEHYDE												
H2CO						Mu = 2.3310	A = .26210000e+03	B = .30030000e+02	C = .34000000e+02	NAF = .1000		
19	6	13	19	6	14	.11100000e-02	.21014e-47	.34157e-31	.32030e-30	.13532e-20	.01710e-10	.01710e-10
13	5	8	13	5	9	.17500000e-02	.02570e-37	.03321e-30	.00319e-30	.20000e-27	.27000e-15	.27000e-15
20	6	14	20	6	15	.20500000e-02	.20010e-40	.07424e-34	.53123e-30	.31000e-20	.40000e-15	.40000e-15
0	4	4	0	4	5	.24540000e-02	.71314e-30	.92354e-27	.30212e-20	.30070e-20	.20750e-10	.20750e-10
14	5	9	14	5	10	.31100000e-02	.29430e-37	.12927e-29	.17300e-27	.04131e-27	.22000e-10	.22000e-10
4	3	1	4	3	2	.40730000e-02	.15591e-25	.11069e-24	.00721e-25	.20903e-25	.27213e-17	.27213e-17
15	5	10	15	5	11	.02120000e-02	.79337e-35	.10057e-29	.30105e-27	.24145e-20	.15754e-17	.15754e-17
9	4	5	9	4	0	.03740000e-02	.00995e-30	.29007e-20	.10015e-25	.10003e-25	.20001e-17	.20001e-17
16	5	11	16	5	12	.11840000e-01	.10402e-30	.10732e-29	.74293e-25	.00207e-20	.90103e-17	.90103e-17
10	4	0	10	4	7	.14645000e-01	.75772e-30	.72212e-20	.50091e-25	.09275e-25	.30000e-10	.30000e-10
5	3	2	5	3	3	.18204000e-01	.04600e-25	.10159e-23	.00250e-24	.34003e-24	.11595e-15	.11595e-15
17	5	12	17	5	13	.20272e-39	.20272e-39	.17921e-29	.12090e-20	.14045e-25	.22200e-10	.22200e-10
11	4	7	11	4	0	.31770000e-01	.40123e-30	.13902e-25	.10510e-24	.23071e-24	.24950e-15	.24950e-15
10	5	13	10	5	14	.36200000e-01	.32900e-40	.14920e-29	.20100e-26	.31212e-25	.20004e-15	.20004e-15
6	3	3	6	3	4	.54037000e-01	.22405e-24	.50000e-23	.54299e-23	.23034e-23	.22333e-14	.22333e-14
12	4	0	12	4	9	.63440000e-01	.20660e-30	.22077e-25	.39749e-24	.70913e-24	.10525e-14	.10525e-14
19	5	14	19	5	15	.05300000e-01	.32030e-41	.10904e-29	.20710e-20	.04193e-25	.11515e-14	.11515e-14
2	2	0	2	2	1	.71100000e-01	.20145e-21	.11092e-21	.37000e-20	.07553e-23	.15159e-15	.15159e-15
20	5	15	20	5	16	.10040900e+00	.20504e-42	.70290e-30	.37320e-20	.11455e-24	.47712e-14	.47712e-14
13	4	9	13	4	10	.11962000e+00	.09643e-31	.29100e-25	.00050e-24	.10505e-23	.94027e-14	.94027e-14
7	3	4	7	3	5	.13090000e+00	.35590e-24	.10729e-22	.22900e-22	.11071e-22	.20000e-15	.20000e-15
14	4	10	14	4	11	.17952e-31	.17952e-31	.32707e-25	.15207e-23	.43540e-23	.47500e-13	.47500e-13
8	3	5	8	3	6	.30110000e+00	.37355e-24	.40090e-22	.73754e-22	.41740e-22	.21530e-12	.21530e-12
3	2	1	3	2	2	.35558000e+00	.20054e-20	.15507e-20	.50314e-21	.14537e-21	.94740e-12	.94740e-12
15	4	11	15	4	12	.37000000e+00	.35004e-32	.31734e-25	.24904e-23	.92761e-23	.21024e-12	.21024e-12
9	3	6	9	3	7	.00107400e+00	.27470e-24	.77000e-22	.19150e-21	.10090e-21	.13052e-11	.13052e-11
16	4	12	16	4	13	.50004e-33	.50004e-33	.20720e-25	.30700e-23	.10131e-22	.05710e-12	.05710e-12
17	4	13	17	4	14	.90915000e+00	.09202e-34	.19745e-25	.49320e-23	.32775e-22	.31079e-11	.31079e-11
4	2	2	4	2	3	.10050000e+00	.71057e-20	.00747e-20	.35100e-20	.93073e-21	.15030e-10	.15030e-10
10	3	7	10	3	8	.11132000e+01	.14740e-24	.11041e-21	.41700e-21	.30000e-21	.71054e-11	.71054e-11

JU			JL			NU			SIGMA			A			REF		
ALU ¹ ALU ²			AL ¹ AL ²			ZU			50			200					
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95	89	99	95	89	100	95	89	100	95	89	100	95	89	100	95	89	100

FORMYL FLUORIDE A

HCOF			H ₂ O			H ₂ O			H ₂ O			H ₂ O			H ₂ O		
2	1	2	1	1	1	2	1	2	2	1	2	2	1	2	2	1	2
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7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6	7
7	2	7	6	2	6	7	2	7	7	6	7	7	6	7	7	6</	

JU		JL		NU		2U		5U		SIGMA		100		200		A		REF	
KU1	KU2	KL1	KL2																
5	0	5	4	1	4	.36956000E+02	.34007E-16	.56883E-17	.11812E-17	.22632E-10	.43354E-00								
7	2	6	6	1	7	.39044300E+02	.00820E-17	.24904E-17	.60070E-10	.14704E-10	.20301E-00								
5	1	4	5	0	5	.90786040E+02	.34953E-15	.74673E-16	.10191E-10	.11717E-17	.15251E-04								
5	2	4	6	1	5	.93164040E+02	.42130E-16	.10900E-16	.20570E-17	.54904E-10	.20011E-07								
6	1	5	6	0	6	.95339160E+02	.36471E-15	.60320E-10	.19232E-10	.3647E-17	.11035E-04								
7	1	6	7	0	7	.10083605E+03	.10050E-15	.86974E-16	.22252E-10	.46709E-17	.13671E-04								
1	1	1	0	0	0	.10155036E+03	.20491E-15	.24591E-10	.45720E-17	.20209E-10	.15135E-04								
8	1	7	8	0	8	.10736211E+03	.24790E-15	.92350E-10	.25212E-10	.55304E-17	.12000E-04								
9	1	8	9	0	9	.11499360E+03	.10000E-15	.93102E-10	.28049E-10	.04715E-17	.20090E-04								
4	2	3	5	1	4	.11929655E+03	.03792E-10	.14159E-10	.32523E-17	.05537E-10	.10200E-07								
2	1	2	1	0	1	.12234395E+03	.14027E-15	.51370E-10	.97512E-17	.17602E-17	.20371E-04								
10	1	9	10	0	10	.12301235E+03	.13137E-15	.91274E-10	.30004E-10	.74747E-17	.31455E-04								
9	0	9	8	1	8	.13698630E+03	.22674E-15	.90107E-10	.27411E-10	.01532E-17	.35001E-04								
3	1	3	2	0	2	.14240244E+03	.03610E-15	.07002E-16	.17105E-10	.31435E-17	.35090E-04								
3	1	3	2	0	2	.14240244E+03	.03610E-15	.07002E-16	.17105E-10	.31435E-17	.35090E-04								
4	1	4	3	0	3	.16192750E+03	.04500E-15	.13149E-15	.26025E-10	.50942E-17	.51070E-04								
4	1	4	3	0	3	.16192756E+03	.04500E-15	.13149E-15	.26325E-10	.50942E-17	.51070E-04								
SILYL METHYL ETHER																			05
SINH3OCH3		B		MW =		62	MU = .9500		A = .33560000E+02		B = .57096020E+01		C = .53532000E+01		KAR = -.9747				05
5	0	5	4	1	4	.28461330E+02	.22194E-17	.20531E-10	.54003E-19	.10000E-19	.40970E-07								
1	1	0	1	0	1	.28462050E+02	.21135E-17	.22603E-10	.40897E-19	.73011E-20	.12150E-00								
2	1	1	2	0	2	.28465820E+02	.34045E-17	.37741E-10	.00703E-19	.12440E-19	.12543E-00								
3	1	2	3	0	3	.29430450E+02	.45275E-17	.52609E-10	.97594E-19	.17550E-19	.13170E-00								
4	1	3	4	0	4	.30206340E+02	.54331E-17	.67457E-10	.12700E-19	.23354E-19	.14000E-00								
5	1	4	5	0	5	.31195940E+02	.60872E-17	.81951E-10	.15935E-18	.29543E-19	.15233E-00								
6	1	5	6	0	6	.32413170E+02	.64730E-17	.90042E-10	.19289E-18	.36346E-19	.16745E-00								
7	1	6	7	0	7	.33873300E+02	.65942E-17	.10950E-17	.22652E-18	.43000E-19	.10095E-00								
8	1	7	8	0	8	.35594130E+02	.64677E-17	.12231E-17	.26036E-10	.52201E-19	.21054E-00								
9	1	8	9	0	9	.37594360E+02	.61277E-17	.13405E-17	.30642E-10	.61590E-19	.24027E-00								
1	1	1	0	0	0	.39110530E+02	.26591E-17	.28524E-16	.51410E-19	.91707E-20	.20940E-00								
10	1	9	10	0	10	.39893760E+02	.56166E-17	.14440E-17	.34057E-10	.71900E-19	.27095E-00								
AE PARITY																			05
SINH3OCH3		B		MW =		62	MU = .9500		A = .33560000E+02		B = .57096020E+01		C = .53532000E+01		KAR = -.9747				05
1	1	0	1	0	1	.28457700E+02	.21099E-17	.22644E-10	.40827E-19	.72007E-20	.12150E-00								
5	0	5	4	1	4	.28467650E+02	.22195E-17	.20504E-10	.54764E-19	.10070E-19	.47100E-07								
2	1	1	2	0	2	.28462910E+02	.33944E-17	.37673E-10	.06660E-19	.12324E-19	.12543E-00								
3	1	2	3	0	3	.29404390E+02	.45194E-17	.52594E-10	.97410E-19	.17200E-19	.13140E-00								
4	1	3	4	0	4	.30179610E+02	.54235E-17	.67330E-10	.12740E-10	.23354E-19	.14000E-00								
5	1	4	5	0	5	.31169150E+02	.60768E-17	.81810E-10	.15907E-18	.29493E-19	.15194E-00								
6	1	5	6	0	6	.32366230E+02	.64629E-17	.95862E-10	.19257E-18	.36205E-19	.16704E-00								
7	1	6	7	0	7	.33846320E+02	.65836E-17	.10939E-17	.22810E-18	.43010E-19	.10014E-00								
8	1	7	8	0	8	.35567060E+02	.64579E-17	.12213E-17	.26595E-10	.52102E-19	.21000E-00								
9	1	8	9	0	9	.37567250E+02	.61189E-17	.13365E-17	.30590E-10	.61510E-19	.23975E-00								
1	1	1	0	0	0	.39081290E+02	.26551E-17	.28461E-16	.51341E-19	.91650E-20	.20901E-00								
10	1	9	10	0	10	.39866680E+02	.56109E-17	.14429E-17	.34010E-10	.71800E-19	.27039E-00								
EA PAF.TY																			05
SINH3OCH3		B		MW =		62	MU = .9500		A = .33560000E+02		B = .57096020E+01		C = .53532000E+01		KAR = -.9747				05
1	1	0	1	0	1	.29678660E+02	.22949E-17	.24630E-10	.44406E-19	.79270E-20	.13731E-00								
2	1	1	2	0	2	.29749480E+02	.36179E-17	.40106E-10	.73094E-19	.13120E-19	.13741E-00								
3	1	2	3	0	3	.29970850E+02	.46952E-17	.54640E-10	.10121E-10	.16314E-19	.13914E-00								
4	1	3	4	0	4	.30431560E+02	.55144E-17	.68467E-10	.12959E-10	.23704E-19	.14377E-00								
5	1	4	5	0	5	.31170100E+02	.60803E-17	.81857E-10	.15917E-18	.29509E-19	.15207E-00								
6	1	5	6	0	6	.32217080E+02	.63959E-17	.94888E-10	.19057E-18	.35099E-19	.16444E-00								
7	1	6	7	0	7	.33546750E+02	.64676E-17	.10746E-17	.22432E-18	.43030E-19	.10124E-00								
8	1	7	8	0	8	.35164640E+02	.63126E-17	.11938E-17	.25997E-18	.51007E-19	.20301E-00								
9	1	8	9	0	9	.3707720E+02	.59605E-17	.13039E-17	.29606E-10	.59917E-19	.23050E-00								
10	1	9	10	0	10	.39297610E+02	.54519E-17	.14020E-17	.33023E-10	.69850E-19	.26472E-00								
AA PARITY																			05
SINH3OCH3		A		MW =		62	MU = .6470		A = .33560000E+02		B = .57096020E+01		C = .53532000E+01		KAR = -.9747				05
1	0	1	0	0	0	.11002170E+02	.10435E-18	.10754E-19	.19127E-20	.33917E-21	.21630E-00								
2	1	2	1	1	1	.21630380E+02	.53707E-18	.59446E-19	.10629E-19	.19431E-20	.14793E-07								
2	0	2	1	0	1	.22000130E+02	.79131E-18	.84185E-19	.15134E-19	.26979E-20	.20752E-07								
2	1	1	1	1	0	.22376980E+02	.57331E-18	.63555E-19	.11503E-19	.20791E-20	.16378E-07								
3	1	3	2	1	2	.32442600E+02	.19659E-17	.23040E-10	.42632E-19	.77104E-20	.03360E-07								
3	0	3	2	0	2	.32990510E+02	.24647E-17	.27504E-10	.50236E-19	.90273E-20	.74971E-07								
3	1	2	2	1	1	.33562630E+02	.21145E-17	.24607E-10	.45580E-19	.82477E-20	.70174E-07								

TABLE III

J0				K0				L0				M0				SIGMA				A				RBR			
K0				K1				K2				K3				K4				K5				K6			
ME PARITE																											
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA				A				RBR			
J0				K0				L0				M0				SIGMA											

JU		KUT		JL		KL1		KL2		NU		20		50		SIGMA		100		200		A		REF	
18	2	16		18	2	17				.10763810E+03		.21778E-20		.92943E-19		.12322E-18		.59655E-19		.20748E-06					
5	1	5		4	1	4				.10812670E+03		.27550E-15		.49195E-16		.10510E-16		.26424E-17		.12421E-04					
5	0	5		4	0	4				.11174680E+03		.34939E-15		.57649E-16		.11998E-16		.23007E-17		.14272E-04					
5	2	4		4	2	3				.11228910E+03		.15657E-15		.37901E-16		.89015E-17		.16321E-17		.12173E-04					
5	4	2		4	4	1				.11243230E+03		.99649E-17		.75870E-17		.26284E-17		.65044E-18		.52379E-05					
5	4	3		4	4	0				.11243230E+03		.99649E-17		.75870E-17		.26284E-17		.65044E-18		.52379E-05					
5	3	3		4	3	2				.11245960E+03		.53974E-16		.21061E-16		.50411E-17		.12933E-17		.93184E-05					
5	3	2		4	3	1				.11246700E+03		.53980E-16		.21070E-16		.50418E-17		.12933E-17		.93203E-05					
5	2	3		4	2	2				.11289140E+03		.15746E-15		.38271E-16		.90537E-17		.16154E-17		.12173E-04					
5	1	4		4	1	3				.11631150E+03		.30052E-15		.55596E-16		.12018E-16		.23494E-17		.15401E-04					
6	1	6		5	1	5				.12967180E+03		.35269E-15		.75911E-16		.17259E-16		.34602E-17		.22029E-04					
6	0	6		5	0	5				.13376710E+03		.43557E-15		.87144E-16		.19330E-16		.36296E-17		.26296E-04					
6	2	5		5	2	4				.13468640E+03		.20701E-15		.60841E-16		.15347E-16		.32406E-17		.22572E-04					
6	5	1		5	5	0				.13492020E+03		.25252E-17		.55132E-17		.27134E-17		.60037E-18		.76006E-05					
6	4	2		5	4	1				.13492850E+03		.19223E-16		.17776E-16		.65702E-17		.16794E-17		.14106E-04					
6	4	3		5	4	2				.13493850E+03		.19226E-16		.17776E-16		.65712E-17		.16797E-17		.14109E-04					
6	3	4		5	3	3				.13498560E+03		.37493E-16		.11091E-16		.25304E-17		.19155E-17		.25304E-04					
6	3	3		5	3	2				.13500490E+03		.79101E-16		.37503E-16		.11094E-16		.25371E-17		.19163E-04					
6	2	4		5	2	3				.13573770E+03		.20920E-15		.61670E-16		.15572E-16		.32890E-17		.23106E-04					
6	1	5		5	1	4				.13948170E+03		.37572E-15		.84975E-16		.19642E-16		.39705E-17		.27416E-04					
9	0	9		8	0	8				.19875520E+03		.40190E-15		.17295E-15		.49538E-16		.11147E-16		.83537E-04					
9	2	8		8	2	7				.20167370E+03		.20450E-15		.13049E-15		.42619E-16		.10241E-16		.63186E-04					
9	4	6		8	4	5				.20252730E+03		.25667E-16		.51663E-16		.24747E-16		.72014E-17		.71115E-04					
9	4	5		8	4	4				.20253000E+03		.25667E-16		.51664E-16		.24748E-16		.72016E-17		.71116E-04					
9	3	7		8	3	6				.20265450E+03		.86607E-16		.89417E-16		.34286E-16		.89260E-17		.76920E-04					
9	3	6		8	3	5				.20281520E+03		.86677E-16		.89531E-16		.34336E-16		.89401E-17		.79108E-04					
9	2	7		8	2	6				.20512760E+03		.20763E-15		.13377E-15		.43694E-16		.10572E-16		.87518E-04					
12	1	11		11	1	10				.27692920E+03		.12712E-15		.19245E-15		.63637E-16		.23265E-16		.22709E-03					
13	1	13		12	1	12				.27918210E+03		.97053E-16		.16319E-15		.65094E-16		.24729E-16		.23106E-03					
13	0	13																							

JU		JL		NU		SIGMA		A		REF	
KU1	KU2	KL1	KL2			20	50	100	200		
13	2	12	12	3	9	.50653020E+02	.84604E-20	.23703E-19	.12733E-19	.39159E-20	.71945E-06
6	1	6	7	2	5	.53251920E+02	.15679E-18	.53805E-19	.14291E-19	.30960E-20	.66922E-06
5	0	5	4	1	4	.53266950E+02	.12552E-17	.20711E-18	.43096E-19	.42656E-20	.24449E-07
16	3	16	17	4	13	.52491850E+02	.91140E-22	.56357E-20	.43540E-20	.43583E-20	.11053E-07
17	3	14	10	4	13	.66526970E+02	.29560E-21	.10372E-19	.12063E-19	.60366E-20	.17118E-07
1	1	0	1	0	1	.67094560E+02	.23476E-17	.27624E-18	.51066E-19	.92315E-20	.11863E-06
7	1	7	6	2	4	.67167130E+02	.33527E-16	.69720E-19	.21935E-19	.45601E-20	.13515E-07
10	1	9	9	2	6	.68412010E+02	.18696E-18	.13160E-18	.44438E-19	.10655E-19	.27501E-07
2	1	1	2	0	2	.68764140E+02	.36912E-17	.45600E-18	.66334E-19	.15783E-19	.12633E-06
11	2	9	10	3	8	.68924510E+02	.46015E-19	.63129E-19	.26094E-19	.70535E-20	.16191E-07
11	3	2	12	2	11	.67654370E+02	.24933E-14	.56965E-19	.24539E-19	.71592E-20	.20196E-07
3	1	2	3	0	3	.71167490E+02	.46124E-17	.63100E-18	.12337E-18	.22935E-19	.13631E-06
9	1	6	9	0	9	.11034010E+03	.25960E-17	.13100E-17	.39584E-18	.91463E-19	.33074E-06
17	2	15	16	3	14	.11419660E+03	.21141E-20	.49440E-19	.53650E-19	.23496E-19	.10689E-06
10	1	9	10	0	10	.12180770E+03	.18603E-17	.13157E-17	.44409E-18	.10840E-18	.48932E-06
6	0	0	7	1	7	.13098020E+03	.40551E-17	.15091E-17	.40053E-18	.67642E-19	.46121E-06
19	5	15	20	4	10	.13824040E+03	.15675E-22	.63336E-20	.25505E-19	.16760E-19	.15572E-06
TRIOFORMALDEHYDE											
H2CS		MW = 46		KU = 1,6470		A = .29166000E+03		b = .17699555E+02		C = .16653060E+02	
5	2	3	5	2	4	.10445700E+00	.17307E-22	.18035E-22	.69366E-23	.16067E-23	.47977E-14
16	3	13	16	3	14	.14324300E+00	.41474E-26	.12450E-24	.66175E-24	.67060E-24	.30673E-14
17	3	14	17	3	15	.20449400E+00	.19508E-20	.13651E-24	.96915E-24	.11195E-24	.79305E-14
6	2	4	6	2	5	.20687700E+00	.35605E-22	.49935E-22	.21205E-22	.56090E-23	.27398E-13
18	3	15	18	3	16	.28607100E+00	.62057E-29	.13943E-24	.13599E-23	.17656E-23	.19419E-13
7	2	5	7	2	6	.37588600E+00	.55991E-22	.11106E-21	.52935E-22	.15366E-22	.11974E-12
19	3	16	19	3	17	.39300800E+00	.30609E-29	.13327E-24	.17786E-23	.27319E-23	.45299E-13
20	3	17	20	3	18	.53120400E+00	.10202E-29	.11960E-24	.22206E-23	.40230E-23	.10116E-12
6	2	6	6	2	7	.62627800E+00	.70770E-22	.20663E-21	.11348E-21	.35190E-22	.43065E-12
9	2	7	9	2	8	.98373200E+00	.74251E-22	.34182E-21	.21572E-21	.72051E-22	.13348E-11
1	1	0	1	1	1	.10464680E+01	.40662E-19	.64765E-20	.13310E-20	.25393E-21	.18092E-10
10	2	9	10	2	9	.14747670E+01	.66060E-22	.49911E-21	.37154E-21	.13478E-21	.36763E-11
11	2	9	11	2	10	.21267600E+01	.50612E-22	.65956E-21	.58682E-21	.23392E-21	.92136E-11
12	2	10	12	2	11	.29776630E+01	.33772E-22	.79700E-21	.86843E-21	.36095E-21	.21322E-10
2	1	1	2	1	2	.37639800E+01	.37715E-18	.30283E-19	.64395E-20	.12485E-20	.16262E-09
13	2	11	13	2	12	.40561370E+01	.19794E-22	.89090E-21	.12022E-20	.50719E-21	.46154E-10
14	2	12	14	2	13	.54011610E+01	.10250E-22	.92457E-21	.15726E-20	.86234E-21	.94343E-10
3	1	2	3	1	3	.62766500E+01	.37452E-16	.70664E-19	.17147E-19	.34090E-20	.65123E-09
15	2	13	15	2	14	.70520700E+01	.47251E-23	.89042E-21	.19541E-20	.12130E-20	.16350E-09
16	2	14	16	2	15	.90201600E+01	.19425E-23	.61537E-21	.23161E-20	.16412E-20	.34167E-09
4	1	3	4	1	4	.10463970E+02	.57409E-16	.14371E-18	.34360E-19	.70639E-20	.16068E-06
17	2	15	17	2	16	.11436530E+02	.71511E-24	.69018E-21	.26276E-20	.21432E-20	.61203E-09
18	2	16	18	2	17	.14261900E+02	.23641E-24	.56436E-21	.26615E-20	.27091E-20	.10591E-06
5	1	4	5	1	5	.15695120E+02	.69245E-18	.22203E-18	.57929E-19	.12419E-19	.40092E-06
19	2	17	19	2	18	.170340E+02	.70340E-25	.43169E-21	.29904E-20	.33225E-20	.16262E-06
20	2	18	20	2	19	.21397440E+02	.18874E-25	.31307E-21	.30290E-20	.39614E-20	.26964E-06
6	1	5	6	1	6	.21971700E+02	.69322E-18	.30154E-16	.86678E-19	.19539E-19	.79744E-06
7	1	6	7	1	7	.29293210E+02	.59349E-18	.36894E-18	.11899E-18	.26340E-19	.14174E-07
1	0	1	0	0	0	.34351430E+02	.56528E-16	.60505E-17	.10918E-17	.19406E-16	.42661E-06
8	1	7	8	1	8	.37658830E+02	.44262E-16	.40900E-16	.15113E-18	.36625E-19	.23426E-07
9	1	8	9	1	9	.47007730E+02	.29109E-16	.42269E-16	.18159E-18	.50041E-19	.36596E-07
10	1	9	10	1	10	.57518600E+02	.17026E-16	.40601E-18	.20740E-18	.62167E-19	.54655E-07
2	1	2	2	1	1	.67653820E+02	.14483E-15	.25391E-16	.53911E-17	.10445E-17	.29330E-05
2	0	2	1	0	1	.68699410E+02	.36342E-15	.45369E-16	.84499E-17	.15332E-17	.40948E-05
11	1	10	11	1	11	.69010610E+02	.69113E-19	.37148E-18	.22601E-18	.74515E-19	.76880E-07
2	1	1	1	1	0	.69746720E+02	.15277E-15	.26905E-16	.57212E-17	.11092E-17	.32137E-05
12	1	11	12	1	12	.6154100E+02	.41933E-19	.31932E-18	.23633E-18	.66572E-19	.10967E-06
13	1	12	13	1	13	.95100260E+02	.17003E-19	.26039E-18	.24159E-18	.97838E-19	.14951E-06
3	1	3	2	1	2	.10147760E+03	.45402E-15	.92126E-16	.20530E-16	.49770E-17	.12609E-04
3	2	2	2	1	3	.10303000E+03	.40206E-16	.68971E-16	.68971E-17	.21539E-17	.62217E-05
3	0	3	2	0	2	.10304020E+03	.10102E-14	.13007E-15	.27137E-16	.50473E-17	.14003E-04
3	2	1	2	2	0	.10305100E+03	.40222E-16	.26647E-16	.89008E-17	.21540E-17	.62209E-05
3	1	2	2	1	1	.10404100E+03	.47533E-15	.97320E-16	.21762E-16	.43207E-17	.13772E-04
14	1	13	14	1	14	.10970940E+03	.66307E-20	.20199E-18	.23680E-18	.10705E-18	.19901E-06
15	1	14	15	1	15	.12534130E+03	.33621E-20	.14940E-18	.22518E-18	.11023E-18	.25967E-06
4	1	4	3	1	3	.13529760E+03	.62015E-15	.20223E-15	.46110E-16	.96699E-17	.32682E-04
4	3	2	3	3	1	.13730920E+03	.20003E-17	.11751E-16	.60434E-17	.27980E-17	.15914E-04
4	3	1	3	3	0	.13730920E+03	.20003E-17	.11751E-16	.60434E-17	.27980E-17	.15914E-04
4	0	4	3	0	3	.13737110E+03	.17215E-14	.26600E-15	.60204E-16	.11573E-16	.36376E-04
4	2	3	3	2	2	.13736200E+03	.92510E-16	.75200E-16	.26656E-16	.66697E-17	.27284E-04

TABLE III . 34

ETHYLENE CHLORIDE										112									
CH2CL2																			
		MW =		d4		MU = 1.6200		A = .32001600E+02		b = .33204000E+01		C = .30652630E+01		KAP = -.9024					
7	0	7	6	1	0			1.8375000E+02	2.2505E-17	2.9237E-16	5.6340E-19	1.0399E-19		4.0917E-07					
8	2	7	9	1	0			2.3312000E+02	1.2552E-17	2.0727E-16	4.3265E-19	6.3110E-20		3.6101E-07					
8	0	5	7	1	7			2.5533000E+02	4.5074E-17	1.03650E-16	1.2010E-16	2.3660E-19		1.1500E-06					
1	1	0	1	0	1			2.4936600E+02	3.8401E-17	3.0536E-16	9.3222E-19	1.2362E-19		3.7006E-06					
2	1	1	2	0	2			2.9193400E+02	5.9001E-17	6.0427E-16	1.1634E-18	1.2001E-19		3.7631E-06					
3	1	2	3	0	3			2.9502000E+02	6.8134E-17	9.0069E-16	1.16450E-16	2.9579E-19		3.9099E-06					
4	1	3	4	0	4			3.0105000E+02	1.0000E-16	1.1594E-17	2.5440E-16	3.6709E-19		4.3073E-06					
5	1	4	5	0	5			3.0709000E+02	1.1767E-16	1.4102E-17	2.6653E-16	4.0501E-19		4.4310E-06					
7	2	b	d	1	7			3.0412400E+02	2.0660E-17	3.1690E-16	6.4559E-19	1.2250E-19		6.3100E-07					
6	1	5	b	0	6			3.1577000E+02	7.3351E-16	1.6700E-17	3.2111E-16	5.9001E-19		4.5953E-06					
7	1	b	7	0	7			3.2546000E+02	1.4215E-16	1.1935E-17	3.3700E-16	7.0467E-19		4.9490E-06					
9	0	9	0	1	0			3.2769000E+02	7.0403E-17	1.1600E-17	3.4063E-16	4.4401E-19		2.2934E-06					

TABLE III.15

JU		JL		NU		20		50		SIGMA		100		200		A		KAP	
KU1	KU2	KL1	KL2																
6	1	7	8	0	8	.33672000E+02	.14932E-16	.21914E-17	.43979E-18	.82836E-19	.53764E-06								
9	1	8	9	0	9	.34970000E+02	.15304E-16	.24436E-17	.50440E-18	.96351E-19	.58956E-06								
10	1	9	10	0	10	.36451300E+02	.15341E-16	.26902E-17	.57292E-18	.11116E-18	.65156E-06								
ETHYLENIMINE																			86162170
H2CNHCH2		b		MM =		43	MU = 1.6700		A = .22736100E+02		B = .21192300E+02		C = .13383300E+02		KAP =		.0699		
4	4	0	4	3	1	.16577500E+02	.49804E-17	.95062E-18	.21002E-18	.41328E-19	.65660E-07								
4	3	1	4	2	2	.21360600E+02	.79636E-17	.14964E-17	.32487E-18	.63643E-19	.11574E-06								
5	4	1	5	3	2	.21474000E+02	.64076E-17	.10414E-17	.39546E-18	.81613E-19	.12661E-06								
5	2	1	5	1	2	.22262000E+02	.64604E-17	.12396E-17	.24766E-18	.46542E-19	.10660E-06								
6	5	1	6	4	2	.23025300E+02	.46692E-17	.17422E-17	.47561E-18	.10455E-18	.15914E-06								
2	1	1	2	0	2	.23634500E+02	.65416E-17	.79263E-18	.14864E-18	.27114E-19	.91322E-07								
5	5	0	5	4	1	.24662600E+02	.49836E-17	.13229E-17	.32253E-18	.66957E-19	.12200E-06								
7	0	1	7	5	2	.26314100E+02	.31473E-17	.16243E-17	.57701E-18	.13644E-18	.22137E-06								
2	2	1	2	1	2	.26058340E+02	.71314E-17	.67007E-18	.16370E-18	.29555E-19	.11951E-06								
3	2	2	3	3	1	.30494620E+02	.10760E-16	.15244E-17	.30145E-18	.56364E-19	.17957E-06								
6	6	0	6	5	1	.32165600E+02	.42111E-17	.16459E-17	.45649E-18	.10108E-18	.21674E-06								
9	7	2	9	6	3	.32406300E+02	.11609E-17	.14666E-17	.43048E-18	.32393E-18	.43504E-06								
6	0	2	6	5	3	.32526300E+02	.25187E-17	.23132E-17	.65296E-18	.21777E-18	.41606E-06								
4	4	1	4	3	2	.33764200E+02	.10199E-16	.19542E-17	.42739E-18	.84036E-19	.24261E-06								
7	5	2	7	4	3	.34053300E+02	.56186E-17	.28007E-17	.67473E-18	.20553E-18	.42664E-06								
10	8	2	10	7	3	.34165100E+02	.50157E-17	.15026E-17	.82611E-18	.25703E-18	.50688E-06								
1	1	1	1	0	0	.46119400E+02	.17576E-16	.18853E-17	.33961E-18	.60657E-19	.50966E-06								
6	4	2	6	3	3	.36374000E+02	.89315E-17	.32238E-17	.67075E-18	.19027E-18	.45500E-06								
7	7	0	7	6	1	.40568600E+02	.30176E-17	.16545E-17	.59611E-18	.14262E-18	.36092E-06								
4	2	2	4	1	3	.40765600E+02	.17135E-16	.31144E-17	.66923E-18	.13043E-18	.45606E-06								
H2CNHCH2																			86162
C		MM =		43	MU = .0900		A = .22736100E+02		B = .21192300E+02		C = .13383300E+02		KAP =		.0699				
5	5	1	5	4	1	.22671900E+02	.17312E-18	.45622E-19	.11161E-19	.23156E-20	.36739E-06								
4	7	2	4	6	2	.25732700E+02	.46351E-19	.46044E-19	.17205E-19	.44198E-20	.67223E-06								
3	3	0	3	2	2	.35334400E+02	.17929E-18	.26726E-19	.53756E-20	.10137E-20	.37736E-06								
VINYLAMINE																			96
CH2CHNH2		MM =		43	MU = 1.0630		A = .56312900E+02		B = .10034756E+02		C = .85649300E+01		KAP = -.9364						
1	0	1	0	0	0	.16599625E+02	.17773E-17	.18546E-18	.33129E-19	.58669E-20	.59281E-07								
5	1	4	5	1	5	.22030920E+02	.42702E-18	.70474E-19	.14666E-19	.20129E-20	.48784E-06								
2	1	2	2	1	1	.27529530E+02	.80796E-17	.94892E-18	.17630E-18	.31950E-19	.16681E-06								
2	0	2	2	0	1	.37164820E+02	.12978E-16	.14269E-17	.25982E-18	.46562E-19	.26026E-06								
2	1	1	2	1	0	.38669220E+02	.93642E-17	.11066E-17	.20607E-18	.37364E-19	.23681E-06								
3	1	3	3	1	2	.53572950E+02	.26394E-16	.36023E-17	.66670E-18	.12760E-18	.79960E-06								
3	0	3	3	0	2	.55660940E+02	.36192E-16	.45500E-17	.85086E-18	.15460E-18	.10068E-05								
3	4	2	3	2	1	.55799500E+02	.13576E-16	.21241E-17	.43422E-18	.62544E-19	.56472E-06								
3	2	1	3	2	0	.55937170E+02	.13639E-16	.21343E-17	.43633E-18	.62940E-19	.56091E-06								
3	1	2	3	1	1	.57961600E+02	.32562E-16	.41839E-17	.60097E-18	.14735E-18	.10137E-05								
4	1	4	4	1	3	.71391130E+02	.59733E-16	.63990E-17	.16569E-17	.30943E-18	.20694E-05								
4	0	4	4	0	3	.74053950E+02	.74425E-16	.10010E-16	.19372E-17	.35630E-18	.24618E-05								
4	2	3	4	2	2	.74372060E+02	.36315E-16	.63237E-17	.13397E-17	.25926E-18	.16719E-05								
4	3	2	4	3	1	.74406230E+02	.12677E-16	.24510E-17	.69942E-18	.14332E-18	.10903E-05								
4	3	1	4	3	0	.74471000E+02	.12078E-16	.29512E-17	.69997E-18	.14333E-18	.10964E-05								
4	2	2	4	2	1	.74715330E+02	.36606E-16	.63791E-17	.13518E-17	.26163E-18	.16979E-05								
4	1	3	4	1	2	.77266560E+02	.67543E-16	.97004E-17	.19272E-17	.36118E-18	.26236E-05								
5	1	5	5	1	4	.89176580E+02	.96297E-16	.15396E-16	.31703E-17	.60485E-18	.42237E-05								
5	0	5	5	0	4	.92312050E+02	.11732E-15	.17765E-16	.35977E-17	.68033E-18	.46744E-05								
5	2	4	5	2	3	.92921210E+02	.63492E-16	.12639E-16	.27999E-17	.55407E-18	.41616E-05								
5	4	2	5	4	1	.93080340E+02	.70447E-17	.31610E-17	.91841E-18	.20011E-18	.16016E-05								
5	4	1	5	4	0	.93060340E+02	.70447E-17	.31610E-17	.91841E-18	.20011E-18	.16016E-05								
5	3	3	5	3	2	.93113030E+02	.27610E-16	.77147E-17	.19135E-17	.40066E-18	.32062E-05								
5	3	2	5	3	1	.93123490E+02	.27615E-16	.77164E-17	.19139E-17	.40075E-18	.32073E-05								
5	2	3	5	2	2	.93603960E+02	.64244E-16	.12611E-16	.26396E-17	.56209E-18	.42745E-05								
6	2	5	6	2	4	.11144097E+03	.86735E-16	.20741E-16	.46471E-17	.98519E-18	.77499E-05								
6	4	3	6	4	2	.11171950E+03	.14372E-16	.75769E-17	.23221E-17	.54051E-18	.46813E-05								
6	4	2	6	4	1	.11171950E+03	.14372E-16	.75769E-17	.23221E-17	.54051E-18	.46813E-05								
6	3	4	6	3	3	.11177340E+03	.42779E-16	.14042E-16	.36747E-17	.79036E-18	.65991E-05								
6	3	3	6	3	2	.11160120E+03	.42796E-16	.14048E-16	.36765E-17	.79077E-18	.66040E-05								
CH2CHH2																			96
INVENI		MM =		43	MU = .9530		A = .55677800E+02		B = .10029650E+02		C = .65700300E+01		KAP = -.9363						
2	0	2	2	0	1	.37164820E+02	.95537E-17	.10818E-17	.19855E-18	.35704E-19	.21702E-06								
2	1	1	2	1	0	.36659020E+02	.60971E-17	.63705E-18	.15743E-18	.26697E-19	.16323E-06								
3	1	3	3	1	2	.53568320E+02	.20934E-16	.27290E-17	.52518E-18	.96851E-19	.61969E-06								
3	0	3	3	0	2	.55661370E+02	.26115E-16	.34493E-17	.65023E-18	.11670E-18	.76009E-06								
3	1	2	3	1	1	.57966460E+02	.23944E-16	.31673E-17	.61191E-18	.11302E-18	.76432E-06								

TABLE III .16

JU		JL		NU		SIGMA		A		REF	
KU1	KU2	KL1	KL2			20	50	100	200		
5	1	5	4	1	4	.89202340E+02	.70949E-16	.11667E-16	.24245E-17	.46469E-1d	.32734E-05
5	0	5	4	0	4	.92315390E+02	.86366E-16	.13465E-16	.27495E-17	.52237E-1d	.37746E-05
5	4	1	4	4	1	.93079330E+02	.52731E-17	.24097E-17	.70418E-1b	.16005E-1d	.13950E-05
5	4	2	4	4	0	.93079330E+02	.52731E-17	.24097E-17	.70418E-1b	.16005E-1d	.13950E-05
5	2	3	4	2	2	.93601200E+02	.47487E-16	.97149E-17	.21717E-17	.43171E-1b	.33094E-05
NITROETHYLENE											
CH2CHNO2											
				MW =	73	MU = 3.5100	A = .11811660E+02 B = .46807600E+01 C = .33537600E+01 KAP = .51				
5	1	4	5	1	5	.19536990E+02	.12043E-17	.14607E-1d	.27970E-19	.51111E-20	.36263E-07
14	4	10	14	4	11	.20179360E+02	.60222E-18	.25748E-18	.73084E-19	.16573E-19	.59829E-07
8	2	6	8	2	7	.21651840E+02	.16931E-17	.27798E-18	.57617E-19	.11087E-19	.62456E-07
11	3	8	11	3	9	.21655990E+02	.12560E-17	.31237E-18	.74623E-19	.15335E-19	.68441E-07
3	1	3	2	1	2	.22013670E+02	.12684E-16	.13799E-17	.25023E-1d	.44803E-19	.5d189E-0b
3	0	3	2	0	2	.23446960E+02	.16172E-16	.17479E-17	.31429E-1d	.56569E-19	.7d106E-0b
3	0	3	2	0	2	.241093100E+02	.89105E-17	.10085E-17	.18531E-1d	.33398E-19	.47d10E-0b
3	0	3	2	0	2	.24760580E+02	.93896E-17	.10640E-17	.19559E-18	.3525dE-19	.51657E-0b
18	5	13	18	5	14	.25902530E+02	.25365E-18	.26506E-18	.1021dE-1d	.26673E-19	.11244E-0b
3	1	3	2	1	1	.25981270E+02	.17326E-16	.19067E-17	.34709E-1d	.62263E-19	.95622E-0b
NITROETHYLENE											
CH2CHNO2											
				MW =	73	MU = 1.1600	A = .11811660E+02 B = .46807600E+01 C = .33537600E+01 KAP = .51				
5	2	3	5	1	4	.19437500E+02	.13797E-17	.17446E-1d	.33263E-19	.6106dE-20	.45697E-07
4	2	3	4	1	3	.19477940E+02	.1139dE-17	.13555E-1d	.25322E-19	.46017E-20	.41745E-07
3	2	1	3	1	2	.20340490E+02	.66893E-18	.96469E-19	.1d101E-19	.32630E-20	.39425E-07
6	2	4	6	1	5	.20587660E+02	.16411E-17	.22353E-18	.43690E-19	.61211E-20	.55142E-07
5	1	4	5	0	5	.21511380E+02	.11507E-17	.1414dE-1d	.26726E-19	.46837E-20	.40255E-07
2	2	0	2	1	1	.21561490E+02	.52103E-18	.56972E-19	.10349E-19	.1d545E-20	.3305dE-07
2	1	2	1	0	1	.21873370E+02	.81231E-18	.85614E-19	.15362E-19	.27361E-20	.49172E-07
7	2	5	7	1	6	.23195560E+02	.19642E-17	.29190E-18	.5d734E-19	.11077E-19	.7451dE-07
5	2	1	2	1	2	.25373770E+02	.57139E-18	.62464E-19	.11340E-19	.20330E-20	.42643E-07
5	1	4	4	2	3	.25495380E+02	.60497E-18	.74384E-19	.14051E-19	.25076E-20	.250d4E-07
4	0	4	3	1	3	.26055160E+02	.16206E-17	.18305E-18	.33614E-19	.00562E-20	.72662E-07
CH2CHNO2											
				V18	1	MW =	73	MU = 3.5200	A = .11737060E+02 B = .46791900E+01 C = .33633800E+01 KAP = .51		
3	1	4	5	1	5	.19371150E+02	.11802E-17	.14574E-1d	.2756dE-19	.50413E-20	.3751dE-07
14	4	10	14	4	11	.20064370E+02	.59369E-18	.25470E-1d	.72973E-19	.16422E-19	.59094E-07
8	2	6	8	2	7	.21484270E+02	.16617E-17	.27393E-18	.57057E-19	.10949E-19	.61359E-07
11	3	8	11	3	9	.21508520E+02	.12352E-17	.30836E-1d	.73758E-19	.15167E-19	.67401E-07
3	1	3	2	1	2	.22055450E+02	.126d8E-16	.13864E-17	.25177E-1b	.45111E-19	.58855E-0b
3	0	3	2	0	2	.23474860E+02	.16152E-16	.17535E-17	.31777E-1d	.56875E-19	.78892E-0b
3	0	3	2	0	2	.24127720E+02	.89036E-17	.10117E-17	.18615E-1d	.33572E-19	.46230E-0b
3	0	3	2	0	2	.24780350E+02	.93743E-17	.10669E-17	.19639E-18	.35425E-19	.52270E-0b
18	5	13	18	5	14	.25773650E+02	.25054E-18	.26260E-18	.10133E-1d	.26405E-19	.11127E-0b
3	1	3	2	1	1	.25989580E+02	.17280E-16	.19097E-17	.34d13E-1d	.62495E-19	.96200E-0b
CH2CHNO2											
				V19	1	MW =	73	MU = 1.1800	A = .11737060E+02 B = .46791900E+01 C = .33633800E+01 KAP = .51		
5	2	3	5	1	4	.19243580E+02	.13d77E-17	.17617E-1d	.33635E-19	.61793E-20	.45696E-07
4	2	3	4	1	3	.19279690E+02	.11462E-17	.13686E-18	.25601E-19	.46554E-20	.41909E-07
3	2	1	3	1	2	.20132530E+02	.87347E-18	.99417E-19	.18299E-19	.33009E-20	.39576E-07
6	2	4	6	1	5	.20369480E+02	.16512E-17	.22581E-18	.44195E-19	.62204E-20	.55422E-07
5	1	4	5	0	5	.21321250E+02	.115d1E-17	.14300E-1d	.27051E-19	.4946dE-20	.40521E-07
2	2	0	2	1	1	.21340240E+02	.52389E-18	.57511E-19	.104b1E-19	.1d757E-20	.33175E-07
2	1	2	1	0	1	.21826990E+02	.82946E-18	.87798E-19	.15777E-19	.28119E-20	.50559E-07
7	2	5	7	1	6	.22981890E+02	.19769E-17	.29499E-18	.59437E-19	.11217E-19	.74959E-07
5	1	4	4	2	3	.25695240E+02	.63069E-18	.77d62E-19	.14733E-19	.26941E-20	.26595E-07
4	0	4	3	1	3	.26148550E+02	.16741E-17	.18995E-18	.34937E-19	.62962E-20	.7624dE-07
CH2CHNO2											
				V18	2	MW =	73	MU = 3.4900	A = .11667010E+02 B = .46774800E+01 C = .33727200E+01 KAP = .51		
5	1	4	5	1	5	.19207750E+02	.11274E-17	.14007E-18	.26548E-19	.46597E-20	.359d1E-07
14	4	10	14	4	11	.19936270E+02	.56985E-18	.24575E-18	.70528E-1d	.15600E-19	.56949E-07
8	2	6	8	2	7	.213147d0E+02	.15893E-17	.26354E-18	.5499dE-19	.10564E-19	.56d96E-07
11	3	8	11	3	9	.21353310E+02	.11832E-17	.29703E-18	.71179E-19	.14650E-19	.64d10E-07
3	1	3	2	1	2	.22095410E+02	.12369E-16	.13598E-17	.24745E-18	.443d2E-19	.5d171E-0b
3	0	3	2	0	2	.23502940E+02	.15725E-16	.17177E-17	.31192E-18	.55d84E-19	.77d30E-0b
3	0	3	2	0	2	.24150650E+02	.85706E-17	.99092E-18	.16267E-1d	.32975E-19	.47547E-0b
3	0	3	2	0	2	.24797320E+02	.91282E-17	.10444E-17	.19261E-18	.34776E-19	.51496E-0b
18	5	13	18	5	14	.25622510E+02	.24087E-18	.25366E-18	.96035E-19	.25624E-19	.10736E-0b
3	1	3	2	1	1	.25996340E+02	.16797E-16	.18675E-17	.34111E-18	.61295E-19	.94699E-0b

JU		JL		AU		SIGMA		A		REF	
KU1	KU2	KL1	KL2			20	50	100	200		
D											
Cn2CnAG2											
5	2	3	5	1	4	73	MU = .0400	A = .11067010E+02	B = .40774400E+01	C = .33727200E+01	KAP = -.0054
5	2	3	5	1	4			.00210E-10	.87105E-19	.10663E-19	.30641E-20
4	2	2	4	1	3			.56341E-10	.67000E-19	.12080E-19	.20033E-07
0	2	4	0	1	5			.01191E-10	.11160E-10	.21900E-19	.40774E-20
5	1	4	5	0	2			.2113505E+02	.50951E-18	.70753E-19	.13611E-19
2	1	2	1	0	1			.21705270E+02	.41300E-18	.44006E-19	.79342E-20
7	2	5	7	1	6			.22770640E+02	.97241E-18	.14555E-10	.29464E-19
5	1	4	4	2	3			.25000030E+02	.32063E-19	.75501E-20	.13008E-20
4	0	4	3	1	3			.20235930E+02	.84403E-18	.96362E-19	.17750E-19
He1HYLTHIUCYANATE											
Cn33Cn											
11	3	0	11	3	9	73	MU = 4.0300	A = .15793000E+02	B = .41555900E+01	C = .33541000E+01	KAP = -.0711
7	1	0	7	2	0			.33840000E+01	.61213E-19	.14065E-19	.35237E-20
3	1	2	3	1	3			.46330140E+01	.18150E-10	.26736E-19	.53041E-20
3	1	2	3	1	3			.40072400E+01	.18722E-10	.20579E-19	.37453E-20
12	3	0	12	3	10			.54000000E+01	.11093E-18	.30785E-19	.70294E-20
0	2	0	0	2	7			.73741000E+01	.33714E-18	.54300E-19	.11227E-19
1	0	1	0	0	0			.75099000E+01	.80644E-18	.90407E-19	.16049E-19
4	1	3	4	1	4			.00054300E+01	.37253E-18	.42851E-19	.79101E-20
9	2	7	9	2	0			.10947400E+02	.54053E-18	.90307E-19	.20007E-19
5	1	4	5	1	5			.11905790E+02	.62353E-10	.75907E-19	.14294E-19
2	1	2	1	1	1			.14216250E+02	.44793E-17	.47417E-10	.05223E-19
2	0	2	1	1	1			.14979400E+02	.10735E-17	.19524E-18	.34909E-19
10	2	0	10	2	9			.15300900E+02	.77003E-18	.15373E-10	.34130E-19
2	1	1	1	1	0			.15821120E+02	.50142E-17	.50575E-10	.10540E-10
6	1	5	6	1	6			.16724000E+02	.92704E-18	.12070E-18	.23204E-19
3	1	3	3	1	2			.21302720E+02	.10900E-10	.10535E-17	.33050E-10
3	0	3	2	0	2			.22309550E+02	.21524E-18	.23165E-17	.41006E-10
3	2	2	2	2	1			.22520050E+02	.10623E-10	.12400E-17	.23100E-10
3	0	1	2	0	1			.22607840E+02	.10471E-10	.12003E-17	.23420E-10
3	1	2	2	1	1			.23705300E+02	.20705E-17	.22045E-17	.41579E-10
4	1	4	3	1	3			.20559400E+02	.39520E-10	.44930E-17	.82717E-10
4	0	4	3	0	3			.29044300E+02	.40854E-16	.52627E-17	.90474E-18
4	2	3	3	2	3			.30007700E+02	.32154E-16	.30741E-17	.72699E-18
4	3	3	3	3	1			.30117050E+02	.16353E-10	.21492E-17	.41510E-10
4	3	3	3	3	0			.30122090E+02	.16350E-10	.21499E-17	.41529E-10
4	2	2	3	2	1			.30400940E+02	.32950E-16	.39743E-17	.74002E-18
4	1	3	3	1	2			.31557420E+02	.47999E-16	.55212E-17	.10202E-17
NOMUCHLORACETONITRILE											
Cn2CLCn											
3	1	3	2	1	2	75	MU = 1.0000	A = .25271300E+02	B = .31510100E+01	C = .20400000E+01	KAP = -.9730
4	1	4	3	1	3			.17545000E+02	.72114E-10	.70410E-19	.14250E-19
								.23305720E+02	.17033E-17	.19150E-10	.35219E-19
4	0	4	3	0	3			.23906230E+02	.20055E-17	.21890E-18	.39845E-19
4	2	3	3	2	2			.24000200E+02	.12162E-17	.15118E-18	.28722E-19
4	3	3	3	3	1			.24011000E+02	.54433E-18	.79300E-19	.15094E-19
4	3	3	3	3	0			.24011000E+02	.54433E-18	.79300E-19	.15094E-19
4	2	2	3	2	1			.24036000E+02	.12215E-17	.15101E-18	.20003E-19
5	1	5	4	1	4			.29227240E+02	.31740E-17	.37239E-18	.69432E-19
0	1	0	5	1	5			.35005700E+02	.51040E-17	.62904E-18	.11943E-18
B											
Cn2CLCn											
0	0	0	5	1	5	75	MU = 1.0000	A = .25271300E+02	B = .31510100E+01	C = .20400000E+01	KAP = -.9730
0	0	0	5	1	5			.15794490E+02	.50690E-10	.01078E-19	.11475E-19
9	2	7	10	1	10			.15794540E+02	.50690E-10	.01078E-19	.11475E-19
12	1	11	11	2	10			.16347330E+02	.16347E-18	.20203E-19	.55085E-20
1	1	0	1	0	1			.22422500E+02	.71020E-18	.74075E-19	.13261E-19
7	0	7	0	1	0			.22551950E+02	.11535E-17	.14702E-18	.20181E-19
3	1	2	3	0	3			.23192700E+02	.15107E-17	.17040E-18	.32112E-19
4	1	3	4	0	4			.23621510E+02	.20410E-17	.23055E-18	.42440E-19
4	1	3	4	0	4			.23621510E+02	.20410E-17	.23055E-18	.42440E-19
4	1	3	4	0	4			.23629600E+02	.20424E-17	.23071E-18	.42470E-19
5	1	4	5	0	5			.24625000E+02	.24326E-17	.20722E-18	.53608E-19
6	1	5	0	0	6			.25014000E+02	.27061E-17	.34092E-18	.65901E-19
7	1	6	7	0	7			.26010000E+02	.30936E-17	.40902E-18	.79573E-19
1	1	1	0	0	0			.26120100E+02	.74520E-17	.77691E-19	.13927E-19
0	1	0	0	0	0			.26201000E+02	.33463E-17	.47010E-18	.99649E-19
9	1	0	9	0	9			.29031000E+02	.35437E-17	.54564E-18	.11139E-18
2	1	9	10	0	10			.31700000E+02	.30737E-17	.61795E-18	.12992E-18
1	1	2	1	0	1			.33081850E+02	.15720E-17	.18667E-18	.30040E-19
11	1	10	11	0	11			.33842000E+02	.37344E-17	.69226E-18	.15035E-18

TABLE 11a .1c

JU		JL		NU		ZU		SU		LU		RU		W		REF
KU1	KU2	KL1	KL2	NU		ZU		SU		LU		RU		W		
AMINO ACETONITRILE																
NH2CH2CN		Mm =		50	MU = 4.5770	A =		30240570E+02	E =	47069300E+01	U =		4416/000E+01	ARR =		119
3	1	3	2	1	2	20530530E+02	17010E-10	19297E-17		32473E-10	6091E-19	5506E-06	5506E-06	5506E-06	5506E-06	
3	0	3	2	0	2	27191400E+02	21301E-10	2331E-17		4230E-10	7500E-19	6091E-19	6091E-19	6091E-19	6091E-19	
3	1	2	2	1	1	27007300E+02	1000E-10	2120E-17		3103E-10	6091E-19	6091E-19	6091E-19	6091E-19	6091E-19	
4	1	4	3	1	3	37374700E+02	3904E-10	4001E-17		0101E-10	1506E-19	1506E-19	1506E-19	1506E-19	1506E-19	
4	0	4	3	0	3	30227400E+02	4020E-10	553E-17		9023E-10	1700E-19	163E-06	163E-06	163E-06	163E-06	
4	1	3	3	1	2	37175300E+02	42057E-10	5120E-17		9500E-10	1740E-19	163E-06	163E-06	163E-06	163E-06	
AMINO ACETONITRILE																
NH2CH2CN		Mm =		50	MU = .5754	A =		30240570E+02	E =	47069300E+01	U =		4416/000E+01	ARR =		119
3	1	4	5	0	5	29227600E+02	10213E-17	2032E-10		39007E-19	7500E-19	6091E-19	6091E-19	6091E-19	6091E-19	
0	1	5	0	0	0	30700900E+02	10017E-17	2500E-10		4933E-19	7500E-19	6091E-19	6091E-19	6091E-19	6091E-19	
0	0	0	5	1	5	31721010E+02	97570E-10	1249E-17		2510E-19	4001E-19	4001E-19	4001E-19	4001E-19	4001E-19	
7	1	6	7	0	7	32503020E+02	19294E-17	2949E-10		3503E-19	1130E-19	1130E-19	1130E-19	1130E-19	1130E-19	
8	1	7	0	0	0	34701020E+02	20000E-17	3443E-10		7157E-19	1300E-19	1300E-19	1300E-19	1300E-19	1300E-19	
FURAZAN																
C2H2N2		Mm =		70	MU = 3.3000	A =		10457210E+02	E =	90016/000E+01	U =		90016/000E+01	ARR =		119
5	4	1	5	3	2	12541020E+02	57110E-17	0010E-10		17500E-19	4001E-19	4001E-19	4001E-19	4001E-19	4001E-19	
4	3	1	4	2	2	12712000E+02	54040E-17	7322E-10		14210E-19	4001E-19	4001E-19	4001E-19	4001E-19	4001E-19	
5	2	0	5	4	1	12919550E+02	41130E-17	64711E-10		1303E-19	4001E-19	4001E-19	4001E-19	4001E-19	4001E-19	
0	5	1	0	4	2	13015300E+02	5049E-17	1030E-17		22334E-10	4001E-19	4001E-19	4001E-19	4001E-19	4001E-19	
3	2	1	3	1	2	13207010E+02	4072E-17	5500E-10		1040E-19	1040E-19	1040E-19	1040E-19	1040E-19	1040E-19	
2	1	1	2	0	2	14002900E+02	3040E-17	3340E-10		0005E-19	1000E-19	1000E-19	1000E-19	1000E-19	1000E-19	
7	0	1	7	0	2	14297340E+02	5441E-17	1220E-17		2014E-10	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
1	1	1	0	0	0	15400990E+02	3929E-17	4014E-10		7003E-19	1200E-19	1200E-19	1200E-19	1200E-19	1200E-19	
2	1	2	2	1	2	16300470E+02	3209E-17	3010E-10		0700E-19	1173E-19	1173E-19	1173E-19	1173E-19	1173E-19	
8	7	1	8	0	2	16492600E+02	51119E-17	1445E-17		5797E-10	1700E-19	1700E-19	1700E-19	1700E-19	1700E-19	
6	0	0	6	5	1	16007190E+02	4000E-17	9149E-10		1907E-19	1000E-19	1000E-19	1000E-19	1000E-19	1000E-19	
3	3	1	3	2	2	17510490E+02	5410E-17	0714E-10		1219E-19	1219E-19	1219E-19	1219E-19	1219E-19	1219E-19	
4	4	1	4	3	2	19150450E+02	00729E-17	9330E-10		1012E-19	1360E-19	1360E-19	1360E-19	1360E-19	1360E-19	
10	0	2	10	7	3	19240520E+02	4000E-17	1099E-17		5020E-19	1200E-19	1200E-19	1200E-19	1200E-19	1200E-19	
11	9	2	11	8	3	20392550E+02	20096E-17	1007E-17		0137E-10	1470E-19	1470E-19	1470E-19	1470E-19	1470E-19	
7	5	2	7	4	3	20700490E+02	9534E-17	2099E-17		4759E-10	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
7	7	0	7	0	1	21009360E+02	5210E-17	1200E-17		2050E-10	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
5	5	1	5	4	2	21227040E+02	707E-17	1200E-17		2400E-10	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
6	4	2	6	3	3	22117790E+02	11470E-16	2004E-17		4422E-10	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
12	10	2	12	9	3	22619570E+02	20310E-17	1000E-17		0003E-10	1757E-19	1757E-19	1757E-19	1757E-19	1757E-19	
5	3	2	5	2	3	23351100E+02	1251E-10	1697E-17		3039E-10	7000E-19	7000E-19	7000E-19	7000E-19	7000E-19	
10	9	1	10	8	2	23075020E+02	3957E-17	1944E-17		5020E-19	1300E-19	1300E-19	1300E-19	1300E-19	1300E-19	
6	0	1	6	0	2	23711040E+02	7010E-17	1400E-17		3102E-19	1230E-19	1230E-19	1230E-19	1230E-19	1230E-19	
4	2	2	4	1	3	24290020E+02	11700E-16	1537E-17		2400E-10	9477E-19	9477E-19	9477E-19	9477E-19	9477E-19	
2	0	2	2	1	1	24603700E+02	12904E-10	1395E-17		2510E-19	4491E-19	4491E-19	4491E-19	4491E-19	4491E-19	
3	1	2	3	0	3	24000120E+02	79757E-17	93447E-10		1734E-10	1142E-19	1142E-19	1142E-19	1142E-19	1142E-19	
3	2	2	3	1	3	25201330E+02	0150E-17	9522E-10		1770E-10	121E-19	121E-19	121E-19	121E-19	121E-19	
4	3	2	4	2	3	25910090E+02	12430E-10	10370E-17		3101E-19	9001E-19	9001E-19	9001E-19	9001E-19	9001E-19	
2	1	2	2	1	1	25920200E+02	1510E-10	1022E-17		3222E-10	9200E-19	9200E-19	9200E-19	9200E-19	9200E-19	
0	0	0	0	7	1	25019990E+02	5002E-17	1490E-17		5750E-10	7950E-19	7950E-19	7950E-19	7950E-19	7950E-19	
4	2	3	4	4	1	35170150E+02	3051E-10	4009E-17		9321E-10	1711E-19	1711E-19	1711E-19	1711E-19	1711E-19	
3	1	3	2	0	2	35224130E+02	4310E-10	4001E-17		0933E-10	1012E-19	1012E-19	1012E-19	1012E-19	1012E-19	
2	2	1	1	1	0	30375400E+02	29510E-10	3247E-17		5903E-10	1050E-19	1050E-19	1050E-19	1050E-19	1050E-19	
KETENE																
CH2CU		Mm =		42	MU = 1.4140	A =		20200100E+03	E =	10243970E+02	U =		19192400E+01	ARR =		64 69
1	1	0	1	1	1	37741400E+00	23027E-20	3000E-21		74574E-22	14154E-22	0000E-22	0000E-22	0000E-22	0000E-22	
2	1	1	2	1	2	11322330E+01	10711E-19	1759E-20		3050E-21	70070E-22	0000E-22	0000E-22	0000E-22	0000E-22	
3	1	2	3	1	3	22044330E+01	2509E-19	4040E-20		93410E-21	1933E-21	0000E-21	0000E-21	0000E-21	0000E-21	
4	1	3	4	1	4	37740250E+01										

00	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025	026	027	028	029	030	031	032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047	048	049	050	051	052	053	054	055	056	057	058	059	060	061	062	063	064	065	066	067	068	069	070	071	072	073	074	075	076	077	078	079	080	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095	096	097	098	099	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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TABLE III. 21

JU		JL		NU		SIGMA					A		REF
KU1	KU2	KL1	KL2			20	50	100	200				
0	5	1	6	4	2	.30701050E+02	.12217E-16	.50497E-17	.14269E-17	.31092E-18	.74762E-00		
1	1	1	0	0	0	.39901640E+02	.29432E-16	.31739E-17	.57310E-18	.10239E-18	.65037E-00		
3	3	1	3	2	2	.39000050E+02	.21080E-16	.32443E-17	.65958E-18	.12500E-18	.47138E-00		
4	2	2	4	1	3	.41579440E+02	.26333E-16	.53420E-17	.11622E-17	.22790E-18	.72746E-00		
3	1	2	3	0	3	.45177530E+02	.26072E-16	.37601E-17	.75014E-18	.14072E-18	.60020E-00		
4	4	1	4	3	2	.47094930E+02	.22115E-16	.45303E-17	.10131E-17	.20143E-18	.73030E-00		
5	5	0	5	4	1	.47550690E+02	.14734E-16	.43245E-17	.10902E-17	.23016E-18	.74010E-00		
3	2	2	3	1	3	.49000050E+02	.20635E-16	.41621E-17	.63017E-18	.12500E-18	.72192E-00		
4	3	2	4	2	3	.51042390E+02	.34951E-16	.66901E-17	.14626E-17	.26754E-18	.11295E-05		
7	6	1	7	5	2	.51391150E+02	.69595E-17	.60140E-17	.19970E-17	.46404E-18	.14150E-05		
7	4	3	7	3	4	.54057510E+02	.14153E-16	.83597E-17	.20608E-17	.63115E-18	.19009E-05		
5	4	2	5	3	3	.54099330E+02	.30254E-16	.61043E-17	.20076E-17	.41611E-18	.15254E-05		
5	5	1	5	4	2	.56202970E+02	.10617E-16	.55151E-17	.13900E-17	.29339E-18	.11146E-05		
0	3	3	0	2	4	.59438920E+02	.26502E-16	.96307E-17	.26625E-17	.56090E-18	.20626E-05		
6	5	2	6	4	3	.60235300E+02	.21643E-16	.60791E-17	.25028E-17	.55606E-18	.20359E-05		
6	0	0	6	5	1	.61726790E+02	.11780E-16	.53219E-17	.15491E-17	.35140E-18	.13335E-05		
5	2	3	5	1	4	.63536120E+02	.39465E-16	.96143E-17	.23412E-17	.46079E-18	.20093E-05		
2	0	2	1	1	1	.63550750E+02	.60130E-16	.94690E-17	.17629E-17	.31980E-18	.25963E-05		
4	1	3	4	0	4	.65622410E+02	.36991E-16	.69247E-17	.14760E-17	.26666E-18	.14342E-05		
6	6	1	6	5	2	.66046160E+02	.13357E-16	.60322E-17	.17556E-17	.39822E-18	.16316E-05		
4	2	3	4	1	4	.66753120E+02	.39705E-16	.70754E-17	.15094E-17	.29312E-18	.14675E-05		
5	3	3	5	2	4	.66805730E+02	.42316E-16	.10576E-16	.25273E-17	.51943E-18	.22604E-05		
7	6	2	7	5	3	.67604410E+02	.13275E-16	.66778E-17	.29452E-17	.71322E-18	.27459E-05		
6	4	3	6	3	4	.67717900E+02	.31191E-16	.11732E-16	.32127E-17	.70686E-18	.26543E-05		
2	1	2	1	0	1	.67776620E+02	.11090E-16	.13122E-16	.24438E-17	.44341E-18	.36425E-05		
7	5	3	7	4	4	.69629420E+02	.16026E-16	.11420E-16	.36674E-17	.67361E-18	.34146E-05		
7	7	0	7	6	1	.75562110E+02	.75795E-17	.50730E-17	.19540E-17	.46214E-18	.21115E-05		
7	7	1	7	6	2	.76013490E+02	.60150E-17	.59987E-17	.20660E-17	.50979E-18	.23050E-05		
7	3	4	7	2	5	.62000490E+02	.26033E-16	.14225E-16	.44115E-17	.10329E-17	.40506E-05		
6	2	4	6	1	5	.64262930E+02	.41464E-16	.14303E-16	.37441E-17	.61033E-18	.40061E-05		
6	5	4	6	4	3	.64505350E+02	.14243E-16	.13442E-16	.50615E-17	.12627E-17	.57610E-05		
7	4	4	7	3	3	.64500200E+02	.27229E-16	.14936E-16	.46303E-17	.10866E-17	.50565E-05		
6	3	4	6	2	5	.65001790E+02	.42059E-16	.14343E-16	.36019E-17	.62300E-18	.41071E-05		
5	1	4	5	0	5	.65425420E+02	.44143E-16	.16017E-16	.23179E-17	.42077E-18	.25941E-05		
15	11	4	15	10	5	.65576500E+02	.32309E-20	.61526E-18	.19532E-17	.12711E-17	.60455E-05		
5	2	4	5	1	5	.65591020E+02	.44273E-16	.10049E-16	.23254E-17	.47033E-18	.26079E-05		
2	2	1	1	1	0	.90547800E+02	.16235E-15	.26004E-16	.42908E-17	.76495E-18	.91623E-05		
3	0	3	3	1	2	.93600100E+02	.26570E-15	.35906E-16	.70107E-17	.13010E-17	.11302E-04		
3	1	3	3	0	2	.94664400E+02	.27502E-15	.37251E-16	.72571E-17	.13460E-17	.11900E-04		
4	2	3	4	1	3	.97201390E+02	.42732E-17	.75995E-18	.16212E-18	.31403E-19	.23279E-06		
7	2	5	7	1	6	.10391530E+03	.35426E-16	.17200E-16	.51263E-17	.11773E-17	.65974E-05		
7	3	5	7	2	0	.10405900E+03	.35502E-16	.17240E-16	.51406E-17	.11802E-17	.66229E-05		
2	2	0	1	1	1	.10406560E+03	.12407E-15	.15293E-16	.29029E-17	.53177E-18	.71445E-05		
0	1	0	0	0	0	.10406170E+03	.41503E-16	.12550E-16	.31936E-17	.67732E-18	.40774E-05		
0	2	5	0	1	0	.10406690E+03	.41596E-16	.12555E-16	.31949E-17	.67761E-18	.40776E-05		
3	1	2	3	0	1	.10406000E+03	.11257E-15	.16269E-16	.32369E-17	.66760E-18	.60000E-05		
5	2	0	5	2	3	.11502400E+03	.26325E-17	.63137E-18	.20959E-18	.44240E-19	.34413E-06		
3	2	2	3	1	1	.11674190E+03	.26042E-15	.39016E-16	.77619E-17	.14612E-17	.16399E-04		
11	5	6	11	4	3	.11675160E+03	.19217E-17	.10544E-16	.70540E-17	.24252E-17	.15179E-04		
4	0	4	4	3	1	.12226490E+03	.46844E-15	.76208E-16	.16170E-16	.30902E-17	.26267E-04		
9	3	0	9	2	7	.12226140E+03	.13519E-16	.17920E-16	.74720E-17	.20261E-17	.12403E-04		
4	1	4	3	0	3	.12243030E+03	.46624E-15	.76540E-16	.16220E-16	.31012E-17	.26400E-04		
12	11	1	12	10	2	.12245250E+03	.13144E-16	.30191E-17	.32573E-17	.14225E-17	.16721E-04		
7	1	6	7	0	7	.12361300E+03	.34062E-16	.14230E-16	.40244E-17	.90429E-18	.56000E-05		
7	2	6	7	1	7	.12361730E+03	.34063E-16	.14239E-16	.40360E-17	.90434E-18	.56003E-05		
DIMEINIL ETHEH													
(CH3)2CO													
2	1	1	2	0	2	.31110200E+02	.1210E-16	.14544E-17	.26057E-18	.46523E-19	.26909E-00	9147	
2	2	0	3	1	3	.34662000E+02	.62743E-16	.16005E-16	.26796E-19	.36359E-20	.26102E-07	9148	
2	2	0	2	1	1	.66226730E+02	.60241E-16	.37110E-17	.71425E-18	.13175E-18	.26375E-07		
2	2	1	2	1	2	.69701300E+02	.29005E-16	.37675E-17	.72695E-18	.13446E-18	.23735E-07		
0	0	0	5	1	5	.90936100E+02	.66607E-16	.11999E-16	.25638E-17	.49990E-18	.36264E-05		
3	2	2	3	1	3	.91470530E+02	.45375E-16	.64305E-17	.12719E-17	.23762E-18	.31001E-05		
E1HYL ALCHOL													
CH3CH2OH 1KANS													
1	0	1	0	0	0	.17295800E+02	.26590E-20	.21455E-21	.36296E-22	.60030E-23	.42476E-10	10055177	
2	1	2	1	1	1	.33467450E+02	.10045E-19	.11397E-20	.20931E-21	.37713E-22	.27747E-04		
2	0	2	1	0	1	.34555250E+02	.15114E-19	.16650E-20	.30053E-21	.53635E-22	.40632E-04		
2	1	1	1	1	0	.35694600E+02	.11313E-19	.12903E-20	.23739E-21	.42611E-22	.33603E-04		

TABLE III .22

TABLE 111 .24

JU			JL		NU		SIGMA		K		REF
KU1	KU2		KL1	KL2			2U	3U	10U	20U	
4	1	3	4	0	4	.235050640E+02	.10d3dE-17	.13520E-16	.25030E-19	.40919E-20	.20073E-07
5	1	4	5	0	5	.294001500E+02	.14371E-17	.20493E-16	.40069E-19	.14497E-20	.42774E-07
AA											
HC00CH3			MW =		60	MU = 1.6300	A = .19990710E+02		B = .09140300E+01		C = .35044700E+01 KAP = 13.25
1	1	0	1	1	1	.16102500E+01	.17310E-19	.16270E-20	.32722E-21	.50247E-22	.61509E-10
6	2	4	6	2	5	.85713500E+01	.17909E-16	.26709E-19	.59379E-20	.11339E-20	.17774E-00
3	1	2	3	1	3	.90534100E+01	.20709E-16	.24047E-19	.44408E-20	.60400E-21	.23570E-00
1	0	1	0	0	0	.12219290E+02	.06602E-13	.71052E-19	.12051E-20	.22440E-20	.16807E-07
7	2	5	7	2	6	.14271900E+02	.32908E-16	.60230E-19	.12974E-19	.22310E-20	.39401E-00
4	1	3	4	1	4	.10047900E+02	.39492E-16	.49201E-19	.93399E-20	.17090E-20	.04747E-00
6	2	6	6	2	7	.21060870E+02	.49866E-16	.10539E-16	.23994E-19	.46000E-20	.14201E-07
2	1	2	1	1	1	.22627910E+02	.33073E-17	.35992E-16	.60508E-19	.11047E-19	.11030E-00
5	1	4	5	1	5	.23939610E+02	.06050E-16	.85766E-19	.10770E-19	.31179E-20	.14030E-00
2	0	2	1	0	1	.24298400E+02	.51244E-17	.54761E-16	.96041E-19	.17599E-19	.17701E-00
2	1	1	1	1	0	.26046350E+02	.42507E-17	.46594E-16	.84509E-19	.15147E-19	.16397E-00
AB											
HC00CH3			MW =		60	MU = .0700	A = .19990710E+02		B = .09140300E+01		C = .35044700E+01 KAP = 13.25
1	1	0	1	0	1	.14661130E+02	.24904E-16	.26257E-19	.47001E-20	.03770E-21	.48002E-00
2	1	1	2	0	2	.16431540E+02	.43942E-16	.50288E-19	.91209E-20	.10340E-20	.11104E-07
3	1	2	3	0	3	.19307570E+02	.73153E-16	.84978E-19	.15714E-19	.26412E-20	.16431E-07
4	1	3	4	0	4	.23939610E+02	.10649E-17	.13534E-16	.25058E-19	.31179E-20	.20115E-07
5	1	4	5	0	5	.29417370E+02	.14925E-17	.20515E-16	.40114E-19	.74900E-20	.45011E-07
VINYLFLUORIDE											
C2H3F			MW =		40	MU = 1.2000	A = .04504090E+02		B = .10030860E+02		C = .91160400E+01 KAP = 43.00
3	1	2	3	1	3	.91113400E+01	.20972E-16	.35412E-19	.66281E-20	.12600E-20	.16202E-00
9	2	7	9	2	8	.10008460E+02	.47601E-19	.73099E-19	.73099E-20	.10407E-20	.01740E-07
16	3	13	16	3	14	.10312930E+02	.43244E-21	.43970E-20	.30139E-20	.15775E-20	.00122E-00
17	3	14	17	3	15	.14419330E+02	.34533E-21	.51410E-20	.35509E-20	.22990E-20	.15507E-00
10	2	8	10	2	9	.14735920E+02	.50601E-19	.56390E-19	.12799E-19	.31070E-20	.21004E-00
4	1	3	4	1	4	.15182800E+02	.47461E-16	.70151E-19	.14070E-19	.26493E-20	.33597E-00
18	3	15	18	3	16	.19676400E+02	.24982E-21	.69984E-20	.60638E-20	.36393E-20	.34800E-00
1	0	1	0	0	0	.19754920E+02	.31759E-17	.33208E-16	.59353E-19	.10950E-19	.49007E-07
11	2	9	11	2	10	.20795680E+02	.59135E-19	.55302E-19	.20511E-19	.25222E-20	.46257E-00
5	1	4	5	1	5	.22765100E+02	.66107E-16	.11662E-16	.24570E-19	.47415E-20	.73700E-00
19	3	16	19	3	17	.25243780E+02	.15193E-21	.73927E-20	.10239E-19	.50660E-20	.64401E-00
12	1	10	12	1	11	.26309070E+02	.55059E-19	.73026E-19	.30441E-19	.60638E-20	.36393E-20
6	1	5	6	1	6	.31822100E+02	.93990E-16	.17167E-16	.36303E-19	.74020E-20	.14730E-07
20	3	17	20	3	18	.34272800E+02	.96330E-22	.65682E-20	.14411E-19	.16000E-20	.14411E-07
2	1	2	1	1	1	.37771200E+02	.14199E-16	.16000E-17	.31009E-16	.57200E-19	.31371E-00
2	0	2	1	0	1	.39477970E+02	.23069E-16	.25533E-17	.40509E-16	.83450E-19	.40920E-00
2	1	1	1	1	0	.41128570E+02	.10299E-16	.19584E-17	.30663E-16	.60697E-19	.39512E-00
6	1	6	5	1	5	.11372720E+03	.21665E-15	.42332E-16	.93163E-17	.16370E-17	.12504E-04
6	0	6	5	0	5	.11743130E+03	.26174E-15	.48199E-16	.10403E-16	.20321E-17	.14230E-04
6	2	5	5	2	4	.11836360E+03	.13937E-15	.35275E-16	.84652E-17	.17430E-17	.12574E-04
6	3	4	5	3	3	.11869310E+03	.61223E-16	.22996E-16	.62955E-17	.13849E-17	.11036E-04
6	3	3	5	3	2	.11671590E+03	.61241E-16	.23000E-16	.62974E-17	.13859E-17	.11036E-04
6	2	4	5	2	5	.11947460E+03	.73030E-16	.16542E-16	.44545E-17	.91790E-16	.60999E-00
6	1	5	5	1	4	.12261340E+03	.23425E-15	.47870E-16	.10099E-16	.21205E-17	.15680E-04
8	1	8	7	1	7	.15137100E+03	.26224E-15	.77062E-16	.19437E-16	.41043E-17	.50029E-04
8	0	8	7	0	7	.15547700E+03	.36311E-15	.65009E-16	.21111E-16	.44232E-17	.53037E-04
8	2	7	7	2	6	.15764190E+03	.17055E-15	.66200E-16	.16312E-16	.40492E-17	.52950E-04
8	4	5	7	4	4	.15826270E+03	.26397E-16	.26369E-16	.10709E-16	.27866E-17	.20061E-04
8	4	4	7	4	3	.15826420E+03	.26397E-16	.26369E-16	.10709E-16	.27866E-17	.20061E-04
8	3	6	7	3	5	.15836200E+03	.61632E-16	.47029E-16	.14640E-16	.55074E-17	.30029E-04
8	3	5	7	3	4	.15846460E+03	.61701E-16	.47062E-16	.14640E-16	.55110E-17	.30060E-04
9	2	6	7	2	5	.16018520E+03	.71372E-15	.67940E-16	.16852E-16	.41750E-17	.54975E-04
8	1	7	7	1	6	.16341030E+03	.26009E-15	.65215E-16	.22004E-16	.47235E-17	.56735E-04
VINYLFLUORIDE B											
C2H3F			MW =		46	MU = .6200	A = .04504090E+02		B = .10030860E+02		C = .91160400E+01 KAP = 43.00
12	2	10	13	1	13	.89262400E+01	.16672E-20	.24766E-20	.10324E-20	.26074E-21	.10779E-09
13	2	11	14	1	14	.97924600E+01	.16674E-20	.24963E-20	.92569E-21	.26710E-21	.11979E-09
20	3	18	19	1	15	.10422430E+02	.92007E-23	.10703E-21	.12702E-20	.06092E-21	.37475E-09
11	2	9	12	1	12	.10436440E+02	.49440E-20	.46196E-20	.17134E-20	.43674E-21	.26234E-09
13	2	11	12	3	10	.10662040E+02	.35440E-20	.68764E-20	.32336E-20	.94104E-21	.42735E-09
14	2	12	15	1	15	.13002660E+02	.66694E-21	.25359E-20	.13759E-20	.42013E-21	.23591E-09
13	2	10	14	2	13	.13340400E+02	.26420E-20	.79070E-20	.42191E-20	.12950E-20	.16035E-09
16	2	15	15	3	12	.13687940E+02	.77747E-21	.50815E-20	.36044E-20	.12904E-20	.17499E-09
10	2	8	11	1	11	.14259760E+02	.10565E-19	.11237E-19	.37499E-20	.90932E-21	.39462E-09
1	1	1	2	0	2	.14468720E+02	.16294E-18	.20674E-19	.37920E-20	.66202E-21	.23534E-00

TABLE III. 25

JJ		JL		NU		2U		SIGMA		100		200		A		HEF
KU1	KU2	KL1	KL2	KU1	KU2	KU1	KU2	KU1	KU2	KU1	KU2	KU1	KU2	KU1	KU2	
11	3	3	12	2	13	15481210E+02	11131E-19	10100E-19	07900E-20	10522E-20	13400E-06					
15	2	13	10	1	10	16123090E+02	15495E-21	13491E-20	12540E-20	11819E-21	157374E-09					
19	3	10	10	4	15	1993460E+02	01132E-22	39111E-20	35005E-20	21271E-20	21380E-06					
0	1	1	1	2	0	1012200E+02	19213E-10	01070E-19	13012E-19	33020E-20	33902E-06					
9	2	1	10	1	10	20216330E+02	35507E-19	20160E-19	05241E-20	19715E-20	191314E-06					
17	2	10	10	3	13	24900200E+02	11701E-20	12425E-19	13335E-19	35033E-20	43027E-06					
10	2	14	17	1	11	26124270E+02	15224E-21	44752E-20	32800E-20	115730E-20	15730E-06					
0	0	4	9	1	9	26344540E+02	10501E-10	04541E-19	17901E-19	39050E-20	50115E-06					
4	0	4	3	1	3	26412950E+02	10001E-10	12210E-10	43024E-10	01205E-20	10090E-07					
12	3	9	13	2	12	26605020E+02	22903E-19	45062E-19	20071E-19	39070E-20	10429E-06					
5	2	4	0	1	5	30036770E+02	49510E-21	10500E-10	25900E-19	47900E-20	10447E-06					
10	4	13	17	3	14	30394200E+02	90021E-20	15731E-19	15401E-19	04431E-20	98140E-06					
10	2	17	17	3	14	30491300E+02	30150E-21	10191E-19	10229E-19	00995E-20	10030E-07					
17	2	15	10	1	10	30607090E+02	44724E-21	35040E-20	40507E-20	10254E-20	29995E-06					
5	1	5	4	0	4	14234730E+03	50099E-10	92900E-17	19372E-17	37100E-10	30640E-07					
0	1	0	5	0	5	15793180E+03	06090E-10	12210E-10	21022E-17	35300E-10	50000E-07					
ETHYLENE SULFIDE																
C2H4S		MW =		60		MU = 1.0400		A =		B =		C =		D =		24
3	1	3	3	1	2	10742400E+02	12111E-17	14531E-10	27395E-19	49040E-20	15590E-07					
11	4	5	11	4	7	11716000E+02	10884E-10	15000E-18	50405E-19	14200E-19	19700E-07					
1	0	1	0	0	0	10051400E+02	33090E-17	34040E-10	01097E-19	10903E-19	07999E-07					
0	2	5	0	2	4	12910400E+02	11421E-17	33471E-10	73290E-19	14410E-19	30037E-07					
9	3	1	9	3	0	20973200E+02	95900E-10	30919E-10	10855E-10	12220E-19	30185E-07					
4	1	4	4	1	3	10742400E+02	12111E-17	14531E-10	27395E-19	49040E-20	15590E-07					
1	2	0	1	1	1	34950000E+02	15231E-10	10933E-17	31032E-10	55755E-19	90209E-06					
1	0	0	1	0	0	35515300E+02	25041E-17	99509E-10	13010E-10	20020E-19	90757E-07					
2	1	1	1	1	0	40500500E+02	20100E-10	22000E-17	41013E-10	74919E-19	10530E-06					
5	1	5	5	1	4	40012500E+02	34504E-17	51920E-10	10471E-10	19717E-19	99222E-07					
10	3	0	10	3	1	40005100E+02	11012E-17	02131E-10	19352E-10	45190E-19	14701E-06					
SULFIDE DIMETHYL																
(CH3)2S		MW =		62		MU = 1.0500		A =		B =		C =		D =		123153
1	1	1	1	0	1	12091890E+02	03301E-10	09001E-19	10009E-19	20029E-20	2331E-07					
3	1	2	2	2	1	12143200E+02	11027E-10	10009E-19	33030E-20	43147E-21	15270E-06					
2	1	1	2	0	1	14231000E+02	10192E-10	10414E-10	23049E-19	99913E-20	34404E-07					
2	0	2	1	1	1	10240340E+02	02134E-10	07391E-19	12150E-19	21705E-20	14190E-07					
1	1	1	0	2	4	19049200E+02	73001E-19	12424E-19	20042E-20	50130E-21	12070E-06					
0	1	0	5	2	3	10240340E+02	12140E-10	19093E-19	30310E-20	72204E-21	20152E-06					
3	1	2	3	0	3	17075190E+02	20010E-11	33001E-10	02404E-19	11290E-19	50672E-07					
0	2	5	0	3	2	20709390E+02	37190E-10	00000E-10	23725E-20	23725E-20	01074E-06					
4	1	3	4	0	4	2335310E+02	40370E-11	57111E-10	10939E-10	20005E-20	10771E-06					
1	1	1	0	0	0	23211200E+02	21040E-11	22711E-10	40043E-10	72289E-20	11309E-06					
5	2	3	5	1	4	21107400E+02	70391E-17	11130E-17	22221E-10	41744E-19	22335E-06					
4	2	2	4	1	3	20324200E+02	07393E-17	00799E-10	77133E-10	31049E-19	20304E-06					
4	1	3	3	2	2	20730840E+02	13100E-17	17342E-10	32030E-19	00009E-20	40039E-07					
3	2	1	3	1	2	29000070E+02	54134E-17	90029E-10	12373E-10	22295E-19	19244E-06					
0	2	4	0	1	5	2940930E+02	03940E-17	13023E-17	16044E-10	55112E-19	20992E-06					
1	2	0	0	3	3	30400190E+02	7905E-10	14300E-10	31021E-19	00004E-20	27054E-07					
3	0	3	2	1	2	30542040E+02	43422E-17	51023E-10	94070E-19	17099E-19	15102E-06					
2	2	0	2	1	1	30007110E+02	54142E-17	30000E-10	71209E-19	12608E-19	10135E-06					
3	1	4	3	2	5	30023170E+02	05131E-17	91103E-10	17902E-10	33502E-19	19702E-06					
1	2	5	7	1	0	33211020E+02	91301E-17	11400E-17	39949E-10	74292E-19	30533E-06					
0	2	4	5	3	3	34053420E+02	13000E-17	21551E-10	44615E-19	05923E-20	49512E-07					
2	1	2	1	0	1	34902900E+02	07545E-17	73402E-10	13304E-10	23004E-19	35570E-06					
12	2	11	11	3	0	30200780E+02	11072E-10	40095E-19	13075E-19	31140E-20	11001E-07					
2	2	1	2	1	2	30274300E+02	31024E-17	4242E-10	70105E-19	14112E-19	20033E-06					
0	2	1	7	3	4	31007090E+02	91301E-17	20021E-10	47207E-19	94074E-20	47309E-06					
3	2	2	3	1	3	39272030E+02	04605E-17	70071E-10	14775E-10	20931E-19	31044E-06					
0	2	0	0	1	7	39200040E+02	90071E-17	22009E-17	30000E-10	10200E-10	33909E-06					
0	1	0	0	0	0	40000090E+02	05071E-17	13000E-17	27070E-10	20094E-19	34000E-06					
11	2	10	10	3	1	41530710E+02	20719E-10	95794E-19	20139E-19	37408E-20	29000E-07					
9	3	0	9	2	1	41972970E+02	94042E-17	27002E-17	00000E-10	14474E-20	37005E-06					
9	2	0	0	3	5	42302900E+02	03572E-10	21092E-10	30009E-19	10423E-19	33904E-07					
0	3	5	5	2	0	42572900E+02	11799E-10	20791E-17	03004E-10	12045E-10	73937E-06					
4	2	3	4	1	4	43321920E+02	09107E-17	11005E-17	22400E-10	4792E-19	41003E-06					
10	3	7	10	2	0	43543920E+02	02302E-17	20935E-17	71990E-10	10060E-20	09949E-06					
10	2	9	9	3	0	43031070E+02	20212E-10	10004E-10	40030E-19	00727E-20	43754E-07					
1	3	4	1	2	5	44702090E+02	12040E-10	20030E-17	30029E-10	11510E-10	70919E-06					
9	2	1	9	1	0	47041490E+02	10342E-10	27010E-17	00010E-10	14109E-10	03343E-06					
11	3	0	11	2	9	47054250E+02	11107E-17	31229E-17	90099E-10	20334E-10	10722E-07					

JU		JL		NU		SIGMA		A		REF			
KU1	KU2	KL1	KL2			2U	3U	10U	20U				
0	3	3	0	2	4	.41175750E+02	.13954E-10	.24015E-17	.52374E-10	.10150E-10	.01020E-00		
5	2	4	5	1	5	.48419430E+02	.10950E-10	.15797E-17	.31420E-10	.50952E-19	.54840E-00		
7	1	0	7	0	7	.50540050E+02	.10344E-10	.10735E-17	.40227E-10	.70504E-19	.75001E-00		
5	3	1	5	2	3	.51976100E+02	.13909E-10	.21099E-17	.44730E-10	.05191E-19	.04300E-00		
4	3	1	4	2	2	.53109420E+02	.12100E-10	.17302E-17	.54202E-10	.04103E-19	.73910E-00		
12	3	9	12	2	10	.54439090E+02	.01200E-17	.34309E-17	.10700E-17	.25320E-10	.19020E-00		
0	2	5	0	1	0	.54519230E+02	.12520E-10	.20233E-17	.41000E-10	.79095E-19	.72199E-00		
12	4	0	12	3	9	.56000300E+02	.01259E-17	.37323E-17	.12004E-17	.70304E-10	.73200E-00		
4	3	2	4	2	3	.56400320E+02	.13151E-10	.10090E-17	.37019E-10	.09200E-19	.91000E-00		
10	2	6	10	1	9	.5740010E+02	.10401E-10	.34233E-17	.09071E-10	.19290E-10	.12900E-00		
2	2	1	1	1	0	.59145370E+02	.17771E-10	.20303E-17	.37414E-10	.07729E-19	.10270E-00		
11	4	7	11	3	0	.59162190E+02	.050003E-17	.40900E-17	.12155E-17	.27030E-10	.10499E-00		
0	3	4	0	2	5	.59500740E+02	.17900E-10	.31010E-17	.07299E-10	.13030E-10	.13000E-00		
7	2	0	7	1	7	.01520700E+02	.13470E-10	.24020E-17	.55900E-10	.10047E-10	.94003E-00		
8	1	7	8	0	8	.0159930E+02	.11504E-10	.24401E-17	.55290E-10	.11004E-10	.20209E-00		
7	3	5	7	2	0	.02433750E+02	.10420E-10	.37142E-17	.02031E-10	.10307E-10	.15250E-00		
10	4	0	10	3	7	.03237350E+02	.11053E-10	.44729E-17	.12333E-17	.27220E-10	.20409E-00		
VINYL CHLORIDE													
CH2CHCL		MW =		D1 MU = 1.4200		A = .50039704E+02		B = .00299540E+01		C = .54452350E+01		KAP = -.9712	
5	1	4	5	1	5	.07690300E+01	.93910E-19	.15222E-19	.20090E-20	.40844E-21	.52770E-09		
14	2	12	14	2	15	.07793300E+01	.70722E-20	.01454E-20	.21400E-20	.53340E-21	.29179E-09		
15	2	13	15	2	14	.11355500E+02	.00295E-20	.00507E-20	.50501E-20	.79293E-21	.54700E-09		
1	0	1	0	0	0	.11475230E+02	.73000E-10	.75900E-19	.13510E-19	.50999E-20	.11021E-07		
0	1	5	0	1	0	.12275020E+02	.13119E-10	.20440E-19	.41744E-20	.79304E-21	.10343E-00		
16	2	14	16	2	15	.14414040E+02	.70802E-10	.10300E-19	.41091E-20	.11351E-20	.97071E-09		
7	1	0	7	1	7	.10303350E+02	.10500E-20	.29072E-19	.01747E-20	.11305E-20	.12300E-00		
17	2	15	17	2	16	.17990490E+02	.09344E-20	.12100E-19	.59207E-20	.15704E-20	.10070E-00		
3	1	2	3	1	2	.3529970E+02	.14207E-10	.17244E-17	.32347E-10	.50993E-19	.39520E-00		
4	1	4	3	1	3	.4472000E+02	.29107E-10	.37410E-17	.71577E-10	.13104E-10	.07402E-00		
4	0	4	3	0	3	.45089000E+02	.30713E-10	.43920E-17	.02124E-10	.14930E-10	.10053E-00		
4	2	3	3	2	2	.45097600E+02	.10690E-10	.27132E-17	.55957E-10	.10004E-10	.75040E-00		
4	3	2	3	3	1	.45971330E+02	.53307E-17	.12392E-17	.20092E-10	.50807E-19	.44109E-00		
4	2	2	3	2	1	.45994700E+02	.27109E-10	.27109E-17	.50070E-10	.10707E-10	.75007E-00		
4	1	3	3	1	2	.47059700E+02	.31047E-10	.41194E-17	.79030E-10	.14550E-10	.10191E-00		
B													
CH2CHCL		MW =		D1 MU = 1.2000		A = .50839704E+02		B = .00299540E+01		C = .54452350E+01		KAP = -.9712	
10	2	9	11	1	10	.03433200E+01	.24920E-20	.04202E-21	.22240E-21	.40004E-22	.30010E-10		
5	0	5	4	1	4	.13003700E+01	.13003E-19	.10974E-20	.32010E-21	.00117E-22	.00159E-10		
19	2	17	20	1	20	.15000200E+02	.11040E-21	.31053E-21	.21272E-21	.07049E-22	.59320E-10		
20	2	18	21	1	21	.15448900E+02	.05735E-22	.29914E-21	.10007E-21	.02099E-22	.77203E-10		
18	2	10	19	1	19	.15575340E+02	.22440E-21	.25995E-21	.20727E-21	.75099E-22	.73049E-10		
2	1	2	3	0	3	.15023070E+02	.23979E-19	.27470E-20	.50039E-21	.91300E-22	.3192E-09		
17	2	15	18	1	18	.10905600E+02	.40149E-21	.00527E-21	.30780E-21	.10451E-21	.10470E-09		
10	3	10	19	2	17	.17907000E+02	.30814E-21	.12720E-20	.72100E-21	.22023E-21	.25530E-09		
0	0	0	5	1	5	.21015130E+02	.02257E-19	.11800E-19	.23430E-20	.43913E-21	.10039E-00		
2	1	1	2	0	2	.51983200E+02	.02209E-10	.71533E-19	.13193E-19	.23021E-20	.32513E-07		
3	1	2	3	0	3	.52077010E+02	.02155E-10	.99301E-19	.10027E-19	.33920E-20	.33923E-07		
VINYLIDENE CHLORIDE													
CH2CCl2		MW =		96 MU = 1.3400		A = .74608000E+01		B = .34113000E+01		C = .23390000E+01		KAP = -.9010	
0	3	3	0	2	4	.10201000E+01	.00732E-10	.11104E-10	.21373E-19	.39317E-20	.41300E-07		
9	3	0	9	2	7	.18057300E+02	.11353E-17	.17095E-10	.30300E-19	.09350E-20	.52034E-07		
2	0	2	3	1	3	.10703900E+02	.50400E-10	.07594E-19	.12052E-19	.21390E-20	.57027E-07		
5	3	2	5	2	3	.19747000E+02	.79793E-10	.95310E-19	.17934E-19	.32707E-20	.43574E-07		
10	3	7	10	2	0	.21492000E+02	.13133E-17	.22400E-10	.47475E-19	.97001E-20	.74095E-07		
5	2	4	5	1	5	.22310000E+02	.08403E-10	.70921E-19	.14072E-19	.20599E-20	.39007E-07		
11	4	7	11	3	0	.22050000E+02	.13961E-17	.27171E-10	.00153E-19	.11900E-19	.94343E-07		
4	1	4	3	0	3	.22701200E+02	.12109E-17	.15113E-10	.23020E-19	.42700E-20	.70547E-07		
10	4	0	10	3	7	.23303300E+02	.14700E-17	.20041E-10	.55790E-19	.10059E-19	.95437E-07		
12	4	0	12	3	9	.23420500E+02	.13705E-17	.29719E-10	.00211E-19	.13740E-19	.10540E-00		
4	3	2	4	2	3	.23930700E+02	.08990E-10	.03990E-19	.15579E-19	.04009E-20	.54345E-07		
5	0	5	4	1	4	.24739000E+02	.77340E-17	.19330E-10	.35550E-19	.04103E-20	.10577E-00		
9	4	5	9	3	0	.24901000E+02	.15797E-11	.25522E-10	.93105E-19	.10105E-19	.10442E-00		
0	3	4	0	2	5	.25711000E+02	.12003E-17	.10073E-10	.30747E-19	.50341E-20	.83070E-07		
11	3	0	11	2	9	.25705700E+02	.15420E-17	.29002E-10	.03044E-19	.12522E-19	.11240E-00		
13	4	9	13	3	10	.25001000E+02	.14053E-17	.34200E-10	.01529E-19	.10009E-19	.13490E-00		
CIS-1,2-DICHLOROCYCLOHEXANE													
CHCLCHCL		MW =		96 MU = 1.0000		A = .11510300E+02		B = .25050000E+01		C = .25050000E+01		KAP = -.9019	
3	1	2	3	0	3	.10000800E+02	.10254E-10	.10032E-19	.33922E-20	.00531E-21	.00172E-00		
4	1	3	4	0	4	.11730000E+02	.25034E-10	.27190E-19	.49445E-20	.00044E-21	.03201E-00		

TABLE III .27

UU	KL1	KL2	UU	KL1	KL2	2U	5U	SIGMA	100	200	A	REF
3 1 4	5 0 3		.13147170E+02			.34500E-10	.37990E-19	.69092E-20	.12003E-20		.10919E-07	
4 0 4	3 1 3		.13445600E+02			.15470E-10	.10140E-19	.29190E-20	.52103E-21		.50025E-06	
1 1 1	0 0 0		.13000900E+02			.90531E-19	.17022E-20	.36191E-21			.97614E-00	
0 1 5	0 0 0		.14960410E+02			.45234E-10	.51003E-19	.90770E-20	.17572E-21		.14700E-07	
0 1 7	0 0 0		.19977030E+02			.71509E-10	.90092E-19	.17551E-19	.32427E-20		.20302E-07	
0 0 0	5 1 5		.20902100E+02			.02473E-10	.70035E-19	.12909E-19	.23405E-20		.27519E-07	
0 2 4	0 1 5		.24090100E+02			.90401E-10	.11442E-10	.21509E-19	.39429E-20		.53042E-07	
11 2 9	1 1 10		.25159420E+02			.12504E-17	.202314E-15	.42314E-19	.61302E-20		.00037E-07	
CYCLOPHOPHENE												
C3H4	MW = 40	MU = 4.4540	A = .30061000E+02	B = .21023440E+02	C = .13795630E+02	KAP = -.0126	70151					
12 7 3	12 7 0		.19704200E+02	.50340E-21	.92092E-20	.00040E-20	.30411E-20		.35072E-00			
5 3 2	5 3 3		.21544420E+02	.27024E-10	.74733E-19	.10630E-19	.30106E-20		.51421E-00			
14 0 1	14 0 7		.22720940E+02	.47522E-22	.42234E-20	.71415E-20	.39059E-20		.55275E-00			
2 1 1	2 1 2		.20009570E+02	.45301E-10	.55040E-19	.10530E-19	.19242E-20		.55890E-00			
10 9 7	10 9 0		.25593900E+02	.24302E-23	.15403E-20	.50452E-20	.30310E-20		.74509E-00			
7 4 3	7 4 4		.27595740E+02	.13571E-20	.04030E-19	.27109E-19	.04955E-20		.94331E-00			
10 10 5	10 10 9		.28630220E+02	.70717E-25	.40170E-21	.31719E-20	.34743E-20		.98760E-00			
20 11 9	20 11 10		.31099940E+02	.10200E-20	.11323E-21	.17605E-20	.29330E-20		.12190E-07			
9 5 4	9 5 5		.33353410E+02	.37771E-19	.00031E-19	.31894E-19	.91200E-20		.15140E-07			
4 2 2	4 2 3		.34935330E+02	.72070E-10	.13090E-10	.30309E-19	.59092E-20		.15035E-07			
1 0 1	0 0 0		.35021250E+02	.14977E-17	.10059E-10	.20942E-19	.51060E-20		.30145E-07			
11 0 5	11 0 0		.35000200E+02	.02024E-20	.43330E-19	.31295E-19	.11101E-19		.22263E-07			
3 0 3	2 2 0		.35090420E+02	.20390E-19	.30794E-20	.69701E-21	.12949E-21		.44320E-09			
FNUXYLENE												
C8H8	MW = 42	MU = 3.0000	A = .40200400E+02	B = .93052400E+01	C = .01341500E+01	KAP = -.9300	54 92					
9 2 7	9 2 0		.05007100E+01	.31222E-20	.12327E-20	.34305E-21	.70091E-22		.40477E-10			
4 3 13	4 3 14		.05452200E+01	.17131E-22	.30009E-21	.24032E-21	.447790E-22		.440779E-10			
4 1 3	4 1 4		.11700400E+02	.10849E-19	.25709E-20	.50524E-21	.94170E-22		.12110E-09			
10 2 0	10 2 9		.12592450E+02	.30003E-20	.15029E-20	.60099E-21	.13911E-21		.10247E-09			
17 3 14	17 3 15		.13067190E+02	.01555E-22	.40900E-21	.37097E-21	.13574E-21		.10300E-09			
1 0 1	0 0 0		.17439430E+02	.14735E-10	.15340E-19	.27397E-20	.40607E-21		.20609E-00			
5 1 4	5 1 5		.17554970E+02	.27330E-19	.00773E-20	.08773E-21	.16907E-21		.27272E-09			
11 2 9	11 2 10		.17602200E+02	.42701E-20	.20933E-20	.90340E-21	.23377E-21		.23140E-09			
10 3 15	10 3 16		.10550810E+02	.40083E-22	.61000E-21	.53944E-21	.21313E-21		.22400E-09			
12 2 10	12 2 11		.23954230E+02	.42								

TABLE III .20

JU			JL		NU	ZU		ZUFA		ZU		ZU		ZU	ZU
KU1	KU2		KL1	KL2											
0	1	7	0	1	0	.10450010E+02	.74310E-10	.13294E-10	.20425E-19	.75203E-20	.97033E-00				
2	1	2	1	1	1	.10513090E+02	.12923E-10	.14543E-17	.20044E-10	.47949E-19	.30004E-00				
19	2	17	19	2	10	.14953190E+02	.33027E-19	.00000E-19	.27900E-19	.75917E-20	.10420E-07				
2	0	2	1	0	1	.10900540E+02	.21202E-10	.21235E-17	.30005E-10	.07000E-19	.10401E-00				
2	1	1	1	1	0	.19427590E+02	.14104E-10	.15994E-17	.29521E-10	.52709E-19	.54074E-00				
9	1	0	9	1	9	.20555320E+02	.04222E-10	.17000E-10	.30000E-19	.75000E-20	.15000E-07				
3	1	3	2	1	2	.27707320E+02	.40349E-10	.50031E-17	.10514E-17	.19000E-10	.15000E-07				
3	0	3	2	0	2	.20440990E+02	.05302E-10	.09703E-17	.12073E-17	.22719E-10	.15000E-07				
3	2	2	2	2	1	.20440990E+02	.20000E-10	.30000E-17	.04000E-10	.12000E-10	.15000E-07				
3	2	1	2	2	0	.20470000E+02	.20000E-10	.30000E-17	.04000E-10	.12000E-10	.15000E-07				
3	1	2	2	1	1	.29158970E+02	.52095E-10	.02200E-17	.11504E-17	.20000E-10	.14000E-07				
12	1	11	12	1	12	.35503920E+02	.09335E-10	.20733E-10	.74700E-19	.10010E-19	.45000E-07				
4	1	4	3	1	3	.37019000E+02	.11057E-15	.13000E-10	.25017E-17	.47190E-10	.33310E-07				
10	2	9	9	2	8	.94700030E+02	.47002E-15	.13320E-15	.33000E-10	.05107E-17	.61310E-07				
10	4	7	9	4	0	.54913160E+02	.11440E-15	.09549E-10	.22354E-10	.53204E-17	.53310E-07				
10	4	6	9	4	5	.94913160E+02	.11440E-15	.09549E-10	.22354E-10	.53204E-17	.53310E-07				
10	3	6	9	3	7	.94920710E+02	.20405E-15	.10200E-15	.20109E-10	.62203E-17	.50431E-04				
10	3	7	9	3	0	.94941500E+02	.20470E-15	.10200E-15	.20109E-10	.62300E-17	.50454E-04				
10	2	8	9	2	7	.95325490E+02	.40237E-15	.13400E-15	.33390E-10	.09900E-17	.62414E-04				
10	1	9	9	1	0	.96902490E+02	.09443E-15	.10200E-15	.37043E-10	.70901E-17	.61770E-04				
11	1	11	10	1	10	.101063720E+03	.09939E-15	.10217E-15	.44140E-10	.91374E-17	.70000E-04				
11	0	11	10	0	10	.10357500E+03	.79014E-15	.19057E-15	.40914E-10	.90301E-17	.70000E-04				
11	2	10	10	2	9	.10421200E+03	.49930E-15	.10159E-15	.42097E-10	.90340E-17	.02493E-04				
11	4	8	10	4	7	.10441150E+03	.12250E-15	.00519E-10	.29230E-10	.71402E-17	.74403E-04				
11	4	7	10	4	0	.10441150E+03	.12250E-15	.00519E-10	.29230E-10	.71402E-17	.74403E-04				
11	3	9	10	3	8	.10443200E+03	.27090E-15	.12501E-15	.30300E-10	.02200E-17	.79470E-04				
11	3	0	10	3	7	.10445300E+03	.27090E-15	.12500E-15	.30319E-10	.02290E-17	.79520E-04				
11	2	9	10	2	0	.10490070E+03	.50301E-15	.10353E-15	.42054E-10	.91509E-17	.04204E-04				
11	1	10	10	1	9	.10604140E+03	.71014E-15	.19402E-15	.47901E-10	.99000E-17	.90610E-04				
14	1	14	13	1	13	.12921920E+03	.00795E-15	.20002E-15	.70030E-10	.17299E-10	.10330E-03				
14	0	14	13	0	13	.13126740E+03	.07029E-15	.20259E-15	.00410E-10	.10034E-10	.17193E-03				
14	2	13	13	2	12	.13252400E+03	.42942E-15	.23032E-15	.73510E-10	.17230E-10	.17230E-03				
14	5	10	13	5	9	.13290000E+03	.39410E-10	.05133E-10	.41759E-10	.12297E-10	.15000E-03				
14	5	9	13	5	0	.13290000E+03	.39410E-10	.05133E-10	.41759E-10	.12297E-10	.15000E-03				
14	4	11	13	4	10	.13291700E+03	.10995E-15	.13239E-15	.53420E-10	.14272E-10	.10411E-03				
14	4	10	13	4	9	.13291690E+03	.10995E-15	.13239E-15	.53420E-10	.14272E-10	.10411E-03				
14	3	12	13	3	11	.13295400E+03	.24375E-15	.10027E-15	.64023E-10	.10044E-10	.17000E-03				
14	3	11	13	3	10	.13303070E+03	.24390E-15	.10043E-15	.64080E-10	.10020E-10	.17000E-03				
14	2	12	13	2	11	.13402160E+03	.43230E-15	.24020E-15	.74904E-10	.17000E-10	.17943E-03				
14	1	13	13	1	12	.13553990E+03	.59620E-15	.27952E-15	.02397E-10	.10005E-10	.10040E-03				
15	1	15	14	1	14	.13639520E+03	.53020E-15	.20042E-15	.30100E-10	.20073E-10	.20123E-03				
15	0	15	14	0	14	.14042950E+03	.50059E-15	.30270E-15	.52109E-10	.21310E-10	.21310E-03				
15	2	14	14	2	13	.14194540E+03	.37004E-15	.25413E-15	.04027E-10	.20033E-10	.21422E-03				
15	4	12	14	4	11	.14242440E+03	.97107E-10	.14303E-15	.05004E-10	.17102E-10	.20400E-03				
15	4	11	14	4	10	.14242050E+03	.97100E-10	.14304E-15	.05200E-10	.17102E-10	.20400E-03				
15	3	13	14	3	12	.14247240E+03	.21432E-15	.20109E-15	.74709E-10	.19144E-10	.21174E-03				
15	3	12	14	3	11	.14257290E+03	.21447E-15	.20132E-15	.74799E-10	.19170E-10	.21247E-03				
15	2	13	14	2	12	.14375930E+03	.37044E-15	.25071E-15	.06401E-10	.21023E-10	.22200E-03				
15	1	14	14	1	13	.15141150E+03	.51733E-15	.29091E-15	.94475E-10	.22311E-10	.23209E-03				
19	5	15	10	5	14	.10041180E+03	.15155E-10	.10400E-15	.75029E-10	.27031E-10	.41970E-03				
15	5	14	10	5	13	.10041180E+03	.15155E-10	.10400E-15	.75029E-10	.27031E-10	.41970E-03				
19	4	10	10	4	15	.10047090E+03	.41220E-10	.15073E-15	.94413E-10	.30014E-10	.43141E-03				
19	4	15	10	4	14	.10040790E+03	.41222E-10	.15075E-15	.94423E-10	.30010E-10	.43145E-03				
19	3	17	10	3	16	.10534300E+03	.09009E-10	.21932E-15	.11213E-15	.33011E-10	.44007E-03				
19	3	10	10	3	15	.10005070E+03	.09731E-10	.21909E-15	.11247E-15	.33022E-10	.44009E-03				
19	2	17	10	2	10	.10209490E+03	.15020E-15	.27900E-15	.12924E-15	.30420E-10	.40400E-03				
19	1	10	10	1	17	.10334300E+03	.20042E-15	.37000E-15	.13020E-15	.30420E-10	.47170E-03				
B															
H2CCHCN															
13	1	12	12	2	11	.00030900E+01	.71049E-19	.27029E-19	.70512E-20	.10000E-20	.10491E-00				
20	1	20	19	2	17	.14003250E+02	.10754E-19	.10971E-19	.30000E-20	.24700E-20	.23900E-00				
0	0	0	5	1	5	.15010700E+02	.12927E-17	.17444E-10	.33953E-19	.02900E-20	.12000E-07				
3	0	3	2	1	2	.15902540E+02	.70930E-10	.00012E-19	.15703E-19	.20295E-20	.10070E-00				
19	1	19	10	2	10	.10037470E+02	.20477E-10	.27707E-19	.11029E-19	.21079E-20	.33319E-00				
11	1	10	10	2	9	.16270000E+02	.49530E-10	.11025E-10	.27100E-19	.50910E-20	.73301E-00				
10	1	10	17	2	15	.17949310E+02	.40544E-19	.42422E-19	.10370E-19	.42704E-20	.50571E-00				
20	2	10	19	3	17	.19205040E+02	.24509E-19	.59020E-19	.29902E-19	.04903E-20	.11029E-07				
14	1	13	13	2	12	.20500050E+02	.17477E-10	.17577E-10	.51015E-19	.17020E-19	.17930E-07				
17	1	17	16	2	14	.20577790E+02	.00309E-19	.00441E-19	.23049E-19	.54804E-20	.06104E-00				

00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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JU		JL		NU		SU		TU		VU		WU		XU	
KU1	KU2	KL1	KL2	LU1	LU2	LU1	LU2	LU1	LU2	LU1	LU2	LU1	LU2	LU1	LU2
NGLT ALLYLAMINE B															
C3H5NH2		M _h =		57		MU = .7000		A = .23957050E+02		B = .42299600E+01		C = .41549100E+01		KAP = -.9924	
3	0	3	2	1	1	.55000000E+01	.18021E-19	.19000E-20	.75530E-21	.0552E-21	.13091E-07	.13091E-07	.13091E-07	.13091E-07	.13091E-07
4	0	4	3	1	1	.13995240E+02	.10221E-19	.10520E-19	.34105E-20	.61530E-21	.26020E-03	.26020E-03	.26020E-03	.26020E-03	.26020E-03
9	1	9	5	2	1	.14447110E+02	.70000E-19	.14071E-19	.30034E-20	.50515E-21	.13200E-06	.13200E-06	.13200E-06	.13200E-06	.13200E-06
4	2	3	2	1	1	.16003200E+02	.71292E-19	.40094E-20	.10917E-20	.34705E-21	.10200E-07	.10200E-07	.10200E-07	.10200E-07	.10200E-07
1	1	0	1	0	1	.19001990E+02	.30545E-19	.38502E-19	.0914E-20	.10310E-20	.2214E-07	.2214E-07	.2214E-07	.2214E-07	.2214E-07
2	1	1	2	0	2	.19077300E+02	.50909E-19	.65000E-19	.11491E-19	.20550E-20	.22354E-07	.22354E-07	.22354E-07	.22354E-07	.22354E-07
3	1	2	3	0	3	.19991370E+02	.73200E-19	.67054E-19	.10537E-19	.20342E-20	.22102E-07	.22102E-07	.22102E-07	.22102E-07	.22102E-07
4	1	3	4	0	4	.20143290E+02	.93090E-19	.11030E-19	.20521E-19	.37205E-20	.22310E-07	.22310E-07	.22310E-07	.22310E-07	.22310E-07
5	1	4	5	0	5	.20355000E+02	.10521E-17	.13130E-18	.24929E-19	.45057E-20	.23000E-07	.23000E-07	.23000E-07	.23000E-07	.23000E-07
6	1	5	6	0	6	.20500100E+02	.11201E-17	.15044E-18	.29240E-19	.50217E-20	.24341E-07	.24341E-07	.24341E-07	.24341E-07	.24341E-07
7	1	6	7	0	7	.20641500E+02	.11440E-17	.16720E-18	.33453E-19	.60900E-20	.25153E-07	.25153E-07	.25153E-07	.25153E-07	.25153E-07
8	1	7	8	0	8	.21157010E+02	.11277E-17	.16170E-18	.37533E-19	.71122E-20	.26102E-07	.26102E-07	.26102E-07	.26102E-07	.26102E-07
9	1	8	9	0	9	.21517470E+02	.11772E-17	.19357E-18	.41407E-19	.80044E-20	.27221E-07	.27221E-07	.27221E-07	.27221E-07	.27221E-07
10	1	9	10	0	10	.21922730E+02	.12305E-17	.20260E-18	.45230E-19	.89020E-20	.28000E-07	.28000E-07	.28000E-07	.28000E-07	.28000E-07
11	1	10	11	0	11	.22375000E+02	.130247E-17	.20935E-18	.48021E-19	.99126E-20	.29971E-07	.29971E-07	.29971E-07	.29971E-07	.29971E-07
5	0	5	4	1	4	.22525500E+02	.50940E-19	.61709E-19	.11010E-19	.21100E-20	.12000E-07	.12000E-07	.12000E-07	.12000E-07	.12000E-07
12	1	11	12	0	12	.22670090E+02	.79520E-19	.13225E-19	.22204E-19	.40000E-20	.31042E-07	.31042E-07	.31042E-07	.31042E-07	.31042E-07
13	1	12	13	0	13	.23420620E+02	.60342E-19	.21450E-19	.35304E-19	.11024E-19	.35539E-07	.35539E-07	.35539E-07	.35539E-07	.35539E-07
14	1	13	14	0	14	.24033040E+02	.57305E-19	.21345E-19	.35200E-19	.12004E-19	.35000E-07	.35000E-07	.35000E-07	.35000E-07	.35000E-07
15	1	14	15	0	15	.24693990E+02	.47002E-19	.21000E-19	.30940E-19	.13000E-19	.30101E-07	.30101E-07	.30101E-07	.30101E-07	.30101E-07
16	1	15	16	0	16	.25414010E+02	.37750E-19	.20403E-18	.63331E-19	.14013E-19	.40040E-07	.40040E-07	.40040E-07	.40040E-07	.40040E-07
17	1	16	17	0	17	.26190150E+02	.29620E-18	.19720E-18	.65399E-19	.15032E-19	.43099E-07	.43099E-07	.43099E-07	.43099E-07	.43099E-07
18	1	17	18	0	18	.27030630E+02	.22730E-18	.16039E-18	.67107E-19	.16003E-19	.47340E-07	.47340E-07	.47340E-07	.47340E-07	.47340E-07
19	1	18	19	0	19	.27930670E+02	.17062E-18	.12020E-18	.60000E-19	.17098E-19	.51190E-07	.51190E-07	.51190E-07	.51190E-07	.51190E-07
1	1	1	0	0	0	.26111690E+02	.49170E-18	.51010E-19	.92403E-20	.16540E-20	.42235E-07	.42235E-07	.42235E-07	.42235E-07	.42235E-07
20	1	19	20	0	20	.28910260E+02	.12501E-18	.10700E-18	.69700E-19	.10930E-19	.55510E-07	.55510E-07	.55510E-07	.55510E-07	.55510E-07
6	0	6	5	1	5	.31069500E+02	.10021E-17	.14110E-18	.27102E-19	.50105E-20	.33039E-07	.33039E-07	.33039E-07	.33039E-07	.33039E-07
2	1	2	1	0	1	.36241800E+02	.11090E-17	.12639E-18	.23205E-19	.41470E-20	.62607E-07	.62607E-07	.62607E-07	.62607E-07	.62607E-07
NGLT ALLYLAMINE C															
C3H5NH2		M _h =		57		MU = .2900		A = .23957050E+02		B = .42299600E+01		C = .41549100E+01		KAP = -.9924	
20	1	20	20	0	20	.13023710E+02	.07070E-20	.07175E-20	.30115E-20	.97733E-21	.12000E-06	.12000E-06	.12000E-06	.12000E-06	.12000E-06
19	1	19	19	0	19	.13570600E+02	.10193E-19	.10418E-19	.39035E-20	.10357E-20	.14544E-06	.14544E-06	.14544E-06	.14544E-06	.14544E-06
18	1	18	18	0	18	.14100160E+02	.15079E-19	.12265E-19	.43401E-20	.10677E-20	.15090E-06	.15090E-06	.15090E-06	.15090E-06	.15090E-06
17	1	17	17	0	17	.14634020E+02	.21711E-19	.14223E-19	.40093E-20	.11321E-20	.17491E-06	.17491E-06	.17491E-06	.17491E-06	.17491E-06
16	1	16	16	0	16	.15145510E+02	.30415E-19	.16243E-19	.50024E-20	.11072E-20	.19133E-06	.19133E-06	.19133E-06	.19133E-06	.19133E-06
15	1	15	15	0	15	.15640140E+02	.41445E-19	.10201E-19	.52747E-20	.11919E-20	.22000E-06	.22000E-06	.22000E-06	.22000E-06	.22000E-06
14	1	14	14	0	14	.16115740E+02	.54915E-19	.20203E-19	.54953E-20	.12050E-20	.22477E-06	.22477E-06	.22477E-06	.22477E-06	.22477E-06
13	1	13	13	0	13	.16569050E+02	.70714E-19	.21955E-19	.50539E-20	.12055E-20	.2414E-06	.2414E-06	.2414E-06	.2414E-06	.2414E-06
12	1	12	12	0	12	.17000000E+02	.80443E-19	.23519E-19	.57413E-20	.11927E-20	.25790E-06	.25790E-06	.25790E-06	.25790E-06	.25790E-06
11	1	11	11	0	11	.17463070E+02	.10735E-18	.24711E-19	.57490E-20	.11059E-20	.27309E-06	.27309E-06	.27309E-06	.27309E-06	.27309E-06
10	1	10	10	0	10	.17763560E+02	.12651E-18	.25474E-19	.56710E-20	.11250E-20	.28929E-06	.28929E-06	.28929E-06	.28929E-06	.28929E-06
9	1	9	9	0	9	.18132330E+02	.14307E-18	.25729E-19	.55527E-20	.10700E-20	.30391E-06	.30391E-06	.30391E-06	.30391E-06	.30391E-06
8	1	8	8	0	8	.18450000E+02	.15033E-18	.25411E-19	.52421E-20	.10011E-20	.31759E-06	.31759E-06	.31759E-06	.31759E-06	.31759E-06
7	1	7	7	0	7	.18736940E+02	.16709E-18	.24474E-19	.40095E-20	.91800E-21	.33010E-06	.33010E-06	.33010E-06	.33010E-06	.33010E-06
6	1	6	6	0	6	.18990130E+02	.17000E-18	.22697E-19	.44479E-20	.62424E-21	.34153E-06	.34153E-06	.34153E-06	.34153E-06	.34153E-06
5	1	5	5	0	5	.19209040E+02	.16590E-18	.20604E-19	.35220E-20	.71622E-21	.35151E-06	.35151E-06	.35151E-06	.35151E-06	.35151E-06
4	1	4	4	0	4	.19393000E+02	.15221E-18	.17671E-19	.33210E-20	.60221E-21	.36002E-06	.36002E-06	.36002E-06	.36002E-06	.36002E-06
3	1	3	3	0	3	.19540870E+02	.12974E-18	.14511E-19	.20555E-20	.47753E-21	.36893E-06	.36893E-06	.36893E-06	.36893E-06	.36893E-06
2	1	2	2	0	2	.19652430E+02	.99261E-19	.16713E-19	.19363E-20	.34610E-21	.37219E-06	.37219E-06	.37219E-06	.37219E-06	.37219E-06
1	1	1	1	0	1	.19720950E+02	.62345E-19	.65009E-20	.11770E-20	.20900E-21	.37573E-06	.37573E-06	.37573E-06	.37573E-06	.37573E-06
1	1	0	0	0	0	.20107040E+02	.64042E-19	.89402E-20	.10030E-20	.20539E-21	.73073E-06	.73073E-06	.73073E-06	.73073E-06	.73073E-06
2	1	1	1	0	1	.20640600E+02	.20659E-19	.22304E-19	.40317E-20	.72000E-21	.14453E-07	.14453E-07	.14453E-07	.14453E-07	.14453E-07
NGLT															
H5UCCNH2		M _h =		57		MU = .0950		A = .10107200E+02		B = .50006340E+01		C = .44091340E+01			

JU		KU1		KU2		UL		KL1		KL2		HU		20		50		SIGMA		100		200		A		REF	
10	1	10	10	0	10	10	0	10	10	0	10	.17807110E+02	.10674E-17	.21924E-18	.46617E-19	.96840E-20		.24365E-07									
9	1	9	9	0	9	9	0	9	9	0	9	.16339960E+02	.12579E-17	.22502E-18	.46129E-19	.93586E-20		.26273E-07									
4	1	4	0	0	0	4	0	0	0	4	0	.16830370E+02	.14034E-17	.22536E-18	.46499E-19	.88806E-20		.26099E-07									
7	1	7	7	0	7	7	0	7	7	0	7	.19275380E+02	.15081E-17	.21973E-18	.43910E-19	.82531E-20		.29014E-07									
6	1	6	6	0	6	6	0	6	6	0	6	.19670020E+02	.15485E-17	.20772E-18	.46366E-19	.74614E-20		.31361E-07									
5	1	5	5	0	5	5	0	5	5	0	5	.20013690E+02	.15167E-17	.16933E-18	.35918E-19	.65778E-20		.32781E-07									
4	1	4	4	0	4	4	0	4	4	0	4	.20303960E+02	.14018E-17	.16477E-18	.36841E-19	.55558E-20		.33989E-07									
3	1	3	3	0	3	3	0	3	3	0	3	.20538090E+02	.12014E-17	.13463E-18	.24639E-19	.44317E-20		.34980E-07									
2	1	1	2	0	2	2	0	2	2	0	2	.20715100E+02	.91700E-18	.99175E-19	.17937E-19	.32072E-20		.35536E-07									
1	1	1	1	0	1	1	0	1	1	0	1	.20633780E+02	.36138E-18	.61350E-19	.11007E-19	.19600E-20		.36254E-07									
1	1	0	1	0	1	1	0	1	1	0	1	.20392700E+02	.58787E-18	.62051E-19	.11132E-19	.19624E-20		.36879E-07									
3	1	2	3	0	3	3	0	3	3	0	3	.21254400E+02	.12663E-17	.14205E-18	.26005E-19	.46783E-20		.36222E-07									
4	1	3	4	0	4	4	0	4	4	0	4	.21498030E+02	.15270E-17	.17983E-18	.33460E-19	.60884E-20		.39321E-07									
5	1	4	5	0	5	5	0	5	5	0	5	.21805550E+02	.17224E-17	.21558E-18	.40931E-19	.74989E-20		.40735E-07									
6	1	5	6	0	6	6	0	6	6	0	6	.22170800E+02	.16483E-17	.24683E-18	.46411E-19	.69780E-20		.42486E-07									
7	1	6	7	0	7	7	0	7	7	0	7	.22619690E+02	.19049E-17	.27925E-18	.55895E-19	.10514E-19		.44807E-07									
6	1	7	6	0	6	6	0	6	6	0	6	.23131980E+02	.16989E-17	.30649E-18	.63370E-19	.12115E-19		.47138E-07									
9	1	8	9	0	9	9	0	9	9	0	9	.23717920E+02	.18320E-17	.33029E-18	.70619E-19	.13789E-19		.50124E-07									
10	1	9	10	0	10	10	0	10	10	0	10	.24361110E+02	.17205E-17	.35028E-18	.78219E-19	.15541E-19		.53868E-07									
11	1	10	11	0	11	11	0	11	11	0	11	.25122310E+02	.15741E-17	.38634E-18	.85540E-19	.17379E-19		.57690E-07									
12	1	11	12	0	12	12	0	12	12	0	12	.25954450E+02	.14049E-17	.37633E-18	.92743E-19	.19306E-19		.62407E-07									
13	1	12	13	0	13	13	0	13	13	0	13	.26872690E+02	.12234E-17	.38616E-18	.99784E-19	.21327E-19		.67654E-07									
14	1	13	14	0	14	14	0	14	14	0	14	.27684510E+02	.10424E-17	.38982E-18	.10661E-18	.23442E-19		.74127E-07									
15	1	14	15	0	15	15	0	15	15	0	15	.28992940E+02	.88754E-18	.38934E-18	.11315E-18	.25648E-19		.81323E-07									
1	1	1	0	0	0	0	0	0	0	0	0	.29219820E+02	.76241E-18	.80460E-19	.14434E-19	.25703E-20		.86661E-07									
1	1	0	0	0	0	0	0	0	0	0	0	.29339290E+02	.78844E-18	.81110E-19	.14551E-19	.25913E-20		.87502E-07									
2	1	0	1	0	1	1	0	1	1	0	1	.37486600E+02	.18085E-17	.19549E-18	.35351E-19	.63204E-20		.12072E-06									
2	1	1	0	1	0	1	0	1	0	1	0	.37845200E+02	.18417E-17	.19918E-18	.36024E-19	.64413E-20		.13039E-06									
NGLG C3H5NH2 V 1 MW = 57 MU = .6300 A = .25083420E+02 B = .42626100E+01 C = .41454200E+01 KAP = -.9888																											
14	1	14	14	0	14	14	0	14	14	0	14	.15407020E+02	.43433E-18	.16081E-18	.43835E-19	.96223E-20		.16742E-07									
13	1	13	13	0	13	13	0	13	13	0	13	.16080310E+02	.57230E-18	.17908E-18	.46150E-19	.98503E-20		.18658E-07									
12	1	12	12	0	12	12	0	12	12	0	12	.16887290E+02	.73088E-18	.19561E-18	.47851E-19	.99507E-20		.20807E-07									
11	1	11	11	0	11	11	0	11	11	0	11	.17284250E+02	.90408E-18	.20945E-18	.48831E-19	.99132E-20		.22563E-07									
9	1	9	9	0	9	9	0	9	9	0	9	.18300800E+02	.12499E-17	.22495E-18	.48213E-19	.93644E-20		.22633E-07									
8	1	8	8	0	8	8	0	8	8	0	8	.18652690E+02	.13958E-17	.22541E-18	.46599E-19	.89882E-20		.28175E-07									
7	1	7	7	0	7	7	0	7	7	0	7	.19289350E+02	.14973E-17	.21988E-18	.43970E-19	.82731E-20		.29858E-07									
6	1	6	6	0	6	6	0	6	6	0	6	.19677840E+02	.15339E-17	.20758E-18	.40409E-19	.74961E-20		.31403E-07									
5	1	5	5	0	5	5	0	5	5	0	5	.20015530E+02	.15078E-17	.16913E-18	.35942E-19	.65878E-20		.32778E-07									
2	1	2	2	0	2	2	0	2	2	0	2	.20704140E+02	.91715E-18	.99809E-19	.18040E-19	.32288E-20		.35862E-07									
1	1	1	1	0	1	1	0	1	1	0	1	.20820600E+02	.57764E-18	.61245E-19	.11004E-19	.19610E-20		.38186E-07									
1	1	0	1	0	1	1	0	1	1	0	1	.20937910E+02	.58401E-18	.61938E-19	.11127E-19	.19831E-20		.38801E-07									
2	1	1	2	0	2	2	0	2	2	0	2	.21053570E+02	.94227E-18	.10239E-18	.18547E-19	.33189E-20		.37309E-07									
3	1	2	3	0	3	3	0	3	3	0	3	.21233790E+02	.12571E-17	.14169E-18	.25982E-19	.47788E-20		.38113E-07									
6	1	5	6	0	6	6	0	6	6	0	6	.22140260E+02	.18315E-17	.24788E-18	.48307E-19	.69665E-20		.42288E-07									
8	1	7	8	0	8	8	0	8	8	0	8	.23072880E+02	.18759E-17	.30483E-18	.63145E-19	.12084E-19		.46820E-07									
9	1	8	9	0	9	9	0	9	9	0	9	.23649420E+02	.18102E-17	.32627E-18	.70534E-19	.13747E-19		.49750E-07									
10	1	9	10	0	10	10	0	10	10	0	10	.24299240E+02	.18981E-17	.34787E-18	.77845E-19	.15483E-19		.53168E-07									
11	1	10	11	0	11	11	0	11	11	0	11	.25028240E+02	.19517E-17	.36350E-18	.85063E-19	.17301E-19		.57127E-07									
12	1	11	12	0	12	12	0	12	12	0	12	.25840160E+02	.13630E-17	.37504E-18	.92148E-19	.19205E-19		.61719E-07									
13	1	12	13	0	13	13	0	13	13	0	13	.26739880E+02	.12035E-17	.38241E-18	.99057E-19	.21197E-19		.67017E-07									
14	1	13	14	0	14	14	0	14	14	0	14	.27729290E+02	.10232E-17	.38563E-18	.10574E-18	.23280E-19		.73114E-07									
15	1	14	15	0	15	15	0	15	15	0	15	.28815060E+02	.85038E-18	.38478E-18	.11213E-18	.25452E-19		.80110E-07									
1	1	1	0	0	0	0	0	0	0	0	0	.29228860E+02	.75844E-18	.80407E-19	.14457E-19	.25758E-20		.86674E-07									
1	1	0	0	0	0	0	0	0	0	0	0	.29346120E+02	.76482E-18	.81104E-19	.14573E-19	.25971E-20		.87549E-07									
NGLG C3H5NH2 V 2 MW = 57 MU = .6300 A = .25097000E+02 B = .42715900E+01 C = .41550500E+01 KAP = -.9889																											
14	1	14	14	0	14	14	0	14	14	0	14	.15440730E+02	.43169E-18	.16102E-18	.43988E-19	.98700E-20		.16840E-07									
13	1	13	13	0	13	13	0	13	13	0	13	.16090730E+02	.58089E-18	.17928E-18	.46304E-19	.98997E-20		.18752E-07									
12	1	12	12	0	12	12	0	12	12	0	12	.16714850E+02	.72888E-18	.19577E-18	.47997E-19	.99920E-20		.20898E-07									
11	1	11	11	0	11	11	0	11	11	0	11	.17306160E+02	.89891E-18	.20957E-18	.48962E-19	.99503E-20		.22846E-07									
10	1	10	10	0	10	10	0	10	10	0	10	.17868280E+02	.10761E-17	.21973E-18	.43118E-19	.97638E-20		.24578E-07									
9	1	9	9	0	9	9	0	9	9	0	9	.18391430E+02	.12449E-17	.22534E													

TABLE III.3c

JU		JL		NU		SIGMA		A		REF	
KU1	KU2	KL1	KL2			70	90	100	200		
2	1	1	2	0	2	.21059510E+02	.93796E-16	.10239E-10	.10570E-19	.33200E-20	.37341E-07
3	1	2	3	0	3	.21236430E+02	.12539E-17	.14105E-10	.20014E-19	.40671E-20	.30129E-07
6	1	5	6	0	6	.22137720E+02	.16205E-17	.24703E-10	.40343E-19	.64007E-20	.42200E-07
7	1	6	7	0	7	.22507660E+02	.16739E-17	.27705E-10	.53771E-19	.10009E-20	.44541E-07
8	1	7	8	0	8	.23066000E+02	.16632E-17	.30442E-10	.63174E-19	.12100E-20	.46797E-07
9	1	8	9	0	9	.23637290E+02	.17904E-17	.32764E-10	.70530E-19	.13759E-20	.49093E-07
10	1	9	10	0	10	.24289500E+02	.16040E-17	.34700E-10	.77017E-19	.15493E-20	.53079E-07
11	1	10	11	0	11	.25007100E+02	.15377E-17	.36249E-10	.85003E-19	.17307E-20	.57015E-07
12	1	11	12	0	12	.25613520E+02	.13095E-17	.37302E-10	.92049E-19	.19200E-20	.61570E-07
13	1	12	13	0	13	.26706260E+02	.11908E-17	.38096E-10	.96913E-19	.21190E-20	.66027E-07
14	1	13	14	0	14	.27689420E+02	.10115E-17	.38399E-10	.10554E-18	.23264E-20	.72000E-07
1	1	1	0	0	0	.29252490E+02	.75033E-18	.60555E-19	.14495E-19	.25001E-20	.60904E-07
1	1	0	0	0	0	.29309120E+02	.70216E-18	.61109E-19	.14610E-19	.26007E-20	.67708E-07
10											
NGLG											
C3H5NH2	V	3		MW =	57	MU = .8300	A = .25100000E+02	B = .42610000E+01	C = .41050000E+01	AAE =	-.9069
14	1	14	14	0	14	.15437600E+02	.42099E-18	.16046E-10	.43953E-19	.90720E-20	.16022E-07
13	1	13	13	0	13	.16100600E+02	.50403E-18	.17996E-10	.46341E-19	.99141E-20	.16770E-07
12	1	12	12	0	12	.16726300E+02	.72120E-18	.19560E-10	.40001E-19	.10017E-20	.20139E-07
11	1	11	11	0	11	.17325000E+02	.93300E-18	.24953E-10	.49005E-19	.93750E-20	.22707E-07
10	1	10	10	0	10	.17666200E+02	.10699E-17	.21979E-10	.49229E-19	.97302E-20	.24607E-07
9	1	9	9	0	9	.18412500E+02	.12365E-17	.22547E-10	.46507E-19	.94590E-20	.26543E-07
8	1	8	8	0	8	.18694700E+02	.13825E-17	.22570E-10	.46042E-19	.90709E-20	.26351E-07
3	1	3	3	0	3	.20573720E+02	.11861E-17	.13400E-10	.24705E-19	.44067E-20	.35156E-07
2	1	2	2	0	2	.20747420E+02	.91147E-18	.99901E-19	.16140E-19	.32522E-20	.35905E-07
4	1	3	4	0	4	.21561120E+02	.15049E-17	.17900E-10	.33616E-19	.61112E-20	.39434E-07
5	1	4	5	0	5	.21818640E+02	.16959E-17	.21541E-10	.41104E-19	.75493E-20	.40632E-07
6	1	5	6	0	6	.22185190E+02	.19176E-17	.24040E-10	.40590E-19	.90341E-20	.42556E-07
7	1	6	7	0	7	.22618340E+02	.16707E-17	.27663E-10	.56066E-19	.10574E-20	.44004E-07
8	1	7	8	0	8	.23120820E+02	.18598E-17	.30553E-10	.63520E-19	.12177E-20	.47139E-07
10	1	9	10	0	10	.24345910E+02	.16805E-17	.34042E-10	.76276E-19	.15600E-20	.53511E-07
11	1	10	11	0	11	.25075290E+02	.15343E-17	.36397E-10	.85526E-19	.17431E-20	.57507E-07
12	1	11	12	0	12	.25887570E+02	.13662E-17	.37539E-10	.92640E-19	.19349E-20	.62134E-07
13	1	12	13	0	13	.26766790E+02	.11877E-17	.36264E-10	.99575E-19	.21357E-20	.67472E-07
14	1	13	14	0	14	.27777140E+02	.10008E-17	.35572E-10	.10626E-19	.23455E-20	.73614E-07
15	1	14	15	0	15	.28662880E+02	.83716E-18	.36470E-10	.11269E-19	.25643E-20	.80064E-07
10											
METHYLENE CYANIDE											
CH2(CN)2				MW =	66	MU = 3.7350	A = .20862750E+02	B = .29423003E+01	C = .20107220E+01	AAE =	-.9044
6	0	6	5	-1	5	.17410890E+02	.16739E-17	.90398E-10	.16900E-10	.30740E-19	.16542E-06
5	2	4	6	1	5	.17600000E+02	.22916E-17	.20509E-10	.54450E-19	.94405E-20	.72706E-07
1	1	0	1	0	1	.1826530E+02	.56251E-17	.57908E-10	.10373E-10	.18447E-19	.40473E-06
2	1	1	2	0	2	.1859540E+02	.93604E-17	.96163E-10	.17600E-10	.31442E-19	.51735E-06
3	1	2	3	0	3	.19100000E+02	.13097E-16	.14009E-17	.25516E-16	.45066E-19	.55292E-06
4	1	3	4	0	4	.19790000E+02	.16795E-16	.16046E-17	.34191E-16	.61550E-19	.60300E-06
5	1	4	5	0	5	.20670000E+02	.20417E-16	.23620E-17	.43910E-16	.79601E-19	.67167E-06
6	1	5	6	0	6	.21760000E+02	.23920E-16	.29075E-17	.54940E-16	.10043E-18	.76114E-06
7	1	6	7	0	7	.23080000E+02	.27246E-16	.35061E-17	.67564E-16	.12472E-18	.67725E-06
1	1	1	0	0	0	.23498820E+02	.62117E-17	.64006E-16	.11448E-16	.20350E-19	.70231E-06
7	0	7	6	1	6	.23740000E+02	.16005E-16	.20033E-17	.38109E-16	.70046E-19	.52398E-06
4	2	3	5	1	4	.24090000E+02	.32454E-17	.36873E-16	.73106E-16	.13330E-19	.16114E-06
8	1	7	8	0	8	.24660000E+02	.30337E-16	.41719E-17	.82153E-16	.15326E-18	.10276E-05
9	1	8	9	0	9	.26500000E+02	.33046E-16	.40936E-17	.90771E-16	.16557E-18	.12176E-05
10	1	9	10	0	10	.26626440E+02	.35206E-16	.56724E-17	.11767E-17	.22533E-16	.14570E-05
2	1	2	1	0	1	.26732500E+02	.13574E-16	.14206E-17	.25540E-16	.45532E-19	.11555E-05
4	2	2	5	1	5	.29039750E+02	.41070E-17	.49197E-16	.92525E-16	.16071E-19	.24550E-06
19	2	17	16	3	16	.29614690E+02	.24406E-17	.12658E-17	.36798E-16	.90314E-19	.39011E-06
6	0	6	7	1	7	.30127160E+02	.37260E-16	.37260E-16	.72511E-16	.13449E-18	.10950E-05
10	3	7	11	2	10	.30155050E+02	.55497E-17	.10864E-17	.24066E-16	.47624E-19	.33521E-06
16	4	13	17	3	14	.30235470E+02	.22999E-17	.10347E-17	.30246E-16	.66758E-19	.35475E-06
11	1	10	11	0	11	.31063300E+02	.30964E-16	.65035E-17	.13903E-17	.21008E-16	.17570E-05
13	1	12	12	2	11	.31761150E+02	.11026E-16	.11026E-16	.54504E-16	.10964E-18	.64303E-06
9	3	7	10	2	8	.33294490E+02	.66925E-17	.12209E-17	.26504E-16	.51751E-19	.43662E-06
3	1	3	2	0	2	.33805170E+02	.24207E-16	.25931E-17	.40965E-16	.64009E-19	.10003E-05
12	1	11	12	0	12	.33822160E+02	.37982E-16	.13737E-17	.16209E-17	.32190E-16	.21318E-05
9	3	6	10	2	9	.35442530E+02	.75626E-17	.13699E-17	.29545E-16	.57690E-19	.32650E-06
15	4	12	16	3	13	.36239360E+02	.37458E-17	.14620E-17	.41509E-16	.92361E-19	.59513E-06
9	0	9	6	1	8	.36536520E+02	.43371E-16	.61610E-17	.12319E-17	.23123E-16	.20064E-05
13	1	12	13	0	13	.36912420E+02	.36279E-16	.62605E-17	.16921E-17	.30001E-16	.25927E-05
15	4	11	16	3	14	.37227280E+02	.39392E-17	.15506E-17	.43653E-16	.97134E-19	.64293E-06
20	2	18	19	3	17	.37633800E+02	.32369E-17	.19709E-17	.64071E-16	.15326E-16	.83621E-06

JL			JL			JL			SIGN			A		
KLL KLL			KLL KLL			KLL KLL			KLL KLL			KLL KLL		
4	1	4	3	0	3	3.0722370e+02	3.30033e-16	4.2029e-17	7.0945e-16	1.3042e-16	2.0540e-05	1.2007e-05	0.6730e-06	
14	1	15	15	2	12	3.9204030e+02	1.5031e-16	3.0390e-17	9.1217e-16	1.3070e-16	1.2007e-05	0.6730e-06		
0	3	6	9	2	7	3.9302990e+02	0.6900e-17	1.5071e-17	3.1731e-16	0.1217e-19				
FUNCTIONAL HULLING														
1	1	0	1	1	1	3.2003200e+00	1.5033e-20	2.1945e-21	4.0205e-22	7.2353e-23	1.1504e-11			
2	1	1	2	1	2	3.1907900e+00	0.3100e-20	1.0774e-20	1.9415e-21	3.9011e-22	1.0425e-10			
3	1	2	3	1	3	1.9597100e+01	2.4300e-19	2.9353e-20	5.5014e-21	1.0014e-21	4.1099e-10			
4	1	3	4	1	4	3.2003200e+01	0.0004e-20	1.1575e-20	1.1575e-20	2.1202e-21	1.1502e-09			
5	1	4	5	1	5	4.0900100e+01	7.7950e-19	1.0022e-19	2.0742e-20	3.0537e-21	2.0050e-09			
6	1	5	6	1	6	0.0570500e+01	1.1250e-18	1.6039e-19	3.3391e-20	0.0292e-21	5.1003e-09			
7	1	6	7	1	7	3.1907900e+01	1.4750e-19	1.4750e-19	4.9750e-20	3.9522e-21	5.0700e-05			
8	1	7	8	1	8	9.3205000e+01	1.2390e-17	1.2077e-17	2.2520e-19	3.9525e-20	1.7975e-07			
9	1	8	9	1	9	1.1175300e+02	1.7920e-16	3.2533e-19	0.9590e-20	1.3624e-20	1.5002e-06			
0	1	9	0	1	9	1.14690150e+02	2.0390e-16	4.1073e-19	9.3730e-20	1.0040e-20	2.3437e-06			
10	1	9	10	1	10	1.17991320e+02	2.1943e-16	5.1043e-19	1.2100e-19	2.4624e-20	3.5005e-06			
2	1	2	2	1	1	1.0320500e+02	5.0793e-17	0.0709e-16	1.2540e-16	1.2275e-15	1.2275e-06			
2	0	1	1	0	1	1.0050330e+02	9.4424e-17	9.9590e-16	1.7090e-16	3.1793e-19	1.7252e-06			
3	1	1	3	1	1	1.0707050e+02	0.2910e-17	1.7572e-17	1.3490e-16	3.1301e-19	1.3635e-06			
3	1	3	2	1	2	2.7407400e+02	2.2014e-16	2.0440e-17	4.9525e-16	9.0104e-19	5.2002e-06			
3	0	3	2	0	2	2.7972130e+02	2.29791e-17	3.2715e-17	5.9451e-16	1.0050e-16	0.2362e-06			
3	2	1	2	2	1	2.7900000e+02	9.0111e-17	1.4257e-17	2.9212e-16	5.9730e-19	3.4079e-06			
3	2	1	2	2	0	2.7905530e+02	9.0114e-17	1.4202e-17	2.9212e-16	5.9757e-19	3.4090e-06			
3	1	2	2	1	1	2.8067150e+02	2.3500e-16	2.0314e-17	5.3000e-16	9.6590e-19	5.0429e-06			
4	1	4	3	1	3	3.0040250e+02	5.0395e-16	0.3020e-17	1.2164e-17	2.2327e-16	1.3030e-05			
4	0	4	3	0	3	3.7290140e+02	0.04547e-16	7.4794e-17	1.3037e-17	2.5024e-16	1.5322e-05			
4	1	3	3	1	2	3.7954590e+02	5.5629e-16	0.0249e-16	1.3026e-17	2.5024e-16	1.5146e-05			
5	1	5	4	1	4	4.5007690e+02	9.0202e-16	1.2215e-16	2.3796e-17	4.4159e-16	2.7000e-05			
5	0	5	4	0	4	4.0002870e+02	1.1207e-15	1.3903e-16	2.0417e-16	4.4311e-16	3.0560e-05			
5	1	4	4	1	3	4.7440450e+02	9.5700e-16	1.3040e-16	2.5463e-17	4.7300e-16	3.0970e-05			
6	1	6	5	1	5	5.54905400e+02	1.3044e-15	2.0274e-16	4.0553e-17	7.6255e-16	4.4941e-05			
6	0	6	0	0	5	5.59090900e+02	1.7015e-15	2.2054e-16	4.4415e-17	0.2324e-16	5.5024e-05			
6	1	5	5	1	4	5.69244400e+02	1.4003e-15	2.1002e-16	4.4392e-17	0.1653e-16	5.5029e-05			
7	1	7	6	1	6	6.04121050e+02	1.6097e-15	3.0490e-16	6.2900e-17	1.2012e-17	6.0126e-05			
7	0	7	6	0	6	6.05207490e+02	2.5050e-15	3.4067e-16	6.0313e-17	1.2062e-17	6.0010e-05			
7	1	6	6	1	5	6.00400100e+02	1.9942e-15	3.2422e-16	6.71174e-17	1.2050e-17	6.0002e-05			
8	1	8	7	1	7	7.3274320e+02	2.3002e-15	4.0202e-16	9.1000e-17	1.7701e-17	1.2116e-04			
8	0	8	7	0	7	7.4490020e+02	2.0000e-15	4.7307e-16	9.0317e-17	1.6045e-17	1.2934e-04			
9	1	7	7	1	6	7.5055220e+02	2.4001e-15	5.0517e-16	9.7059e-17	1.6910e-17	1.3442e-04			
9	1	7	6	1	6	0.2444910e+02	2.7900e-15	5.0250e-16	1.2504e-16	2.4700e-17	1.7410e-04			
9	0	9	8	0	8	0.3775620e+02	3.3500e-15	0.2100e-16	1.3430e-16	2.6270e-17	1.6515e-04			
9	2	6	8	2	7	0.3917490e+02	1.7377e-15	4.0401e-16	1.1345e-16	2.3562e-17	1.7090e-04			
9	3	6	8	3	6	0.39711090e+02	7.0015e-16	3.2059e-16	9.1233e-17	2.0463e-17	1.0775e-04			
9	3	6	8	3	5	0.3971250e+02	7.0017e-16	3.2060e-16	9.1233e-17	2.0463e-17	1.0775e-04			
9	4	6	8	4	5	0.3901440e+02	2.3004e-16	1.0907e-16	6.0579e-17	1.0011e-17	1.4909e-04			
9	2	7	8	2	6	0.4005700e+02	1.7422e-15	4.0570e-16	1.1304e-16	2.3065e-17	1.7780e-04			
9	1	8	8	1	7	0.5301200e+02	2.0974e-15	5.9403e-16	1.3316e-16	2.0490e-17	1.9340e-04			
10	1	10	9	1	9	9.1572510e+02	3.0074e-15	7.0010e-16	1.6449e-16	3.3332e-17	2.4067e-04			
10	0	10	9	0	9	9.3343200e+02	3.0729e-15	7.7032e-16	1.7009e-16	3.5215e-17	2.5497e-04			
10	2	9	9	2	8	9.3230390e+02	1.9241e-15	5.0709e-16	1.5020e-16	3.1939e-17	2.6029e-04			
10	3	8	9	3	7	9.3304340e+02	0.5330e-16	4.1100e-16	1.2252e-16	2.0102e-17	2.3402e-04			
10	3	7	9	3	6	9.3300750e+02	0.5333e-16	4.1105e-16	1.2252e-16	2.0103e-17	2.3404e-04			
10	4	7	9	4	6	9.3313930e+02	2.7102e-16	2.4824e-16	9.1410e-17	2.3324e-17	2.1009e-04			
10	4	6	9	4	5	9.3313940e+02	2.7102e-16	2.4824e-16	9.1410e-17	2.3324e-17	2.1009e-04			
10	2	6	9	2	7	9.3347770e+02	1.9290e-15	5.9015e-16	1.5060e-16	3.2077e-17	2.4794e-04			
10	1	9	9	1	8	9.4033680e+02	3.1719e-15	7.4050e-16	1.7490e-16	3.9595e-17	2.6731e-04			
11	1	11	10	1	10	1.0671090e+03	3.2319e-15	0.5094e-16	2.0091e-16	4.3370e-17	3.2217e-04			
11	0	11	10	0	10	1.0229000e+03	3.6021e-15	9.3630e-16	2.2291e-16	4.5666e-17	3.4034e-04			
11	2	10	10	2	9	1.0254390e+03	2.0162e-15	7.1409e-16	1.9173e-16	4.1769e-17	3.3152e-04			
11	3	9	10	3	8	1.0203900e+03	9.0310e-16	5.0505e-16	1.5790e-16	3.7122e-17	3.1024e-04			
11	3	8	10	3	7	1.0264230e+03	9.0314e-16	5.0509e-16	1.5792e-16	3.7125e-17	3.1020e-04			
11	4	8	10	4	7	1.0264000e+03	2.9195e-16	3.0931e-16	1.1900e-16	3.1292e-17	2.9042e-04			
11	4	7	10	4	6	1.0264000e+03	2.9195e-16	3.0931e-16	1.1900e-16	3.1292e-17	2.9042e-04			
11	5	7	10	5	6	1.0260910e+03	0.6790e-17	1.0301e-16	0.6230e-17	2.4595e-17	2.7302e-04			
11	6	6	10	6	5	1.0270100e+03	1.1200e-17	7.4215e-17	5.2764e-17	1.0700e-17	2.4140e-04			
11	7	5	10	7	4	1.0274090e+03	1.3237e-16	2.6520e-17	3.0116e-17	1.3011e-17	2.0520e-04			
11	8	4	10	8	3	1.0270000e+03	1.0700e-16	1.5110e-17	2.0004e-17	1.0004e-17	1.0267e-04			
11	2	9	10	2	8	1.0261960e+03	2.0227e-15	7.1732e-16	1.9200e-16	4.1905e-17	3.3420e-04			
11	9	3	10	9	2	1.0284160e+03	5.0621e-21	2.2045e-18	6.3313e-16	4.4511e-16	1.1332e-04			
11	1	10	10	1	9	1.0430220e+03	3.2913e-15	9.0020e-16	2.2174e-16	4.0272e-17	3.5701e-04			

Table III .34

JU		JL		NJ		SIGMA		A		NEP	
KU1	KU2	KL1	KL2		2U	5U	10U	20U			
12	1	12	11	1	11	.10965770E+03	.32205E-15	.10022E-15	.25756E-16	.54047E-17	.42016E-04
12	0	12	11	0	11	.11153910E+03	.37902E-15	.10930E-15	.27401E-16	.57500E-17	.44274E-04
12	2	11	11	2	10	.11165430E+03	.20110E-15	.03703E-16	.23113E-16	.53000E-17	.43414E-04
12	3	10	11	3	9	.11197340E+03	.99770E-16	.59040E-16	.19070E-16	.47522E-17	.42050E-04
12	3	9	11	3	8	.11197950E+03	.90770E-16	.59052E-16	.19000E-16	.47527E-17	.42010E-04
12	4	9	11	4	8	.11190000E+03	.29070E-16	.30943E-16	.15001E-16	.40512E-17	.39032E-04
12	4	8	11	4	7	.11190000E+03	.29070E-16	.30943E-16	.15001E-16	.40512E-17	.39032E-04
12	3	8	11	5	7	.11200260E+03	.70191E-17	.19009E-16	.10600E-16	.32057E-17	.37094E-04
12	5	7	11	5	6	.11190730E+03	.70191E-17	.19009E-16	.10600E-16	.32057E-17	.37094E-04
12	6	7	11	6	6	.11203690E+03	.11957E-17	.92305E-17	.69300E-17	.25240E-17	.33600E-04
12	6	6	11	6	5	.11203690E+03	.11957E-17	.92305E-17	.69300E-17	.25240E-17	.33600E-04
12	7	6	11	7	5	.11200000E+03	.14504E-16	.30005E-17	.41000E-17	.10232E-17	.29042E-04
12	8	5	11	8	4	.11213100E+03	.12529E-19	.12473E-17	.21936E-17	.12231E-17	.24990E-04
12	8	4	11	8	3	.11213100E+03	.12529E-19	.12473E-17	.21936E-17	.12231E-17	.24990E-04
12	9	4	11	9	3	.11216940E+03	.74301E-21	.34942E-18	.10309E-17	.74440E-16	.19715E-04
12	9	3	11	9	2	.11218940E+03	.74301E-21	.34942E-18	.10309E-17	.74440E-16	.19715E-04
12	2	10	11	2	9	.11221190E+03	.20184E-15	.04130E-16	.23051E-17	.30900E-16	.13794E-04
12	10	3	11	10	2	.11225540E+03	.20070E-22	.70079E-19	.40434E-16	.30900E-16	.13794E-04
12	10	2	11	10	1	.11225540E+03	.20070E-22	.70079E-19	.40434E-16	.30900E-16	.13794E-04
12	11	1	11	11	0	.11232620E+03	.61910E-24	.11210E-19	.11170E-16	.14020E-16	.72244E-05
12	1	11	11	1	10	.11376050E+03	.32549E-15	.10408E-15	.27205E-16	.50514E-17	.40002E-04
16	0	16	15	0	15	.14834000E+03	.24543E-15	.15369E-15	.49097E-16	.11950E-16	.10519E-03
17	0	17	16	0	16	.15750570E+03	.20130E-15	.15023E-15	.55400E-16	.13700E-16	.12013E-03
18	0	18	17	0	17	.16664700E+03	.15997E-15	.15900E-15	.00621E-16	.15900E-16	.14902E-03
19	1	19	18	1	18	.17372500E+03	.10950E-15	.14094E-15	.02007E-16	.17067E-16	.10634E-03
19	0	19	18	0	18	.17577020E+03	.12310E-15	.15050E-15	.65421E-16	.17072E-16	.17500E-03
19	2	18	18	2	17	.17692680E+03	.06193E-16	.12362E-15	.57050E-16	.16045E-16	.17740E-03
19	4	16	18	4	15	.17732750E+03	.10309E-16	.57014E-16	.36979E-16	.13457E-16	.17201E-03
19	4	15	18	4	14	.17732650E+03	.10309E-16	.57014E-16	.36979E-16	.13457E-16	.17201E-03
19	5	15	18	5	14	.17734230E+03	.25540E-17	.32571E-16	.20075E-16	.11431E-16	.16015E-03
19	3	17	18	3	16	.17734270E+03	.30492E-16	.90302E-16	.44211E-16	.15274E-16	.17015E-03
19	6	14	18	6	13	.17738400E+03	.46303E-18	.16140E-16	.19990E-16	.10270E-17	.10270E-03
19	3	16	18	3	15	.17740380E+03	.30497E-16	.90345E-16	.49239E-16	.15204E-16	.17633E-03
19	7	13	18	7	12	.17744620E+03	.61661E-19	.70291E-17	.12934E-16	.73764E-17	.15041E-03
19	8	12	18	8	11	.17752260E+03	.59965E-20	.26881E-17	.78069E-17	.55930E-17	.14900E-03
19	9	11	18	9	10	.17761220E+03	.42607E-21	.90153E-18	.43921E-17	.40759E-17	.14070E-03
19	10	10	18	10	9	.17771410E+03	.22083E-22	.26473E-16	.22991E-17	.28460E-17	.13140E-03
19	11	9	18	11	8	.17762780E+03	.63294E-24	.67904E-19	.11173E-17	.19050E-17	.12109E-03
19	12	8	18	12	7	.17795280E+03	.22791E-25	.15160E-19	.50245E-16	.12100E-17	.10972E-03
19	12	7	18	12	6	.17795260E+03	.22791E-25	.15160E-19	.50245E-16	.12100E-17	.10972E-03
19	13	7	18	13	6	.17808860E+03	.45018E-27	.29351E-20	.20000E-16	.73001E-16	.97301E-04
19	13	6	18	13	5	.17808860E+03	.45018E-27	.29351E-20	.20000E-16	.73001E-16	.97301E-04
19	14	6	18	14	5	.17823540E+03	.63718E-29	.40055E-21	.74702E-19	.42047E-16	.63025E-04
19	2	17	18	2	16	.17829540E+03	.66042E-16	.12400E-15	.50507E-16	.16073E-16	.10154E-03
19	15	5	18	15	4	.17839310E+03	.63012E-31	.69060E-22	.20909E-19	.22333E-16	.09270E-04
19	1	18	18	1	17	.17985170E+03	.10123E-15	.15042E-15	.65154E-16	.10021E-16	.10709E-03
19	2	18	18	2	16	.18283080E+03	.82379E-16	.14571E-15	.66073E-16	.19040E-16	.19709E-03
20	0	20	19	0	19	.18487580E+03	.92001E-16	.15453E-15	.69700E-16	.15005E-16	.20402E-03
20	2	19	19	2	18	.18620810E+03	.49405E-16	.12005E-15	.61795E-16	.10570E-16	.20729E-03
20	4	17	19	4	16	.18666520E+03	.77167E-17	.56625E-16	.41750E-16	.15070E-16	.20250E-03
20	4	16	19	4	15	.18666670E+03	.77167E-17	.56625E-16	.41757E-16	.15070E-16	.20251E-03
20	5	15	19	5	14	.18667690E+03	.19170E-17	.31800E-16	.31016E-16	.12041E-16	.19700E-03
20	5	16	19	5	15	.18667690E+03	.19170E-17	.31800E-16	.31016E-16	.12041E-16	.19700E-03
20	3	16	19	3	17	.18668300E+03	.22770E-16	.00264E-16	.92610E-16	.17070E-16	.20620E-03
20	6	15	19	6	14	.18671970E+03	.34940E-16	.15907E-16	.21553E-16	.10549E-16	.19213E-03
20	6	14	19	6	13	.18671970E+03	.34940E-16	.15907E-16	.21553E-16	.10549E-16	.19213E-03
20	3	17	19	3	16	.18676280E+03	.22779E-16	.00312E-16	.52647E-16	.17091E-16	.20052E-03
20	7	14	19	7	13	.18676290E+03	.40657E-19	.69505E-17	.14003E-16	.03523E-17	.10545E-03
20	8	13	19	8	12	.18666240E+03	.45029E-20	.26700E-17	.05000E-17	.63695E-17	.17775E-03
20	9	12	19	9	11	.18695620E+03	.32650E-21	.90300E-16	.40157E-16	.46737E-17	.16901E-03
20	10	11	19	10	10	.18706310E+03	.17073E-22	.26775E-16	.25433E-17	.32957E-17	.15922E-03
20	11	10	19	11	9	.18716220E+03	.65129E-24	.69462E-19	.12501E-17	.22296E-17	.14030E-03
20	12	9	19	12	8	.18713140E+03	.16084E-25	.15744E-19	.57047E-16	.14430E-17	.13041E-03
20	13	8	19	13	7	.18745640E+03	.36430E-27	.31074E-20	.24093E-16	.04197E-16	.12337E-03
20	14	7	19	14	6	.18761080E+03	.52907E-29	.53151E-21	.93717E-19	.52322E-16	.10922E-03
20	15	6	19	15	5	.18777650E+03	.55229E-31	.70202E-22	.33324E-19	.20923E-16	.93945E-04
20	2	18	19	2	17	.18778600E+03	.49170E-16	.12100E-15	.62579E-16	.10055E-16	.21261E-03
20	1	19	19	1	18	.18920260E+03	.74920E-16	.14622E-15	.69345E-16	.20070E-16	.21929E-03

JU		JL		NU		2U		5U		SIGMA		10U		20U		A		REF	
KU1	KU2	KL1	KL2																
HCCCCHU $\mu = .6000$ $A = .00035299E+02$ $B = .44620301E+02$ $C = .444995107E+01$ $KAP = .2694$																			
4	1	4	5	5	5	.1514000E+02	.14092E-17	.22100E-10	.44217E-19	.83053E-20	.70403E-00								
3	1	3	4	4	4	.25100050E+02	.30004E-17	.50759E-10	.97155E-19	.17070E-19	.31020E-07								
9	0	9	0	1	0	.26074060E+02	.21000E-17	.73161E-10	.19171E-10	.12700E-19	.30906E-07								
2	1	2	3	3	3	.34903640E+02	.61500E-17	.72005E-10	.13407E-10	.22202E-19	.61964E-07								
10	0	10	9	1	9	.36093040E+02	.34300E-17	.14173E-17	.39732E-10	.60471E-19	.32307E-07								
1	1	1	2	0	2	.4455000E+02	.57009E-17	.62740E-10	.11206E-10	.20077E-19	.14248E-06								
11	0	11	10	1	10	.47410050E+02	.44283E-17	.22093E-17	.60350E-10	.15777E-10	.20134E-00								
12	0	12	11	1	11	.58240700E+02	.50004E-17	.32235E-17	.10470E-10	.25124E-10	.37033E-00								
1	1	1	1	0	1	.63527010E+02	.15203E-10	.16509E-17	.29745E-10	.53079E-19	.53713E-00								
2	1	1	2	0	2	.63855490E+02	.94410E-17	.13200E-10	.25964E-10	.64304E-19	.30777E-06								
3	1	2	3	0	3	.6435050E+02	.52463E-17	.90117E-10	.20546E-10	.39956E-19	.14153E-00								
4	1	3	4	0	4	.65015010E+02	.32309E-17	.70009E-10	.16553E-10	.37044E-19	.14954E-00								
5	1	4	5	0	5	.65052590E+02	.20575E-17	.67175E-10	.17411E-10	.37277E-19	.12013E-00								
13	0	13	12	1	12	.69146330E+02	.51337E-17	.42090E-17	.14026E-17	.37013E-10	.63453E-00								
1	1	1	0	0	0	.72520190E+02	.13200E-10	.14414E-17	.25601E-10	.64121E-19	.53207E-00								
14	0	14	13	1	13	.80129330E+02	.40704E-17	.51562E-17	.19773E-17	.51493E-10	.99366E-06								
2	1	2	1	0	1	.81525913E+02	.21001E-10	.25032E-17	.47700E-10	.80201E-10	.60115E-06								
9	2	0	10	1	9	.87683330E+02	.30016E-17	.35500E-17	.14030E-17	.37120E-10	.12179E-05								
3	1	3	2	0	1	.90303030E+02	.30900E-10	.51159E-17	.97920E-10	.16016E-10	.11475E-05								
15	0	15	14	1	14	.91171230E+02	.43450E-17	.60034E-17	.25167E-17	.60529E-10	.14717E-05								
6	2	7	9	1	9	.98802180E+02	.22931E-19	.19009E-19	.67213E-20	.16608E-20	.65512E-00								
10	2	0	11	1	11	.90971030E+02	.34740E-22	.19492E-21	.13037E-21	.44840E-22	.19492E-09								
4	1	4	3	0	3	.99039070E+02	.49905E-10	.72910E-17	.14544E-17	.27310E-10	.15142E-05								
10	0	10	15	1	15	.10220130E+03	.50051E-17	.07015E-17	.30040E-17	.60000E-10	.20007E-05								
9	2	7	10	1	10	.10625020E+03	.10400E-21	.39594E-21	.20185E-21	.63927E-22	.50301E-09								
5	1	5	4	0	4	.10755660E+03	.59718E-16	.10200E-10	.21302E-17	.40941E-10	.20032E-05								
7	2	0	6	1	7	.10950670E+03	.10751E-10	.64540E-17	.20494E-17	.40507E-10	.22545E-05								
17	0	17	16	1	16	.11330590E+03	.29430E-17	.72100E-17	.30629E-17	.10974E-17	.20565E-05								
6	2	0	9	1	9	.11375710E+03	.30971E-21	.65355E-21	.31553E-21	.52203E-22	.40349E-09								
6	1	6	5	0	5	.11591910E+03	.66402E-16	.13107E-10	.20959E-17	.97071E-10	.20095E-05								
7	1	7	6	0	6	.12413110E+03	.60013E-16	.16090E-10	.37329E-17	.75603E-10	.33980E-05								
10	0	10	17	1	17	.12453240E+03	.75315E-17	.42334E-17	.62348E-17	.13348E-17	.37907E-05								
8	1	8	7	0	7	.13219000E+03	.67304E-16	.10704E-10	.46207E-17	.90370E-10	.41921E-05								
19	0	19	18	1	18	.13560700E+03	.16680E-17	.70435E-17	.47767E-17	.15031E-17	.49301E-05								
9	1	9	8	0	8	.14012000E+03	.62630E-16	.21129E-10	.55305E-17	.11919E-17	.50746E-05								
20	0	20	19	1	19	.14603700E+03	.11841E-17	.79630E-17	.52826E-17	.18506E-17	.62009E-05								
10	1	10	9	0	9	.14792600E+03	.55757E-16	.23034E-16	.64572E-17	.37470E-17	.60476E-05								
11	1	11	10	0	10	.15559630E+03	.47000E-16	.24434E-16	.73600E-17	.16900E-17	.71133E-05								
12	1	12	11	0	11	.16315590E+03	.39282E-16	.25296E-16	.62331E-17	.19717E-17	.82737E-05								
13	1	13	12	0	12	.17006110E+03	.31253E-16	.25023E-16	.90269E-17	.22533E-17	.95309E-05								
14	1	14	13	0	13	.17797420E+03	.24056E-16	.25437E-16	.97542E-17	.25403E-17	.10886E-04								
PHOPARQUYL ALCOHOL $\mu = .11700$ $A = .31200270E+02$ $B = .47002900E+01$ $C = .42322500E+01$ $KAP = -.9654$																			
HCCCCH2UH																			
1	0	1	0	0	0	.89324800E+01	.17039E-10	.10042E-19	.32142E-20	.50900E-21	.37553E-00								
2	1	2	1	1	1	.17397050E+02	.90307E-10	.98603E-19	.17906E-19	.32069E-20	.25160E-07								
2	0	2	1	0	1	.17059900E+02	.13509E-17	.14217E-10	.25475E-19	.45340E-20	.30300E-07								
2	1	1	1	1	0	.16333130E+02	.99950E-10	.10944E-10	.19871E-19	.35601E-20	.29453E-07								
3	1	3	2	1	2	.26091620E+02	.33919E-17	.30405E-10	.70711E-19	.12744E-19	.10782E-06								
3	0	3	2	0	2	.26773630E+02	.42702E-17	.40700E-10	.84770E-19	.15186E-19	.13103E-06								
3	2	2	2	2	1	.26798600E+02	.10370E-17	.23457E-10	.44027E-19	.82390E-20	.73013E-07								
3	2	1	2	2	0	.26821710E+02	.10400E-17	.23497E-10	.44902E-19	.82530E-20	.73200E-07								
3	1	2	2	1	1	.27495720E+02	.37414E-17	.42022E-10	.70419E-19	.14142E-19	.12017E-00								
4	1	4	3	1	3	.34782160E+02	.77972E-17	.93012E-10	.17377E-10	.31501E-19	.27939E-00								
4	0	4	3	0	3	.35670590E+02	.92758E-17	.10661E-17	.19721E-10	.35630E-19	.32131E-06								
4	2	3	3	2	2	.35726550E+02	.53954E-17	.72510E-10	.14090E-10	.20132E-19	.24219E-06								
4	3	2	3	3	1	.35745010E+02	.22839E-17	.37229E-10	.77165E-19	.14776E-19	.14150E-00								
4	3	1	3	3	0	.35745010E+02	.22839E-17	.37229E-10	.77165E-19	.14776E-19	.14150E-00								
4	2	2	3	2	1	.35784770E+02	.54119E-17	.72740E-10	.14142E-10	.22110E-19	.24337E-00								
4	1	3	3	1	2	.36653700E+02	.85021E-17	.10203E-17	.19255E-10	.35031E-19	.32091E-00								
HCCCCH2UH $\mu = .11700$ $A = .31356095E+02$ $B = .46842300E+01$ $C = .42279600E+01$ $KAP = -.9604$																			
HCCCCH2UH																			
1	0	1	0	0	0	.89121800E+01	.17190E-10	.17051E-19	.31842E-20	.50544E-21	.37595E-00								
2	1	2	1	1	1	.17360100E+02	.80133E-10	.97404E-19	.17760E-19	.31073E-20	.25043E-07								
2	0	2	1	0	1	.17010500E+02	.13171E-17	.14029E-10	.25239E-19	.45010E-20	.30054E-07								
2	1	1	1	1	0	.16200650E+02	.97317E-10	.10700E-10	.19063E-19	.35290E-20	.29201E-07								
3	1	3	2	1	2	.26044520E+02	.33100E-17	.30019E-10	.70137E-19	.12060E-19	.10720E-00								
3	0	3	2	0	2	.26713770E+02	.41645E-17	.40096E-10	.84000E-19	.15077E-19	.13010E-00								
3	2	2	2	2	1	.26737700E+02	.17319E-17	.23139E-10	.44402E-10	.81700E-20	.72515E-07								
3	2	1	2	2	0	.26759540E+02	.17930E-17	.23170E-10	.44474E-19	.81913E-20	.72693E-07								

TABLE 111.30

JU			JL		NU		20		50		100		200		A		REF
KU1	KU2		KL1	KL2													
3	1	2	2	1	1	.27417220E+02	.36437E-17	.42009E-10	.77600E-19	.14023E-19	.12709E-00						
4	1	4	3	1	3	.34724900E+02	.76110E-17	.91694E-10	.17230E-10	.51300E-19	.27197E-00						
4	0	4	3	0	3	.35592240E+02	.90405E-17	.10543E-17	.19543E-10	.55317E-19	.51941E-00						
4	2	3	3	2	2	.35645400E+02	.22574E-17	.71532E-10	.13904E-10	.25939E-19	.24059E-00						
4	3	2	3	3	1	.35663590E+02	.22227E-17	.36709E-10	.76439E-19	.14606E-19	.14059E-00						
4	3	1	3	3	0	.35663590E+02	.22227E-17	.36709E-10	.76439E-19	.14606E-19	.14059E-00						
4	2	2	3	1	1	.35700700E+02	.27240E-17	.71740E-10	.14006E-10	.26019E-19	.24100E-00						
4	1	3	3	1	2	.36549350E+02	.63405E-17	.10130E-17	.19055E-10	.34730E-19	.32415E-00						
HCCCH2OH V 2 MW = 56 MU = 1.1700 A = .36671395E+02 B = .47063400E+01 C = .42344501E+01 KAP = -.9641																	
1	0	1	0	0	0	.69426000E+01	.17260E-10	.17671E-19	.31646E-20	.25521E-21	.37962E-00						
2	1	2	1	1	1	.17411670E+02	.66472E-10	.97477E-19	.17730E-19	.31606E-20	.25521E-21						
2	0	2	1	0	1	.17679130E+02	.13222E-17	.14043E-10	.25240E-19	.44990E-20	.50453E-07						
3	1	3	2	1	2	.26113460E+02	.96030E-17	.10823E-10	.19706E-19	.35355E-20	.29960E-07						
3	0	3	2	0	2	.26803430E+02	.41793E-17	.46133E-10	.63991E-19	.15006E-19	.15147E-00						
4	0	4	2	0	1	.26629200E+02	.10090E-17	.23224E-10	.44464E-19	.61601E-20	.75262E-07						
4	2	1	2	0	0	.26652660E+02	.16120E-17	.23263E-10	.44541E-19	.61944E-20	.73456E-07						
4	1	2	2	1	1	.27534950E+02	.36692E-17	.42149E-10	.71702E-19	.14043E-19	.12671E-00						
4	1	4	3	1	3	.34610720E+02	.76374E-17	.91667E-10	.17211E-10	.31322E-19	.26003E-00						
4	0	4	3	0	3	.35709670E+02	.90769E-17	.10549E-17	.19537E-10	.35351E-19	.32236E-00						
4	3	2	3	2	2	.35766870E+02	.53107E-17	.71763E-10	.13962E-10	.25944E-19	.24301E-00						
4	3	1	3	3	1	.35785790E+02	.22643E-17	.36903E-10	.76071E-19	.14062E-19	.14196E-00						
4	3	0	3	3	0	.35785790E+02	.22643E-17	.36903E-10	.76071E-19	.14062E-19	.14196E-00						
4	2	2	3	2	1	.35626640E+02	.53272E-17	.72017E-10	.14026E-10	.26031E-19	.24423E-00						
4	1	3	3	1	2	.36705550E+02	.63954E-17	.10106E-17	.19092E-10	.34765E-19	.32630E-00						
S TRANS ACROLEIN CH2CHCHO V 1 MW = 56 MU = 3.0600 A = .47639000E+02 B = .46594300E+01 C = .42427100E+01 KAP = -.9000																	
2	1	1	1	1	0	.18211010E+02	.79837E-17	.69467E-10	.16375E-10	.29452E-19	.19747E-00						
3	1	3	2	1	2	.26079470E+02	.27423E-16	.31857E-17	.58995E-10	.10674E-10	.73044E-00						
4	0	3	2	0	2	.26694370E+02	.35747E-16	.39091E-17	.70946E-10	.12706E-10	.68640E-00						
4	1	2	3	1	1	.27329620E+02	.29935E-16	.34901E-17	.64709E-10	.11715E-10	.64751E-00						
4	0	4	3	0	3	.35576420E+02	.77731E-16	.69474E-17	.16519E-17	.29642E-10	.21613E-05						
4	1	3	3	1	2	.36435940E+02	.68556E-16	.64235E-17	.15894E-17	.29027E-10	.21960E-05						
CH2CHCHO V 1 MW = 56 MU = 3.0600 A = .47660000E+02 B = .46661900E+01 C = .42596000E+01 KAP = -.9012																	
2	1	1	1	0	1	.18258230E+02	.79264E-17	.69641E-10	.16451E-10	.29631E-19	.19901E-00						
3	1	3	2	1	2	.26165870E+02	.27265E-16	.31954E-17	.59350E-10	.10754E-10	.74379E-00						
4	0	3	2	0	2	.26765430E+02	.35492E-16	.39159E-17	.71261E-10	.12767E-10	.69557E-00						
4	1	2	3	1	1	.27365450E+02	.29691E-16	.34921E-17	.64935E-10	.11773E-10	.65271E-00						
4	0	4	3	0	3	.35673090E+02	.77160E-16	.69621E-17	.16595E-17	.30026E-10	.21960E-05						
CH2CHCHO V 2 MW = 56 MU = 3.0600 A = .47639000E+02 B = .46721000E+01 C = .42735600E+01 KAP = -.9016																	
2	1	1	1	1	0	.18269860E+02	.78617E-17	.69669E-10	.16504E-10	.29770E-19	.20004E-00						
3	1	3	2	1	2	.26237260E+02	.27663E-16	.32025E-17	.59657E-10	.10826E-10	.74969E-00						
4	0	3	2	0	2	.26824880E+02	.35225E-16	.39206E-17	.71500E-10	.12659E-10	.69015E-00						
4	1	2	3	1	1	.27432890E+02	.29438E-16	.34930E-17	.65143E-10	.11826E-10	.65715E-00						
4	0	4	3	0	3	.35752400E+02	.76564E-16	.69726E-17	.16664E-17	.30195E-10	.22135E-05						
OXETANE (CH2)3O V 1 MW = 56 MU = 1.9300 A = .12045491E+02 B = .11734021E+02 C = .67300694E+01 KAP = 15.23																	
1	0	1	0	0	0	.18464740E+02	.24710E-17	.25760E-10	.45992E-19	.61700E-20	.90962E-07						
8	7	2	8	5	3	.26724300E+02	.23700E-17	.60196E-10	.21200E-10	.45629E-19	.15626E-00						
9	9	1	9	7	2	.26726650E+02	.50530E-16	.24061E-10	.71271E-19	.16309E-19	.53406E-07						
9	8	2	9	6	3	.27303140E+02	.15809E-17	.72636E-10	.21341E-10	.46566E-19	.16175E-00						
17	14	3	17	14	4	.27763900E+02	.76374E-20	.13619E-10	.13644E-10	.57002E-19	.19251E-00						
10	9	2	10	7	3	.26125190E+02	.97729E-16	.63454E-10	.20844E-10	.50226E-19	.16506E-00						
11	10	2	11	8	3	.29252560E+02	.56168E-10	.53193E-10	.19816E-10	.50653E-19	.16902E-00						
16	13	3	16	13	4	.2955730E+02	.21637E-19	.21362E-10	.17407E-10	.60633E-19	.22606E-00						
10	10	1	10	8	2	.3000126E+02	.29675E-16	.26091E-10	.66774E-19	.18186E-19	.57076E-07						
12	11	2	12	9	3	.30749750E+02	.30065E-16	.42900E-10	.16371E-10	.50494E-19	.17364E-00						
15	12	3	15	12	4	.31104510E+02	.55482E-19	.31789E-10	.21579E-10	.74750E-19	.26450E-00						
2	1	2	1	1	1	.31925960E+02	.12555E-16	.11199E-17	.20307E-10	.36356E-19	.42325E-00						
2	0	2	1	0	1	.32223230E+02	.10756E-16	.11746E-17	.21301E-10	.38137E-19	.44610E-00						
14	11	3	14	11	4	.32407380E+02	.13201E-16	.45359E-10	.25966E-10	.52660E-19	.29902E-00						
13	12	2	13	10	3	.32677360E+02	.15007E-16	.33529E-16	.16628E-10	.49235E-19	.17967E-00						
13	10	3	13	10	4	.33462660E+02	.29104E-16	.62038E-10	.30266E-10	.68979E-19	.32491E-00						
11	11	1	11	9	2	.33752760E+02	.16507E-16	.16233E-10	.61239E-10	.15614E-19	.61030E-07						
12	9	3	12	9	4	.34282670E+02	.59363E-16	.61226E-16	.34205E-10	.93323E-19	.35557E-00						

TABLE III.10

SU			JL		SU	2U		3U		Sign A		10U		20U		N		REF
KU1	KU2		KL1	KL2														
17	15	3	17	13	4	.39000000E+02	.10030E-19	.19999999E-10	.19999999E-10	.01900E-19	.01900E-19	.01900E-19	.01900E-19	.01900E-19	.01900E-19	.01900E-19	.01900E-19	
(CH ₂) ₃ CO # 2 Mw = 59 hu = 1.4300 A = .12050000E+02 B = .11710000E+02 C = .01000000E+01 KAR = .0100																		
1	0	1	0	0	0	.10507910E+02	.24072E-17	.25000E-10	.40300E-19	.00300E-10	.00300E-10	.00300E-10	.00300E-10	.00300E-10	.00300E-10	.00300E-10	.00300E-10	
5	7	2	5	3	3	.20000000E+02	.20777E-17	.77777E-10	.20000E-10	.44444E-19	.44444E-19	.44444E-19	.44444E-19	.44444E-19	.44444E-19	.44444E-19	.44444E-19	
9	0	2	9	0	3	.27337200E+02	.15137E-17	.70000E-10	.20010E-10	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	
16	13	3	10	13	4	.27709230E+02	.19137E-17	.10407E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	.19477E-10	
9	9	1	9	7	2	.27921930E+02	.47535E-10	.22740E-10	.07097E-19	.10510E-19	.10510E-19	.10510E-19	.10510E-19	.10510E-19	.10510E-19	.10510E-19	.10510E-19	
10	9	2	10	7	3	.28342020E+02	.95299E-10	.00900E-10	.20077E-10	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	
15	12	3	15	12	4	.29507000E+02	.49010E-10	.20077E-10	.19491E-10	.07097E-19	.07097E-19	.07097E-19	.07097E-19	.07097E-19	.07097E-19	.07097E-19	.07097E-19	
11	10	2	11	5	3	.29717450E+02	.53410E-10	.50932E-10	.19017E-10	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	
14	11	3	14	11	4	.31114130E+02	.12020E-10	.41500E-10	.23001E-10	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	
12	11	2	12	9	3	.31530030E+02	.20457E-10	.40970E-10	.17550E-10	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	
10	10	1	10	8	2	.31579730E+02	.27992E-10	.10909E-10	.03205E-19	.10530E-19	.10530E-19	.10530E-19	.10530E-19	.10530E-19	.10530E-19	.10530E-19	.10530E-19	
2	1	2	1	1	1	.32005000E+02	.10290E-10	.11310E-17	.20055E-10	.30000E-19	.30000E-19	.30000E-19	.30000E-19	.30000E-19	.30000E-19	.30000E-19	.30000E-19	
13	10	3	13	10	4	.32391470E+02	.20007E-10	.57530E-10	.20142E-10	.00749E-19	.00749E-19	.00749E-19	.00749E-19	.00749E-19	.00749E-19	.00749E-19	.00749E-19	
2	0	0	1	0	1	.32409000E+02	.10042E-10	.11917E-17	.21050E-10	.30010E-19	.30010E-19	.30010E-19	.30010E-19	.30010E-19	.30010E-19	.30010E-19	.30010E-19	
12	9	3	12	9	4	.33401320E+02	.50414E-10	.70230E-10	.30100E-10	.07047E-19	.07047E-19	.07047E-19	.07047E-19	.07047E-19	.07047E-19	.07047E-19	.07047E-19	
13	12	2	13	10	4	.33000700E+02	.14120E-10	.31791E-10	.15004E-10	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	.40000E-19	
11	8	3	11	8	4	.34103070E+02	.10054E-10	.90410E-10	.30490E-10	.90530E-19	.90530E-19	.90530E-19	.90530E-19	.90530E-19	.90530E-19	.90530E-19	.90530E-19	
10	7	3	10	7	4	.34712790E+02	.10521E-10	.11022E-17	.37744E-10	.90430E-19	.90430E-19	.90430E-19	.90430E-19	.90430E-19	.90430E-19	.90430E-19	.90430E-19	
9	6	3	9	6	4	.35090370E+02	.29001E-10	.13323E-17	.30013E-10	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	.67770E-19	
8	5	3	8	5	4	.35330300E+02	.44134E-10	.14407E-17	.37040E-10	.01307E-19	.01307E-19	.01307E-19	.01307E-19	.01307E-19	.01307E-19	.01307E-19	.01307E-19	
7	4	3	7	4	4	.35493050E+02	.59150E-10	.14740E-17	.35212E-10	.72342E-19	.72342E-19	.72342E-19	.72342E-19	.72342E-19	.72342E-19	.72342E-19	.72342E-19	
9	7	3	9	5	4	.35579710E+02	.30490E-17	.13007E-17	.39444E-10	.09000E-19	.09000E-19	.09000E-19	.09000E-19	.09000E-19	.09000E-19	.09000E-19	.09000E-19	
6	0	0	6	0	4	.35505020E+02	.44594E-17	.14023E-17	.30252E-10	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	
6	3	0	6	3	4	.35506170E+02	.70562E-17	.13040E-17	.30522E-10	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	.00252E-19	
7	5	3	7	3	4	.35606250E+02	.59432E-17	.14020E-17	.35307E-10	.72703E-19	.72703E-19	.72703E-19	.72703E-19	.72703E-19	.72703E-19	.72703E-19	.72703E-19	
10	8	3	10	6	4	.35608090E+02	.19217E-17	.12073E-17	.39220E-10	.94007E-19	.94007E-19	.94007E-19	.94007E-19	.94007E-19	.94007E-19	.94007E-19	.94007E-19	
6	4	0	6	2	4	.35631250E+02	.70097E-17	.15073E-17	.30503E-10	.00373E-19	.00373E-19	.00373E-19	.00373E-19	.00373E-19	.00373E-19	.00373E-19	.00373E-19	
5	2	0	5	2	4	.35630120E+02	.71450E-17	.11410E-17	.23500E-10	.44040E-19	.44040E-19	.44040E-19	.44040E-19	.44040E-19	.44040E-19	.44040E-19	.44040E-19	
4	1	0	4	1	4	.35653140E+02	.71502E-17	.11420E-17	.23521E-10	.44070E-19	.44070E-19	.44070E-19	.44070E-19	.44070E-19	.44070E-19	.44070E-19	.44070E-19	
4	1	0	4	1	4	.35665210E+02	.52300E-17	.70420E-10	.13094E-10	.25300E-19	.25300E-19	.25300E-19	.25300E-19	.25300E-19	.25300E-19	.25300E-19	.25300E-19	
4	2	3	4	0	4	.35668960E+02	.52309E-17	.70430E-10	.13090E-10	.25390E-19	.25390E-19	.25390E-19	.25390E-19	.25390E-19	.25390E-19	.25390E-19	.25390E-19	
11	9	3	11	7	4	.35690850E+02	.11230E-17	.10201E-17	.37000E-10	.90003E-19	.90003E-19	.90003E-19	.90003E-19	.90003E-19	.90003E-19	.90003E-19	.90003E-19	
11	11	1	11	9	2	.35746300E+02	.15430E-10	.15304E-10	.57000E-19	.14900E-19	.14900E-19	.14900E-19	.14900E-19	.14900E-19	.14900E-19	.14900E-19	.14900E-19	
12	10	3	12	8	4	.3580590E+02	.01122E-10	.04570E-10	.30037E-10	.97370E-19	.97370E-19	.97370E-19	.97370E-19	.97370E-19	.97370E-19	.97370E-19	.97370E-19	
13	11	3	13	9	4	.36210720E+02	.00922E-10	.00922E-10	.32700E-10	.32700E-19	.32700E-19	.32700E-19	.32700E-19	.32700E-19	.32700E-19	.32700E-19	.32700E-19	
14	12	3	14	10	4	.36732060E+02	.14779E-10	.51407E-10	.29540E-10	.94100E-19	.94100E-19	.94100E-19	.94100E-19	.94100E-19	.94100E-19	.94100E-19	.94100E-19	
14	13	2	14	11	3	.3673680E+02	.65403E-19	.23041E-10	.13914E-10	.44690E-19	.44690E-19	.44690E-19	.44690E-19	.44690E-19	.44690E-19	.44690E-19	.44690E-19	
15	13	3	15	11	4	.37513260E+02	.65005E-19	.30290E-10	.20110E-10	.90093E-19	.90093E-19	.90093E-19	.90093E-19	.90093E-19	.90093E-19	.90093E-19	.90093E-19	
20	16	4	20	16	5	.38571410E+02	.00915E-21	.01721E-19	.15231E-10	.07421E-19	.07421E-19	.07421E-19	.07421E-19	.07421E-19	.07421E-19	.07421E-19	.07421E-19	
16	14	3	16	12	4	.38627250E+02	.27521E-19	.27074E-10	.22059E-10	.00207E-19	.00207E-19	.00207E-19	.00207E-19	.00207E-19	.00207E-19	.00207E-19	.00207E-19	
ISOPROPYL ALCOHOL (CH ₃) ₂ CHOH # 2 Mw = 59 hu = 1.4000 A = .04689900E+01 B = .00417500E+01 C = .47651900E+01 KAR = .7590																		
5	4	1	5	3	2	.07275000E+01	.41292E-10	.59274E-19	.11775E-19	.22000E-20	.22000E-20	.22000E-20	.22000E-20	.22000E-20	.22000E-20	.22000E-20	.22000E-20	
0	5	1	0	4	2	.08005000E+01	.41694E-10	.00950E-19	.14359E-10	.27551E-20	.27551E-20	.27551E-20	.27551E-20	.27551E-20	.27551E-20	.27551E-20	.27551E-20	
4	3	1	4	2	2	.09700000E+01	.36513E-10	.49143E-19	.93007E-20	.17249E-20	.17249E-20	.17249E-20	.17249E-20	.17249E-20	.17249E-20	.17249E-20	.17249E-20	
7	0	1	7	0	2	.09910000E+01	.40002E-10	.79774E-19	.17555E-20	.34025E-20	.34025E-20	.34025E-20	.34025E-20	.34025E-20	.34025E-20	.34025E-20	.34025E-20	
3	2	1	3	1	2	.09902900E+01	.31972E-10	.37132E-19	.00730E-20	.12434E-20	.12434E-20	.12434E-20	.12434E-20	.12434E-20	.12434E-20	.12434E-20	.12434E-20	
2	1	1	2	0	2	.09727000E+01	.20355E-10	.22031E-19	.39035E-20	.71210E-21	.71210E-21	.71210E-21	.71210E-21	.71210E-21	.71210E-21	.71210E-21	.71210E-21	
0	7	1	0	6	2	.10270510E+02	.39346E-10	.92002E-19	.21754E-19	.44204E-20	.44204E-20	.44204E-20	.44204E-20	.44204E-20	.44204E-20	.44204E-20	.44204E-20	
9	0	1	9	7	2	.11079130E+02	.37057E-10	.10025E-10	.27249E-19	.54703E-20	.54703E-20	.54703E-20	.54703E-20	.54703E-20	.54703E-20	.54703E-20	.54703E-20	
3	3	1	3	2	2	.11667090E+02	.30250E-10	.42264E-19	.70330E-20	.14100E-20	.14100E-20	.14100E-20	.14100E-20	.14100E-20	.14100E-20	.14100E-20	.14100E-20	
4	4	1	4	3	2	.12605900E+02	.40955E-10	.60290E-19	.11542E-19	.21232E-20	.21232E-20	.21232E-20	.21232E-20	.21232E-20	.21232E-20	.21232E-20	.21232E-20	
5	5	1	5	4	2	.1												

J		K		L		M		N		O		P		Q		R		S		T		U		V		W		X		Y		Z		AA		AB		AC		AD		AE		AF		AG		AH		AI		AJ		AK		AL		AM		AN		AO		AP		AQ		AR		AS		AT		AU		AV		AW		AX		AY		AZ		BA		BB		BC		BD		BE		BF		BG		BH		BI		BJ		BK		BL		BM		BN		BO		BP		BQ		BR		BS		BT		BU		BV		BW		BX		BY		BZ		CA		CB		CC		CD		CE		CF		CG		CH		CI		CJ		CK		CL		CM		CN		CO		CP		CQ		CR		CS		CT		CU		CV		CW		CX		CY		CZ		DA		DB		DC		DD		DE		DF		DG		DH		DI		DJ		DK		DL		DM		DN		DO		DP		DQ		DR		DS		DT		DU		DV		DW		DX		DY		DZ		EA		EB		EC		ED		EE		EF		EG		EH		EI		EJ		EK		EL		EM		EN		EO		EP		EQ		ER		ES		ET		EU		EV		EW		EX		EY		EZ		FA		FB		FC		FD		FE		FF		FG		FH		FI		FJ		FK		FL		FM		FN		FO		FP		FQ		FR		FS		FT		FU		FV		FW		FX		FY		FZ		GA		GB		GC		GD		GE		GF		GG		GH		GI		GJ		GK		GL		GM		GN		GO		GP		GQ		GR		GS		GT		GU		GV		GW		GX		GY		GZ		HA		HB		HC		HD		HE		HF		HG		HH		HI		HJ		HK		HL		HM		HN		HO		HP		HQ		HR		HS		HT		HU		HV		HW		HX		HY		HZ		IA		IB		IC		ID		IE		IF		IG		IH		IJ		IK		IL		IM		IN		IO		IP		IQ		IR		IS		IT		IU		IV		IW		IX		IY		IZ		JA		JB		JC		JD		JE		JF		JG		JH		JI		JJ		JK		JL		JM		JN		JO		JP		JQ		JR		JS		JT		JU		JV		JW		JX		JY		JZ		KA		KB		KC		KD		KE		KF		KG		KH		KI		KJ		KK		KL		KM		KN		KO		KP		KQ		KR		KS		KT		KU		KV		KW		KX		KY		KZ		LA		LB		LC		LD		LE		LF		LG		LH		LI		LJ		LK		LM		LN		LO		LP		LQ		LR		LS		LT		LU		LV		LW		LX		LY		LZ		MA		MB		MC		MD		ME		MF		MG		MH		MI		MJ		MK		ML		MM		MN		MO		MP		MQ		MR		MS		MT		MU		MV		MW		MX		MY		MZ		NA		NB		NC		ND		NE		NF		NG		NH		NI		NJ		NK		NL		NM		NN		NO		NP		NQ		NR		NS		NT		NU		NV		NW		NX		NY		NZ		OA		OB		OC		OD		OE		OF		OG		OH		OI		OJ		OK		OL		OM		ON		OO		OP		OQ		OR		OS		OT		OU		OV		OW		OX		OY		OZ		PA		PB		PC		PD		PE		PF		PG		PH		PI		PJ		PK		PL		PM		PN		PO		PP		PQ		PR		PS		PT		PU		PV		PW		PX		PY		PZ		QA		QB		QC		QD		QE		QF		QG		QH		QI		QJ		QK		QL		QM		QN		QO		QP		QQ		QR		QS		QT		QU		QV		QW		QX		QY		QZ		RA		RB		RC		RD		RE		RF		RG		RH		RI		RJ		RK		RL		RM		RN		RO		RP		RQ		RR		RS		RT		RU		RV		RW		RX		RY		RZ		SA		SB		SC		SD		SE		SF		SG		SH		SI		SJ		SK		SL		SM		SN		SO		SP		SQ		SR		SS		ST		SU		SV		SW		SX		SY		SZ		TA		TB		TC		TD		TE		TF		TG		TH		TI		TJ		TK		TL		TM		TN		TO		TP		TQ		TR		TS		TT		TU		TV		TW		TX		TY		TZ		UA		UB		UC		UD		UE		UF		UG		UH		UI		UJ		UK		UL		UM		UN		UO		UP		UQ		UR		US		UT		UU		UV		UW		UX		UY		UZ		VA		VB		VC		VD		VE		VF		VG		VH		VI		VJ		VK		VL		VM		VN		VO		VP		VQ		VR		VS		VT		VU		VV		VW		VX		VY		VZ		WA		WB		WC		WD		WE		WF		WG		WH		WI		WJ		WK		WL		WM		WN		WO		WP		WQ		WR		WS		WT		WU		WV		WW		WX		WY		WZ		XA		XB		XC		XD		XE		XF		XG		XH		XI		XJ		XK		XL		XM		XN		XO		XP		XQ		XR		XS		XT		XU		XV		XW		XX		XY		XZ		YA		YB		YC		YD		YE		YF		YG		YH		YI		YJ		YK		YL		YM		YN		YO		YP		YQ		YR		YS		YT		YU		YV		YW		YX		YY		YZ		ZA		ZB		ZC		ZD		ZE		ZF		ZG		ZH		ZI		ZJ		ZK		ZL		ZM		ZN		ZO		ZP		ZQ		ZR		ZS		ZT		ZU		ZV		ZW		ZX		ZY		ZZ	
REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF		REF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

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TABLE 111 (cont)

JU		JL		NU		DU		DU		DU		DU		DU		DU	
K01 K02		K01 K02		K01 K02		K01 K02		K01 K02		K01 K02		K01 K02		K01 K02		K01 K02	
METHYL VINYL SULFIDE																	
CH3SC2H3		C1		Mm = 74		MU = 1.1400		A = .1000000000000000		B = .4704000000000000		C = .3300000000000000		D = .1000000000000000		E = .1000000000000000	
2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	3	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4
4	2	2	4	1	3	1	3	1	3	1	3	1	3	1	3	1	3
3	2	1	3	1	2	1	2	1	2	1	2	1	2	1	2	1	2
3	2	3	3	1	4	1	4	1	4	1	4	1	4	1	4	1	4
2	2	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
5	1	4	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5
3	2	2	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
CH3SC2H3																	
C1		Mm = 74		MU = 1.1400		A = .1000000000000000		B = .4704000000000000		C = .3300000000000000		D = .1000000000000000		E = .1000000000000000		F = .1000000000000000	
2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	3	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4
4	2	2	4	1	3	1	3	1	3	1	3	1	3	1	3	1	3
2	2	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2	2	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
5	0	5	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4
2	1	2	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
3	2	2	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
5	0	5	4	1	4	1	4	1	4	1	4	1	4	1	4	1	4
CH3SC2H3																	
10		Mm = 74		MU = 1.1400		A = .1000000000000000		B = .4704000000000000		C = .3300000000000000		D = .1000000000000000		E = .1000000000000000		F = .1000000000000000	
2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	2	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
4	2	2	4	1	3	1	3	1	3	1	3	1	3	1	3	1	3
3	2	1	3	1	2	1	2	1	2	1	2	1	2	1	2	1	2
5	2	3	5	1	4	1	4	1	4	1	4	1	4	1	4	1	4
2	2	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2	2	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
3	1	3	2	0	3	0	3	0	3	0	3	0	3	0	3	0	3
6	1	5	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6
VINYLACETYLENE																	
C4H4		Mm = 54		MU = .4300		A = .5127000000000000		B = .4744000000000000		C = .4329740000000000		D = .4329740000000000		E = .4329740000000000		F = .4329740000000000	
1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1	3	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
3	0	3	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2
3	2	1	2	2	1	2	1	2	1	2	1	2	1	2	1	2	1
3	2	1	2	2	0	2	0	2	0	2	0	2	0	2	0	2	0
3	1	2	2	1	1	2	1	1	1	2	1	1	1	2	1	1	1
METHYLALLENE																	
CH3CHC2H2		Mm = 54		MU = .5340		A = .3300000000000000		B = .4201200000000000		C = .4201100000000000		D = .4201100000000000		E = .4201100000000000		F = .4201100000000000	
2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	0	2	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2	1	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0
3	1	2	2	1	1	2	1	1	1	2	1	1	1	2	1	1	1
3	1	3	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
3	0	3	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2
3	2	2	2	2	1	2	1	2	1	2	1	2	1	2	1	2	1
4	1	4	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
4	0	4	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
4	2	3	3	2	2	3	2	2	2	3	2	2	2	3	2	2	2
4	3	2	3	3	1	3	1	3	1	3	1	3	1	3	1	3	1
4	3	1	3	3	0	3	0	3	0	3	0	3	0	3	0	3	0
4	2	2	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2
4	1	3	3	3	1	3	1	3	1	3	1	3	1	3	1	3	1
ISOBUTYLENE																	
(CH3)2CC2H2		Mm = 50		MU = .5030		A = .3133200000000000		B = .0301700000000000		C = .4010000000000000		D = .4010000000000000		E = .4010000000000000		F = .4010000000000000	
5	2	1	5	4	2	5	4	2	5	4	2	5	4	2	5	4	2
11	4	2	11	8	3	11	8	3	11	8	3	11	8	3	11	8	3
5	3	2	5	2	3	5	2	3	5	2	3	5	2	3	5	2	3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	6
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TABLE 111 .44

JU	KU1	KU2	JL	KL1	KL2	MU	SIGMA	100	200	A	REF
hCCCn2Cn2Un											
7	2	5	7	1	0	70 MU = .0500	A = .10520770E+02	B = .33735400E+01	C = .27521700E+01	KAF =	154
0	2	4	0	1	5	.10057170E+02	.59057E-10	.00004E-19	.15774E-19	.25300E-20	.21554E-07
5	2	3	5	1	4	.10727210E+02	.54035E-10	.0923E-19	.13204E-19	.24401E-20	.20545E-07
4	2	2	4	1	3	.19195070E+02	.40503E-10	.5020E-19	.10552E-19	.19905E-20	.20104E-07
9	2	7	9	1	0	.19915130E+02	.40702E-10	.40573E-19	.00549E-20	.15059E-20	.15954E-07
3	2	1	3	1	2	.20726110E+02	.30520E-10	.34151E-19	.02492E-20	.11234E-20	.19521E-07
hCCCn2Cn2Un											
4	1	4	3	1	3	70 MU = .9100	A = .10604300E+02	B = .33015000E+01	C = .27440000E+01	KAF =	154
4	2	3	3	2	2	.23110130E+02	.92050E-10	.10239E-10	.10760E-19	.33704E-20	.49500E-07
4	3	2	3	3	1	.24393350E+02	.77121E-10	.09025E-19	.16515E-19	.25900E-20	.40019E-07
4	3	1	3	4	0	.24495040E+02	.41440E-10	.50525E-19	.95454E-20	.17444E-20	.21554E-07
4	3	1	3	3	1	.24503720E+02	.41474E-10	.50561E-19	.95521E-20	.17444E-20	.21554E-07
4	2	2	3	2	1	.24705030E+02	.79303E-10	.91700E-19	.17010E-19	.30023E-20	.40775E-07
4	1	3	3	1	2	.25570000E+02	.11102E-17	.12450E-10	.22094E-19	.41205E-20	.07124E-07
hCCCn2Cn2Un											
7	2	5	7	1	0	70 MU = .0500	A = .10604300E+02	B = .33015000E+01	C = .27440000E+01	KAF =	154
0	2	4	0	1	5	.10002020E+02	.00422E-10	.02145E-19	.10093E-19	.25900E-20	.22202E-07
5	2	3	5	1	4	.10902710E+02	.55390E-10	.70000E-19	.13554E-19	.25900E-20	.21554E-07
4	2	2	4	1	3	.19470470E+02	.49210E-10	.59400E-19	.11000E-19	.20450E-20	.20545E-07
9	2	7	9	1	0	.20197000E+02	.41259E-10	.47111E-19	.00535E-20	.10035E-20	.20701E-07
3	2	1	3	1	2	.20313540E+02	.69515E-10	.11043E-10	.22709E-19	.43525E-20	.20225E-07
CROTOMONIRILE											
CH3CHCN	InAns	Mu	07	MU = 4.3500	A = .360533.0E+02	B = .22970700E+01	C = .21951000E+01	KAF =	00152		
2	1	2	1	1	1	.60622000E+01	.18914E-17	.19030E-10	.35910E-19	.04250E-20	.40300E-07
2	0	2	1	0	1	.09043100E+01	.20105E-17	.20001E-10	.49630E-19	.00402E-20	.03009E-07
2	0	2	1	0	1	.09043100E+01	.20105E-17	.20001E-10	.49630E-19	.00402E-20	.03009E-07
2	1	1	1	1	0	.90001200E+01	.19770E-17	.20750E-10	.37570E-19	.07230E-20	.49500E-07
2	1	1	1	1	0	.90001200E+01	.19770E-17	.20750E-10	.37570E-19	.07230E-20	.49500E-07
3	1	3	2	1	2	.13323940E+02	.73275E-17	.70339E-10	.14275E-10	.25021E-19	.19045E-00
3	0	3	2	0	2	.13475890E+02	.91828E-17	.93279E-10	.10710E-10	.29737E-19	.23100E-00
3	1	2	2	1	1	.13629290E+02	.70560E-17	.81922E-10	.14932E-10	.20055E-19	.21244E-00
4	1	3	3	1	2	.16172440E+02	.10323E-10	.20120E-17	.37007E-10	.06720E-19	.55073E-00
PYIMIDENE											
C4N2H4	Mu	60	MU = 2.3340	A = .62706000E+01	B = .60671000E+01	C = .30044900E+01	KAF =	6			
5	4	1	5	3	2	.01011900E+01	.59250E-10	.77400E-19	.14945E-19	.27590E-20	.10070E-07
4	3	1	4	2	2	.03933700E+01	.53007E-10	.64175E-19	.12020E-19	.21071E-20	.10750E-07
3	2	1	3	1	2	.06930200E+01	.43004E-10	.40004E-19	.67920E-20	.15012E-20	.10235E-07
2	1	1	2	0	2	.09508200E+01	.20270E-10	.20273E-19	.50010E-20	.05050E-20	.03040E-07
1	1	1	0	0	0	.93013500E+01	.33632E-10	.34364E-19	.01051E-20	.10019E-20	.17339E-07
2	2	1	2	1	2	.95771700E+01	.27632E-10	.29264E-19	.52010E-20	.93004E-21	.92031E-00
4	4	1	3	3	2	.10329440E+02	.59707E-10	.71705E-19	.13455E-19	.24455E-20	.14030E-07
5	5	1	5	4	2	.10073150E+02	.69410E-10	.91109E-19	.17011E-19	.32545E-20	.17220E-07
7	5	2	7	4	3	.14015520E+02	.14295E-17	.23255E-10	.40243E-19	.92300E-20	.49957E-07
0	4	2	0	3	3	.14945500E+02	.14047E-17	.21340E-10	.42479E-19	.79000E-20	.49003E-07
5	3	2	5	2	3	.15175520E+02	.14118E-17	.10240E-10	.35057E-19	.04009E-20	.47000E-07
4	2	2	4	1	3	.15310900E+02	.11741E-17	.13887E-10	.25905E-19	.47042E-20	.42132E-07
3	1	2	3	0	3	.15391340E+02	.73234E-10	.00002E-19	.14099E-19	.20370E-20	.30103E-07
7	6	2	7	5	3	.15777930E+02	.15707E-17	.25596E-10	.53131E-19	.10170E-19	.55430E-07
2 AMINOPYRIMIDINE											
NC4N2H4	Mu	62	MU = .0000	A = .57003400E+01	B = .27335700E+01	C = .10570000E+01	KAF =	01			
7	0	7	6	1	6	.27710040E+02	.94313E-10	.10700E-10	.20134E-19	.30000E-20	.71200E-07
7	1	7	6	0	0	.20036490E+02	.90791E-10	.11050E-10	.20067E-19	.37570E-20	.74039E-07
9	5	5	9	4	6	.30562500E+02	.50002E-10	.65010E-19	.17499E-19	.33272E-20	.50025E-07
3	3	1	2	2	0	.31128170E+02	.50050E-10	.59514E-19	.10420E-19	.19415E-20	.09757E-07
3	3	0	2	2	1	.31310760E+02	.50932E-10	.59611E-19	.10601E-19	.19512E-20	.90733E-07
6	0	0	7	1	7	.31511000E+02	.13206E-17	.15072E-10	.30137E-19	.55215E-20	.10071E-00
9	0	9	0	1	0	.35020900E+02	.17540E-17	.22057E-10	.42599E-19	.70710E-20	.15049E-00
9	1	9	0	0	0	.35330010E+02	.17017E-17	.22144E-10	.42707E-19	.79022E-20	.15740E-00
9	6	3	5	5	4	.37274100E+02	.65912E-10	.10242E-10	.21300E-19	.40530E-20	.09192E-07
NC4N2H4											
7	0	7	0	1	6	.27098030E+02	.12229E-17	.14110E-10	.20409E-19	.40152E-20	.90750E-07
7	1	7	0	0	6	.20027330E+02	.12534E-17	.14409E-10	.27132E-19	.49400E-20	.94129E-07
9	5	5	9	4	0	.30564950E+02	.75190E-10	.11350E-10	.23250E-19	.44340E-20	.70003E-07
0	0	0	7	1	7	.31499190E+02	.17143E-17	.20715E-10	.39442E-19	.72300E-20	.13771E-00
9	0	9	0	1	0	.35252750E+02	.22507E-17	.20700E-10	.55504E-19	.10209E-19	.19771E-00
9	1	9	0	0	0	.353106330E+02	.22053E-17	.20010E-10	.55790E-19	.10524E-19	.15009E-00
9	6	3	9	5	4	.37202940E+02	.60064E-10	.13703E-10	.20759E-19	.55234E-20	.11059E-00

JU	KU1	KU2	JL	AL1	AL2	NU	2U	5J	SIXA	10U	20U	N	NEP
3	2	2	2	1	2	.30730705E+02	.22073E-17	.24222E-10	.44000E-19	.79070E-20	.21009E-00		
3	3	0	2	2	0	.32309520E+02	.39272E-17	.43090E-10	.74907E-19	.14300E-19	.40300E-00		
FULTONE													
COUN													
1	0	1	0	0	0	.63991000E+01	.43017E-20	.44000E-10	.76001E-20	.15000E-20	.16200E-00		
2	1	2	1	1	1	.11592030E+02	.20000E-19	.21320E-20	.50100E-21	.07100E-20	.16000E-00		
2	0	2	1	0	1	.16201070E+02	.36370E-19	.35050E-20	.59353E-21	.10700E-21	.10000E-00		
2	1	1	1	1	0	.14004000E+02	.26996E-19	.31023E-20	.55500E-21	.50000E-21	.13000E-00		
3	1	3	2	1	2	.17262-90E+02	.77931E-19	.60410E-20	.14000E-20	.04000E-21	.40000E-00		
5	1	4	5	1	5	.17439700E+02	.10032E-19	.12410E-20	.12513E-21	.41900E-20	.41900E-00		
3	0	3	2	0	2	.10373900E+02	.97004E-19	.10304E-19	.10550E-20	.33107E-21	.50400E-00		
3	2	1	2	2	0	.20021040E+02	.62700E-19	.60357E-20	.12439E-20	.22310E-21	.55500E-00		
4	2	3	4	0	4	.22050000E+02	.92010E-20	.10440E-20	.19037E-21	.34034E-21	.55000E-00		
4	1	4	3	1	3	.22015370E+02	.10007E-19	.19750E-19	.36000E-20	.04000E-21	.10000E-00		
4	0	4	3	0	3	.23152970E+02	.20351E-18	.22214E-19	.40030E-20	.12000E-21	.10000E-00		
5	2	4	5	0	5	.25292200E+02	.14927E-19	.17010E-20	.32020E-21	.50000E-21	.50000E-00		
4	2	3	3	2	2	.25420990E+02	.17100E-19	.19090E-19	.30020E-21	.04000E-21	.11000E-00		
4	3	2	3	3	1	.25905320E+02	.90000E-19	.11910E-19	.21000E-20	.50000E-21	.10000E-00		
5	0	5	4	0	4	.28004000E+02	.35010E-18	.39040E-19	.75000E-20	.13000E-20	.20000E-00		
CYCLONEKANE OXIDE													
COUN													
0	1	0	5	1	5	.20000030E+02	.14001E-17	.10430E-10	.30453E-19	.55100E-20	.16000E-00		
0	0	0	5	0	5	.20000090E+02	.14000E-17	.10440E-10	.30457E-19	.55100E-20	.16000E-00		
5	3	3	4	3	2	.20000070E+02	.05973E-18	.95500E-19	.17000E-19	.51400E-20	.04000E-00		
5	4	2	4	4	1	.27019030E+02	.51043E-18	.50374E-19	.10033E-19	.14000E-20	.55177E-07		
5	4	1	4	4	0	.20191490E+02	.59430E-18	.01240E-10	.11571E-19	.13000E-20	.55151E-07		
5	2	3	4	2	2	.26350220E+02	.11000E-17	.13101E-18	.24190E-19	.43119E-20	.16000E-00		
5	3	2	4	3	1	.29020900E+02	.10007E-17	.12100E-18	.22453E-19	.40000E-20	.16000E-00		
6	2	5	5	2	4	.29379690E+02	.15147E-17	.17327E-18	.32020E-19	.50700E-20	.10000E-00		
6	1	5	5	1	4	.29005310E+02	.15270E-17	.17407E-18	.32020E-19	.50700E-20	.10000E-00		
7	1	7	0	1	0	.30909700E+02	.21530E-17	.25200E-18	.47390E-19	.60400E-20	.20000E-00		
7	0	7	6	0	6	.30909950E+02	.21532E-17	.25200E-18	.47390E-19	.60400E-20	.20000E-00		
6	3	4	5	3	3	.37409000E+02	.15035E-17	.17499E-18	.32020E-19	.50700E-20	.10000E-00		
6	2	4	5	2	5	.32029100E+02	.16007E-17	.19087E-18	.36021E-19	.67000E-20	.10000E-00		
6	4	3	5	4	2	.33075700E+02	.12500E-17	.14771E-18	.27000E-19	.50000E-20	.14000E-00		
6	5	2	5	5	1	.33251120E+02	.09412E-18	.03179E-19	.15701E-19	.20040E-20	.04000E-00		
5	5	1	5	5	0	.33490010E+02	.70401E-18	.04400E-19	.10007E-19	.24299E-20	.09410E-07		
7	2	6	6	2	5	.33029000E+02	.21934E-17	.20341E-18	.49943E-19	.91450E-20	.16000E-00		
7	1	6	6	1	5	.33645810E+02	.21972E-17	.20340E-18	.50010E-19	.91570E-20	.16000E-00		
0	4	2	5	4	1	.34737300E+02	.14330E-17	.10900E-18	.32004E-19	.50700E-20	.11000E-00		
6	3	3	5	3	2	.35011050E+02	.19205E-17	.22647E-18	.42039E-19	.71700E-20	.16000E-00		
6	1	0	7	1	7	.35131220E+02	.29421E-17	.36232E-18	.69201E-19	.12730E-19	.29923E-00		
6	0	8	7	0	7	.35731220E+02	.29421E-17	.36232E-18	.69201E-19	.12730E-19	.29923E-00		
7	3	5	0	3	4	.36243250E+02	.22105E-17	.27205E-18	.51940E-19	.95340E-20	.26100E-00		
7	2	5	0	2	4	.36595070E+02	.22879E-17	.28000E-18	.53500E-19	.95300E-20	.26100E-00		
8	2	7	7	2	6	.37051200E+02	.29595E-17	.37525E-18	.72454E-19	.13300E-19	.34040E-00		
6	1	7	7	1	6	.37055350E+02	.29003E-17	.37535E-18	.72473E-19	.13300E-19	.34040E-00		
7	4	4	6	4	3	.38200370E+02	.20961E-17	.20154E-18	.50220E-19	.92540E-20	.20000E-00		
7	6	2	0	6	1	.30797490E+02	.04923E-18	.10951E-18	.21203E-19	.39394E-20	.11000E-00		
7	6	1	0	6	0	.38004460E+02	.05305E-18	.11002E-18	.21303E-19	.39579E-20	.11700E-00		
7	5	3	0	5	2	.30939180E+02	.10090E-17	.20394E-18	.39372E-19	.72730E-20	.21000E-00		
9	1	9	0	1	0	.39352550E+02	.37992E-17	.44510E-18	.90407E-19	.17400E-19	.42000E-00		
9	0	9	0	0	0	.39352550E+02	.37992E-17	.44510E-18	.90407E-19	.17400E-19	.42000E-00		
7	3	4	0	3	3	.39007340E+02	.20537E-17	.32770E-18	.62905E-19	.11000E-19	.35000E-00		
7	5	2	6	5	1	.39899200E+02	.12070E-17	.21074E-18	.41000E-19	.77571E-20	.25000E-00		
COUN													
4	2	2	3	1	2	.26091920E+02	.24100E-17	.25670E-18	.40703E-19	.63957E-20	.27029E-00		
4	1	3	3	0	3	.27307000E+02	.14011E-17	.15055E-18	.20440E-19	.50900E-20	.17100E-00		
4	3	1	3	2	1	.27418410E+02	.20904E-17	.30973E-18	.56541E-19	.10107E-19	.34300E-00		
4	2	3	3	1	3	.27734730E+02	.15120E-17	.16000E-18	.29000E-19	.50129E-20	.17000E-00		
4	3	2	3	2	2	.28327300E+02	.25950E-17	.27159E-18	.50641E-19	.92343E-20	.31700E-00		
4	4	0	3	3	0	.29700290E+02	.35200E-17	.36179E-18	.69925E-19	.12020E-19	.40200E-00		
4	4	1	3	3	1	.299430110E+02	.35304E-17	.36201E-18	.69901E-19	.12500E-19	.40575E-00		
5	3	2	4	2	2	.33402090E+02	.47973E-17	.53621E-18	.99271E-19	.17500E-19	.50097E-00		
5	2	3	4	1	3	.33752900E+02	.36100E-17	.42375E-18	.70260E-19	.14141E-19	.40470E-00		
5	1	4	4	0	4	.34470930E+02	.22740E-17	.24931E-18	.45000E-19	.60993E-20	.20090E-00		
5	2	4	4	1	4	.34574540E+02	.22057E-17	.23003E-18	.40104E-19	.63139E-20	.29130E-00		
5	3	3	4	2	3	.34710520E+02	.39599E-17	.44020E-18	.61360E-19	.14707E-19	.51073E-00		

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TABLE 111.52

JU	KU1	KU2	JL	KL1	KL2	AU	CU	50	510KA	100	200	A	REF
7	5	1	0	0	0	.30000070E+02	.21059E-17	.24940E-10	.4707E-19	.00020E-20	.00020E-00		
0	3	4	5	3	3	.31719040E+02	.14704E-17	.17310E-10	.32040E-19	.99540E-20	.10040E-00		
0	4	4	5	3	3	.32000450E+02	.10050E-17	.19450E-10	.30030E-19	.00090E-20	.10550E-00		
0	4	3	5	4	2	.33030700E+02	.12221E-17	.14005E-10	.27040E-19	.70570E-20	.14050E-00		
0	5	2	5	3	1	.32000750E+02	.07700E-10	.02177E-19	.10035E-19	.20009E-20	.03121E-07		
0	5	1	5	3	0	.33441100E+02	.00770E-10	.03427E-19	.10075E-19	.02111E-20	.00000E-07		
7	1	0	6	1	3	.33027100E+02	.14704E-17	.20110E-10	.49711E-19	.10010E-20	.00000E-00		
0	4	2	5	4	1	.30002550E+02	.10050E-17	.10700E-10	.3175E-19	.00150E-20	.17577E-00		
0	3	3	5	3	2	.30473500E+02	.10049E-17	.22409E-10	.42057E-19	.00150E-20	.00000E-00		
0	1	0	7	1	7	.30104900E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
0	0	0	7	0	7	.30104900E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	3	3	6	3	4	.30210500E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	2	5	6	2	4	.30572340E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	2	5	6	2	4	.30572340E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
0	2	7	7	2	0	.3022900E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
0	2	7	7	2	0	.3022900E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
0	2	7	7	2	0	.3022900E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
0	1	7	7	1	0	.3027100E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	4	4	6	1	3	.30100510E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	6	2	6	1	1	.30744700E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	0	1	6	0	0	.30029090E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	5	3	6	5	2	.30009120E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
9	1	4	6	1	0	.3027100E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
9	0	9	6	0	0	.3032100E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	5	2	6	5	1	.30034430E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
7	3	4	6	3	3	.30037100E+02	.00770E-10	.00000E-10	.00000E-19	.10001E-19	.00000E-00		
CoOH4	C	TwIST	M#	#	92	MU = 1.9100	A = .30710700E+01	B = .31033310E+01	C = .21092350E+01	NAF = .00			
4	2	1	3	1	2	.20005090E+02	.23504E-17	.25401E-10	.40403E-19	.00000E-20	.27501E-00		
4	1	3	3	0	3	.27301900E+02	.14400E-17	.15400E-10	.20257E-19	.10040E-20	.17149E-00		
4	3	1	3	2	1	.27402790E+02	.20251E-17	.30030E-10	.00151E-19	.10107E-19	.00000E-00		
4	2	3	3	1	3	.27714370E+02	.14794E-17	.15834E-10	.20094E-19	.10090E-20	.17605E-00		
4	3	2	3	2	2	.20312000E+02	.20307E-17	.27477E-10	.50300E-19	.90000E-20	.31729E-00		
4	4	0	3	3	0	.29761950E+02	.34520E-17	.37012E-10	.00032E-19	.12030E-19	.40000E-00		
4	4	1	3	3	1	.29924490E+02	.34520E-17	.37012E-10	.00032E-19	.12030E-19	.40000E-00		
5	3	2	4	2	2	.33372910E+02	.00000E-17	.00000E-10	.00000E-19	.10000E-19	.00000E-00		
5	2	3	4	1	3	.33710530E+02	.37330E-17	.41920E-10	.77729E-19	.14073E-19	.00000E-00		
5	1	4	4	0	4	.34447500E+02	.20230E-17	.24009E-10	.45500E-19	.02317E-20	.20000E-00		
5	2	4	4	1	4	.34547300E+02	.22353E-17	.24003E-10	.40000E-19	.02770E-20	.20000E-00		
5	3	3	4	2	3	.34692100E+02	.37200E-17	.43572E-10	.00040E-19	.10040E-19	.00000E-00		
5	4	1	4	3	1	.35003020E+02	.52207E-17	.59011E-10	.11111E-10	.20100E-19	.27100E-00		
5	4	2	4	3	2	.35704600E+02	.51200E-17	.50339E-10	.10070E-10	.10070E-19	.71934E-00		
5	5	0	4	4	0	.37557490E+02	.03495E-17	.73405E-10	.13744E-10	.25004E-19	.90133E-00		
5	5	1	4	4	1	.37617740E+02	.03579E-17	.73449E-10	.13761E-10	.25030E-19	.90407E-00		
NITROXYL			M#	#	31	MU = 1.0300	A = .50390300E+03	B = .42300520E+02	C = .39109400E+02	NAF = .40137			
HNO	1	1	0	1	1	.31305000E+01	.23022E-10	.50100E-19	.13290E-19	.07197E-20	.19007E-00		
5	1	4	5	1	5	.47000330E+02	.77000E-10	.10101E-10	.41010E-10	.11310E-10	.42900E-07		
6	1	5	6	1	0	.05000620E+02	.30000E-10	.10350E-17	.54455E-10	.10003E-10	.04101E-07		
1	0	1	0	0	0	.01477490E+02	.35594E-15	.41320E-10	.70450E-17	.13027E-17	.20000E-00		
7	1	6	7	1	7	.07077600E+02	.14000E-10	.91101E-10	.03503E-10	.20211E-10	.14945E-00		
NITROXYL B			M#	#	31	MU = 1.3100	A = .55340300E+03	B = .42300520E+02	C = .39109400E+02	NAF = .40137			
HNO	7	0	7	6	1	.06623170E+02	.11010E-10	.30321E-10	.16110E-10	.49400E-17	.29330E-00		
4	1	4	5	0	5	.90416350E+02	.70243E-10	.52110E-10	.17411E-10	.42311E-17	.33000E-00		
NITRIC ACID			M#	#	03	MU = 1.9000	A = .13011150E+02	B = .12099930E+02	C = .00000000E+01	NAF = .20100			
HNO3	7	6	1	7	6	.00975000E+01	.50530E-10	.15995E-10	.39374E-19	.02130E-20	.90530E-00		
12	10	2	12	10	3	.92455600E+01	.02374E-19	.90941E-19	.43774E-19	.12242E-19	.12007E-07		
6	5	1	6	5	2	.10344230E+02	.11014E-17	.23414E-10	.53011E-19	.10005E-19	.10000E-07		
11	9	2	11	9	3	.12317350E+02	.10357E-10	.10946E-10	.72033E-19	.10740E-19	.20373E-07		
5	4	1	5	4	2	.12540900E+02	.17192E-17	.23491E-10	.02162E-19	.11999E-19	.20419E-07		
4	3	1	4	3	2	.14534250E+02	.22329E-17	.32040E-10	.03053E-19	.11927E-19	.30109E-07		
10	6	2	10	6	3	.15628190E+02	.40000E-10	.31950E-10	.10740E-10	.20200E-19	.47575E-07		
3	2	1	3	2	2	.16155900E+02	.23552E-17	.29317E-10	.55530E-19	.10161E-19	.43092E-07		
2	1	1	2	1	2	.17517510E+02	.17754E-17	.19005E-10	.30313E-19	.05277E-20	.41130E-07		
1	0	1	0	0	0	.18360400E+02	.20347E-17	.27457E-10	.49017E-19	.07777E-20	.94715E-07		
9	7	2	9	7	3	.18969500E+02	.90920E-10	.40257E-10	.14415E-10	.33121E-19	.70014E-07		
8	6	2	8	6	3	.22147000E+02	.10695E-17	.00210E-10	.17773E-10	.30715E-19	.10991E-00		

[illegible]

TABLE III. 24

J0			J1			J2			J3			J4			J5			J6			J7			J8			J9			J10			J11			J12			J13			J14			J15			J16			J17			J18			J19			J20			J21			J22			J23			J24			J25			J26			J27			J28			J29			J30			J31			J32			J33			J34			J35			J36			J37			J38			J39			J40			J41			J42			J43			J44			J45			J46			J47			J48			J49			J50			J51			J52			J53			J54			J55			J56			J57			J58			J59			J60			J61			J62			J63			J64			J65			J66			J67			J68			J69			J70			J71			J72			J73			J74			J75			J76			J77			J78			J79			J80			J81			J82			J83			J84			J85			J86			J87			J88			J89			J90			J91			J92			J93			J94			J95			J96			J97			J98			J99			J100			J101			J102			J103			J104			J105			J106			J107			J108			J109			J110			J111			J112			J113			J114			J115			J116			J117			J118			J119			J120			J121			J122			J123			J124			J125			J126			J127			J128			J129			J130			J131			J132			J133			J134			J135			J136			J137			J138			J139			J140			J141			J142			J143			J144			J145			J146			J147			J148			J149			J150			J151			J152			J153			J154			J155			J156			J157			J158			J159			J160			J161			J162			J163			J164			J165			J166			J167			J168			J169			J170			J171			J172			J173			J174			J175			J176			J177			J178			J179			J180			J181			J182			J183			J184			J185			J186			J187			J188			J189			J190			J1		
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Table III .50

JU			JL		NU	SIGMA			h	REF
AU1	AU2		AL1	AL2		2U	3U	10U	20U	
4 0 4			3 0 3		.3620300E+02	.72604E-17	.04422E-10	.15030E-10	.20203E-13	.22070E-00
4 2 3			3 2 2		.36200900E+02	.36235E-17	.55072E-10	.10555E-10	.20542E-13	.10057E-00
4 2 2			3 2 1		.36222300E+02	.36330E-17	.55244E-10	.10595E-10	.20600E-13	.1071E-00
4 1 3			3 1 2		.39350200E+02	.05040E-17	.00047E-10	.15204E-10	.27087E-13	.22034E-00
5 1 5			4 1 4		.46042470E+02	.10597E-10	.13045E-17	.20057E-10	.49532E-13	.30500E-00
5 0 5			4 0 4		.47707020E+02	.12000E-10	.15710E-17	.29707E-10	.54513E-13	.43595E-00
5 2 4			4 2 3		.47010040E+02	.74542E-17	.11500E-17	.23411E-10	.44400E-13	.37202E-00
5 4 1			4 4 0		.47044270E+02	.10574E-17	.32177E-10	.01110E-13	.17124E-13	.15970E-00
5 3 3			4 3 2		.47054040E+02	.35019E-17	.73435E-10	.10341E-10	.32405E-13	.20410E-00
5 2 3			4 2 2		.47940040E+02	.74007E-17	.11555E-17	.23525E-10	.44654E-13	.37450E-00
13 1 12			13 1 13		.48059400E+02	.05055E-19	.25590E-13	.05200E-20	.14430E-20	.50055E-00
10 1 0			9 0 1		.45652300E+02	.10214E-10	.22452E-17	.45555E-10	.04071E-13	.05970E-00
10 0 5			9 0 4		.45717070E+02	.10474E-17	.15555E-17	.07251E-10	.10555E-10	.22017E-00
10 0 4			9 0 3		.45717070E+02	.10474E-17	.15555E-17	.07251E-10	.10555E-10	.22017E-00
10 7 4			9 7 3		.45717070E+02	.20790E-10	.77070E-10	.42452E-10	.13197E-10	.10975E-00
10 7 3			9 7 2		.45717070E+02	.20790E-10	.77070E-10	.42452E-10	.13197E-10	.10975E-00
10 6 2			9 6 1		.45722170E+02	.40500E-10	.32255E-10	.22950E-10	.01505E-13	.33595E-00
10 0 3			9 0 2		.45722170E+02	.40500E-10	.32255E-10	.22950E-10	.01505E-13	.33595E-00
10 0 2			9 0 1		.45722170E+02	.40500E-10	.32255E-10	.22950E-10	.01505E-13	.33595E-00
10 5 5			9 5 4		.45724000E+02	.32725E-17	.20555E-17	.95000E-10	.24055E-10	.27910E-00
10 5 4			9 5 3		.45724000E+02	.32725E-17	.20555E-17	.95000E-10	.24055E-10	.27910E-00
10 4 7			9 4 6		.45734930E+02	.01775E-17	.41023E-17	.12011E-17	.29105E-10	.31200E-00
10 4 6			9 4 5		.45734930E+02	.01775E-17	.41023E-17	.12011E-17	.29105E-10	.31200E-00
10 3 0			9 3 7		.45702000E+02	.10545E-10	.57914E-17	.15405E-17	.33570E-10	.33595E-00
10 3 7			9 3 6		.45504000E+02	.10555E-10	.57950E-17	.15495E-17	.33705E-10	.33595E-00
10 2 0			9 2 7		.46406070E+02	.27510E-10	.73930E-17	.10107E-17	.37074E-10	.30595E-00
11 1 11			10 1 10		.10100330E+03	.37207E-10	.90212E-17	.23240E-17	.40047E-10	.44005E-00
11 0 11			10 0 10		.10342310E+03	.41105E-10	.10295E-10	.240215E-10	.50505E-00	.47705E-00
11 2 10			10 2 9		.10501170E+03	.20250E-10	.07572E-17	.22025E-17	.40042E-10	.47715E-00
11 7 5			10 7 4		.10529200E+03	.31530E-10	.10532E-17	.02739E-10	.19504E-10	.29505E-00
11 7 4			10 7 3		.10529200E+03	.31530E-10	.10532E-17	.02739E-10	.19504E-10	.29505E-00
11 0 0			10 0 5		.10529440E+03	.11000E-17	.20510E-17	.93307E-10	.20045E-10	.34952E-00
11 0 1			10 0 4		.10529440E+03	.11000E-17	.20510E-17	.93307E-10	.20045E-10	.34952E-00
11 0 4			10 0 3		.10529050E+03	.05054E-19	.50505E-10	.30010E-10	.13041E-10	.23440E-00
11 0 3			10 0 2		.10529050E+03	.05054E-19	.50505E-10	.30010E-10	.13041E-10	.23440E-00
11 5 7			10 5 6		.10530450E+03	.35790E-17	.34304E-17	.12035E-17	.35000E-10	.35400E-00
11 5 6			10 5 5		.10530450E+03	.35790E-17	.34304E-17	.12035E-17	.35000E-10	.35400E-00
11 3 9			10 3 8		.10535010E+03	.17330E-10	.70005E-17	.15942E-17	.34972E-10	.40105E-00
11 3 0			10 3 7		.10543490E+03	.17405E-10	.70550E-17	.15950E-17	.44517E-10	.40237E-00
11 2 9			10 2 8		.10030000E+03	.20005E-10	.04792E-17	.23141E-17	.44595E-10	.49505E-00
11 1 10			10 1 9		.10709550E+03	.30304E-10	.10420E-10	.25019E-17	.53512E-10	.50572E-00
15 0 15			14 0 14		.14045020E+03	.30331E-10	.15749E-10	.40030E-17	.11154E-17	.11922E-04
12 2 10			11 2 9		.19020020E+02	.17454E-10	.04035E-19	.17015E-19	.30057E-20	.05011E-00
15 3 13			14 3 12		.20050100E+02	.90475E-19	.77704E-19	.20028E-19	.70775E-20	.11740E-00
17 3 14			16 3 13		.22155200E+02	.92904E-19	.71040E-19	.30192E-19	.02205E-20	.14444E-00
11 2 9			12 1 12		.23130070E+02	.33755E-10	.10574E-10	.27250E-19	.50104E-20	.12005E-00
12 1 11			11 2 10		.23903540E+02	.00250E-10	.21302E-10	.55550E-19	.11915E-19	.24000E-00
0 0 6			5 1 5		.24015700E+02	.27900E-17	.37052E-10	.73720E-19	.13001E-19	.47040E-00
7 2 6			6 1 7		.25137230E+02	.90227E-10	.17700E-10	.30370E-19	.74900E-20	.24950E-00
10 2 0			11 1 11		.27910430E+02	.01471E-10	.10521E-10	.40459E-19	.04102E-20	.43056E-00
10 3 13			17 2 10		.29059090E+02	.17549E-10	.14539E-10	.50405E-19	.14002E-19	.35059E-00
20 2 10			19 3 17		.31944500E+02	.57005E-19	.13090E-10	.06250E-19	.20595E-19	.40970E-00
14 3 12			15 2 13		.32150050E+02	.30035E-10	.20909E-10	.70500E-19	.17200E-19	.47515E-00
9 2 7			10 1 10		.33312770E+02	.10447E-17	.24434E-10	.57127E-19	.11014E-19	.42050E-00
7 0 7			6 1 6		.34942250E+02	.02179E-17	.92505E-10	.10010E-10	.50101E-19	.15003E-00
13 1 12			12 2 11		.30709050E+02	.13054E-17	.50092E-10	.14000E-10	.50595E-19	.94004E-00
6 2 5			7 1 0		.30527000E+02	.19432E-17	.22500E-10	.00159E-19	.13104E-19	.72532E-00
1 1 0			1 0 1		.37407200E+02	.53300E-17	.57050E-10	.10400E-10	.10721E-19	.42410E-00
15 3 12			10 2 15		.37000000E+02	.25750E-10	.25500E-10	.92302E-19	.23312E-19	.73100E-00
2 1 1			2 0 2		.37905400E+02	.00720E-17	.90730E-10	.17005E-10	.31750E-19	.44015E-00
3 1 2			3 0 3		.40014000E+02	.15095E-10	.13004E-17	.25203E-10	.45011E-19	.40500E-00
0 2 0			9 1 9		.39275300E+02	.10474E-17	.34000E-10	.70205E-19	.15105E-19	.70595E-00
4 1 3			4 0 4		.39900000E+02	.14277E-10	.17505E-17	.33202E-10	.00030E-19	.49995E-00
5 1 4			5 0 5		.41442200E+02	.10351E-10	.21010E-17	.41791E-10	.17255E-19	.54004E-00
14 3 11			15 2 14		.40193200E+02	.50314E-10	.40742E-10	.14715E-10	.54700E-19	.13215E-00
1 1 1			1 0 0		.40421000E+02	.54005E-10	.59420E-10	.10750E-10	.19223E-19	.54042E-00
14 1 13			13 2 12		.49759490E+02	.19520E-17	.92505E-10	.27191E-10	.52132E-19	.24750E-00
9 1 0			9 0 9		.51002020E+02	.10004E-10	.37773E-17	.04124E-10	.10092E-10	.90402E-00

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TABLE III .59

JJ			UL			UD			SIGMA			A			REF	
KUL AUZ			KUL KLE			ZU			50			100			200	
10	1	9	10	0	10	.54540000E+02	.17840E-10	.41544E-17	.90909E-10	.19703E-10	.10562E-05					
2	1	2	1	0	1	.55435900E+02	.11222E-10	.12407E-17	.22791E-10	.40930E-10	.02031E-00					
20	2	10	20	1	19	.90400100E+02	.26959E-17	.54310E-17	.27404E-17	.02110E-10	.50043E-05					
12	2	10	12	1	11	.904004740E+02	.20310E-10	.97429E-17	.20549E-17	.50271E-10	.50147E-05					
7	1	7	0	0	0	.90027700E+02	.54952E-10	.05410E-17	.17420E-17	.33099E-10	.41141E-05					
11	2	9	11	1	10	.97930330E+02	.31704E-10	.99310E-17	.25594E-17	.54029E-10	.50444E-05					
10	2	0	10	1	9	.99527220E+02	.37035E-10	.49550E-17	.24379E-17	.50724E-10	.50017E-05					
13	2	13	12	1	12	.10209110E+03	.30372E-10	.10000E-16	.20534E-17	.02070E-10	.51069E-05					
0	2	0	0	0	1	.10209110E+03	.40007E-10	.94209E-17	.21141E-17	.42095E-10	.51529E-05					
13	1	13	12	0	12	.14146240E+03	.50007E-10	.20921E-16	.56492E-17	.12342E-10	.14252E-04					
150																
S20			K			K			K			K				
10			2			10			2			10				
4			1			3			1			3				
4			0			3			0			3				
4			1			3			1			3				
5			1			4			1			4				
5			1			4			1			4				
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TABLE III .CV

JU	KU1	KU2	LU	LU1	LU2	2U	3U	4U	5U	6U	7U	8U	9U
18	2	10	19	1	19	.540633400E+02	.20900E-20	.40190E-19	.45100E-19	.10779E-19	.40729E-19	.29900E-19	.29900E-19
4	1	3	4	0	4	.54244000E+02	.10500E-19	.10290E-19	.3050E-17	.3730E-16	.1700E-16	.1700E-16	.1700E-16
20	3	17	19	4	10	.01035900E+02	.30270E-20	.20901E-19	.30293E-16	.1700E-16	.1700E-16	.1700E-16	.1700E-16
19	5	15	20	4	10	.00408010E+02	.12010E-20	.10031E-19	.29410E-16	.10001E-16	.10001E-16	.10001E-16	.10001E-16
6	1	5	0	0	0	.00972160E+02	.11133E-19	.22021E-19	.49010E-17	.10741E-16	.43020E-16	.43020E-16	.43020E-16
14	4	10	15	3	13	.094940700E+02	.14033E-19	.09049E-19	.01402E-19	.21437E-16	.70000E-16	.70000E-16	.70000E-16
1	1	1	0	0	0	.09575900E+02	.5321E-19	.59774E-17	.10940E-17	.35719E-16	.35719E-16	.35719E-16	.35719E-16
3	2	2	4	1	3	.09653490E+02	.1100E-19	.10049E-17	.99410E-17	.70070E-16	.60490E-16	.60490E-16	.60490E-16
4	2	2	5	1	5	.70134400E+02	.13020E-19	.23433E-17	.50100E-16	.97040E-19	.00000E-16	.00000E-16	.00000E-16
6	0	0	5	1	5	.72750200E+02	.17941E-16	.14340E-16	.30749E-17	.90007E-16	.00000E-16	.00000E-16	.00000E-16
0	1	7	0	0	0	.03007000E+02	.42445E-16	.20277E-16	.70203E-17	.10000E-17	.00000E-16	.00000E-16	.00000E-16
3	1	3	2	0	2	.10400000E+02	.19030E-19	.24003E-16	.10100E-17	.00700E-16	.10000E-16	.10000E-16	.10000E-16
10	2	14	15	3	13	.10403350E+02	.43050E-19	.27029E-17	.10100E-17	.00700E-16	.10000E-16	.10000E-16	.10000E-16
12	4	0	13	3	11	.10700000E+02	.43050E-19	.27029E-17	.10100E-17	.00700E-16	.10000E-16	.10000E-16	.10000E-16
0	0	0	7	1	7	.11090000E+02	.10930E-19	.43050E-19	.10000E-16	.20000E-16	.10000E-16	.10000E-16	.10000E-16
12	2	10	12	1	11	.120000510E+02	.34174E-16	.41421E-16	.10799E-16	.44004E-17	.20000E-16	.20000E-16	.20000E-16
12	1	11	11	2	10	.12910572E+02	.10000E-16	.10119E-16	.01297E-17	.10000E-16	.10000E-16	.10000E-16	.10000E-16
10	2	0	10	1	9	.12911400E+02	.00000E-16	.00000E-16	.00000E-16	.30000E-16	.20000E-16	.20000E-16	.20000E-16
12	1	11	12	0	12	.13101470E+02	.30000E-16	.30000E-16	.12403E-16	.30000E-16	.10000E-16	.10000E-16	.10000E-16
16	5	11	17	4	14	.15127400E+02	.44934E-19	.12310E-17	.10000E-16	.20000E-16	.10000E-16	.10000E-16	.10000E-16
14	2	12	14	1	13	.13274403E+02	.11999E-19	.31310E-16	.10393E-16	.49090E-17	.20000E-16	.20000E-16	.20000E-16
0	2	0	0	1	7	.13400400E+02	.15339E-15	.00912E-16	.10000E-16	.30000E-16	.10000E-16	.10000E-16	.10000E-16
5	1	5	4	0	4	.13509570E+02	.34220E-15	.00040E-16	.11939E-16	.20000E-16	.10000E-16	.10000E-16	.10000E-16
5	3	3	0	2	4	.13935470E+02	.22143E-16	.03090E-17	.10999E-17	.30000E-16	.10000E-16	.10000E-16	.10000E-16
6	2	4	0	1	5	.14030597E+02	.22740E-15	.00030E-16	.13100E-16	.20000E-16	.10000E-16	.10000E-16	.10000E-16
16	2	14	16	1	15	.14305099E+02	.35411E-17	.22343E-					

TABLE III. (cd)

JU			JL			MU			ZU			ZU			ZU			ZU			ZU				
AD1	AD2		AL1	AL2																					
3	1	3	4	3	4	.35091140E+02			.25140E-10		.25132E-17	.54050E-10	.95010E-19		.10099E-09										
14	3	11	14	2	12	.30150030E+02			.20010E-10		.00050E-17	.13313E-17	.20011E-10		.200940E-09										
12	3	9	12	2	10	.39041000E+02			.20034E-10		.00050E-17	.13005E-17	.20000E-10		.200940E-09										
10	1	9	10	0	10	.39330370E+02			.10947E-10		.32313E-17	.00050E-10	.13190E-10		.10099E-09										
10	3	13	10	2	14	.40010040E+02			.15700E-10		.05207E-17	.17704E-17	.35030E-10		.10099E-09										
7	2	6	7	1	7	.40739310E+02			.21014E-10		.00050E-17	.00100E-10	.15000E-10		.10099E-09										
2	2	0	1	1	1	.42000300E+02			.17171E-10		.10000E-17	.34310E-10	.01000E-10		.10099E-09										
10	3	15	10	2	10	.47041040E+02			.10040E-10		.00050E-17	.21044E-17	.31440E-10		.10099E-09										
OZONE																									
J3			M3			40	MU = .5000			A = .10033474E+03	L = .13340950E+02			U = .11034900E+02			K3			L3			K3		
20	3	17	21	2	20	.92010000E+01			.27774E-24		.20100E-21	.00050E-21	.30050E-21		.30050E-21										
10	1	9	9	2	0	.10020000E+02			.10040E-19		.14050E-19	.00050E-20	.13000E-20		.13000E-20										
4	0	4	3	1	3	.11073000E+02			.30050E-10		.44070E-19	.00050E-20	.10000E-20		.10000E-20										
10	3	15	19	2	10	.23001000E+02			.19353E-22		.33314E-20	.71307E-20	.40050E-20		.40050E-20										
10	2	14	17	1	17	.25049000E+02			.21933E-21		.30050E-20	.00050E-20	.00050E-20		.00050E-20										
15	3	13	10	2	14	.30052000E+02			.00050E-21		.17039E-19	.20020E-19	.00050E-20		.00050E-20										
14	2	12	15	1	15	.30101000E+02			.23017E-20		.10040E-19	.14407E-19	.20050E-20		.20050E-20										
10	2	10	19	1	19	.30052000E+02			.30050E-22		.20050E-20	.44070E-20	.00050E-20		.00050E-20										
10	2	10	17	3	15	.37032000E+02			.15301E-21		.14440E-19	.24050E-19	.13791E-19		.13791E-19										
1	1	1	2	0	2	.42032010E+02			.20050E-17		.24050E-19	.40050E-19	.00050E-20		.00050E-20										
12	2	10	13	1	13	.43054000E+02			.20073E-19		.00050E-19	.44201E-19	.13791E-19		.13791E-19										
2	1	1	2	0	2	.43054000E+02			.43050E-10		.00050E-17	.10050E-17	.10050E-17		.10050E-17										
4	1	3	4	0	4	.10173003E+03			.30050E-10		.00050E-17	.19050E-17	.37050E-17		.37050E-17										
1	1	1	0	0	0	.11030303E+03			.30050E-10		.00050E-17	.00050E-10	.10050E-10		.10050E-10										
SILICON																									
SIR2			M3			00	MU = 1.0000			A = .30002000E+02	L = .00234000E+01			U = .00303400E+01			K3			L3			K3		
10	3	12	15	0	9	.77129000E+01			.42591E-21		.21050E-20	.14131E-20	.40050E-20		.40050E-20										
13	4	9	12	0	0	.77130100E+01			.31047E-20		.40050E-20	.10073E-20	.40050E-20		.40050E-20										
0	3	3	7	2	0	.00151700E+01			.33053E-19		.74070E-20	.10050E-20	.10050E-20		.10050E-20										
14	0	0	15	5	10	.82000400E+01			.77080E-21		.27701E-20	.10073E-20	.10073E-20		.10073E-20										
14	0	0	15	5	11	.82000400E+01			.90010E-21		.34050E-20	.20050E-20	.20050E-20		.20050E-20										
2	0	2	1	1	1	.93980200E+01			.12070E-10		.13709E-19	.24050E-20	.44050E-20		.44050E-20										
16	5	11	15	0	10	.95097900E+01			.94000E-21		.30050E-20	.21050E-20	.73079E-20		.73079E-20										
11	5	7	12	4	0	.10521310E+02			.70107E-20		.00050E-20	.30792E-20	.00050E-20		.00050E-20										
8	4	0	9	3	0	.12140000E+02			.30051E-19		.14753E-19	.40050E-20	.90050E-20		.90050E-20										
11	5	0	12	4	9	.12722130E+02			.11300E-19		.11712E-19	.44050E-20	.11000E-20		.11000E-20										
2	2	1	3	1	2	.15403300E+02			.95270E-19		.11799E-19	.22314E-20	.40799E-20		.40799E-20										
9	2	0	0	3	5	.15740190E+02			.90170E-19		.31004E-19	.00377E-20	.17100E-20		.17100E-20										
10	2	0	15	3	12	.16125000E+02			.10144E-20		.41050E-20	.00050E-20	.00050E-20		.00050E-20										
3	2	1	4	1	4	.16400100E+02			.14042E-10		.19000E-19	.20050E-20	.10044E-20		.10044E-20										
0	4	4	9	3	7	.16790000E+02			.71703E-19		.27000E-19	.70050E-20	.17000E-20		.17000E-20										
14	4	11	13	5	0	.23070000E+02			.13942E-19		.20190E-19	.12240E-19	.30050E-20		.30050E-20										
5	3	2	0	2	5	.21780240E+02			.22999E-19		.44050E-19	.90050E-20	.10050E-20		.10050E-20										
1	1	0	1	0	1	.23771540E+02			.21030E-17		.23057E-10	.42050E-19	.70170E-20		.70170E-20										
5	1	4	4	0	3	.23990410E+02			.00050E-10		.10050E-19	.20050E-19	.40050E-20		.40050E-20										
11	2	9	12	1	12	.24004240E+02			.14770E-19		.00050E-20	.20050E-20	.00050E-20		.00050E-20										
17	5	13	10	0	10	.24720390E+02			.20050E-20		.19171E-19	.14243E-19	.30050E-20		.30050E-20										
10	2	9	9	3	0	.24074150E+02			.17010E-10		.70050E-19	.19050E-19	.44050E-20		.44050E-20										
2	1	1	2	0	2	.24095540E+02			.30050E-17		.30050E-10	.72719E-19	.13000E-19		.13000E-19										
13	0	0	14	5	9	.25050750E+02			.10050E-19		.20050E-19	.14701E-19	.44050E-20		.44050E-20										
13	0	0	14	5	10	.25041390E+02			.11300E-19		.29303E-19	.10050E-19	.10050E-20		.10050E-20										
15	2	14	14	3	11	.26002000E+02			.10154E-19		.10050E-19	.73000E-20	.20050E-20		.20050E-20										
3	0	3	2	1	2	.26025330E+02			.19434E-17		.22050E-10	.41700E-19	.70050E-20		.70050E-20										
14	4	10	13	5	9	.27109430E+02			.29440E-19		.40104E-19	.20050E-19	.00050E-20		.00050E-20										
12	3	10	11	4	7	.27091900E+02			.90050E-19		.77050E-19	.27310E-19	.00050E-20		.00050E-20										
10	3	0	11	4	7	.27091040E+02			.09000E-19		.50050E-19	.19001E-19	.44050E-20		.44050E-20										
8	2	0	7	3	5	.26141300E+02			.40133E-19		.10050E-10	.29950E-19	.01400E-20		.01400E-20										
3	1	2	3	0	3	.26331500E+02			.50440E-17		.00050E-10	.10050E-10	.23377E-19		.23377E-19										
11	2	10	10	3	7	.31515190E+02			.10797E-10		.94050E-19	.20050E-19	.00050E-20		.00050E-20										
4	3	2	5	0	3	.31910200E+02			.37342E-10		.04000E-19	.10050E-19	.20050E-20		.20050E-20										
14	2	13	13	3	10	.32002350E+02			.33212E-19		.33071E-19	.15040E-19	.41050E-20		.41050E-20										
7	4	3	0	3	0	.32004300E+02			.27000E-10		.90100E-19	.23400E-19	.00050E-20		.00050E-20										
12	2	11	11	3	0	.32015040E+02			.14000E-10		.91010E-19	.30171E-19	.70050E-20		.70050E-20										
13	2	12	12	3	9	.32002000E+02			.70050E-19		.00050E-19	.24000E-19	.00050E-20		.00050E-20										
1	1	1	0	0	0	.37432240E+02			.30050E-17		.30050E-10	.10050E-10	.10050E-10		.10050E-10										
SILICON																									
SIR2			M3			00	MU = 1.0000			A = .30002															

TABLE 111. 13

NU			UL			NU	SLOPE				N	REF
NU1	NU2	NU3	UL1	UL2	UL3		20	30	100	200		
3	0	3	2	1	2	.25459070E+00	.10170E-17	.21440E-10	.34070E-19	.7230E-20	.33309E-07	
2	1	1	2	0	2	.20374200E+00	.50722E-17	.44325E-10	.01674E-19	.1473E-19	.10209E-00	
3	1	2	3	0	3	.29002200E+00	.57251E-17	.70400E-10	.15204E-10	.242E-19	.13729E-00	
4	1	3	4	0	4	.34704400E+00	.77204E-17	.10493E-17	.20430E-10	.37920E-19	.19794E-00	
1	1	1	0	0	0	.37002210E+00	.36329E-17	.39229E-10	.71597E-19	.12011E-19	.21099E-00	

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TABLE IV
LINE FREQUENCIES

FREQUENCY LIST

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.10290000E+01	AF	1 A	.90332700E+03	ANZCHU	111
.11100000E+01	n2CU	111	.90373200E+03	n2CS	111
.14700000E+01	n2CU	111	.90704700E+03	ANZCHU	111
.20500000E+01	n2CU	111	.90915000E+03	n2CU	111
.24540000E+01	n2CU	111	.99227000E+03	UUS	1 F
.31100000E+01	n2CU	111	.99750000E+03	ANZCHU	111
.39230000E+01	NU	1 A	.10404000E+04	n2CS	111
.45730000E+01	n2CU	111	.10050700E+04	CH3CHU	111
.62100000E+01	n2CU	111	.10050500E+04	n2CU	111
.63740000E+01	n2CU	111	.11132000E+04	n2CU	111
.11040000E+02	n2CU	111	.11322300E+04	CH2CU	111
.12722000E+02	UUS	1 E	.11007000E+04	NU	1 A
.14045000E+02	n2CU	111	.13407500E+04	n2CU	111
.16240000E+02	n2CU	111	.14747500E+04	n2CS	111
.21050000E+02	n2CU	111	.15012500E+04	ANZCHU	111
.31770000E+02	n2CU	111	.15147700E+04	NU	1 A
.32725000E+02	NU	1 A	.15307000E+04	UH	1 A
.30100300E+02	UUS	1 B	.15345000E+04	ANZCHU	111
.30200000E+02	n2CU	111	.15473000E+04	n2CU	111
.51200000E+02	NU	1 A	.16041200E+04	ANZCU	111
.54037000E+02	n2CU	111	.16102500E+04	HCUCCH3	111
.63440000E+02	n2CU	111	.16101000E+04	HCUCCH3	111
.65300000E+02	n2CU	111	.16245150E+04	ANZCHU	111
.71100000E+02	n2CU	111	.16300000E+04	HCUCCH	111
.70025000E+02	NU	1 A	.16074000E+04	UH	1 A
.70330320E+02	UUS	1 B	.17509190E+04	CH2NH	111
.10445700E+03	n2CS	111	.19103270E+04	CH2NH	111
.10740000E+03	NU	1 A	.19440000E+04	n2CU	111
.10640000E+03	n2CU	111	.19597100E+04	HCUCCHU	111
.11902000E+03	n2CU	111	.19076000E+04	ANZCHU	111
.12722000E+03	UUS	1 B	.21207000E+04	n2CS	111
.12770000E+03	CH2NH	111	.22300400E+04	ANZCHU	111
.13090000E+03	n2CU	111	.22044330E+04	CH2CU	111
.14324300E+03	n2CS	111	.23002300E+04	n2CU	111
.16041000E+03	ANZCU	111	.24061700E+04	ANZCU	111
.16133000E+03	CH2NH	111	.24340000E+04	n2CU	111
.19053050E+03	UUS	1 B	.25002400E+04	ANZCHU	111
.20449400E+03	n2CS	111	.20933490E+04	n2CU	111
.20406770E+03	n2CS	111	.29259920E+04	ANZCHU	111
.21400000E+03	n2CU	111	.29770030E+04	n2CS	111
.20717190E+03	UUS	1 B	.31305000E+04	ANZCU	111
.20671700E+03	n2CS	111	.31393000E+04	n2CS	111
.30110000E+03	n2CU	111	.31951670E+04	CH3CHU	111
.32003200E+03	HCUCCHU	111	.32255000E+04	n2CU	111
.35550000E+03	n2CU	111	.32405300E+04	CH2NH	111
.35622500E+03	UUS	1 B	.32000000E+04	HCUCCHU	111
.37000000E+03	n2CU	111	.35040000E+04	CH3SCH	111
.37500000E+03	n2CS	111	.35100500E+04	n2CU	111
.37741400E+03	CH2CU	111	.35571000E+04	ANZCHU	111
.39300000E+03	n2CS	111	.36750300E+04	ANZCHU	111
.40253200E+03	CH2NH	111	.37740250E+04	CH2CU	111
.43119000E+03	NU	1 A	.39034490E+04	ANZCHU	111
.44094310E+03	n2CU	111	.40501370E+04	n2CS	111
.45799900E+03	UUS	1 B	.44411090E+04	CH2NH	111
.46123000E+03	ANZCU	111	.44084750E+04	n2CU	111
.53120400E+03	n2CS	111	.46109700E+04	ANZCHU	111
.50459100E+03	ANZCHU	111	.46330100E+04	CH3SCH	111
.57249250E+03	UUS	1 B	.47507000E+04	UH	1 A
.60107400E+03	n2CU	111	.46072400E+04	CH3SCH	111
.61470000E+03	n2CU	111	.46290000E+04	n2CU	111
.62027000E+03	n2CS	111	.40900100E+04	HCUCCHU	111
.63247000E+03	ANZCHU	111	.49547000E+04	n2CU	111
.63000400E+03	CH2NH	111	.50399900E+04	CH3CHU	111
.69970300E+03	UUS	1 B	.51305000E+04	n2CU	111
.60191000E+03	NU	1 A	.52097000E+04	CH2NH	111
.63426700E+03	CH3NH	111	.54000000E+04	CH3SCH	111
.63903220E+03	UUS	1 B	.54011010E+04	n2CS	111
.60302000E+03	CH2NH	111	.55009000E+04	CH3NH2	111
.96247000E+03	ANZCU	111	.56430020E+04	CH2NH	111
.97907900E+03	HCUCCHU	111	.50009400E+04	CH2CU	111

FREQUENCY LIST 2

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.50777010E+04	NH2CHO	111	.60252000E+04	NCU	111
.50787130E+04	NH2CHO	111	.60443500E+04	(CH3)2SO	111
.60357000E+04	ON	1 A	.60710000E+04	CH3NCU	111
.60700000E+04	NCU	111	.60800000E+04	CH3OCH2	111
.60399100E+04	CONO	111	.60430000E+04	C4N2H4	111
.60473410E+04	(CH3)2SO	111	.67000000E+04	CHNO	111
.67310900E+04	NCU	1 B	.67270000E+04	(CH3)2CHU	111
.60700000E+04	CH3CHO	111	.67020000E+04	NH3	111
.60003210E+04	(CH3)2SO	111	.67040000E+04	CH3NH	111
.60390030E+04	(CH3)2SO	111	.67000000E+04	NH3	111
.69500000E+04	(CH3)2SO	111	.67090000E+04	CH2CHCL	111
.70520700E+04	NCU	111	.67773300E+04	CH2CH2CH	111
.70007910E+04	(CH3)2SO	111	.67793300E+04	CH2CHCL	111
.70000000E+04	NH3	11	.67029100E+04	OF2	111
.73700500E+04	NH3	11	.67947300E+04	CH3U	111
.73709700E+04	(CH3)2SO	111	.60000000E+04	(CH3)2CHU	111
.73741000E+04	CH3SCH	111	.60230000E+04	NH3	11
.74000000E+04	(CH3)2SO	111	.60230000E+04	NSF	111
.74000000E+04	(CH3)2SO	111	.60274100E+04	CH2NH	111
.75099000E+04	CH3SCH	111	.60201000E+04	CH3CH2CH	111
.76179000E+04	NH3	11	.60507000E+04	SIF2	111
.77000910E+04	(CH3)2SO	111	.60730000E+04	CH3SCH2	111
.77129000E+04	SIF2	111	.60025200E+04	CH3CH2CH	111
.77930000E+04	(CH3)2SO	111	.60040700E+04	NCU	111
.77930100E+04	SIF2	111	.60072000E+04	CH3SCH2	111
.78201000E+04	ON	1 A	.60090000E+04	CHNO	111
.78411040E+04	NH2CHO	111	.60999000E+04	NCU	111
.78920300E+04	NCU	111	.60000000E+04	(CH3)2SO	111
.79043700E+04	NH3	11	.60121000E+04	CH3CH2CH	111
.79115100E+04	(CH3)2SO	111	.60190000E+04	(CH3)2CHU	111
.79251000E+04	CH2CO	111	.60202400E+04	CH2NH	111
.79443300E+04	CH2CH2	111	.60324000E+04	CH3CH2CH	111
.79662500E+04	CH3NO	111	.60420000E+04	CH3CH2CH	111
.79705300E+04	CH2CH2CH	111	.60500000E+04	C4N2H4	111
.80054300E+04	CH3SCH	111	.60700000E+04	(CH3)2CHU	111
.80151700E+04	SIF2	111	.60711800E+04	NCU	111
.80630900E+04	CH2CH2CH	111	.60843100E+04	CH3CH2CH	111
.80803770E+04	(CH3)2SO	111	.60843100E+04	CH3CH2CH	111
.80975000E+04	NCU	111	.90100000E+04	(CH3)2CHU	111
.81011900E+04	C4N2H4	111	.90331300E+04	NH3	11
.81459000E+04	CH3CH2	111	.90337700E+04	CH2CHCL	111
.81526000E+04	NH3	11	.90501600E+04	NCU	111
.81896000E+04	ON	1 A	.90747200E+04	C4N2H4	111
.82058700E+04	CH3CH2	111	.90776200E+04	(CH3)2SO	111
.82211400E+04	NSF	111	.90001200E+04	CH3CH2CH	111
.82430000E+04	CH3CHU	111	.90001200E+04	CH3CH2CH	111
.82620400E+04	SIF2	111	.90983600E+04	NCU	1 A
.82995100E+04	OF2	111	.91113400E+04	CH3F	111
.83006400E+04	CH3CH2	111	.91313000E+04	CH2CH2	111
.83060000E+04	CH3CH2	111	.91429000E+04	CH2CH2	111
.83416400E+04	CH3CH	11	.91724500E+04	NH3	111
.83433200E+04	CH2CHCL	111	.91725000E+04	SU2	111
.83563290E+04	(CH3)2SO	111	.91048900E+04	C4N2H4	111
.83589400E+04	NH3	111	.92010000E+04	CH3	111
.83649300E+04	C3H5NH2	111	.92039300E+04	C4N2H4	111
.83933700E+04	C4N2H4	111	.92251500E+04	SIF2	111
.84070400E+04	CH3CH2	111	.92327000E+04	NCU	111
.84203000E+04	SU2	111	.92305000E+04	CH2CHU	111
.84532920E+04	(CH3)2SO	111	.92455000E+04	NH3	111
.84712010E+04	NH2CHU	111	.92539400E+04	CH3NH	111
.84722300E+04	NSF	111	.92721000E+04	NH3	11
.85259100E+04	C4N2H4	111	.92030500E+04	NH3	11
.85346000E+04	ON	1 A	.92910000E+04	(CH3)2CHU	111
.85710700E+04	HCOUCH3	111	.93050410E+04	CH2CHU	111
.85773500E+04	HCOUCH3	111	.93250000E+04	CH2CHU	111
.85836000E+04	CH2CH2CH	111	.93613500E+04	C4N2H4	111
.85867100E+04	CH3CH2	111	.93639000E+04	NSF	111
.85915500E+04	(CH3)2SO	111	.93602700E+04	CH3CH2CH	111
.85905000E+04	(CH3)2CHU	111	.93902900E+04	(CH3)2CHU	111
.86109100E+04	OF2	111	.93902900E+04	SIF2	111

FREQUENCY LIST 3

WV	MOLECULE	TABLE	WV	MOLECULE	TABLE
.9403200E+04	SO2	111	.10992940E+05	SiH3CCH3	111
.9423320E+04	nC4	1 b	.10993390E+05	CH3CCH2S	111
.9447010E+04	CH3CCH2	111	.11002170E+05	SiH3CCH3	111
.9470000E+04	NH3	11	.11002170E+05	SiH3CCH3	111
.9405100E+04	nCCCHN	111	.11003040E+05	CH3CCH2S	111
.9509700E+04	SIF2	111	.11009050E+05	CH2CHN	111
.9577170E+04	C4N2H4	111	.11012030E+05	CH3CCH2S	111
.9600070E+04	nCCCHN	111	.1100590E+05	(CH3)2SO	111
.96124920E+04	(CH3)2SO	111	.1107300E+05	U3	111
.9647100E+04	HC00CH3	111	.11001010E+05	(CH3)2SO	111
.96534100E+04	HC00CH3	111	.11008100E+05	CH2CHCH2S	111
.9670700E+04	NH3	11	.11090200E+05	(CH3)2SO	111
.9690070E+04	nCCCHN	111	.11102250E+05	CH2CHCH2S	111
.97054050E+04	(CH3)2CCO	111	.11115200E+05	CH2CHCH2S	111
.97023090E+04	NH2CHU	111	.11110330E+05	NH2L	111
.9792400E+04	C2H3F	111	.11132700E+05	NH3	11
.98143030E+04	NH3	11	.11177300E+05	NH3	11
.98320000E+04	HC00H	111	.11100090E+05	(CH3)2SO	111
.98320100E+04	HC00H	111	.11213300E+05	NH2CHU	111
.98452200E+04	CH3CCH2	111	.11221700E+05	CH3CCHN	111
.98552570E+04	nCNU	1 b	.11229370E+05	CH3CCHN	111
.98712300E+04	(H2CCN)2U	111	.11255000E+05	CH3CCHN	111
.98727000E+04	(CH3)2CCO	111	.11255300E+05	(CH3)2SO	111
.99704000E+04	NH2CL	111	.11200220E+05	NSF	111
.10001000E+05	NH2CHU	111	.11205000E+05	CH3CCHN	111
.10008400E+05	C2H3F	111	.11355500E+05	CH2CHCL	111
.10057720E+05	UF2	111	.11370440E+05	HC00	1 b
.10050300E+05	CH3OH	11	.11300090E+05	H2CCCH2	111
.10069500E+05	(CH3)2SO	111	.11401500E+05	(CH3)2CCO	111
.10073900E+05	CH3NCS	11	.11420210E+05	CH2CCH3CH	111
.10009990E+05	NH2CCHN	111	.11430530E+05	H2CS	111
.10102900E+05	H2CCHN	111	.11450300E+05	(CH3)2SO	111
.10220000E+05	O3	111	.11457000E+05	CH2(CHU)2	111
.10249900E+05	CH3CCH2	111	.11475230E+05	CH2CHCL	111
.10270510E+05	(CH3)2CHU	111	.11532040E+05	(CH3)2CCH	111
.10293400E+05	NH3	11	.11509210E+05	CH2NH	111
.10312930E+05	C2H3F	111	.11592090E+05	CH2O	111
.10329440E+05	C4N2H4	111	.11592300E+05	(H2CCCH)2O	111
.10344230E+05	NH3	111	.11604270E+05	CH3SCCH3	111
.10397120E+05	NH3	11	.11647900E+05	HC00F	111
.10422430E+05	C2H3F	111	.11607400E+05	HC00CH2CH2	111
.10426700E+05	NH3	11	.11673100E+05	NH3	11
.10430440E+05	C2H3F	111	.11707450E+05	CH3CCHN	111
.10463970E+05	H2CS	111	.11706400E+05	CH3CCH2	111
.10462020E+05	NH3	11	.11710700E+05	CH3CCHN	111
.10521310E+05	SIF2	111	.11730000E+05	CHCLCHCL	111
.10525990E+05	(CH3)2SO	111	.11735000E+05	CH3SCCH3	111
.10527600E+05	SO2	111	.11753130E+05	H2CO	111
.10536300E+05	NH3	11	.11753000E+05	HC00CH3	111
.10566040E+05	CH2LO	111	.11770700E+05	CH3CH2OH	111
.10568730E+05	(CH3)2SO	111	.11780000E+05	SO2	111
.10594530E+05	(CH3)2SO	111	.11791300E+05	(CH3)2CHU	111
.10600000E+05	CHCLCHCL	111	.11833340E+05	CH3OCL	111
.10672000E+05	CH2NH	111	.11807090E+05	(CH3)2CHU	111
.10682040E+05	C2H3F	111	.11879500E+05	CH2(CHU)2	111
.10708000E+05	NH2CHU	111	.11809200E+05	NSF	111
.10713100E+05	(CH3)2SO	111	.11890240E+05	NH2CHU	111
.10754560E+05	NH3	11	.11913770E+05	C4SHO	111
.10759020E+05	NH3	11	.11947140E+05	NH3	11
.10770550E+05	NH2CHU	111	.11971700E+05	CH3OCL	111
.10769060E+05	CH3HCCCHN	111	.11902090E+05	CH2NH	111
.10799720E+05	(CH3)2SO	111	.11905790E+05	CH3SCN	111
.10800900E+05	CH3HCCCHN	111	.12012200E+05	(H2CCCH)2O	111
.10830100E+05	NH3	11	.12015050E+05	CH3CHU	111
.10873150E+05	C4N2H4	111	.12017300E+05	NH3	11
.10890920E+05	CH2CHCH2S	111	.12070640E+05	(CH3)2CCO	111
.10906670E+05	NSF	111	.12091290E+05	(CH3)2S	111
.10906000E+05	CH2CHCH2S	111	.12101520E+05	NH2CHU	111
.10947400E+05	CH3SCN	111	.12141000E+05	SIF2	111
.10979460E+05	(CH3)2SO	111	.12142040E+05	(CH3)2SO	111

FREQUENCY LIST 4

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.12143520E+05	(CH3)2S	III	.13202110E+05	(CH3)2SO	III
.12156310E+05	CH3CHO	III	.13296370E+05	Am3	II
.12162470E+05	UCS	I A	.13297490E+05	Am3	II
.12219290E+05	nCCUCh3	III	.1329870E+05	Cn2CCn3Ch	III
.12236100E+05	(CH3)2SO	III	.13307010E+05	Cn2n2O	III
.12251460E+05	NH3	II	.13321320E+05	(n2CCH)2O	III
.12252450E+05	H2Cn2CH2	III	.13323940E+05	CH3CnChCh	III
.12256640E+05	SO2	III	.13330800E+05	Cn3O	III
.12275020E+05	CH2CHCL	III	.1334040E+05	Cn3F	III
.12301490E+05	Cn3n	III	.13353530E+05	(CH3)2SO	III
.12305400E+05	NH3	II	.1342220E+05	(CH3)2SO	III
.12308710E+05	CH3CnCH2	III	.13425800E+05	Cn2CCn3Ch	III
.12310000E+05	CH2(CHO)2	III	.13431230E+05	Cn2OCC2H2	III
.12317350E+05	NH3	II	.13441400E+05	CH	I A
.12336480E+05	NH3	II	.13445600E+05	CHCLChCL	III
.12341130E+05	C5H5N	III	.13457500E+05	SO2	III
.12369560E+05	(CH3)2C3H	III	.1347500E+05	CH3CnChCh	III
.12386800E+05	nCOF	III	.13481900E+05	(CH3)2C3H	III
.12422250E+05	(CH3)2SO	III	.13489570E+05	NH2CHO	III
.12454050E+05	(n2CCH)2O	III	.13556500E+05	(CH3)2CHO	III
.12456660E+05	CH3C3HCH2	III	.1356440E+05	(CH3)2SO	III
.12461040E+05	NH3	II	.13570600E+05	C3n5NH2	III
.12511000E+05	CH3OH	II	.1357510E+05	UF2	III
.12515730E+05	(n2CCH)2O	III	.13585290E+05	CH2CO	III
.12522890E+05	SO2	III	.13600900E+05	CHCLChCL	III
.12540960E+05	NH3	II	.13612300E+05	NH3	II
.12541620E+05	C2n2n2O	III	.13612900E+05	CH2(CHO)2	III
.12552750E+05	C2n2OCC2H2	III	.1362290E+05	CH3CnChCh	III
.12562320E+05	HCN	I B	.13634860E+05	(CH3)2SO	III
.12564840E+05	C2n2OCC2H2	III	.13667790E+05	CH3CnCH2	III
.12566900E+05	(CH3)2SO	III	.13687940E+05	C2n3F	III
.12561870E+05	Cn3O	III	.13700960E+05	NH3	II
.12592450E+05	CH3CHCH2	III	.13719510E+05	NH3	II
.12597690E+05	SO2	III	.13724690E+05	(CH3)2SO	III
.12600560E+05	HCOOH	III	.13727800E+05	C2n2OCC2H2	III
.12604740E+05	(CH3)2SO	III	.13755720E+05	(CH3)2SO	III
.12609400E+05	CH3OH	II	.13777130E+05	C4SH6	III
.12610440E+05	CH3C3HCH2	III	.1377960E+05	(CH3)2SO	III
.12642120E+05	H2CCHCN	III	.13788390E+05	(CH3)2SO	III
.12644280E+05	C4SH6	III	.13795330E+05	(CH3)2SO	III
.12674120E+05	NH3	II	.13804030E+05	UF2	III
.12707010E+05	C4SH6	III	.13811490E+05	(CH3)2SO	III
.12712060E+05	C2n2n2O	III	.1386J480E+05	C5H5N	III
.12722130E+05	SIF2	III	.13904620E+05	NSF	III
.12752900E+05	SO	I C	.13904620E+05	NSF	III
.12782390E+05	UF2	III	.13914160E+05	C2n2OCC2H2	III
.12797710E+05	H2CCHCN	III	.13915030E+05	(CH3)2SO	III
.12805900E+05	(CH3)2CHO	III	.13917700E+05	C2n2OCC2H2	III
.12809600E+05	NSF	III	.13937900E+05	(CH3)2CCO	III
.12810000E+05	NSF	III	.13965500E+05	CH3CC2H3	III
.12877900E+05	C4SH6	III	.13972900E+05	CH3CC2H3	III
.12879300E+05	(H2CCH)2O	III	.13974540E+05	NH3	II
.12918150E+05	H2CCH2CH2	III	.13990000E+05	(CH3)2CHO	III
.12919550E+05	C2n2n2O	III	.13995240E+05	C3n5NH2	III
.12923100E+05	NH3	II	.14004660E+05	C6H6	III
.12931020E+05	(CH3)2SO	III	.14004900E+05	(H2CCH)2O	III
.1295720E+05	NH3	II	.14062900E+05	C2n2n2O	III
.12993430E+05	HCHO	I B	.14065250E+05	CH2CCH3CH	III
.13019360E+05	C2n2n2O	III	.14108180E+05	C3n5NH2	III
.13023710E+05	C3n5NH2	III	.14123730E+05	NH2CHO	III
.13026160E+05	(CH3)2CCO	III	.14167850E+05	CH2(CHO)2	III
.13038590E+05	C2H2OCC2H2	III	.14196000E+05	(CH3)2SO	III
.13043700E+05	SO	I C	.14211000E+05	(CH3)2CHO	III
.13047900E+05	C5H6	III	.14218250E+05	CH3SCN	III
.13062880E+05	C2H3F	III	.14224740E+05	NH3	II
.13084100E+05	SO2	III	.14237800E+05	(CH3)2S	III
.13110920E+05	C4SH6	III	.14259780E+05	C2H3F	III
.13113340E+05	CH2NUH	III	.14261900E+05	n2CS	III
.13147170E+05	CHCLCHCL	III	.14267170E+05	nCCOCH3	III
.13198890E+05	H2CCH2CH2	III	.1426820E+05	n4CH2	III

FREQUENCY LIST 5

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.14275190E+05	HCUCCH3	111	.15205350E+05	CH2NUH	111
.14284700E+05	CH2NUH	111	.15206440E+05	NH3	11
.14293330E+05	CH3HCCNH	111	.15310980E+05	C4H2NH	111
.14297341E+05	C2H2N2O	111	.15329980E+05	C3H5NH2	111
.14323370E+05	HUCUH	111	.15350000E+05	CH3SCN	111
.14335390E+05	C2H2OC2H2	111	.15391340E+05	C4H2NH	111
.14370300E+05	NH3	11	.15392700E+05	NH2CNU	111
.14377050E+05	CH3HCCNH	111	.15407020E+05	C3H5NH2	111
.14381190E+05	(CH3)2CCU	111	.15412300E+05	NH3	11
.14392220E+05	CH3HCCNH	111	.15417000E+05	(CH3)2CNU	111
.14407110E+05	C3H5NH2	111	.15419700E+05	(CH3)2C3H	111
.14414440E+05	CH2CHCL	111	.15437000E+05	C3H5NH2	111
.14419330E+05	C2H3F	111	.15440730E+05	C3H5NH2	111
.14419340E+05	C3H5N	111	.15448900E+05	CH2CHCL	111
.14427130E+05	CH2CH3CH	111	.15463300E+05	SIF2	111
.14439400E+05	(CH3)2CCU	111	.15460990E+05	C2H2N2O	111
.14463960E+05	C3H5N	111	.15461210E+05	C2H3F	111
.14468720E+05	C2H3F	111	.15514000E+05	CH3OCL	111
.14468700E+05	H2CO	111	.15523960E+05	NH3	11
.14534200E+05	NH3	111	.15539320E+05	NH2	111
.14567000E+05	SU2	111	.15551580E+05	N4CH2	111
.14615520E+05	C4H2NH	111	.15573400E+05	CH2CHCL	111
.14634020E+05	C3H5NH2	111	.15584710E+05	CH2CHCL	111
.14634840E+05	C3H5N	111	.15600290E+05	CH3HCCNH	111
.14665550E+05	C2H2OC2H2	111	.15603900E+05	CH2CHCL	111
.14670590E+05	HUCUCH3	111	.15604090E+05	CH3HCCNH	111
.14681130E+05	HUCUCH3	111	.15624020E+05	UF2	111
.14682020E+05	C3H5N	111	.15620150E+05	NH3	111
.14688450E+05	N4CH2	111	.15632000E+05	NH3	11
.14690150E+05	HCCCHU	111	.15639400E+05	NH3	11
.14724270E+05	HCUU	111	.15640140E+05	C3H5NH2	111
.14726740E+05	H2CO	111	.15653120E+05	H2CS	111
.14735920E+05	C2H3F	111	.15736410E+05	CH2NH	111
.14753620E+05	C3H5N	111	.15740470E+05	C3H5N	111
.14770550E+05	N4CH2	111	.15743010E+05	C3H5N	111
.14803250E+05	H2CCHCN	111	.15748190E+05	SIF2	111
.14822700E+05	NH3	11	.15755210E+05	C3H5N	111
.14823270E+05	C3H5N	111	.15771440E+05	UF2	111
.14863300E+05	C3H5N	111	.15777590E+05	C2H2OC2H2	111
.14897500E+05	CH3CH2UH	111	.15777930E+05	C4H2NH	111
.14897890E+05	ASF	111	.15794490E+05	CH2CHCL	111
.14903130E+05	C3H5N	111	.15794540E+05	CH2CHCL	111
.14935710E+05	CH3HCCNH	111	.15821120E+05	CH3SCN	111
.14945930E+05	C3H5N	111	.15823070E+05	CH2CHCL	111
.14945560E+05	C4H2NH	111	.15823990E+05	C4SH6	111
.14947330E+05	C3H5N	111	.15859000E+05	(CH3)2CHU	111
.14953710E+05	(H2CCN)2U	111	.15869090E+05	CH2NH	111
.14968410E+05	CH2CHCL	111	.15873000E+05	CH3OC2H3	111
.14979400E+05	CH3SCN	111	.15907570E+05	N4CH2	111
.14987760E+05	HUCUL	111	.15933320E+05	NH3	11
.14998650E+05	CH3HCCNH	111	.15943570E+05	HUCUL	111
.15010700E+05	H2CCHCN	111	.15946000E+05	CH3CHU	111
.15022380E+05	CH3OCH2	111	.15962540E+05	H2CCHCL	111
.15033000E+05	(CH3)2CHU	111	.15967640E+05	CH3CHCC2H2	111
.15056270E+05	CH2CHCL	111	.15992420E+05	C3H5NH2	111
.15078290E+05	CH3HCCNH	111	.16007210E+05	CH2CHCH2S	111
.15079420E+05	NH2CNU	111	.16037230E+05	HUCUCH3	111
.15091060E+05	(CH3)2CO	111	.16037470E+05	H2CCHCL	111
.15105640E+05	CH2NUH	111	.16039700E+05	CH3SC2H3	111
.15124720E+05	CH3NCS	11	.16047960E+05	HUCUCH3	111
.15137570E+05	C2H2OC2H2	111	.16060310E+05	C3H5NH2	111
.15145510E+05	C3H5NH2	111	.16060370E+05	ASF	111
.15146000E+05	HUCUCHU	111	.16090730E+05	C3H5NH2	111
.15175520E+05	C4H2NH	111	.16100600E+05	C3H5NH2	111
.15182800E+05	C2H3F	111	.16105420E+05	ASF	111
.15193540E+05	NH3	11	.16115740E+05	C3H5NH2	111
.15195900E+05	NH3	11	.16122200E+05	CH3OC2H3	111
.15230500E+05	SU2	111	.16126090E+05	SU2	111
.15230570E+05	C2H2CC2H2	111	.16131200E+05	CH3SC2H3	111
.15233360E+05	NH3	11	.16135050E+05	CH3OCH2	111

FREQUENCY LIST 6

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.16140550E+05	nCn	1 B	.16704320E+05	Cn3Cn2n3	111
.16174760E+05	Cn2CnCH2	111	.16750050E+05	SIFz	111
.16199050E+05	(nCn)2U	111	.16750220E+05	nH3	11
.16215550E+05	nH3	111	.16803200E+05	C3n3nH2	111
.16245000E+05	Cn3Cn2n3	111	.16813730E+05	Cn3Cn2n3	111
.16240340E+05	(Cn3)2S	111	.16824500E+05	Cn2CnCH2S	111
.16250750E+05	Cn3CnCH2	111	.16841160E+05	nH3	11
.16275000E+05	n2CnCH2	111	.16845050E+05	C3n3nH2	111
.16299140E+05	n4CH2	111	.16872340E+05	C3n3nH2	111
.16300470E+05	C2n2n2U	111	.16901200E+05	Cn3CnCH2	111
.16319380E+05	nH3	11	.16909000E+05	nH3	111
.16321540E+05	Cn2CHCH2S	111	.16909400E+05	nH3CnU	111
.16322070E+05	nH2CnU	111	.16909370E+05	Cn2Cn	111
.16325000E+05	SIFz	111	.16909500E+05	Cn2CnCH2	111
.16334300E+05	NU2CL	111	.17000000E+05	C3n3nH2	111
.16347330E+05	CH2CLCN	111	.17010900E+05	Cn2CnCH2S	111
.16347830E+05	Cn2CHCH2S	111	.17023470E+05	Cn2CnCH2S	111
.16360130E+05	Cn2CHCH2S	111	.17027000E+05	n2Cn	111
.16363350E+05	Cn2CnCH2	111	.17040530E+05	(Cn3)2S	111
.16360920E+05	Cn2CHCH2S	111	.17124000E+05	C4n3nH2	111
.16370300E+05	CH3CnCH2	111	.17151330E+05	Cn2CnCH2S	111
.16374800E+05	Cn2CHCH2S	111	.17160000E+05	Cn2CnCH2S	111
.16384190E+05	nCnU	111	.17161200E+05	Cn2(Cn)2	111
.16411310E+05	Cn3CnCH2	111	.17216190E+05	(Cn3)2Cn	111
.16425540E+05	nCnCH2	111	.1723540E+05	C3n3nH2	111
.16431540E+05	nCnCH2	111	.17245310E+05	Cn2CnCH2S	111
.16450010E+05	H2CnCH2	111	.17262990E+05	Cn3nH2	111
.16455130E+05	nH3	11	.17270000E+05	C4n3nH2	111
.16460050E+05	Cn2CnCH2	111	.17284250E+05	C3n3nH2	111
.16460720E+05	Cn2CnCH2S	111	.17286100E+05	nCnU	111
.16492000E+05	Cn2CHCH2S	111	.17291540E+05	nH3	11
.16492600E+05	Cn2CHCH2S	111	.17295000E+05	Cn3CH2Cn	111
.16499280E+05	C2H2n2U	111	.17299900E+05	C4n3nH2	111
.16504950E+05	Cn2CHCH2S	111	.17306100E+05	C3n3nH2	111
.16506900E+05	Cn2CHCH2S	111	.17325500E+05	C3n3nH2	111
.16506900E+05	Cn2CHCH2S	111	.17354710E+05	UFz	111
.16510930E+05	Cn2CHCH2S	111	.17360100E+05	nCnCH2Cn	111
.16522660E+05	Cn2CHCH2S	111	.17370400E+05	nH3	11
.16522660E+05	Cn2CHCH2S	111	.17361210E+05	(nCn)2U	111
.16528910E+05	Cn2CHCH2S	111	.17396600E+05	C5n3nH2	111
.16529300E+05	CH3CHCH2	111	.17397050E+05	nCnCH2Cn	111
.16533940E+05	Cn2CHCH2S	111	.17405070E+05	C3n3nH2	111
.16533940E+05	Cn2CHCH2S	111	.17410000E+05	Cn2(Cn)2	111
.16556650E+05	nH2CnU	111	.17411670E+05	nCnCH2Cn	111
.16561410E+05	(Cn3)2SU	111	.17424000E+05	nH3	111
.16562000E+05	nCnU	1 B	.17420000E+05	Cn3CnU	11
.16569050E+05	C3n3nH2	111	.17429510E+05	CH3CHCH2	111
.16594390E+05	(Cn3)2C3H	111	.17435930E+05	Cn2CnCH2S	111
.16594460E+05	Cn2CHCH2S	111	.17439430E+05	Cn3CnCH2	111
.16603000E+05	CH3CnCH2	111	.17439700E+05	Cn3nH2	111
.16606000E+05	C4n3nH2	111	.17453100E+05	NU2CL	111
.16629130E+05	C3n3nH2	111	.17460500E+05	Cn3CnCH2	111
.16632710E+05	Cn2CHCH2S	111	.17469240E+05	Cn3CnCH2	111
.16646100E+05	SIFz	111	.17470900E+05	nCnCH2Cn	111
.16649260E+05	(CH3)2S	111	.17504300E+05	Cn3CnU	11
.16653730E+05	Cn2CHCH2S	111	.17513350E+05	Cn3Cn	11
.16671790E+05	C2H2n2U	111	.17516450E+05	Cn2Cn2U	111
.16672490E+05	Cn2CHCH2S	111	.17517510E+05	nH3	111
.16682080E+05	Cn3CnU	111	.17545000E+05	Cn2CLCN	111
.16687240E+05	Cn2CHCH2S	111	.17547900E+05	(Cn3)2C3H	111
.16687290E+05	C3n3nH2	111	.17554970E+05	Cn3CnCH2	111
.16694920E+05	C3n3nH2	111	.17559300E+05	n4CH2	111
.16714850E+05	C3n3nH2	111	.17560640E+05	Cn3CnU	111
.16724000E+05	Cn3Cn	111	.17561700E+05	(Cn3)2SU	111
.16728300E+05	C3n3nH2	111	.17565920E+05	n2CS	111
.16742400E+05	C2H4S	111	.17579400E+05	(Cn3)2C3H	111
.16751400E+05	(CH3)2C3H	111	.17579440E+05	Cn2CnCH2S	111
.16757500E+05	Cn3CnCH2	111	.17587820E+05	C3n3nH2	111
.16769380E+05	C3n3nH2	111	.17600000E+05	Cn2(Cn)2	111
.16770630E+05	Cn3CnCH2	111	.17612900E+05	NU2CL	111

FREQUENCY LIST 6

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.19076310E+05	(CH3)2CCu	111	.19577040E+05	C3H5Nn2	111
.19093070E+05	Cn2CHnO2	111	.19581130E+05	S2C	111
.19100000E+05	Cn2(CH3)2	111	.19585400E+05	S2C	111
.19112420E+05	Nn2CHU	111	.19589400E+05	C3H5Nn2	111
.19120400E+05	S2C	111	.19590000E+05	C42H6	111
.19140450E+05	(CH3)2CO	111	.19592070E+05	(CH3)2CO	111
.19150450E+05	C2n2N2O	111	.19711300E+05	(H2CCH)2U	111
.19160420E+05	C3H5U3	111	.19720950E+05	C3H5Nn2	111
.19195670E+05	H2CCH2Cn2	111	.19736700E+05	(CH3)2CCH	111
.19201220E+05	(CH3)2CO	111	.19747000E+05	Cn2CCH2	111
.19207750E+05	Cn2CHnO2	111	.19746100E+05	Nn2CHU	111
.19209040E+05	C3H5Nn2	111	.19754920E+05	C2H5F	111
.19213700E+05	Nn2CL	111	.19757400E+05	Nn3	111
.19214020E+05	(CH3)2CO	111	.19767900E+05	C2H2C2N2	111
.192156...E+05	HCCSCn3	111	.19772240E+05	Cn2CCH3CH	111
.19216440E+05	(CH3)2CO	111	.19784200E+05	C3H4	111
.19216360E+05	Nn3	111	.19790000E+05	Cn2(CH3)2	111
.19220100E+05	(CH3)2CO	111	.19801990E+05	C3H5Nn2	111
.19226210E+05	Cn2NnH	111	.19836410E+05	Nn3	111
.19230800E+05	(CH3)2CO	111	.19836710E+05	(CH3)2CCO	111
.19232200E+05	(CH3)2CO	111	.19877300E+05	C3H5Nn2	111
.19235330E+05	(CH3)2CO	111	.19915130E+05	H2CCH2CH2	111
.19240520E+05	C2H2H2U	111	.19934000E+05	C3CUCU	111
.19242940E+05	(CH3)2CO	111	.19936270E+05	Cn2CHnO2	111
.19243580E+05	CH2CHnO2	111	.19953480E+05	C2H3F	111
.19254440E+05	(CH3)2CO	111	.19967330E+05	CH3OH	111
.19255600E+05	H2COH	111	.19976300E+05	Cn2CCHCL	111
.19256450E+05	(CH3)2CO	111	.19979700E+05	Nn2CH	111
.19264120E+05	(CH3)2CO	111	.19991370E+05	C3H5Nn2	111
.19265300E+05	Cn3CHU	111	.19995100E+05	Nn2CH	111
.19268850E+05	(CH3)2CO	111	.20013030E+05	C3H5Nn2	111
.19269610E+05	(CH3)2CO	111	.20015530E+05	C3H5Nn2	111
.19271400E+05	(CH3)2CO	111	.20021040E+05	Cn2H	111
.19271690E+05	HnU3	111	.20025160E+05	C3H5Nn2	111
.19275300E+05	C3H5Nn2	111	.20044500E+05	Cn2CCH3CH	111
.19275740E+05	(CH3)2CO	111	.20056100E+05	S2O	111
.19276240E+05	(CH3)2CO	111	.20064370E+05	Cn2CHnO2	111
.19279690E+05	CH2CHnO2	111	.20070660E+05	H5CCCH2	111
.19285040E+05	H2CCHCH	111	.20076660E+05	S1F2	111
.19289350E+05	3H5NH2	111	.20102200E+05	C2H3F	111
.19294450E+05	(CH3)2C3H	111	.20129840E+05	(CH3)2C3H	111
.19298660E+05	H2CCH3	111	.20132530E+05	Cn2CHnO2	111
.19303120E+05	C3H5Nn2	111	.20143920E+05	C3H5Nn2	111
.19307570E+05	H2CCH3	111	.20179360E+05	Cn2CHnO2	111
.19327580E+05	(CH3)2CO	111	.20180400E+05	HCCCH2CH2	111
.19332680E+05	C5UHO	111	.20181400E+05	HCH	111
.19351190E+05	HCCCH2CH2	111	.20199700E+05	HCCCH2CH2	111
.19371150E+05	CH2CHnO2	111	.20200730E+05	CH2CHnO2	111
.19393000E+05	C3H5Nn2	111	.20209200E+05	CH2CO	111
.19405400E+05	C3H5N	111	.20211200E+05	C5H5N	111
.19412370E+05	FCCH	111	.20219920E+05	CH2CO	111
.19422100E+05	(CH3)2CCO	111	.20219920E+05	CH2CO	111
.19427540E+05	H2CCHCH	111	.20231590E+05	CH2CO	111
.19437500E+05	CH2CHnO2	111	.20260600E+05	CH2CO	111
.19470470E+05	HCCCH2CH2	111	.20276330E+05	C2H3F	111
.19477940E+05	CH2CHnO2	111	.20279790E+05	(CH3)2CCH	111
.19484480E+05	CH3HCCCH	111	.20297690E+05	H2COH	111
.19490350E+05	CH3HCCCH	111	.20303990E+05	C3H5Nn2	111
.19506000E+05	(CH3)2CHU	111	.20313590E+05	HCCCH2CH2	111
.19508790E+05	(CH3)2C3H	111	.20333550E+05	Cn2CHU	111
.19536990E+05	CH2CHnO2	111	.20335470E+05	S2O	111
.19540670E+05	C3H5Nn2	111	.20335600E+05	C3H5Nn2	111
.19562770E+05	(CH3)2CO	111	.20340250E+05	Cn3CUCU	111
.19608400E+05	NH2CHO	111	.20340490E+05	CH2CHnO2	111
.19634650E+05	HCCCH2CH2	111	.20371460E+05	Nn3	111
.19648600E+05	CH2(CHO)2	111	.20373600E+05	C5H5N	111
.19652430E+05	C3H5Nn2	111	.20389460E+05	CH2CHnO2	111
.19669250E+05	(CH3)2CCH	111	.20392550E+05	C2H2N2U	111
.19670020E+05	C3H5Nn2	111	.20413220E+05	C4S6	111
.19674410E+05	C2H3F	111	.20422620E+05	NSF	111

FREQUENCY LIST 9

NO	MOLECULE	IRFREQ	NO	MOLECULE	IRFREQ
.204300000000	C ₂ H ₂ N	111	.210093000000	C ₂ H ₂ NH ₂	111
.204424000000	HCCCH ₂ CH ₂	111	.210114700000	C ₂ H ₂ NH	111
.204534100000	CH ₂ CCCH ₂ CH ₂	111	.210104000000	CH ₂ CCCH ₂ CH ₂	111
.204734000000	AS ₂	111	.210200000000	(CH ₃) ₂ CCN	111
.204810000000	C ₂ H ₂ NH	111	.210300000000	C ₂ H ₂ NH ₂	111
.205000000000	H ₂ CCNCH ₂	111	.210300000000	C ₂ H ₂ NH ₂	111
.205137000000	CH ₂ CCCH ₂ CH ₂	111	.210300000000	NH ₃	11
.205177000000	H ₂ CCNCH ₂	111	.210300000000	C ₂ H ₂ NH	111
.205300000000	C ₂ H ₂ NH ₂	111	.210300000000	FCN	1 A
.205379000000	NH ₂	111	.211342900000	NH ₃	11
.205300000000	C ₂ H ₂ NH ₂	111	.211300000000	C ₂ H ₂ NH ₂	111
.205439000000	H ₂ CCN	111	.211500000000	C ₂ H ₂ NH ₂	111
.205440000000	H ₂ CCNCH ₂	111	.211500000000	NH ₂ CH ₂	111
.205530000000	H ₂ CCNCH ₂	111	.211500000000	HCCCH ₂ CH ₂	111
.205500000000	H ₂ CCN	1 0	.212000000000	NH ₂ CH ₂	111
.205500000000	C ₂ H ₂ NH ₂	111	.212240000000	CH ₂	111
.205737000000	C ₂ H ₂ NH ₂	111	.212240000000	C ₂ H ₂ NH ₂	111
.205870000000	(CH ₃) ₂ CCN	111	.212337900000	C ₂ H ₂ NH ₂	111
.205970000000	CH ₂ CCNCH ₂	111	.212304300000	C ₂ H ₂ NH ₂	111
.205940000000	C ₂ H ₂ NH	111	.212340000000	C ₂ H ₂ NH ₂	111
.205960100000	HCCCH ₂ CH ₂	111	.212340000000	NH ₃	11
.206011300000	(CH ₃) ₂ CCN	111	.213000000000	CH ₂ CCN	111
.206243400000	C ₂ H ₂ CCNCH ₂	111	.213147000000	CH ₂ CCNCH ₂	111
.206377100000	C ₂ H ₂ CCNCH ₂	111	.213212500000	CH ₂ CCNCH ₂	111
.206405700000	C ₂ H ₂ NH	111	.213312400000	C ₂ H ₂ NH	111
.206490400000	AS ₂	111	.213400000000	CH ₂ CCNCH ₂	111
.206505000000	HCCCH ₂ CH ₂	111	.213533100000	CH ₂ CCNCH ₂	111
.206603700000	AS ₂	111	.213600000000	H ₂ CCNCH ₂	111
.206600000000	C ₂ H ₂ NH	111	.213600000000	NH ₂ CH ₂	111
.206700000000	CH ₂ (CH ₃) ₂	111	.213779100000	C ₂ H ₂ CCNCH ₂	111
.206705400000	CH ₂ CCNCH ₂	111	.213870000000	C ₂ H ₂ NH	111
.206705000000	C ₂ H ₂ NH	111	.213915000000	NH ₃	11
.206910000000	C ₂ H ₂ NH	111	.213974000000	H ₂ CCN	111
.207017000000	CH ₂ CCNCH ₂	111	.213999000000	C ₂ H ₂ NH	111
.207041400000	C ₂ H ₂ NH ₂	111	.214340000000	(CH ₃) ₂ CCN	111
.207043000000	C ₂ H ₂ NH	111	.214493000000	(CH ₃) ₂ CCN	111
.207052000000	CH ₂ CCNCH ₂	111	.214501000000	CH ₂ (CH ₃) ₂	111
.207097000000	C ₂ H ₂ NH	111	.214510000000	H ₂ CCNCH ₂	111
.207151000000	C ₂ H ₂ NH ₂	111	.214520000000	C ₂ H ₂ NH	111
.207161300000	C ₂ H ₂ NH	111	.214740000000	H ₂ CCNCH ₂	111
.207192100000	NH ₃	11	.214842700000	CH ₂ CCNCH ₂	111
.207231900000	C ₂ H ₂ NH	111	.214920000000	CH ₂ CCNCH ₂	111
.207261100000	HCCCH ₂ CH ₂	111	.214930300000	C ₂ H ₂ NH ₂	111
.207354400000	NH ₃	11	.215000000000	CH ₂ CCNCH ₂	111
.207373000000	(CH ₃) ₂ CCN	111	.215113000000	CH ₂ CCNCH ₂	111
.207474200000	C ₂ H ₂ NH ₂	111	.215161200000	C ₂ H ₂ NH ₂	111
.207539000000	CH ₂ CCN	111	.215174700000	C ₂ H ₂ NH ₂	111
.207667000000	(CH ₃) ₂ CCN	111	.215194000000	(CH ₃) ₂ CCN	111
.207677100000	(CH ₃) ₂ CCN	111	.215291900000	CH ₂ CCNCH ₂	111
.207695900000	(CH ₃) ₂ CCN	111	.215442200000	C ₂ H ₂ NH	111
.207776500000	HCCCH ₂ CH ₂	111	.215517000000	CH ₂ CCNCH ₂	111
.207845500000	C ₂ H ₂ NH ₂	111	.215614900000	CH ₂ CCNCH ₂	111
.207956000000	C ₂ H ₂ NH	111	.216303000000	CH ₂ CCNCH ₂	111
.208048300000	NH ₃	11	.216315000000	C ₂ H ₂ NH	111
.208200000000	C ₂ H ₂ NH ₂	111	.216316400000	CH ₂ CCNCH ₂	111
.208243400000	H ₂ CCN	111	.216324300000	CH ₂ CCNCH ₂	111
.208255000000	C ₂ H ₂ NH ₂	111	.216518400000	CH ₂ CCNCH ₂	111
.208337800000	C ₂ H ₂ NH ₂	111	.216559900000	CH ₂ CCNCH ₂	111
.208350000000	CH ₂ (CH ₃) ₂	111	.216550000000	HCCCH ₂ CH ₂	111
.208415600000	C ₂ H ₂ NH ₂	111	.216631000000	HCCCH ₂ CH ₂	111
.208525100000	NH ₃	11	.216600000000	C ₂ H ₂ NH	111
.209370000000	CH ₂ (CH ₃) ₂	111	.216693300000	C ₂ H ₂ NH	111
.209379100000	C ₂ H ₂ NH ₂	111	.216600000000	HCCCH ₂ CH ₂	111
.209506400000	CH ₂ CCNCH ₂	111	.216923000000	CH ₂ CCNCH ₂	111
.209527000000	C ₂ H ₂ NH ₂	111	.217033000000	NH ₃	11
.209621000000	CH ₂ CCNCH ₂	111	.217040000000	C ₂ H ₂ NH	111
.209920200000	H ₂ CCN	111	.217200000000	CH ₂ CCNCH ₂	111
.209930600000	CH ₂ NH	111	.217600000000	CH ₂ (CH ₃) ₂	111
.209946100000	NH ₃	11	.217600000000	SU ₂	111
.210067000000	C ₂ H ₂ NH	111	.217705000000	CH ₂ CCNCH ₂	111

FREQUENCY LIST 10

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.21700240E+05	CH2	111	.2225700E+05	CH3CH2CH2	111
.21700270E+05	CH2CH2CH2	111	.2231000E+05	CH2CH2CH2	111
.21790000E+05	CH2CH2CH2	111	.2232000E+05	CH3CH2CH2	111
.21800000E+05	CH2CH2CH2	111	.2233000E+05	CH2CH2CH2	111
.21812240E+05	CH2CH2CH2	111	.2234000E+05	CH2CH2CH2	111
.21815130E+05	CH2CH2CH2	111	.2235000E+05	CH2CH2CH2	111
.21816040E+05	CH2CH2CH2	111	.2236000E+05	CH2CH2CH2	111
.21822430E+05	CH2CH2CH2	111	.2237000E+05	CH2CH2CH2	111
.21824500E+05	CH2CH2CH2	111	.2238000E+05	CH2CH2CH2	111
.21826000E+05	CH2CH2CH2	111	.2239000E+05	CH2CH2CH2	111
.21832100E+05	CH2CH2CH2	111	.2240000E+05	CH2CH2CH2	111
.21836930E+05	CH2CH2CH2	111	.2241000E+05	CH2CH2CH2	111
.21873370E+05	CH2CH2CH2	111	.2242000E+05	CH2CH2CH2	111
.21900200E+05	CH2CH2CH2	111	.2243000E+05	CH2CH2CH2	111
.21917400E+05	CH2CH2CH2	111	.2244000E+05	CH2CH2CH2	111
.21922730E+05	CH2CH2CH2	111	.2245000E+05	CH2CH2CH2	111
.21930370E+05	CH2CH2CH2	111	.2246000E+05	CH2CH2CH2	111
.2193370E+05	CH2CH2CH2	111	.2247000E+05	CH2CH2CH2	111
.21971700E+05	CH2CH2CH2	111	.2248000E+05	CH2CH2CH2	111
.21981460E+05	CH2CH2CH2	111	.2249000E+05	CH2CH2CH2	111
.21981970E+05	CH2CH2CH2	111	.2250000E+05	CH2CH2CH2	111
.21982420E+05	CH2CH2CH2	111	.2251000E+05	CH2CH2CH2	111
.21984300E+05	CH2CH2CH2	111	.2252000E+05	CH2CH2CH2	111
.21988250E+05	CH2CH2CH2	111	.2253000E+05	CH2CH2CH2	111
.21991980E+05	CH2CH2CH2	111	.2254000E+05	CH2CH2CH2	111
.21991980E+05	CH2CH2CH2	111	.2255000E+05	CH2CH2CH2	111
.21991980E+05	CH2CH2CH2	111	.2256000E+05	CH2CH2CH2	111
.22000130E+05	CH2CH2CH2	111	.2257000E+05	CH2CH2CH2	111
.22000130E+05	CH2CH2CH2	111	.2258000E+05	CH2CH2CH2	111
.22003750E+05	CH2CH2CH2	111	.2259000E+05	CH2CH2CH2	111
.22008470E+05	CH2CH2CH2	111	.2260000E+05	CH2CH2CH2	111
.22013190E+05	CH2CH2CH2	111	.2261000E+05	CH2CH2CH2	111
.22013190E+05	CH2CH2CH2	111	.2262000E+05	CH2CH2CH2	111
.22013670E+05	CH2CH2CH2	111	.2263000E+05	CH2CH2CH2	111
.22022300E+05	CH2CH2CH2	111	.2264000E+05	CH2CH2CH2	111
.22022370E+05	CH2CH2CH2	111	.2265000E+05	CH2CH2CH2	111
.22030920E+05	CH2CH2CH2	111	.2266000E+05	CH2CH2CH2	111
.22031400E+05	CH2CH2CH2	111	.2267000E+05	CH2CH2CH2	111
.22031620E+05	CH2CH2CH2	111	.2268000E+05	CH2CH2CH2	111
.22031620E+05	CH2CH2CH2	111	.2269000E+05	CH2CH2CH2	111
.22036940E+05	CH2CH2CH2	111	.2270000E+05	CH2CH2CH2	111
.22041950E+05	CH2CH2CH2	111	.2271000E+05	CH2CH2CH2	111
.22045740E+05	CH2CH2CH2	111	.2272000E+05	CH2CH2CH2	111
.22045740E+05	CH2CH2CH2	111	.2273000E+05	CH2CH2CH2	111
.22052130E+05	CH2CH2CH2	111	.2274000E+05	CH2CH2CH2	111
.22055450E+05	CH2CH2CH2	111	.2275000E+05	CH2CH2CH2	111
.22065730E+05	CH2CH2CH2	111	.2276000E+05	CH2CH2CH2	111
.22071000E+05	CH2CH2CH2	111	.2277000E+05	CH2CH2CH2	111
.22085410E+05	CH2CH2CH2	111	.2278000E+05	CH2CH2CH2	111
.22105040E+05	CH2CH2CH2	111	.2279000E+05	CH2CH2CH2	111
.22117790E+05	CH2CH2CH2	111	.2280000E+05	CH2CH2CH2	111
.22128050E+05	CH2CH2CH2	111	.2281000E+05	CH2CH2CH2	111
.22137720E+05	CH2CH2CH2	111	.2282000E+05	CH2CH2CH2	111
.22140260E+05	CH2CH2CH2	111	.2283000E+05	CH2CH2CH2	111
.22147000E+05	CH2CH2CH2	111	.2284000E+05	CH2CH2CH2	111
.22155200E+05	CH2CH2CH2	111	.2285000E+05	CH2CH2CH2	111
.22156800E+05	CH2CH2CH2	111	.2286000E+05	CH2CH2CH2	111
.22176280E+05	CH2CH2CH2	111	.2287000E+05	CH2CH2CH2	111
.22176660E+05	CH2CH2CH2	111	.2288000E+05	CH2CH2CH2	111
.22185190E+05	CH2CH2CH2	111	.2289000E+05	CH2CH2CH2	111
.22204120E+05	CH2CH2CH2	111	.2290000E+05	CH2CH2CH2	111
.22208470E+05	CH2CH2CH2	111	.2291000E+05	CH2CH2CH2	111
.22227370E+05	CH2CH2CH2	111	.2292000E+05	CH2CH2CH2	111
.22226550E+05	CH2CH2CH2	111	.2293000E+05	CH2CH2CH2	111
.22233260E+05	CH2CH2CH2	111	.2294000E+05	CH2CH2CH2	111
.22234530E+05	CH2CH2CH2	111	.2295000E+05	CH2CH2CH2	111
.22235080E+05	CH2CH2CH2	111	.2296000E+05	CH2CH2CH2	111
.22246330E+05	CH2CH2CH2	111	.2297000E+05	CH2CH2CH2	111
.22250720E+05	CH2CH2CH2	111	.2298000E+05	CH2CH2CH2	111
.22262000E+05	CH2CH2CH2	111	.2299000E+05	CH2CH2CH2	111
			.2300000E+05	CH2CH2CH2	111
			.23025300E+05	CH2CH2CH2	111
			.23020000E+05	CH2CH2CH2	111

FREQUENCY LIST 11

Nu	MOLECULE	TABLE	Nu	MOLECULE	TABLE
.235370700e+05	C3H2O3	111	.235049500e+05	HCCHNHC2	111
.235370800e+05	C2H2OC2H2	111	.235371000e+05	COCCL2	111
.235300000e+05	C3H3NH2	111	.2357707300e+05	C3H3NH2	111
.235072000e+05	C3H3NH2	111	.235049400e+05	C3H3NH2	111
.235300000e+05	C2H2(CN)2	111	.235071000e+05	NH3	111
.235061700e+05	NH2CHO	111	.235070500e+05	C2H2NH2O	111
.235040790e+05	NH3	11	.235089700e+05	C2H2(CNH)2	111
.235116100e+05	HCCH2CH2	111	.235344400e+05	NH3	111
.235120020e+05	C3H3NH2	111	.235070000e+05	C2H2CN	111
.235121000e+05	C3H3NH2	111	.235711040e+05	C2H2NH2O	111
.235139000e+05	C3H3NH2	111	.235717920e+05	C3H3NH2	111
.235134100e+05	C2H2CCH2	111	.235720030e+05	NH3	111
.235130070e+05	S2O	111	.235740000e+05	C2H2(CN)2	111
.235142020e+05	CH2(CNH)2	111	.235702970e+05	C2H2O	111
.235101300e+05	(HCCH)2	111	.235701700e+05	CH2(CNH)2	111
.235100070e+05	HCCH2CCH2	111	.235771540e+05	SIF2	111
.235102700e+05	CH2L2CN	111	.2357707700e+05	(CH3)2CCH3	111
.235195000e+05	C2H2CHN*2	111	.235770100e+05	NH3	111
.235203400e+05	HCCHN	111	.235701000e+05	C2H2NH	111
.235213400e+05	C2H2OC2H2	111	.235740730e+05	C2H2CCH2	111
.235230000e+05	HCCH2CCH2	111	.235749000e+05	C3H3CH2CH2	111
.235232240e+05	NH3	11	.235749000e+05	(CH3)2CCH3	111
.235259300e+05	C2H2OC2H2	111	.235749000e+05	NH3	111
.235294100e+05	HCCH2CCH2	111	.235290000e+05	C2H2CN	111
.235299700e+05	C2H2CCH3CH	111	.235291510e+05		
.235201500e+05	CH3CCHL	111	.2352021510e+05	CH2CCHN	111
.235202000e+05	Cn3CH2CH	111	.235202000e+05	CH	1 A
.235303700e+05	C2H2CCH2	111	.235202940e+05	CH3CHN2	111
.235305000e+05	C2H2O	111	.235290000e+05	CH2CCHN	111
.235305000e+05	C2H2OC2H2	111	.235304000e+05	Cn2(CHO)2	111
.235312000e+05	Cn2CCH2	111	.235342300e+05	OF2	111
.235314270e+05	CH3CCHL	111	.235301000e+05	NH3	111
.235347530e+05	CH3OH	11	.235307130e+05	NH3	11
.235352700e+05	C2H2CCH2H2	111	.235304000e+05	(CH3)2CCH3	111
.235373510e+05	(CH3)2C2	111	.235715000e+05	CH3CCH2H3	111
.235377100e+05	C2H2NH2O	111	.235923070e+05	HCCHCCH3	111
.235377100e+05	N2O2CCH	111	.235920400e+05	CH3CCHL	111
.235377340e+05	CH3nCHNH	111	.235933320e+05	(H2CCH)2O	111
.235364740e+05	CH3nCHNH	111	.235935100e+05	HCCHCCH3	111
.235364000e+05	COCCL2	111	.235943900e+05	HCCH2CCH2	111
.235370240e+05	C2H2O	111	.235954230e+05	CH3CHCH2	111
.235304000e+05	C2H2OC2H2	111	.235955440e+05	S2O	111
.235307200e+05	CH2L2CN	111	.235960300e+05	CH2CCHN	111
.235402530e+05	C2H2OC2H2	111	.235977090e+05	Cn3CHCCH2	111
.235404000e+05	(CH3)2CCH3	111	.235980000e+05	CH3CCH2H3	111
.235414240e+05	S2O	111	.235994040e+05	(CH3)2CCHN	111
.235424500e+05	NHCS	111	.235994100e+05	SIF2	111
.235420420e+05	C3H3NH2	111	.240020000e+05	CH2CCHN	111
.235420500e+05	CH2CCH2	111	.240017000e+05	CH2CCHN	111
.235400000e+05	C2H2OC2H2	111	.240017000e+05	CH2CCHN	111
.235444620e+05	CH3OH	11	.240157000e+05	S2O	111
.235446000e+05	CH2CHNH2	111	.241150400e+05	Cn3SC2H3	111
.235493130e+05	C2H2OC2H2	111	.240330400e+05	C3H5NH2	111
.235495000e+05	NHCS	111	.240360000e+05	CH2CCHN	111
.235406500e+05	HCCHSCH3	111	.240379400e+05	(H2CCH)2O	111
.235473700e+05	(CH3)2CCH3	111	.240400400e+05	(n2CCH)2O	111
.235474000e+05	C2H2CHNH2	111	.240402520e+05	CH2CCHN3CH	111
.235490040e+05	(CH3)2CCHN	111	.240430040e+05	C2H2OC2H2	111
.2354908020L+05	CH2(CN)2	111	.240003100e+05	H2CO	111
.235499900e+05	NHCS	111	.240090900e+05	(H2CCH)2O	111
.235502940e+05	CH2CHNH2	111	.240700400e+05	(n2CCH)2O	111
.235507710e+05	C2H2OC2H2	111	.240634700e+05	S2O	111
.235524940e+05	(CH3)2CCHN	111	.240695700e+05	C3H4	111
.235527420e+05	(CH3)2C2	111	.240900000e+05	Cn2(CN)2	111
.235530700e+05	CH2CCH2	111	.240930100e+05	CnCLCHCL	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2	111	.241394200e+05	HCCLCaCL	111
.235619000e+05	C2H2OC2H2	111	.241470000e+05	(n2CCH)2O	111
.235550640e+05	HCCHCCH3	111	.241031300e+05	CH2CHNH2	111
.235558900e+05	NH3	111	.241277200e+05	CH2CHNH2	111
.235562300e+05	HCCHCCH3	111	.241394100e+05	NH3	111
.235610420e+05	H2CCHCH2</				

PRELIMINARY LIST 1c

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.241750050E+00	Cn2CHN0c	111	.244074150E+00	SIF2	111
.241751200E+00	Cn0CL2	111	.244081950E+00	NH3	111
.241750000E+00	(CH3)2CnH0	111	.244084470E+00	(CH3)2CnH20	111
.24177110E+00	nCCCH2CH2	111	.244080000E+00	Su2	111
.241802200E+00	NH3	111	.244080700E+00	Cn2CnCH2	111
.24247590E+00	SIF2	111	.24437540E+00	SIF2	111
.24275400E+00	Su2	111	.24437530E+00	Cn2Cn	111
.24282490E+00	C3n3NH2	111	.244380030E+00	(CH3)2Cn3H	111
.24240020E+00	Cn2CH2CH2	111	.24438300E+00	nCCCH2CH2	111
.24242500E+00	nCCCH2CH2	111	.244380700E+00	Cn3CH	111
.24290400E+00	nCCCH2CH2	111	.244393470E+00	Cn3CH	111
.24294200E+00	(CH3)2CnCU	111	.244393500E+00	Cn3CH	111
.24294240E+00	C3n3NH2	111	.244394240E+00	nCCCH2CH2	111
.24301300E+00	Su2	111	.244395300E+00	Cn3CH	111
.2432539E+00	CC2	111	.244396100E+00	Cn2CnCL2	111
.24333350E+00	(CH3)2CnH0	111	.24438820E+00	Cn3CH	111
.24345910E+00	C3n3NH2	111	.24439730E+00	Cn3CH	111
.24357700E+00	(CH3)2CnCU	111	.24439730E+00	Cn3CH	111
.24367200E+00	(CH3)2CnH0	111	.24439730E+00	Cn3CH	111
.24380030E+00	Cn3CH2CH2	111	.24439730E+00	Cn3CH	111
.24381110E+00	C3n3NH2	111	.24439730E+00	Cn3CH	111
.24382000E+00	Cn3CH2CH2	111	.24439730E+00	Cn3CH	111
.24383200E+00	Cn3CH2CH2	111	.24439730E+00	Cn3CH	111
.24383350E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.24387970E+00	Su2	111	.24439730E+00	Cn3CH	111
.24399770E+00	C2H20C2H2	111	.24439730E+00	Cn3CH	111
.24401100E+00	(CH3)2CnH0	111	.24439730E+00	Cn3CH	111
.24404000E+00	(CH3)2CnH0	111	.24439730E+00	Cn3CH	111
.24407220E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.244095040E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.244503720E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.24453290E+00	NH3	111	.24439730E+00	Cn3CH	111
.24453330E+00	OF2	111	.24439730E+00	Cn3CH	111
.24455440E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.244556410E+00	Cn3CH2CH2	111	.24439730E+00	Cn3CH	111
.24457850E+00	Cn3CH2CH2	111	.24439730E+00	Cn3CH	111
.24456040E+00	Cn3OCL	111	.24439730E+00	Cn3CH	111
.24456090E+00	nCCCH	111	.24439730E+00	Cn3CH	111
.244570990E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.244580070E+00	nCCCH2CH2	111	.24439730E+00	Cn3CH	111
.24602000E+00	C5H5N	111	.24619330E+00	C5H5N	111
.24615900E+00	Cn3C3nCH2	111	.246219370E+00	Cn3C3nCH2	111
.24625000E+00	Cn2CnCH	111	.24624170E+00	Cn2H3F	111
.24638000E+00	(CH3)2CnCH	111	.24625340E+00	nCCCH2CH2	111
.24660000E+00	CH2(CN)2	111	.24625340E+00	(CH3)2Cn3H	111
.24660310E+00	NH3	111	.246267140E+00	C3H5NH2	111
.24661200E+00	nCCCH2CH2	111	.246281330E+00	C2H2N2O	111
.24663700E+00	C2H2N2O	111	.246280310E+00	C5H6	111
.24664240E+00	SIF2	111	.24628420E+00	Cn3H	111
.24670060E+00	nCCCH2CH2	111	.246294410E+00	Cn3CH	111
.24678760E+00	NH3	111	.246304070E+00	Cn3CH	111
.24680100E+00	NH3	111	.246326370E+00	(CH3)2Cn3H	111
.24682800E+00	H2CnHCH2	111	.246329050E+00	(CH3)2Cn3H	111
.24689000E+00	C5H6	111	.24635290E+00	C3H2O3	111
.24693990E+00	C3n3NH2	111	.24637370E+00	Cn2CHN02	111
.24720930E+00	SIF2	111	.246392010E+00	Su2	111
.24733960E+00	(CH3)2CnCU	111	.24639070E+00	Cn3CH	111
.24739000E+00	CH2CCL2	111	.246414010E+00	C3H5NH2	111
.24749300E+00	C5H6	111	.246420990E+00	Cn3H	111
.24760580E+00	CH2CHN02	111	.246495360E+00	CH2CHN02	111
.24763030E+00	nCCCH2CH2	111	.246510090E+00	C2H2N2O	111
.24767500E+00	C2H2OCL2	111	.24652710E+00	OF2	111
.247680350E+00	CH2CHN02	111	.24652820E+00	C2H2N2O	111
.247684550E+00	(CH3)2Cn3H	111	.24653300E+00	Cn2CCL2	111
.24797320E+00	C42CHN02	111	.246541430E+00	Cn3CH	111
.24833000E+00	nCCCH	111	.246541640E+00	C2H2N2O	111
.24834300E+00	H2CnCH2	111	.246550750E+00	SIF2	111
.248350120E+00	C2H2N2O	111	.24657000E+00	nCCCH2CH2	111
.24835080E+00	(H2Cn)2O	111	.24659390E+00	C3H6	111
.24851600E+00	nCCCH2CH2	111	.24660440E+00	nCCCH3	111

FREQUENCY LIST 14

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.26720050E+05	(CH2)3U	111	.27409500E+05	CH2CHCH2S	111
.26737900E+05	HCCCH2OH	111	.27409500E+05	CH2CHCH2S	111
.26759500E+05	C3H5NH2	111	.27492590E+05	CH2CHCH2S	111
.26759500E+05	CH3CH2OH	111	.27492590E+05	CH2CHCH2S	111
.26759500E+05	HCCCH2OH	111	.27492590E+05	HCCCH2OH	111
.26764200E+05	NSF	111	.27495000E+05	UF2	111
.26765100E+05	COCL2	111	.27502350E+05	CH2CHCH2S	111
.26765430E+05	CH2CHCH2U	111	.27505600E+05	HCCSCH3	111
.26773030E+05	HCCCH2OH	111	.27511900E+05	CH2CHCH2S	111
.26775700E+05	C5H5N	111	.27513730E+05	Nn2CnO	111
.26777120E+05	CH3SC2H3	111	.27516750E+05	CH2CHCH2S	111
.26763000E+05	C5H5N	111	.27516750E+05	CH2CHCH2S	111
.26766790E+05	C3H5NH2	111	.27519000E+05	CH2CHCH2S	111
.26792990E+05	(CH3)2CCO	111	.27519970E+05	CH2CHCH2S	111
.26793860E+05	HCCCH2OH	111	.27519970E+05	CH2CHCH2S	111
.26801000E+05	CH2CLCN	111	.27522740E+05	CH2CHCH2S	111
.26803430E+05	HCCCH2OH	111	.27534040E+05	CH2CHCH2S	111
.268021710E+05	HCCCH2OH	111	.27534950E+05	HCCCH2OH	111
.26824080E+05	CH2CHCH2U	111	.27561230E+05	(CH2)3O	111
.26829200E+05	HCCCH2OH	111	.27583550E+05	C6OH4	111
.26830700E+05	(CH3)2CCO	111	.27584180E+05	C6OH4	111
.26850300E+05	SO2	111	.27595600E+05	(CH3)2CCO	111
.26852600E+05	HCCCH2OH	111	.27599740E+05	C3H4	111
.26863760E+05	(CH3)2C3H	111	.27619630E+05	C6OH4	111
.26872690E+05	C3H5NH2	111	.27640400E+05	C2H4S	111
.26922340E+05	(CH3)2CCO	111	.27689420E+05	C3H5NH2	111
.26924050E+05	NH2CHU	111	.27698830E+05	NC4NH2H4	111
.26926300E+05	C5H5N	111	.27710840E+05	NC4NH2H4	111
.26934090E+05	C6OH4	111	.27714300E+05	C6OH4	111
.26935250E+05	C6OH4	111	.27716050E+05	C6OH4	111
.26937800E+05	NOF	111	.27719140E+05	CH2CHCH2S	111
.26962670E+05	C6OH4	111	.27723000E+05	C5OH8	111
.26973200E+05	C2H4S	111	.27729270E+05	C3H5NH2	111
.26999140E+05	CH2NHU	111	.27732610E+05	(SO)2	111
.27030630E+05	C3H5NH2	111	.27734730E+05	C6OH4	111
.27033000E+05	C5H5N	111	.27751570E+05	C5OH8	111
.27102470E+05	NSF	111	.27754640E+05	CH2CHCH2S	111
.27109430E+05	SIF2	111	.27758460E+05	HCOOH	111
.27141390E+05	KU2CL	111	.27764000E+05	COCL2	111
.27191480E+05	NH2CH2CN	111	.27767320E+05	H2CCHCN	111
.27212710E+05	C4H4	111	.27769230E+05	(CH2)3O	111
.27215860E+05	Cn3HCCNH	111	.27772520E+05	NH3	111
.27224870E+05	CH3HCCNH	111	.27777140E+05	C3H5NH2	111
.27226030E+05	C4H4	111	.27783900E+05	(CH2)3O	111
.27237090E+05	C4H4	111	.27785030E+05	CH2CHCH2S	111
.27245300E+05	CH2CHCH2S	111	.27787400E+05	(CH3)2S	111
.27264410E+05	CH2CHCH2S	111	.27832450E+05	(CH3)2S	111
.27278690E+05	CH2CHCH2S	111	.27840970E+05	C5OH8	111
.27286880E+05	CH2CHCH2S	111	.27845350E+05	C4H4	111
.27294000E+05	HC3N	1 A	.27867000E+05	S2O	111
.27303140E+05	(CH2)3U	111	.27868810E+05	(SO)2	111
.27329620E+05	CH2CHCH2U	111	.27882300E+05	HCOOH	111
.27332430E+05	(CH2)3U	111	.27884510E+05	C3H5NH2	111
.27337260E+05	(CH2)3O	111	.27887300E+05	NH2CH2CN	111
.27361960E+05	C6OH4	111	.27891980E+05	SIF2	111
.27364020E+05	C6OH4	111	.27893660E+05	(SO)2	111
.27369070E+05	NH3	111	.27915430E+05	S2O	111
.27385450E+05	CH2CHCHO	111	.27920000E+05	CH3CH2OH	111
.27386150E+05	SO2	111	.27921930E+05	(CH2)3O	111
.27387860E+05	C6OH4	111	.27936670E+05	C3H5NH2	111
.27402790E+05	C6OH4	111	.27972130E+05	HCCCHO	111
.27407690E+05	C6OH4	111	.27977600E+05	COCL2	111
.27417220E+05	HCCCH2OH	111	.27980860E+05	HCCCHO	111
.27418410E+05	C6OH4	111	.27985530E+05	HCCCHO	111
.27432890E+05	CH2CHCH2U	111	.28010800E+05	(CH3)2CCO	111
.27475660E+05	CH2CHCH2S	111	.28014500E+05	CH3CH2OH	111
.27476100E+05	COCL2	111	.28027330E+05	NC4NH2H4	111
.27478000E+05	NH3	111	.28029380E+05	NOF	111
.27484680E+05	CH2CHCH2S	111	.28030780E+05	NSF	111
.27487480E+05	HCCCHO	111	.28036490E+05	NC4NH2H4	111

FREQUENCY LIST 15

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.26056340E+05	H2CnCH2	III	.2677160E+05	(CH3)2CCH	III
.26064630E+05	(CH3)2SO	III	.26775670E+05	(CH3)2CCH	III
.26069140E+05	(CH3)2SO	III	.26797630E+05	CH3CH	III
.26075410E+05	(H2CCH)2O	III	.26815060E+05	C3H5NH2	III
.26081640E+05	SIF2	III	.26816030E+05	NH2CHO	III
.26083000E+05	CL2O	III	.26830610E+05	(CH3)2CCH	III
.26086360E+05	HCOOH	III	.26832490E+05	SiH3UCH3	III
.26105300E+05	CH3SC2H3	III	.26851310E+05	(CH3)2CCH	III
.26111890E+05	C3H5NH2	III	.26857990E+05	SU2	III
.26120100E+05	CH2CLN	III	.26857990E+05	SU2	III
.26121480E+05	(CH3)2CCH	III	.26858620E+05	SiH3UCH3	III
.26125190E+05	(CH2)3O	III	.2686060E+05	C3n5NH2	III
.26136300E+05	SO2	III	.26866410E+05	CH2NH	III
.26141360E+05	SIF2	III	.26864000E+05	CONO	III
.26145490E+05	C6OH4	III	.26897020E+05	C3n5NH2	III
.26148350E+05	C6OH4	III	.26936600E+05	CH2CL2	III
.26151360E+05	C3H2O3	III	.26952220E+05	CH2NH	III
.26173030E+05	CH2NH	III	.26969900E+05	CH3OH	III
.26173400E+05	SO2	III	.26974800E+05	H2CU	III
.26187040E+05	C3H5NH2	III	.26992940E+05	C3H5NH2	III
.26191490E+05	C6OH4	III	.29003320E+05	NHF	III
.26201000E+05	CH2CLN	III	.29030480E+05	(SO)2	III
.26220460E+05	(CH3)2CCH	III	.29039790E+05	CH2(CN)2	III
.26239140E+05	(SO)2	III	.29060670E+05	(CH3)2S	III
.26279100E+05	(CH2)3O	III	.29061140E+05	NH3	III
.26281760E+05	CH3COCL	III	.29081640E+05	(CH3)2C3H	III
.26290490E+05	(CH3)2CCO	III	.29089070E+05	(CH3)2CCH	III
.26296670E+05	H5CCCHNH2	III	.29091600E+05	C5OH6	III
.26309070E+05	C2H3F	III	.29130640E+05	C5OH6	III
.2631280E+05	C6OH4	III	.29136970E+05	H2CCCHN	III
.26316030E+05	CH3OH	III	.29175320E+05	AMU3	III
.26316640E+05	C6OH4	III	.29193400E+05	CH2CL2	III
.26327360E+05	C6OH4	III	.29219620E+05	C3H5NH2	III
.26330980E+05	(CH2)3O	III	.29224600E+05	C6OH4	III
.26333750E+05	C6OH4	III	.29226430E+05	C6OH4	III
.26335510E+05	NH2CHO	III	.29227240E+05	CH2CLN	III
.26336710E+05	C6OH4	III	.29228000E+05	C3H5NH2	III
.26342020E+05	(CH2)3O	III	.29252490E+05	C3H5NH2	III
.26342760E+05	(CH3)2C3H	III	.29252580E+05	(CH2)3O	III
.26344540E+05	C2H3F	III	.29252760E+05	NH2CH2CN	III
.26358220E+05	C6OH4	III	.29260920E+05	C6OH4	III
.26359400E+05	CH3SCN	III	.29290490E+05	(SO)2	III
.26382210E+05	C3H4	III	.29293210E+05	H2CS	III
.26412350E+05	C2H3F	III	.29319550E+05	SIF2	III
.26420780E+05	(SO)2	III	.29321300E+05	SU2	III
.26426780E+05	CH2LCH2S	III	.29326120E+05	NOF	III
.26440990E+05	H2CCHCN	III	.29339290E+05	C3H5NH2	III
.26457340E+05	H2CCHCN	III	.29346120E+05	C3H5NH2	III
.26457700E+05	SiH3OCH3	III	.29356960E+05	C6OH4	III
.26461330E+05	SiH3UCH3	III	.29360960E+05	C6OH4	III
.26467150E+05	HCCCHO	III	.29369120E+05	C3H5NH2	III
.26470600E+05	H2CCHCN	III	.29379690E+05	C6OH4	III
.26482050E+05	SiH3OCH3	III	.29401500E+05	HCOOCH3	III
.26487650E+05	SiH3UCH3	III	.29404390E+05	SiH3OCH3	III
.26493170E+05	(SO)2	III	.29417370E+05	HCOOCH3	III
.26557280E+05	(CH3)2CCH	III	.29421740E+05	CH3C3nCH2	III
.26563340E+05	(SO)2	III	.29426050E+05	C5OH6	III
.26591270E+05	NH2CHO	III	.29426050E+05	C5OH6	III
.26604730E+05	NH3	III	.29430020E+05	CH2CU	III
.26626440E+05	CH2(CN)2	III	.29430850E+05	SiH3OCH3	III
.26636600E+05	(CH3)2CCO	III	.29444320E+05	C6OH4	III
.26673990E+05	S2O	III	.29448920E+05	C6OH4	III
.26685020E+05	C2H3F	III	.29453230E+05	(CH3)2S	III
.26699300E+05	S2O	III	.29465310E+05	C6OH4	III
.26704970E+05	NO2CL	III	.29496720E+05	(CH3)2CCO	III
.26708600E+05	(CH3)2CCO	III	.29522800E+05	S2O	III
.26722350E+05	HCCSCH3	III	.29533850E+05	UF2	III
.26723950E+05	S2O	III	.29557300E+05	(CH2)3O	III
.26732500E+05	CH2(CN)2	III	.29567600E+05	(CH2)3O	III
.2673840E+05	(CH3)2S	III	.29575980E+05	(CH2)3O	III

FREQUENCY 1.151 16

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.29702000E+05	Cn2CL2	111	.30502300E+05	(CH3)2C3H	111
.29702400E+05	nCn	111	.30502500E+05	N4nH2n4	111
.29702400E+05	Cn30Cn	111	.30504900E+05	N4nH2n4	111
.29707000E+05	nH2nU2	111	.30507400E+05	nH2nU2	111
.29707000E+05	Slng30Cn3	111	.30509900E+05	(CH3)2S0	111
.29707000E+05	n200Cn2	111	.30599000E+05	nH2nU2	111
.29700200E+05	Cn3nH20n	111	.30629300E+05	(SU)2	111
.29717450E+05	(CH2)3U	111	.30630500E+05	C50n0	111
.29740700E+05	nH2nU2	111	.30630530E+05	nU	111
.29744400E+05	Slng30Cn3	111	.30700000E+05	SU2	111
.29701950E+05	C00n4	111	.30702120E+05	n5CCCHn2	111
.29702970E+05	Cn30nU2	111	.30714000E+05	(CH3)2CnU	111
.297060290E+05	C00n4	111	.30730700E+05	C50n0	111
.29771430E+05	C00n4	111	.30730490E+05	nH2CnU	111
.29774150E+05	Cn3CnU	111	.30749700E+05	(CH2)3U	111
.29802200E+05	SIF2	111	.30751510E+05	C50n0	111
.29814640E+05	Cn2(Cn)2	111	.30760900E+05	nH2Cn2Cn	111
.29831000E+05	Cn2CL2	111	.30769000E+05	Cn2CL2	111
.29837900E+05	H2CCLnH2	111	.30774900E+05	nC0U	111
.29839090E+05	2U	111	.30780340E+05	(SU)2	111
.29903090E+05	(CH3)2CCn	111	.30789300E+05	nH2N02	111
.29914000E+05	nH3	111	.30807110E+05	(CH3)2S	111
.299324490E+05	C00n4	111	.30817400E+05	nH2N02	111
.29939110E+05	C00n4	111	.30812000E+05	Cn2CL2	111
.29933630E+05	C00n4	111	.30823170E+05	(CH3)2S	111
.29949300E+05	SU	111	.30832520E+05	HCCSCH3	111
.29959650E+05	Cn30CL	111	.30801690E+05	nH3	111
.29973080E+05	SlH30Cn3	111	.30800070E+05	C00n4	111
.29979900E+05	Cn3nH20n	111	.30800070E+05	C00n4	111
.29987000E+05	CL20	111	.30891270E+05	C00n4	111
.30001200E+05	(CH2)3U	111	.30891430E+05	C00n4	111
.30001500E+05	SU	111	.30892130E+05	ASF	111
.30000200E+05	nH2CnU	111	.30903780E+05	C00n4	111
.30007700E+05	Cn35Cn	111	.30909500E+05	C00n4	111
.30014400E+05	(CH3)2CCn	111	.30954600E+05	(CH3)2CnU	111
.30019220E+05	C3H2U3	111	.30962270E+05	(CH3)2C3H	111
.30037200E+05	Cn3nU2	111	.30982100E+05	S20	111
.30030770E+05	C2n3F	111	.31000400E+05	(CH3)2CnU	111
.30052000E+05	U3	111	.31047200E+05	HCCSCH3	111
.30055100E+05	(CH2)3U	111	.31040000E+05	(CH3)2CnU	111
.30000350E+05	(SU)2	111	.31063300E+05	CH2(Cn)2	111
.30105000E+05	Cn2CL2	111	.31067000E+05	nH2N02	111
.30117000E+05	Cn35Cn	111	.31077000E+05	nH2N02	111
.30122090E+05	Cn35Cn	111	.31089500E+05	C3H5nH2	111
.30127100E+05	CH2(Cn)2	111	.31095940E+05	C3n4	111
.30143400E+05	(CH3)2CCn	111	.31099410E+05	(SU)2	111
.30155050E+05	Cn2(Cn)2	111	.31102030E+05	(CH2)30	111
.30156540E+05	nLC5CH3	111	.31104510E+05	(CH2)30	111
.30179010E+05	SlH30Cn3	111	.31106200E+05	(CH3)2U	111
.30161000E+05	U3	111	.31114130E+05	(CH2)30	111
.30205520E+05	SU2	111	.31120170E+05	N4nH2n4	111
.30206340E+05	SlH3UCH3	111	.31137720E+05	(SU)2	111
.30235070E+05	CH2(Cn)2	111	.31140000E+05	(CH3)2CnU	111
.30240500E+05	nH2N02	111	.31149420E+05	C3H30U2	111
.30270020E+05	n2CCnH2	111	.31169150E+05	SlH30Cn3	111
.30270000E+05	(CH3)2CnU	111	.31170100E+05	SlH30Cn3	111
.30310100E+05	(SU)2	111	.31162250E+05	nCCSCH3	111
.30361100E+05	nH2N02	111	.31180800E+05	nUCL	111
.30364800E+05	nH2N02	111	.31190000E+05	(CH3)2CnU	111
.30394200E+05	C2n3F	111	.31195900E+05	SlH30Cn3	111
.30400190E+05	(CH3)2S	111	.31205270E+05	nCCSCH3	111
.30400940E+05	Cn35Cn	111	.31230000E+05	(CH3)2CnU	111
.30409100E+05	C3n2U3	111	.31261100E+05	nH2N02	111
.30431500E+05	SlH30Cn3	111	.312611100E+05	nH2N02	111
.30467200E+05	nCCSCH3	111	.31293340E+05	(CH2)30	111
.30494620E+05	n2CNnCH2	111	.31310700E+05	N4nH2n4	111
.30521650E+05	nC00n	111	.31372700E+05	(CH3)2C3H	111
.30523100E+05	nC00H	111	.31420000E+05	C3n2U3	111
.30525000E+05	U3	111	.31424970E+05	nH3	111
.30526040E+05	(CH3)2S	111	.31430710E+05	CH3CHCH2	111

FREQUENCY LIST 17

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.31461070E+05	OF2	III	.32449620E+05	Cn3CHCCn2	III
.31499190E+05	NC4nn2n4	III	.32525000E+05	Cn3CHCCn2	III
.31511600E+05	NC4nn2n4	III	.32525000E+05	Cn3CHCCn2	III
.31515190E+05	SIF2	III	.32525000E+05	Cn3CHCCn2	III
.31526240E+05	(CH2)3U	III	.32525000E+05	h2CnCH2	III
.31536030E+05	(CH2)3U	III	.32526100E+05	Cn3CHCCn2	III
.31557420E+05	Cn3SCn	III	.32531000E+05	Cn3n	III
.31577000E+05	CH2CL2	III	.32546000E+05	Cn2CL2	III
.31579730E+05	(CH2)3U	III	.32562350E+05	SIF2	III
.31625750E+05	(CH3)2C3n	III	.32563020E+05	h2CnCH2	III
.31626600E+05	Nd2CN	III	.32594000E+05	Cn3n	III
.31633090E+05	CH2NUH	III	.32604300E+05	SIF2	III
.31652050E+05	CH3UNO2	III	.32606450E+05	CoUn4	III
.31667460E+05	Cn2Nm	III	.32614180E+05	CoUn4	III
.31706000E+05	Cn2CLCn	III	.32614420E+05	(CH3)2CnU	III
.31719640E+05	CoUn4	III	.32621490E+05	(CH3)2CCO	III
.31719620E+05	nCCSCn3	III	.32629100E+05	CoUn4	III
.31721810E+05	NH2Cd2Cn	III	.32677300E+05	(CH2)3U	III
.31722410E+05	CoUn4	III	.32690400E+05	nCCSCn3	III
.31735500E+05	C5Uhd	III	.32702690E+05	Cn3CnCH2	III
.31735930E+05	CH2Nm	III	.32704250E+05	Cn3CHU	III
.31742670E+05	(H2CCH)2U	III	.32737740E+05	(CH2)3O	III
.31748980E+05	CoUn4	III	.32743000E+05	Cn3CnCH2n	III
.31768960E+05	(CH3)2CCn	III	.32769000E+05	Cn2CL2	III
.31774500E+05	OF2	III	.32776100E+05	C5Uhd	III
.31781150E+05	CH2(CN)2	III	.32782250E+05	SiH3UcN3	III
.31792600E+05	HN03	III	.32849700E+05	NVF	III
.31810490E+05	C5Uhd	III	.32932750E+05	Cn3UuO2	III
.31824410E+05	(SO)2	III	.32963590E+05	SiH3UcN3	III
.31852100E+05	C2H3r	III	.32964200E+05	Cn3UuO2	III
.31862300E+05	C5n5n	III	.32968800E+05	(CH3)2C3H	III
.31873570E+05	(CH3)2C3H	III	.32990510E+05	SiH3UcN3	III
.31874310E+05	(CH3)2CCn	III	.32990510E+05	SiH3UcN3	III
.31900150E+05	nCCSCn3	III	.33029620E+05	Cn2NUH	III
.31918220E+05	SIF2	III	.33030780E+05	CoUn4	III
.31922210E+05	S02	III	.33036700E+05	CoUn4	III
.31925960E+05	(CH2)3U	III	.33059600E+05	Cn3CHCCn2	III
.31926490E+05	(SU)2	III	.33075700E+05	CoUn4	III
.31944580E+05	S2O	III	.33104220E+05	(CH3)2CnU	III
.31949830E+05	(SU)2	III	.33141510E+05	(CH3)2C3n	III
.31961950E+05	NO2CL	III	.33147800E+05	(SU)2	III
.31967670E+05	CH3CHCCn2	III	.33156950E+05	NH3	III
.32015950E+05	(CH3)2CCn	III	.33165420E+05	nCCSCn3	III
.32043110E+05	(CH2)3U	III	.33165330E+05	SiH3UcN3	III
.32065960E+05	(CH2)3U	III	.33205390E+05	CoUn4	III
.32094700E+05	NH2NO2	III	.33206720E+05	CoUn4	III
.32105700E+05	n5CCnCH2	III	.33211020E+05	(Cn3)2S	III
.32106500E+05	(CH3)2CCO	III	.33251120E+05	CoUn4	III
.32134800E+05	NH2NU2	III	.33251800E+05	OF2	III
.32150050E+05	S2O	III	.33270590E+05	h2CU	III
.32179270E+05	NSF	III	.33294490E+05	CH2(CN)2	III
.32185800E+05	h2CNhCH2	III	.33312770E+05	S2U	III
.32217880E+05	SiH3UcN3	III	.33353410E+05	C3n4	III
.32223230E+05	(CH2)3U	III	.33366940E+05	(CH3)2SU	III
.32273950E+05	nCCSCn3	III	.33372910E+05	CoUn4	III
.32298190E+05	NH2CHO	III	.33376100E+05	CoUn4	III
.32314800E+05	(SU)2	III	.33386470E+05	C3H5nH2	III
.32355650E+05	NO2CL	III	.33386760E+05	(SU)2	III
.32358430E+05	(CH2)3U	III	.33401320E+05	(CH2)3U	III
.32366470E+05	C5Uhd	III	.33402090E+05	CoUn4	III
.32369520E+05	C5Uhd	III	.33436440E+05	CoUn4	III
.323866230E+05	SiH3UcN3	III	.33441100E+05	CoUn4	III
.32391470E+05	(CH2)3U	III	.33462600E+05	(CH2)3U	III
.32406300E+05	h2CNhCH2	III	.33470910E+05	NSF	III
.32407360E+05	(CH2)3U	III	.33487450E+05	Cn3Cn2OH	III
.32409020E+05	(CH2)3U	III	.33490010E+05	CoUn4	III
.32413170E+05	SiH3UcN3	III	.33493900E+05	(CH2)3U	III
.32425850E+05	NSF	III	.33497200E+05	NH2NO2	III
.32442600E+05	SiH3UcN3	III	.33506720E+05	(CH3)2CnU	III
.32461360E+05	CH3UNO2	III	.33530510E+05	NSF	III

FREQUENCY LIST 14

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.35252700e+05	NC4nn2n4	111	.357047700e+05	nCCn2n2n	111
.352529000e+05	NC4nn2n4	111	.357057900e+05	nCCn2n2n	111
.352700000e+05	(CH2) 3U	111	.357087900e+05	nCCn2n2n	111
.352972000e+05	(SU) 2	111	.357905700e+05	n2CCn2n2	111
.352979500e+05	CH2nCHL	111	.357940000e+05	(SU) 2	111
.353015000e+05	S2U	111	.357980400e+05	(CH2) 3U	111
.353103300e+05	NC4nn2n4	111	.358033000e+05	nCCUUn	111
.353300400e+05	(CH2) 3U	111	.358082200e+05	(CH2) 3U	111
.353306100e+05	NC4nn2n4	111	.358106000e+05	(CH2) 3U	111
.353344000e+05	n2CCnCH2	111	.358202000e+05	(CH2) 3U	111
.353303000e+05	(CH2) 3U	111	.358249200e+05	(CH2) 3U	111
.353747000e+05	nH2CH2CH	111	.358280040e+05	nCCnCH2n	111
.354442500e+05	CH2(CH) 2	111	.358420000e+05	nH2CH	111
.354470500e+05	nCCSCH3	111	.358507000e+05	Su2	111
.354553000e+05	UF2	111	.358704000e+05	CH3UCL	111
.354614000e+05	SU	1 C	.358708000e+05	CH2nCH	111
.354683600e+05	(CH3) 2CCU	111	.358845900e+05	(CH2) 3U	111
.354930500e+05	(CH2) 3U	111	.358882100e+05	nCCSCH3	111
.355016000e+05	(CH2) 3U	111	.358911400e+05	(SU) 2	111
.355153000e+05	C2H4S	111	.359032700e+05	CH3UCL	111
.355200000e+05	(CH3) 2CCU	111	.359412300e+05	CH3UCL	111
.355630200e+05	n2CCnCH	111	.359401200e+05	(CH2) 3U	111
.355805300e+05	nCCSCH3	111	.359604700e+05	(CH2) 3U	111
.355870000e+05	S1H3CH3	111	.359900400e+05	(CH2) 3U	111
.355704200e+05	CH2CHCHU	111	.359006000e+05	(CH2) 3U	111
.355797000e+05	(CH2) 3U	111	.360100000e+05	(CH2) 3U	111
.355850200e+05	(CH2) 3U	111	.360116000e+05	CH3CHCH2	111
.355881700e+05	(CH2) 3U	111	.360219000e+05	(CH2) 3U	111
.355922400e+05	nCCUUn2n	111	.360267300e+05	UF2	111
.355941300e+05	S1H3CH3	111	.360327700e+05	(CH2) 3U	111
.356062500e+05	(CH2) 3U	111	.360435000e+05	NHF	111
.356088900e+05	(CH2) 3U	111	.360496000e+05	CH3CHCH2	111
.356212000e+05	C3H4	111	.360557000e+05	(CH2) 3U	111
.356260700e+05	(CH2) 3U	111	.360621500e+05	(CH2) 3U	111
.356266000e+05	S1F2	111	.360835000e+05	(CH2) 3U	111
.356312500e+05	(CH2) 3U	111	.360748700e+05	(CH2) 3U	111
.356361200e+05	(CH2) 3U	111	.360807400e+05	(CH2) 3U	111
.356454600e+05	nCCUUn2n	111	.360882700e+05	(CH2) 3U	111
.356470000e+05	(CH2) 3U	111	.361127000e+05	CH3CHCH2	111
.356653100e+05	(CH2) 3U	111	.361194000e+05	n2CHnCH2	111
.356835900e+05	nCCCH2UUn	111	.361330200e+05	S1S	1 A
.356837900e+05	nCCCH2UUn	111	.361274300e+05	n4CH2	111
.356856200e+05	(CH2) 3U	111	.361686300e+05	(CH2) 3U	111
.356882000e+05	nCCSCH3	111	.362010200e+05	SU	1 C
.356889600e+05	(CH2) 3U	111	.362105000e+05	COUn4	111
.356870500e+05	nCCCH2UUn	111	.362107200e+05	(CH2) 3U	111
.356730900e+05	CH2CHCHU	111	.362148000e+05	COUn4	111
.356946000e+05	CH3CH2UUn	111	.362242000e+05	(CH2) 3U	111
.356980900e+05	(CH2) 3U	111	.362244000e+05	(CH2) 3U	111
.357007000e+05	nCCCH2UUn	111	.362274000e+05	nH2CH2CH	111
.357046300e+05	COUn4	111	.362399000e+05	CH2(CH) 2	111
.357098700e+05	nCCCH2UUn	111	.362402500e+05	COUn4	111
.357130000e+05	COUn4	111	.362420500e+05	nCCSCH3	111
.357197000e+05	COUn4	111	.362607000e+05	(CH3) 2S	111
.357203300e+05	(CH2) 3U	111	.362773000e+05	(CH3) 2S	111
.357205500e+05	nCCCH2UUn	111	.362777200e+05	(CH2) 3U	111
.3572d5300e+05	(CH2) 3U	111	.362640400e+05	S2U	111
.357295300e+05	CH2nCHn2	111	.363097200e+05	S1S	1 A
.357332400e+05	(SU) 2	111	.363080140e+05	NSF	111
.357337400e+05	(CH2) 3U	111	.363740000e+05	n2CHnCH2	111
.357420700e+05	(CH2) 3U	111	.363665200e+05	CH3UCL	111
.357450100e+05	nCCCH2UUn	111	.363917200e+05	nCCSCH3	111
.357450100e+05	nCCCH2UUn	111	.363917200e+05	nCCSCH3	111
.357480300e+05	(CH2) 3U	111	.363920000e+05	CH3N	1 A
.357504700e+05	(CH2) 3U	111	.363954000e+05	C2H2n2U	111
.357524000e+05	CH2CHCHU	111	.364107300e+05	(CH2) 3U	111
.357000700e+05	nCCCH2UUn	111	.364171000e+05	CH3CH2UUn	111
.357751700e+05	(CH2) 3U	111	.364210000e+05	C3H3nH2	111
.357025900e+05	CH2nCHU	111	.364359400e+05	CH2CHCHU	111
.357026300e+05	(CH2) 3U	111	.364513000e+05	CH2CL2	111
.357026300e+05	(CH2) 3U	111	.364000200e+05	OCS	1 A

FREQUENCY LIST 20

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.36504140E+05	(CH3)2SO	111	.37E50030E+05	n2CS	111
.3652300E+05	(CH3)2CCO	111	.37740730E+05	HCSCCH3	111
.36535200E+05	H2CCHCN	111	.37700740E+05	n2CuCH2	111
.36549350E+05	HCCCH2OH	111	.3770000E+05	CSH5N	111
.36550520E+05	CH2(CN)2	111	.3700790E+05	(CH3)2S	111
.36572340E+05	C6OH4	111	.3702290E+05	C6OH4	111
.36572340E+05	C6OH4	111	.3702290E+05	C6OH4	111
.36578000E+05	C6OH4	111	.3702710E+05	C6OH4	111
.36595670E+05	C6OH4	111	.37020430E+05	C6OH4	111
.36609020E+05	nh2CHU	111	.3703200E+05	U3	111
.3664600E+05	C3H5NH2	111	.37032700E+05	C6OH4	111
.36648250E+05	HCCCHO	111	.3703300E+05	CH2(CN)2	111
.36653700E+05	HCCCH2OH	111	.37045200E+05	C3H5NH2	111
.36693040E+05	HCCCHO	111	.3705120E+05	C6OH4	111
.36705550E+05	HCCCH2OH	111	.3705350E+05	C6OH4	111
.367320E+05	(CH2)3O	111	.37002210E+05	SIF2	111
.3673680E+05	(CH2)3O	111	.37066220E+05	NSF	111
.36744800E+05	CL2O	111	.3700000E+05	S2O	111
.36744360E+05	(CH2)3O	111	.37954590E+05	HCCCHO	111
.36769650E+05	S2O	111	.37957320E+05	(CH2)3O	111
.3678200E+05	(CH2)3O	111	.37905400E+05	S2O	111
.3679400E+05	CH3CN	111	.3799120E+05	C2H3F	111
.36795340E+05	CH3CN	111	.38000750E+05	(CH2)3O	111
.36803780E+05	H2CCHCN	111	.38014500E+05	HCSCCH3	111
.36818630E+05	HCOOH	111	.38000700E+05	HCSCCH3	111
.36827260E+05	S2O	111	.3815360E+05	(SO)2	111
.36833350E+05	HCCSCH3	111	.38150630E+05	(SO)2	111
.36857000E+05	S2O	111	.38100450E+05	CL2O	111
.36909990E+05	(CH3)2C3H	111	.38100510E+05	C6OH4	111
.36912420E+05	CH2(CN)2	111	.3817030E+05	C6OH4	111
.36956000E+05	HCOF	111	.38172010E+05	(CH2)3O	111
.36967090E+05	C2H3F	111	.3810000E+05	S2O	111
.36994400E+05	OH	111	.3820300E+05	S2O	111
.37019000E+05	H2CCHCN	111	.38200370E+05	C6OH4	111
.3702050E+05	NSF	111	.38241200E+05	CH3CHO	111
.37023770E+05	CH3OCL	111	.38260900E+05	S2O	111
.37077820E+05	SH3OCH3	111	.38293500E+05	CH3OH	111
.37112300E+05	S2O	111	.38316540E+05	(SO)2	111
.37149040E+05	S2O	111	.38322300E+05	S2O	111
.37164820E+05	CH2CHNH2	111	.3840000E+05	UF2	111
.37164820E+05	CH2CHNH2	111	.38452690E+05	CH3OH	111
.3717530E+05	NH2CH2CN	111	.3846990E+05	S2O	111
.37227280E+05	CH2(CN)2	111	.38479820E+05	(CH2)3O	111
.37242150E+05	NHCH2	111	.38512300E+05	CH3CHO	111
.37261440E+05	NH2CHO	111	.38510210E+05	S2O	111
.37274100E+05	NC4NH2H4	111	.38542740E+05	S2O	111
.37282940E+05	NC4NH2H4	111	.38571410E+05	(CH2)3O	111
.37290140E+05	HCCCHO	111	.38579950E+05	HCOOH	111
.37320780E+05	H2COCH2	111	.38027250E+05	(CH2)3O	111
.37349640E+05	(CH2)3O	111	.38053490E+05	NOF	111
.37385180E+05	NH3	111	.38659020E+05	CH2CHNH2	111
.37407200E+05	S2O	111	.38663200E+05	CL2O	111
.37432240E+05	SIF2	111	.38669220E+05	CH2CHNH2	111
.37460600E+05	(CH2)3O	111	.38701050E+05	H2COCH2	111
.37463500E+05	C5OH8	111	.38706690E+05	HCOOH	111
.37464580E+05	CH3CHO	111	.38722370E+05	CH2(CN)2	111
.37477400E+05	(CH3)2CCO	111	.38742890E+05	C6OH4	111
.37486800E+05	C3H5NH2	111	.38744700E+05	C6OH4	111
.3751320E+05	(CH2)3O	111	.38797490E+05	C6OH4	111
.37557490E+05	C6OH4	111	.38814000E+05	S2O	111
.37562400E+05	C6OH4	111	.38824640E+05	FCCH	111
.37567250E+05	SH3OCH3	111	.38827220E+05	C6OH4	111
.37567810E+05	NH2CHO	111	.38827490E+05	NH2CHO	111
.37569670E+05	C6OH4	111	.38829630E+05	C6OH4	111
.37570420E+05	C5OH8	111	.38860280E+05	C3H4	111
.37579520E+05	(SO)2	111	.3888440E+05	C6OH4	111
.37594380E+05	SH3OCH3	111	.38886120E+05	C6OH4	111
.37617740E+05	C6OH4	111	.38889120E+05	C6OH4	111
.37623480E+05	CL2OH	111	.38917100E+05	C5H5N	111
.37629610E+05	C6OH4	111	.38939180E+05	C6OH4	111

FREQUENCY LIST 21

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.309000400E+05	CL2U	111	.403200000E+05	nh2cn	111
.309000400E+05	cn2h4	111	.403370140E+05	(SU)2	111
.390115900E+05	(SU)2	111	.403540200E+05	h2cn2	111
.390410000E+05	(SU)2	111	.404179000E+05	cn2cu	111
.390443000E+05	nh2uf	111	.404379000E+05	h2cscn3	111
.390012900E+05	sin3uCh3	111	.404401700E+05	cn2cu	111
.390044200E+05	cn3n4	111	.404401700E+05	cn2cu	111
.391107300E+05	sin3uCh3	111	.404622000E+05	cn2cu	111
.392145500E+05	h2cscn3	111	.404949000E+05	(SU)2	111
.392779000E+05	(cn2)3u	111	.405007000E+05	cn2h4s	111
.392720300E+05	(cn3)2s	111	.405327000E+05	cn2cu	111
.392753000E+05	szu	111	.405695900E+05	szu	111
.392804300E+05	cn2(cn)2	111	.405800000E+05	h2cnhcn2	111
.392800400E+05	(cn3)2s	111	.406100400E+05	(SU)2	111
.392970100E+05	sin3uCh3	111	.406613000E+05	nu2	111
.393140700E+05	(cn2)3u	111	.406725000E+05	cn2h4s	111
.393231000E+05	co0h4	111	.407200000E+05	su2	111
.393231000E+05	co0h4	111	.407399100E+05	(SU)2	111
.393240000E+05	co0h4	111	.407800900E+05	hcn	111
.393290000E+05	co0h4	111	.407800900E+05	h2cnhcn2	111
.393472300E+05	szu	111	.407930200E+05	cn2cu	111
.393525500E+05	co0h4	111	.407930200E+05	cn2cu	111
.393525500E+05	co0h4	111	.408099000E+05	cn2cu	111
.393553700E+05	(SU)2	111	.408091000E+05	cn2h4s	111
.393550200E+05	szu	111	.408749100E+05	nh2cnu	111
.393829900E+05	cn2(cn)2	111	.409209500E+05	cn2cu	111
.393949500E+05	nsf	111	.409353200E+05	nh2cnu	111
.394002200E+05	szu	111	.410207000E+05	cn2h3f	111
.394245000E+05	cl2u	111	.410545300E+05	h2cnuh	111
.394779700E+05	cn2h3f	111	.410545900E+05	h2cnuh	111
.395121300E+05	(cn2)3u	111	.411240000E+05	cn3cn2uh	111
.395379800E+05	h2c0h2	111	.414422000E+05	szu	111
.395810400E+05	h2c0h2	111	.415307100E+05	(cn3)2s	111
.395948000E+05	cn3cho	111	.415349000E+05	cn3h02	111
.396125500E+05	cn2cu	111	.415744400E+05	h2c0h2	111
.396453400E+05	(SU)2	111	.416424000E+05	su2	111
.396535500E+05	(cn2)3u	111	.419729700E+05	(cn3)2s	111
.396785900E+05	(SU)2	111	.420053500E+05	su2	111
.396800500E+05	h2u0ch2	111	.420633000E+05	szu	111
.397125000E+05	nh2cn	111	.420934200E+05	cn2nuh	111
.397250000E+05	nh2cn	111	.420943500E+05	cn2nuh	111
.397774500E+05	nsf	111	.422100400E+05	fcu	111
.398292200E+05	co0h4	111	.423244600E+05	nsf	111
.398344300E+05	co0h4	111	.423629000E+05	(cn3)2s	111
.398371000E+05	co0h4	111	.423660700E+05	nh2cnu	111
.398421000E+05	co0h4	111	.424460900E+05	(SU)2	111
.398800000E+05	sin3uCh3	111	.425193000E+05	h2cnu	111
.398873400E+05	co0h4	111	.425729000E+05	(cn3)2s	111
.398806500E+05	(cn2)3u	111	.426207000E+05	h2cnu	111
.398937000E+05	sin3uCh3	111	.426320100E+05	u3	111
.398992000E+05	co0h4	111	.429003000E+05	(SU)2	111
.399101200E+05	cn2h4	111	.429507000E+05	h2cnu	111
.399415400E+05	h2cnu	111	.430102000E+05	su2	111
.399470000E+05	nsf	111	.430209000E+05	cn3ch20h	111
.399505000E+05	nh2cn	111	.430201300E+05	nh2cnu	111
.399668000E+05	szu	111	.430800000E+05	h2cnu	111
.399900000E+05	nh2cn	111	.431220000E+05	h2cnu	111
.400308000E+05	cn2cu	111	.432607200E+05	nh2cho	111
.400411500E+05	cl2u	111	.433037100E+05	h2cnuh	111
.400600900E+05	(cn3)2s	111	.433219200E+05	(cn3)2s	111
.400677700E+05	cn2cu	111	.434238000E+05	h2cnu	111
.400677700E+05	cn2cu	111	.435439200E+05	(cn3)2s	111
.401109200E+05	cn2cu	111	.436370700E+05	(cn3)2s	111
.401353500E+05	cn2cu	111	.436540000E+05	o3	111
.402052000E+05	nh2cn	111	.437307900E+05	(SU)2	111
.402102700E+05	cn3nc	111	.437940200E+05	cn2nuh	111
.402111600E+05	cn3nc	111	.438305000E+05	cn2nuh	111
.402530000E+05	nh2cn	111	.438870000E+05	sin	111
.402633300E+05	(SU)2	111	.439071400E+05	(SU)2	111
.403130000E+05	su2	111	.439544700E+05	nh2cnu	111

FREQUENCY LIST 22

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.43462770E+05	HNCG	111	.47950790E+05	SU2	111
.44052820E+05	SU2	111	.48264320E+05	n2CO	111
.44068800E+05	CH3OH	11	.48330480E+05	S2O	111
.44296000E+05	HCOF	111	.48349000E+05	nn2CO	111
.44550000E+05	HCCCH0	111	.48372000E+05	CH3OH	11
.44589930E+05	(SU)2	111	.48377090E+05	CH3OH	11
.44720800E+05	CH2CHCL	111	.48419430E+05	(CH3)2S	111
.44762890E+05	(CH3)2S	111	.48612700E+05	n2CO	111
.44766190E+05	CH2CH0	111	.48635900E+05	CS	1 A
.44794500E+05	SU2	111	.48651400E+05	UCS	1 A
.44811800E+05	(SU)2	111	.48610910E+05	nn2CH0	111
.44911750E+05	HCOOH	111	.48659480E+05	S2O	111
.45063100E+05	n2CO	111	.48919170E+05	OF2	111
.45177530E+05	n2COCH2	111	.48991000E+05	CS	1 A
.45268300E+05	CH2CO	111	.49000000E+05	H2COCH2	111
.45480310E+05	S2O	111	.49020240E+05	HCOOH	111
.45490000E+05	n2CN	1 A	.49147200E+05	S2O	111
.45542040E+05	CH2NH	111	.49171940E+05	S2O	111
.45598460E+05	nn2CH0	111	.49186210E+05	OF2	111
.45657300E+05	CH2NH0H	111	.49550290E+05	CH2NH	111
.45801010E+05	HCOOH	111	.49613550E+05	OF2	111
.45807690E+05	HCCCH0	111	.49759490E+05	S2O	111
.45843300E+05	CH3OH	11	.50250000E+05	n2O	1 A
.45849600E+05	CH2CHCL	111	.50393230E+05	OF2	111
.45876070E+05	HCHO	1 A	.50546090E+05	(CH3)2S	111
.45897600E+05	CH2CHCL	111	.50653620E+05	HCOOH	111
.45911100E+05	SU2	111	.50693970E+05	nn2CH0	111
.45913300E+05	CH2CHCL	111	.50796160E+05	(CH3)2S	111
.45947400E+05	CH2CHCL	111	.51042390E+05	n2COCH2	111
.45992600E+05	HCHO	1 B	.51060220E+05	S2O	111
.46017230E+05	HCHO	1 B	.51208500E+05	nn2CH0	111
.46056000E+05	HCHO	1 B	.51270060E+05	CH3C2H	11
.46062700E+05	HCHO	1 B	.51273760E+05	CH3C2H	11
.46122820E+05	S2O	111	.51274750E+05	CH3C2H	11
.46193200E+05	S2O	111	.51300100E+05	CH2CO	111
.46233940E+05	HCHO	1 B	.51386950E+05	OF2	111
.46378810E+05	S2O	111	.51391150E+05	n2COCH2	111
.46421600E+05	S2O	111	.51415350E+05	CH3C2H	11
.46424740E+05	S2O	111	.51418230E+05	CH3C2H	11
.46561220E+05	HCOOH	111	.51418750E+05	CH3C2H	11
.46581400E+05	HCOOH	111	.51736590E+05	SU2	111
.46602870E+05	HCCCH0	111	.51747900E+05	OF2	111
.467113210E+05	S2O	111	.51749600E+05	S2O	111
.46979460E+05	S2O	111	.51953200E+05	CH2CHCL	111
.46980150E+05	CH3CH2OH	111	.52051710E+05	SU2	111
.47017600E+05	SU2	111	.52302400E+05	OF2	111
.47023200E+05	HCN	1 B	.52677610E+05	CH2CHCL	111
.47032470E+05	(SU)2	111	.52680030E+05	CH2NH	111
.47041040E+05	(SU)2	111	.53015400E+05	SU2	111
.47059700E+05	CH2CHCL	111	.53046800E+05	SU2	111
.47067730E+05	H2CS	111	.53189420E+05	(CH3)2S	111
.47068330E+05	HNO	111	.53251920E+05	HCOOH	111
.47069080E+05	nn2CH0	111	.53286950E+05	HCOOH	111
.47094930E+05	H2COCH2	111	.53378900E+05	SU2	111
.47153310E+05	(SU)2	111	.53528900E+05	SU2	111
.47377920E+05	(SU)2	111	.53572950E+05	CH2CHNH2	111
.47418590E+05	HCCCH0	111	.53586320E+05	CH2CHNH2	111
.47440450E+05	HCCCH0	111	.53595800E+05	SU2	111
.47554530E+05	HCOOH	111	.53708050E+05	OF2	111
.47556890E+05	H2COCH2	111	.53721780E+05	HCN	1 B
.47633510E+05	S2O	111	.53739100E+05	OF2	111
.47641490E+05	(CH3)2S	111	.54038000E+05	NSF	111
.47654250E+05	(CH3)2S	111	.54057510E+05	H2COCH2	111
.47707620E+05	S2O	111	.54061090E+05	nn2CH0	111
.47775750E+05	(CH3)2S	111	.54137050E+05	OF2	111
.47818040E+05	S2O	111	.54439690E+05	(CH3)2S	111
.47849270E+05	S2O	111	.54519230E+05	(CH3)2S	111
.47854040E+05	S2O	111	.54540680E+05	S2O	111
.47913340E+05	SU2	111	.54586200E+05	HC3N	1 A
.47940840E+05	S2O	111	.54633400E+05	SU2	111

Category	Item	Value	Category	Item	Value
A	1	0.0000000000000000	B	1	0.0000000000000000
	2	0.0000000000000000		2	0.0000000000000000
	3	0.0000000000000000		3	0.0000000000000000
	4	0.0000000000000000		4	0.0000000000000000
	5	0.0000000000000000		5	0.0000000000000000
	6	0.0000000000000000		6	0.0000000000000000
	7	0.0000000000000000		7	0.0000000000000000
	8	0.0000000000000000		8	0.0000000000000000
	9	0.0000000000000000		9	0.0000000000000000
	10	0.0000000000000000		10	0.0000000000000000
C	1	0.0000000000000000	D	1	0.0000000000000000
	2	0.0000000000000000		2	0.0000000000000000
	3	0.0000000000000000		3	0.0000000000000000
	4	0.0000000000000000		4	0.0000000000000000
	5	0.0000000000000000		5	0.0000000000000000
	6	0.0000000000000000		6	0.0000000000000000
	7	0.0000000000000000		7	0.0000000000000000
	8	0.0000000000000000		8	0.0000000000000000
	9	0.0000000000000000		9	0.0000000000000000
	10	0.0000000000000000		10	0.0000000000000000
E	1	0.0000000000000000	F	1	0.0000000000000000
	2	0.0000000000000000		2	0.0000000000000000
	3	0.0000000000000000		3	0.0000000000000000
	4	0.0000000000000000		4	0.0000000000000000
	5	0.0000000000000000		5	0.0000000000000000
	6	0.0000000000000000		6	0.0000000000000000
	7	0.0000000000000000		7	0.0000000000000000
	8	0.0000000000000000		8	0.0000000000000000
	9	0.0000000000000000		9	0.0000000000000000
	10	0.0000000000000000		10	0.0000000000000000

FREQUENCY LIST 24

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.69002800E+05	NS	I A	.80832100E+05	CH2CO	III
.69010010E+05	H2CS	III	.81105600E+05	Cn2Hn	III
.69025610E+05	HCHO	I B	.81410000E+05	HCJ	I A
.69061000E+05	HCHO	I B	.81477490E+05	HNH	III
.69073600E+05	HCHO	I B	.81525910E+05	HCCCHO	III
.69086700E+05	HCHO	I B	.81541800E+05	H2C3	III
.69093900E+05	HCHO	I B	.81586200E+05	CH2CO	III
.69112400E+05	HCHO	I B	.81693540E+05	Hn2CHO	III
.69140340E+05	HCCCHO	III	.81973000E+05	Cn2Hn	III
.69244900E+05	Hn2CHO	III	.82008490E+05	H2COCH2	III
.69350670E+05	HCHO	I B	.82424910E+05	HCCCHO	III
.69411400E+05	NS	I A	.825449370E+05	Hn2CHO	III
.69446070E+05	SU2	III	.82576440E+05	Hn2CHO	III
.69566060E+05	SU2	III	.83007000E+05	SU2	III
.69575900E+05	SU2	III	.83775000E+05	HCCCHO	III
.69653490E+05	SU2	III	.83914790E+05	HCCCHO	III
.69746720E+05	H2CS	III	.83971090E+05	HCCCHO	III
.69829420E+05	H2COCH2	III	.83572500E+05	HCCCHO	III
.69829820E+05	Hn2CHO	III	.83981440E+05	HCCCHO	III
.69852030E+05	HCOOH	III	.84065700E+05	HCCCHO	III
.69854370E+05	HCOOH	III	.84073760E+05	Hn2CHO	III
.70134440E+05	SU2	III	.84222930E+05	Hn2CHO	III
.70161010E+05	Cn2Hn	III	.84304750E+05	Hn2CHO	III
.70162590E+05	Hn2CHO	III	.84505350E+05	H2COCH2	III
.70293430E+05	SU2	III	.84542400E+05	Hn2CHO	III
.70347950E+05	SU2	III	.84560200E+05	H2COCH2	III
.70735920E+05	SU2	III	.84779000E+05	Hn2CHO	III
.70765920E+05	SU2	III	.84807940E+05	Hn2CHO	III
.71324690E+05	HCOOH	III	.84889150E+05	Hn2CHO	III
.71391130E+05	CH2CHNH2	III	.84891150E+05	Hn2CHO	III
.71453110E+05	NOF	III	.84919200E+05	HCH	I B
.71627840E+05	SU2	III	.85061790E+05	H2COCH2	III
.71648200E+05	CH2CO	III	.85093300E+05	Hn2CHO	III
.71897530E+05	NSF	III	.85265460E+05	CH3CH2OH	III
.72023230E+05	Hn2CHO	III	.85381200E+05	HCCCHO	III
.72409100E+05	H2CO	III	.8525420E+05	H2COCH2	III
.72526190E+05	HCCCHO	III	.85431340E+05	CH3C2H	II
.72713610E+05	NSF	III	.85442010E+05	CH3C2H	II
.72758200E+05	SU2	III	.85450780E+05	CH3C2H	II
.72783800E+05	HC3N	I A	.85455670E+05	CH3C2H	II
.72837970E+05	H2CO	III	.85457290E+05	CH3C2H	II
.72976800E+05	OCS	I A	.8557850E+05	H2COCH2	III
.73231580E+05	SU2	III	.85591620E+05	H2COCH2	III
.73274320E+05	HCCCHO	III	.85640300E+05	SIU	I A
.74053950E+05	CH2CHNH2	III	.86093950E+05	SU	I C
.74372060E+05	CH2CHNH2	III	.86117000E+05	SIU+	I A
.74451880E+05	Hn2CHO	III	.86226730E+05	(CH3)2O	III
.74468230E+05	CH2CHNH2	III	.86243300E+05	SIU	I A
.74471000E+05	CH2CHNH2	III	.86382870E+05	Hn2CHO	III
.74496820E+05	HCCCHO	III	.86545900E+05	HCOOH	III
.74715330E+05	CH2CHNH2	III	.86670550E+05	HCO	III
.74877110E+05	Hn2CHO	III	.868-680E+05	SIU	I A
.75370000E+05	N2O	I A	.87317000E+05	C2H	I A
.75562110E+05	H2COCH2	III	.87402100E+05	C2H	I A
.75855220E+05	HCCCHO	III	.87527450E+05	CH2NH	III
.76461430E+05	HCN	I B	.87548000E+05	SIN	I A
.76575540E+05	Hn2CHO	III	.87597240E+05	HnCO	III
.76648580E+05	FCCN	I A	.87827600E+05	HNH	III
.77266560E+05	CH2CHNH2	III	.87848930E+05	Hn2CHO	III
.78013490E+05	H2COCH2	III	.87866820E+05	HnCO	III
.78633590E+05	Hn2CHO	III	.87867600E+05	HnCC	III
.79180640E+05	CH2CO	III	.87883330E+05	HCCCHO	III
.79280720E+05	CH2NH	III	.87898530E+05	HnCO	III
.79822150E+05	Hn2CHO	III	.87898530E+05	HnCO	III
.80076600E+05	CH2CO	III	.87925240E+05	HnCO	III
.80129330E+05	HCCCHO	III	.88027200E+05	HCH	I A
.80802000E+05	CH2CO	III	.88225400E+05	Hn2CHO	III
.80802000E+05	CH2CO	III	.88239050E+05	HnCO	III
.80820400E+05	CH2CO	III	.88623170E+05	HNH	III
.80824300E+05	CH2CO	III	.88631600E+05	HCN	I A

FREQUENCY LIST 25

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.09087700E+05	HCH	I A	.94247610E+05	NH2CHO	III
.09176500E+05	CH2CHNH2	III	.94313670E+05	NH2CHO	III
.09202340E+05	CH2CHNH2	III	.94664480E+05	H2CCH2	III
.09498000E+05	HCS	III	.94749420E+05	HN3	III
.09564900E+05	H2CO	III	.94760630E+05	H2CCHCN	III
.09579200E+05	HCOOH	III	.94833680E+05	HCCCHO	III
.09701300E+05	(CH3)2O	III	.94913160E+05	H2CCHCN	III
.09861500E+05	HCOOH	III	.94913160E+05	H2CCHCN	III
.09946300E+05	HCOOH	III	.94926710E+05	H2CCHCN	III
.09950300E+05	HCOOH	III	.94941580E+05	H2CCHCN	III
.90117510E+05	CH3CH2OH	III	.95108260E+05	H2CS	III
.90164500E+05	HCOOH	III	.95169440E+05	CH3OH	II
.90363030E+05	HCCCHO	III	.95263100E+05	HN3	III
.90416350E+05	HNO	III	.95265120E+05	HN3	III
.90547880E+05	H2COCH2	III	.95235450E+05	HN3	III
.9078660E+05	HCOF	III	.95236170E+05	HN3	III
.90936100E+05	(CH3)2O	III	.95260500E+05	HN3	III
.91171280E+05	HCCCHO	III	.95306650E+05	CH2NH	III
.91476530E+05	(CH3)2O	III	.95325490E+05	H2CCHCN	III
.91572510E+05	HCCCHO	III	.95339160E+05	HCOF	III
.91751320E+05	HCH	I A	.95717670E+05	S2O	III
.91959200E+05	CH3CN	II	.95717670E+05	S2O	III
.91971350E+05	CH3CN	II	.95717670E+05	S2O	III
.91974100E+05	HCH	I B	.95717670E+05	S2O	III
.91980000E+05	CH3CN	II	.95722170E+05	S2O	III
.91983500E+05	HCH	I B	.95722170E+05	S2O	III
.91985350E+05	CH3CN	II	.95724000E+05	S2O	III
.91987070E+05	CH3CN	II	.95724000E+05	S2O	III
.92033600E+05	HCH	I B	.95743950E+05	S2O	III
.92081000E+05	HCH	I B	.95743950E+05	S2O	III
.92105500E+05	HCH	I B	.95760150E+05	HN3	III
.92114000E+05	HCH	I B	.9576260E+05	S2O	III
.92124600E+05	HCH	I B	.95816480E+05	S2O	III
.92149400E+05	HCH	I B	.95914290E+05	CH3OH	II
.92309620E+05	HCH	I B	.96228840E+05	O3	III
.92312050E+05	CH2CHNH2	III	.96404010E+05	S2O	III
.92315390E+05	CH2CHNH2	III	.96484740E+05	S2O	III
.92435710E+05	NH2CHO	III	.96486870E+05	S2O	III
.92467080E+05	HCH	I B	.96629700E+05	S2O	III
.92673910E+05	ClO	I A	.96741420E+05	CH3OH	II
.92921210E+05	CH2CHNH2	III	.96744680E+05	CH3OH	II
.93043280E+05	HCCCHO	III	.9675510E+05	CH3OH	II
.93079330E+05	CH2CHNH2	III	.96982890E+05	H2CCHCN	III
.93079330E+05	CH2CHNH2	III	.97261390E+05	H2COCH2	III
.93080340E+05	CH2CHNH2	III	.97301190E+05	OCS	I A
.93080340E+05	CH2CHNH2	III	.97582830E+05	CH3OH	II
.93093350E+05	NH2CHO	III	.97936330E+05	S2O	III
.93098500E+05	HCOOH	III	.97961000E+05	CS	I A
.93113030E+05	CH2CHNH2	III	.988602180E+05	HCCCHO	III
.93123490E+05	CH2CHNH2	III	.98971030E+05	HCCCHO	III
.93164040E+05	HCOF	III	.99039070E+05	HCCCHO	III
.93230590E+05	HCCCHO	III	.99299870E+05	SO	I C
.93304340E+05	HCCCHO	III	.99346760E+05	NH2CHO	III
.93306750E+05	HCCCHO	III	.99527220E+05	S2O	III
.93313930E+05	HCCCHO	III	.10002964E+06	SO	I C
.93313940E+05	HCCCHO	III	.10007640E+06	HCH	I A
.93437770E+05	HCCCHO	III	.10009450E+06	CH2O	III
.93447560E+05	ClO	I A	.10049174E+06	N2O	I A
.93601200E+05	CH2CHNH2	III	.10057240E+06	NH2CHO	III
.93603960E+05	CH2CHNH2	III	.10071690E+06	HCCCHO	III
.93668100E+05	H2COCH2	III	.10063805E+06	HCOF	III
.93692760E+05	HNS	III	.10096740E+06	CH2CO	III
.93813850E+05	HCH	I B	.10096740E+06	CH2CO	III
.93829910E+05	HNS	III	.10100240E+06	CH2CO	III
.93863280E+05	HNS	III	.10100240E+06	CH2CO	III
.93863280E+05	HNS	III	.10102450E+06	CH2CO	III
.93871730E+05	NH2CHO	III	.10103220E+06	CH2CO	III
.93875280E+05	HNS	III	.10103670E+06	CH2CO	III
.93875280E+05	HNS	III	.10129930E+06	NH2CHO	III
.93994960E+05	HNS	III	.10133290E+06	H2CO	III

FREQUENCY LIST 20

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.10147760E+06	H2CS	III	.10613460E+06	NH2CHO	III
.10155036E+06	HCOF	III	.10614160E+06	NH2CHO	III
.10163720E+06	H2CCHCN	III	.10625020E+06	HCCCHO	III
.10173683E+06	O3	III	.10630680E+06	S2O	III
.10180330E+06	S2O	III	.10654180E+06	NH2CHO	III
.10198140E+06	CH2CO	III	.10664140E+06	H2CCHCN	III
.10201970E+06	NH2CHO	III	.10677800E+06	NH2CHO	III
.10206440E+06	NH2CHO	III	.10701385E+06	CH3OH	II
.10209110E+06	S2O	III	.10730211E+06	H2CF	III
.10221760E+06	NH2CHO	III	.10755660E+06	HCCCHO	III
.10226130E+06	HCCCHO	III	.10763810E+06	HCDOH	III
.10229400E+06	HCCCHO	III	.10764375E+06	SU2	III
.10254390E+06	HCCCHO	III	.10769550E+06	S2O	III
.10263650E+06	HCCCHO	III	.10812670E+06	HCDOH	III
.10264230E+06	HCUCO	III	.10832940E+06	NH2CHO	III
.10264680E+06	HCCCHO	III	.10917360E+06	HC3N	I A
.10264680E+06	HCCCHO	III	.10925210E+06	SU	I C
.10266910E+06	HCCCHO	III	.10940670E+06	NH2CHO	III
.10270100E+06	HCCCHO	III	.10944957E+06	HCUCO	III
.10274090E+06	HCCCHO	III	.10950670E+06	HCCCHO	III
.10278800E+06	HCCCHO	III	.10970940E+06	H2CS	III
.10281960E+06	HCCCHO	III	.10975360E+06	NH2CHO	III
.10284180E+06	HCCCHO	III	.10977837E+06	HCUCO	III
.10287180E+06	S2O	III	.10977894E+06	HCUCO	III
.10303070E+06	H2CS	III	.10980770E+06	NH2CHO	III
.10304020E+06	H2CS	III	.10983345E+06	HCUCO	III
.10305180E+06	H2CS	III	.10983384E+06	HCUCO	III
.10344590E+06	NH2CHO	III	.10985770E+06	HCCCHO	III
.10352440E+06	NH2CHO	III	.10987260E+06	HCUCO	III
.10357560E+06	H2CCHCN	III	.10987299E+06	HCUCO	III
.10391530E+06	H2COCH2	III	.10989202E+06	CH2NH	III
.10392310E+06	S2O	III	.10990585E+06	HCUCO	III
.10402943E+06	SU2	III	.11029802E+06	HCUCO	III
.10403353E+06	SU2	III	.11033079E+06	CH3CN	II
.10405960E+06	H2COCH2	III	.11034010E+06	HCDOH	III
.10408580E+06	H2COCH2	III	.11034968E+06	CH3CN	II
.10421260E+06	H2CCHCN	III	.11036452E+06	CH3CN	II
.10430220E+06	HCCCHO	III	.11037501E+06	CH3CN	II
.10441150E+06	H2CCHCN	III	.11038139E+06	CH3CN	II
.10441150E+06	H2CCHCN	III	.11038347E+06	CH3CN	II
.10443280E+06	H2CCHCN	III	.11058317E+06	NOF	III
.10445380E+06	H2CCHCN	III	.11083630E+06	CH2NH	III
.10461700E+06	H2CS	III	.11089690E+06	CH2NH	III
.10466170E+06	H2COCH2	III	.11128962E+06	CH3OH	III
.10468690E+06	H2COCH2	III	.11144097E+06	CH2CHNH2	III
.10468860E+06	H2COCH2	III	.11153910E+06	HCCCHO	III
.10496070E+06	H2CCHCN	III	.11171950E+06	CH2CHNH2	III
.10501170E+06	S2O	III	.11171950E+06	CH2CHNH2	III
.10529280E+06	S2O	III	.11174680E+06	HCDOH	III
.10529280E+06	S2O	III	.11177340E+06	CH2CHNH2	III
.10529440E+06	S2O	III	.11180120E+06	CH2CHNH2	III
.10529440E+06	S2O	III	.11185430E+06	HCCCHO	III
.10529650E+06	S2O	III	.11197340E+06	HCCCHO	III
.10529650E+06	S2O	III	.11197950E+06	HCCCHO	III
.10530450E+06	S2O	III	.11198000E+06	HCCCHO	III
.10530450E+06	S2O	III	.11198000E+06	HCCCHO	III
.10538010E+06	S2O	III	.11200280E+06	HCCCHO	III
.10540363E+06	HNCS	III	.11200280E+06	HCCCHO	III
.10543490E+06	S2O	III	.11203690E+06	HCCCHO	III
.10546430E+06	NH2CHO	III	.11203690E+06	HCCCHO	III
.10555408E+06	HNCS	III	.11208000E+06	HCCCHO	III
.10559561E+06	HNCS	III	.11213100E+06	HCCCHO	III
.10559561E+06	HNCS	III	.11213100E+06	HCCCHO	III
.10560918E+06	HNCS	III	.11218940E+06	HCCCHO	III
.10560918E+06	HNCS	III	.11218940E+06	HCCCHO	III
.10574377E+06	HNCS	III	.11221190E+06	HCCCHO	III
.10579410E+06	CH2NH	III	.11225540E+06	HCCCHO	III
.10597270E+06	NH2CHO	III	.11225540E+06	HCCCHO	III
.10610810E+06	NH2CHO	III	.11228710E+06	HCDOH	III
.10610820E+06	NH2CHO	III	.11232820E+06	HCCCHO	III

FREQUENCY LIST 26

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.12967180E+06	HCOOH	III	.13738200E+06	H2CS	III
.12990460E+06	CH2NH	III	.13740610E+06	NH2CHU	III
.12996559E+06	NOF	III	.13741160E+06	H2CS	III
.13026840E+06	SIO	I A	.13762496E+06	HCHO	I A
.13090202E+06	HCOOH	III	.13796000E+06	HCHO	I B
.13101476E+06	SO2	III	.13797110E+06	HCHO	I B
.13120700E+06	SIN	I A	.13797293E+06	NOF	III
.13126740E+06	H2CCHCN	III	.13804660E+06	HCHO	I B
.13127488E+06	SO2	III	.13812300E+06	HCHO	I B
.13153051E+06	SO2	III	.13816000E+06	HCHO	I B
.13161800E+06	NH2CHO	III	.13817660E+06	SO	I C
.13167720E+06	NH2CHO	III	.13816490E+06	HCHO	I B
.13219600E+06	HCCCHN	III	.13822200E+06	HCHO	I B
.13252460E+06	H2CCHCN	III	.13824040E+06	HCOOH	III
.13259439E+06	SO2	III	.1383920E+06	H2CCHCN	III
.13262194E+06	CH3OH	II	.13846210E+06	HCHO	I B
.13274483E+06	SO2	III	.13869670E+06	HCHO	I B
.13290000E+06	H2CCHCN	III	.13880840E+06	NH2CHO	III
.13290009E+06	H2CCHCN	III	.13898838E+06	HCOF	III
.13291780E+06	H2CCHCN	III	.13931300E+06	NH2CHO	III
.13291890E+06	H2CCHCN	III	.13935476E+06	SO2	III
.13295940E+06	H2CCHCN	III	.13948170E+06	HCOOH	III
.13300355E+06	SO2	III	.13948340E+06	H2CS	III
.13303070E+06	H2CCHCN	III	.1396852E+06	HNCO	III
.13327168E+06	SO2	III	.14012600E+06	HCCCHO	III
.13327210E+06	CH2NH	III	.14012740E+06	CH2CO	III
.13354369E+06	NOF	III	.14030597E+06	SO2	III
.13373490E+06	CH2NH	III	.14042950E+06	H2CCHCN	III
.13376710E+06	HCOOH	III	.14045620E+06	S2O	III
.13400480E+06	SO2	III	.14046240E+06	S2O	III
.13402180E+06	H2CCHCN	III	.14058740E+06	NH2CHU	III
.13402858E+06	NOF	III	.14061030E+06	CH2NH	III
.13414745E+06	NOF	III	.14083950E+06	H2CO	III
.13415845E+06	NOF	III	.14120830E+06	CH2CO	III
.13418596E+06	NOF	III	.14120830E+06	CH2CO	III
.13419216E+06	NOF	III	.14120860E+06	CH2CO	III
.13458232E+06	NOF	III	.14128860E+06	CH2CO	III
.13468640E+06	HCOOH	III	.14135270E+06	CH2CO	III
.13489696E+06	CH3OH	II	.14135270E+06	CH2CO	III
.13492020E+06	HCOOH	III	.14140240E+06	CH2CO	III
.13492850E+06	HCOOH	III	.14140240E+06	CH2CO	III
.13493850E+06	HCOOH	III	.14143010E+06	CH2CO	III
.13498560E+06	HCOOH	III	.14143790E+06	CH2CO	III
.13500490E+06	HCOOH	III	.14145200E+06	CH2CO	III
.13503050E+06	H2CO	III	.14174170E+06	H2CCHCN	III
.13529780E+06	H2CS	III	.14178880E+06	NH2CHO	III
.13537676E+06	CH3OH	II	.14194540E+06	H2CCHCN	III
.13553158E+06	SO2	III	.14200020E+06	H2CS	III
.13553990E+06	H2CCHCN	III	.14204409E+06	SO2	III
.13568700E+06	HCCCHO	III	.14212148E+06	HN3	III
.13569578E+06	SO2	III	.14223510E+06	NH2CHO	III
.13571760E+06	NH2CHO	III	.14234730E+06	C2H3F	III
.13573770E+06	HCOOH	III	.14242440E+06	H2CCHCN	III
.13628680E+06	NH2CHO	III	.14242650E+06	H2CCHCN	III
.13660015E+06	CH3C2H	II	.14246244E+06	HCOF	III
.13660820E+06	CH2NH	III	.14246244E+06	HCOF	III
.13663403E+06	CH3C2H	II	.14247240E+06	H2CCHCN	III
.13666274E+06	CH3C2H	II	.14257290E+06	H2CCHCN	III
.13667554E+06	SO2	III	.14264426E+06	HN3	III
.13668619E+06	CH3C2H	II	.14264426E+06	HN3	III
.13669356E+06	NOF	III	.14270150E+06	NH2CHO	III
.13670448E+06	CH3C2H	II	.14273466E+06	HN3	III
.13671760E+06	CH3C2H	II	.14273466E+06	HN3	III
.13672536E+06	CH3C2H	II	.14275940E+06	H2CCHCN	III
.13672793E+06	CH3C2H	II	.14276890E+06	CH2CO	III
.13685560E+06	H2CCHCN	III	.14280367E+06	HN3	III
.13723431E+06	SO2	III	.14280367E+06	HN3	III
.13736920E+06	H2CS	III	.14285103E+06	HN3	III
.13736920E+06	H2CS	III	.14285384E+06	HN3	III
.13737110E+06	H2CS	III	.14288692E+06	HN3	III

FREQUENCY LIST 30

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.16341030E+06	C2n3F	III	.17171100E+06	n2CS	III
.16375340E+06	nC3M	I A	.17172020E+06	n2CS	III
.16389270E+06	nH2CHU	III	.17177000E+06	nH2CHU	III
.16505019E+06	CH3OH	II	.17177400E+06	n2CS	III
.16506114E+06	CH3OH	II	.17218146E+06	SO	I C
.16509931E+06	CH3OH	II	.17226710E+06	CH2nd	III
.16517710E+06	nH2CHU	III	.17230120E+06	nH2CHU	III
.16519053E+06	CH3OH	II	.17244595E+06	CH3OH	II
.16536543E+06	CH3CN	II	.17246000E+06	S10	I A
.16536944E+06	CH3OH	II	.17270340E+06	nH2CHU	III
.16541293E+06	CH3CN	II	.17310330E+06	nH2CHU	III
.16545434E+06	CH3CN	II	.17310400E+06	nH2CHU	III
.16546939E+06	CH3CN	II	.17346160E+06	H2CO	III
.16551793E+06	CH3CN	II	.17360000E+06	S10	I A
.16554031E+06	CH3CN	II	.17372540E+06	nCCCHU	III
.16555618E+06	CH3CN	II	.17377200E+06	nH2CHU	III
.16556571E+06	CH3CN	II	.17434400E+06	n2CS	III
.16556895E+06	CH3CN	II	.17440200E+06	nH2CHU	III
.16567477E+06	Cl3UM	II	.17466400E+06	S1N	I A
.16580633E+06	HN3	III	.17500900E+06	n2S	III
.16616321E+06	CH3OH	II	.17511901E+06	n2O	I A
.16641676E+06	HN3	III	.17510570E+06	nH2CHU	III
.16641676E+06	HN3	III	.17577020E+06	nCCCHU	III
.16652279E+06	HN3	III	.17584366E+06	HNCO	III
.16652279E+06	HN3	III	.17585502E+06	N2O	I A
.16660205E+06	HN3	III	.17589630E+06	nH2CHU	III
.16660205E+06	HN3	III	.17592559E+06	N2O	I A
.16664700E+06	HCCCHO	III	.17623417E+06	N2O	I A
.16665766E+06	HN3	III	.17625796E+06	N2O	I A
.16666205E+06	HN3	III	.17632350E+06	N2O	I A
.16669840E+06	HN3	III	.17632580E+06	N2O	I A
.16685180E+06	CH2NH	III	.17692000E+06	HCCCHO	III
.16732090E+06	nH2CHU	III	.17696700E+06	nH2CHU	III
.16757507E+06	HN3	III	.17720640E+06	nH2CHU	III
.16874170E+06	nH2CHU	III	.17723670E+06	nCN	I A
.16874170E+06	nH2CHU	III	.17726110E+06	nCN	I A
.16876280E+06	H2S	III	.17732750E+06	HCCCHO	III
.16911350E+06	H2CS	III	.17732850E+06	HCCCHO	III
.16929950E+06	nH2CHU	III	.17734230E+06	nCCCHO	III
.16929950E+06	nH2CHU	III	.17734270E+06	HCCCHO	III
.16968380E+06	nH2CHU	III	.17738490E+06	nCCCHO	III
.16978650E+06	nH2CHU	III	.17740380E+06	nCCCHO	III
.16978650E+06	nH2CHU	III	.17744620E+06	HCCCHO	III
.16979130E+06	nH2CHU	III	.17745999E+06	NuF	III
.16979130E+06	nH2CHU	III	.17746300E+06	NuF	III
.16981130E+06	nH2CHU	III	.17752260E+06	HCCCHO	III
.16981130E+06	nH2CHU	III	.17761220E+06	nCCCHO	III
.16986200E+06	nH2CHU	III	.17771410E+06	nCCCHO	III
.16986300E+06	nH2CHU	III	.17782780E+06	HCCCHO	III
.16995620E+06	nH2CHU	III	.17795280E+06	HCCCHO	III
.17001590E+06	CH2NH	III	.17797420E+06	HCCCHO	III
.17003950E+06	nH2CHU	III	.17807340E+06	CH2NH	III
.17006063E+06	CH3OH	II	.17808860E+06	HCCCHO	III
.17014014E+06	NOF	III	.17808860E+06	HCCCHO	III
.17026749E+06	UCS	I A	.17813650E+06	nCN	I A
.17061160E+06	HCCCHO	III	.17823540E+06	HCCCHO	III
.17074605E+06	CH3C2H	II	.17829540E+06	HCCCHO	III
.17078829E+06	CH3C2H	II	.17838010E+06	H2CS	III
.17082413E+06	CH3C2H	II	.17839310E+06	HCCCHO	III
.17085350E+06	CH3C2H	II	.17856640E+06	NuF	III
.17087627E+06	CH3C2H	II	.17863780E+06	nH2CHU	III
.17089259E+06	CH3C2H	II	.17866290E+06	nH2CHU	III
.17090237E+06	CH3C2H	II	.17865365E+06	NuF	III
.17090566E+06	CH3C2H	II	.17865628E+06	NuF	III
.17127490E+06	S10	I A	.17867146E+06	NOF	III
.17162110E+06	nH2CHU	III	.17896066E+06	NOF	III
.17167070E+06	H2CS	III	.17899069E+06	NuF	III
.17167070E+06	H2CS	III	.17910610E+06	nH2CHU	III
.17168780E+06	H2CS	III	.17965170E+06	nCCCHO	III

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NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.107994679e+00	NOF	111	.107110246e+00	HC6CH9	111
.100179740e+00	CHeLU	111	.10713134e+00	HC6CH9	111
.10041100e+00	HC6CH9	111	.10737077e+00	HC6S	111
.10041100e+00	HC6CH9	111	.107479040e+00	HC6CH9	111
.10047090e+00	HC6CH9	111	.10701000e+00	HC6CH9	111
.10048790e+00	HC6CH9	111	.10704515e+00	HC6S	111
.10053430e+00	HC6CH9	111	.10771173e+00	HC6S	111
.10060270e+00	Cn2H	111	.10771022e+00	HC6S	111
.10065070e+00	HC6CH9	111	.10773600e+00	HC6S	111
.10127470e+00	Cn2LU	111	.10773000e+00	HC6S	111
.10127470e+00	Cn2LU	111	.10776390e+00	HC6CH9	111
.10142300e+00	Cn2LU	111	.10777070e+00	HC6CH9	111
.10142300e+00	Cn2LU	111	.10778000e+00	HC6CH9	111
.10155570e+00	HC6LU	111	.10781740e+00	HC6CH9	111
.10155570e+00	HC6LU	111	.10780420e+00	HC6CH9	111
.10105410e+00	HC6LU	111	.10790390e+00	HC6CH9	111
.10105410e+00	HC6LU	111	.10793030e+00	HC6CH9	111
.10173090e+00	HC6LU	111	.10790141e+00	HC6CH9	111
.10173090e+00	HC6LU	111	.10797013e+00	HC6S	111
.10150170e+00	HC6LU	111	.10797930e+00	HC6CH9	111
.1010170e+00	HC6LU	111	.10799000e+00	HC6CH9	111
.10102400e+00	HC6LU	111	.10799309e+00	HC6CH9	111
.10103200e+00	HC6LU	111	.10797010e+00	NOF	111
.10107000e+00	HC6LU	111	.10792000e+00	HC6CH9	111
.10203000e+00	HC6CH9	111	.10799090e+00	HC6CH9	111
.10203990e+00	HC6CH9	111	.107940290e+00	HC6CH9	111
.10312300e+00	HC6CH9	111	.10717330e+00	HC6CH9	111
.10331000e+00	HC6	111	.10710040e+00	HC6CH9	111
.10334300e+00	HC6CH9	111	.10719990e+00	HC6CH9	111
.10349000e+00	HC6LU	111	.107221240e+00	HC6CH9	111
.10355130e+00	HC6LU	111	.10746900e+00	HC6CH9	111
.10373000e+00	HC6CH9	111	.10760702e+00	HC6S	111
.10373000e+00	NOF	111	.107341537e+00	HC6CH9	111
.10370931e+00	HC6CH9	111	.107340439e+00	HC6CH9	111
.10383394e+00	HC6CH9	111	.10734152e+00	HC6CH9	111
.10305300e+00	HC6CH9	111	.107347433e+00	HC6CH9	111
.10307421e+00	HC6CH9	111	.107340003e+00	HC6CH9	111
.10307990e+00	HC6CH9	111	.107350000e+00	HC6CH9	111
.10390000e+00	HC6CH9	111	.10737112e+00	HC6CH9	111
.10393079e+00	HC6CH9	111	.107450044e+00	HC6S	111
.10394000e+00	HC6LU	111	.107400150e+00	NOF	111
.10394444e+00	HC6CH9	111	.107500000e+00	HC6CH9	111
.10397300e+00	HC6LU	111	.107514070e+00	HC6CH9	111
.10397000e+00	HC6CH9	111	.107597420e+00	HC6S	111
.10397300e+00	HC6CH9	111	.10760020e+00	HC6CH9	111
.10399202e+00	HC6CH9	111	.10702139e+00	HC6LU	111
.10400130e+00	HC6LU	111	.10700900e+00	HC6S	111
.10415090e+00	HC6LU	111	.10704322e+00	HC6CH9	111
.10417300e+00	HC6LU	111	.10707520e+00	HC6CH9	111
.10420400e+00	HC6LU	111	.107090340e+00	HC6CH9	111
.10424200e+00	HC6LU	111	.20063297e+00	NOF	111
.10429100e+00	HC6LU	111	.2009720e+00	HC6S	111
.10401190e+00	HC6LU	111	.20120730e+00	NOF	111
.10407000e+00	HC6CH9	111	.20121502e+00	NOF	111
.10492740e+00	HC6LU	111	.20123471e+00	NOF	111
.10509990e+00	HC6S	111	.20127000e+00	NOF	111
.10500070e+00	HC6LU	111	.20130000e+00	NOF	111

FREQUENCY LIST 3c

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.20252730E+06	HCuOH	111	.22357203E+06	NOF	111
.20253000E+06	HCuOH	111	.22350000E+06	NOF	111
.20265450E+06	HCuOH	111	.22350007E+06	NOF	111
.20269632E+06	NOF	111	.22350017E+06	NOF	111
.20261520E+06	HCuOH	111	.223570554E+06	NOF	111
.20292350E+06	HCuO	111	.22350544E+06	NOF	111
.20414020E+06	HCuO	111	.22355470E+06	CH2NH	111
.20512700E+06	HCuOH	111	.22350007E+06	NOF	111
.20594200E+06	HCuO	111	.22350000E+06	HCuO	111
.20594200E+06	HCuO	111	.22350000E+06	CH2NH	111
.20596740E+06	H2CS	111	.22350000E+06	HCuO	111
.20600190E+06	H2CS	111	.22350000E+06	HCuO	111
.20600190E+06	HCuO	111	.22350000E+06	HCuO	1 A
.20600190E+06	HCuO	111	.22350000E+06	HCuO	1 B
.20600190E+06	HCuO	111	.22350000E+06	HCuO	1 B
.20600577E+06	HCuO	111	.22350000E+06	HCuO	1 B
.20615010E+06	H2CS	111	.22350000E+06	HCuO	1 B
.20615010E+06	H2CS	111	.22350000E+06	HCuO	1 B
.20643049E+06	HCuO	1 A	.22350000E+06	HCuO	1 B
.20600323E+06	NOF	111	.22350000E+06	HCuO	1 B
.20694270E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20706600E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20717400E+06	HCuO	1 B	.22350000E+06	HCuO	1 A
.20719860E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20722390E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20727060E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20732500E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20736030E+06	CH2NH	111	.22350000E+06	HCuO	1 B
.20760560E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20804140E+06	HCuO	1 B	.22350000E+06	HCuO	1 B
.20920010E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21040760E+06	CH2NH	111	.22350000E+06	HCuO	1 B
.21121150E+06	HCuO	111	.22350000E+06	HCuO	1 B
.21317313E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21370090E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21370090E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21395972E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21395972E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21409593E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21409593E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21419859E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21419859E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21422290E+06	CH2NH	111	.22350000E+06	HCuO	1 B
.21426772E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21427722E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21431089E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21492650E+06	CH2NH	111	.22350000E+06	HCuO	1 B
.21544000E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21619000E+06	NOF	111	.22350000E+06	HCuO	1 B
.21656070E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21671040E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21710460E+06	SIO	1 A	.22350000E+06	HCuO	1 B
.21822220E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21847560E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21876010E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21880350E+06	H2CS	111	.22350000E+06	HCuO	1 B
.21890327E+06	OCS	1 A	.22350000E+06	HCuO	1 B
.22040396E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22047604E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22053930E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22059450E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22064112E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22067932E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22070908E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22073027E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22074299E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22074724E+06	CH3CN	11	.22350000E+06	HCuO	1 B
.22091237E+06	NOF	111	.22350000E+06	HCuO	1 B
.22304995E+06	NOF	111	.22350000E+06	HCuO	1 B
.22355474E+06	NOF	111	.22350000E+06	HCuO	1 B
.22355969E+06	NOF	111	.22350000E+06	HCuO	1 B

FREQUENCY LIST 33

NU	MOLECULE	TABLE	NU	MOLECULE	TABLE
.2042702E+00	n2CO	III	.30392040E+00	SiO	I A
.20500020E+00	h2N	I A	.31443700E+00	n2S	III
.20627010E+00	CH2NH	III	.32122504E+00	n2O	III
.27052000E+00	n2CS	III	.32515292E+00	n2O	III
.27437150E+00	n2CS	III	.34500000E+00	CO	I A
.274437150E+00	n2CS	III	.30910140E+00	n2S	III
.27440220E+00	n2CS	III	.30912590E+00	n2S	III
.27440220E+00	n2CS	III	.30019737E+00	n2O	III
.27452000E+00	n2CS	III	.39201700E+00	n2S	III
.27457750E+00	n2CS	III	.39345050E+00	n2S	III
.27457750E+00	n2CS	III			
.27461640E+00	n2CO	III			
.27465910E+00	n2CS	III			
.27465910E+00	n2CS	III			
.27470220E+00	n2CS	III			
.27473100E+00	n2CS	III			
.27473320E+00	n2CS	III			
.27495260E+00	n2CS	III			
.27509700E+00	HCNO	I B			
.27509700E+00	HCNO	I B			
.27622410E+00	HCNO	I B			
.27625000E+00	HCNO	I B			
.27626130E+00	HCNO	I B			
.27626130E+00	HCNO	I B			
.27634030E+00	HCNO	I B			
.27642000E+00	HCNO	I B			
.27609990E+00	HCNO	I B			
.27692920E+00	HCOOH	III			
.27737610E+00	HCNO	I B			
.27804270E+00	CH2NH	III			
.27888650E+00	n2CS	III			
.27916210E+00	HCOOH	III			
.28152690E+00	n2CO	III			
.28163600E+00	CH2NH	III			
.28293980E+00	HCOOH	III			
.28425410E+00	CH2NH	III			
.28477820E+00	CH2NH	III			
.28747070E+00	CH2NH	III			
.29031410E+00	HCOOH	III			
.29062340E+00	n2CO	III			
.29123770E+00	n2CO	III			
.29138030E+00	n2CO	III			
.29138420E+00	n2CO	III			
.29194800E+00	n2CO	III			
.29242190E+00	HCOOH	III			
.29242190E+00	HCOOH	III			
.29242190E+00	HCOOH	III			
.29243610E+00	HCOOH	III			
.29243610E+00	HCOOH	III			
.29244440E+00	HCOOH	III			
.29244440E+00	HCOOH	III			
.29246170E+00	HCOOH	III			
.29246170E+00	HCOOH	III			
.29249610E+00	HCOOH	III			
.29249610E+00	HCOOH	III			
.29250120E+00	HCOOH	III			
.29250120E+00	HCOOH	III			
.29262300E+00	HCOOH	III			
.29262400E+00	HCOOH	III			
.29266450E+00	HCOOH	III			
.29290260E+00	HCOOH	III			
.29302770E+00	HCCN	III			
.29391200E+00	CS	I A			
.29404320E+00	HCOOH	III			
.30050560E+00	n2S	III			
.30083660E+00	n2CO	III			
.30144270E+00	n2O	I A			
.30222430E+00	n2O	I A			
.30225620E+00	n2O	I A			