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RELATIVISTIC SELF-CONSISTENT CALCULATION FOR THE NORMAL TUNGSTEN ATOM

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UNIVERSITY OF CALIFORNIA
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RELATIVISTIC SELF-CONSISTENT CALCULATION FOR
THE NORMAL TUNGSTEN ATOM

Stanley Cohen

April 21, 1959

RELATIVISTIC SELF-CONSISTENT CALCULATION FOR
THE NORMAL TUNGSTEN ATOM

Stanley Cohen

RAND Corporation
Santa Monica, California

and

Lawrence Radiation Laboratory
University of California
Berkeley, California

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ABSTRACT

The relativistic self-consistent solution for the normal tungsten atom is presented. A comparison is made between the energy eigenvalues for each of the subshells with corresponding experimentally determined energy-term values.

RELATIVISTIC SELF-CONSISTENT CALCULATION FOR
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INTRODUCTION

A previous paper¹ described a method for obtaining the relativistic self-consistent solution without exchange for an atom of arbitrary atomic number and electron configuration. This method involved the use of a rather flexible routine programmed for an IBM type-704 computing machine. The routine described therein has been used to obtain the self-consistent solution for the normal tungsten atom, and the results of this calculation are presented in this report. For comparison the experimentally determined energy-term values for each of the subshells of the atom has been included. For a complete description of the method by which these results have been obtained the reader is referred to the previous report.

DETAILS OF THE CALCULATIONS

In this calculation 541 grid points were used for the numerical integrations. For reasons mentioned in the previous report the calculation was carried out by using equal grid spaces in the variable ρ defined as $\rho = \ln(1000 r/a_0)$, where a_0 is the Bohr radius in hydrogen and r is the distance from the origin. The grid spacing chosen was $\Delta\rho = 1/36$ with an innermost value of $\rho = \rho_0 = -4$. The range of values of r is therefore from $r_{\min} = r_0 = 1.83156 \times 10^{-4} a_0$ to $r_{\max} = 59.8741 a_0$. The iterations of the

*Work done under the auspices of the U. S. Atomic Energy Commission.

1.8×10^{-5}

calculations were repeated until successive values of the individual subshell contributions to the potential at the origin were constant to at least 1 part in 10^6 . Six-figure accuracy for all energy eigenvalues was obtained as indicated by their values in successive iterations.

RESULTS FOR THE TUNGSTEN ATOM

The energy eigenvalues obtained from this calculation are given in Table I. Also included in this table are experimental energy-term values for each of the subshells of the atom.² The Appendix contains the edited tabulations of the various potentials and the individual electronic wave functions for this solution. The relativistic radial wave functions consist of two parts -- F, the large component, and G, the small component. These wave functions have been normalized and satisfy the condition

$$\int_0^{\infty} (F^2 + G^2) dr = 1.$$

Included in the tabulations are parameters which define the behavior of the wave function for values of r less than r_0 . The normalized wave functions for this region are expressed as power series of the form

$$F = \left(\frac{r}{r_0} \right)^{\lambda} (a_0 + a_1 r + a_2 r^2 + a_3 r^3 + \dots)$$

and

$$G = \left(\frac{r}{r_0} \right)^{\lambda} (\beta_0 + \beta_1 r + \beta_2 r^2 + \beta_3 r^3 + \dots).$$

(1)

Table I

Comparison of energy eigenvalues with experimentally determined term values for tungsten		
Subshell	Experimental energy-term value	Calculated eigenvalue
1S	5120.3 (Ry)	5139.0
2S	890.64	880.90
2P _{1/2}	849.75	845.74
2P _{3/2}	751.25	745.82
3S	207.17	202.21
3P _{1/2}	189.20	185.21
3P _{3/2}	167.58	163.93
3D _{3/2}	137.36	136.10
3D _{5/7}	132.76	131.44
4S	43.38	41.47
4P _{1/2}	35.70	34.39
4P _{3/2}	30.79	29.40
4D _{3/2}	18.57	17.91
4D _{5/2}	17.58	17.00
4F _{5/2}	} 1.99	2.701
4F _{7/2}		2.529
5S	5.19	5.889
5P _{1/2}	2.96	3.785
5P _{3/2}	2.20	3.058
5D _{3/2}	...	0.4111
6S	...	0.4927

REFERENCES

1. Stanley Cohen, "Relativistic Self-Consistent Calculation for the Normal Mercury Atom," UCRL-8389, July 28, 1958.
2. Landolt and Boernstein, Zahlenwerte und Funktionen, Band 1, 6 Auflage (Springer, Berlin, 1950), p. 228.

APPENDIX

This appendix contains edited results of the self-consistent calculation for the normal tungsten atom. Because these tabulations were printed by the computing machine, a description of the notation is necessary. All numbers are written in decimal form consisting of two parts: The first seven digits preceded by a decimal point are a decimal number between 0.0 and 1.0. The sign and two-digit number that follow are the power of ten by which this number is multiplied. The sign of the number is to the left of the decimal point; thus $-.9072915-07$ is to be read as $-.9072915 \times 10^{-7}$. Zero is represented as $.0000000-39$.

The first two pages of the tabulation contain information about the atom and its configuration. The entries at the top of the page are as follows: the problem identification number, the atomic number, the number of electrons in the atom, the number of shells in the atom, the values of r_0 , ρ_0 , and $\Delta\rho$, and the number of grid points used. Following this is the electric potential at r_0 due to the electrons of the atom. A tabulation of r , ρ , and r times the total atomic potential follows. Note that in this and other tabulations, values of the functions at every ninth grid point are given. All potentials and energies are expressed in Rydbergs.

Each electron subshell has a separate tabulation which is identified by the designation in the upper left-hand corner. Following this are the number of electrons in the subshell, the eigenvalue in Rydbergs, the potential contribution at r_0 for one electron of this subshell, and λ , the parameter used in the power series for the wave function at r_0 (see Eq. (1)). The next two lines contain α 's and β 's for this power-series expression, starting with α_0 and followed by $\alpha_1\alpha_2, \dots$ etc. In general, only five values are given and are sufficient to express the wave function to eight significant figures for values of r near r_0 . A tabulation of the quantities $r v_i(r)$, v_i , $\int_0^r (F^2 + G^2)dr$, F , G , and ρ follows. Here v_i is the potential due to one electron in this subshell.

Although eight-figure results are tabulated here, small errors due to rounding may be present. These are sometimes manifested in inconsistencies of the monotonic behavior of some results for large values of r . Because these results are in fact not accurate to eight figures, these variations are not significant.

4431D HARTREE CALCULATION TUNGSTEN ATOM - PROBLEM 321
 PROB. NO. ATOMIC NO. SUM NP NO. SHELLS
 .3210000 03 .7400000 02 .7400000 02 .6000000 01
 R(O) RHO(O) DELTA RHO GRID PTS.
 .1831564-04-.4000000 01 .2777778-01 .5410000 03

ELEC. POT. AT ORIGIN .1083829 04
 R - RHO P TIMES V(R)
 .1831564-04-.4000000 01-.1479802 03
 .2351775-04-.3750000 01-.1479745 03
 .3019738-04-.3500000 01-.1479673 03
 .3877421-04-.3250000 01-.1479580 03
 .4978707-04-.3000000 01-.1479461 03
 .6392386-04-.2750000 01-.1479307 03
 .8208489-04-.2500000 01-.1479111 03
 .1053992-02-.2250000 01-.1478858 03
 .1353353-02-.2000000 01-.1478534 03
 .1737739-02-.1750000 01-.1478117 03
 .2231301-02-.1500000 01-.1477583 03
 .2865048-02-.1250000 01-.1476896 03
 .3678794-02-.1000000 01-.1476016 03
 .4723665-02-.7500000 00-.1474886 03
 .6065306-02-.5000000 00-.1473437 03
 .7788907-02-.2500000 00-.1471579 03
 .9999999-02 .0000000-39-.1469200 03
 .1284025-02 .2500000 00-.1466156 03
 .1648721-02 .5000000 00-.1462269 03
 .2117000-02 .7500000 00-.1457318 03
 .2718281-02 .1000000 01-.1451033 03
 .3490342-02 .1250000 01-.1443090 03
 .4481688-02 .1500000 01-.1433115 03
 .5754602-02 .1750000 01-.1420683 03
 .7389055-02 .2000000 01-.1405328 03
 .9487724-02 .2250000 01-.1386544 03
 .1218249-01 .2500000 01-.1363770 03
 .1564263-01 .2750000 01-.1336331 03
 .2008553-01 .3000000 01-.1303358 03
 .2579033-01 .3250000 01-.1263745 03
 .3311544-01 .3500000 01-.1216309 03
 .4252107-01 .3750000 01-.1160243 03
 .5459813-01 .4000000 01-.1095563 03
 .7010539-01 .4250000 01-.1022793 03
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 .1155843 00 .4750000 01-.8516602 02
 .1484131 00 .5000000 01-.7536701 02
 .1905662 00 .5250000 01-.6529779 02
 .2446918 00 .5500000 01-.5529760 02
 .3141905 00 .5750000 01-.4510904 02
 .4034286 00 .6000000 01-.3487915 02
 .5180126 00 .6250000 01-.2579665 02
 .6651413 00 .6500000 01-.1869504 02
 .8540584 00 .6750000 01-.1325341 02
 .1096633 01 .7000000 01-.9904713 01
 .1408104 01 .7250000 01-.5862945 01

•1808042	01	•7500000	01-	•3684270	01
•2321571	01	•7750000	01-	•2164102	01
•2980957	01	•8000000	01-	•1106289	01
•3827624	01	•8250000	01-	•4545543	00
•4914767	01	•8500000	01-	•1384892	00
•6310686	01	•8750000	01-	•2844409	01
•8103080	01	•9000000	01-	•3493728	02
•1040456	02	•9250000	01-	•2295049	03
•1395972	02	•9500000	01-	•6253671	05
•1715422	02	•9750000	01-	•5296476	05
•2202645	02	•1000000	02-	•4594533	05
•2828253	02	•1025000	02-	•3956404	05
•3631548	02	•1050000	02-	•3190648	05
•4663000	02	•1075000	02-	•3190648	05
•5987411	02	•1100000	02-	•3190648	05

DESIGNATION NP BIND. ENERGY V(O) LAMBDA
 1 S 1/2 .2000000 01 .5139027 04 .1743472 03 .8416637 00

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 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39
 BETA S .1898703-01 .1411160 01 .5243807 02 .1301158 04 .2420952 05
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39

R. TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
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.4100228-02	.1743462 03	.6063964-07	.7978178-01	.2339272-01	.3750000 01
.5264749-02	.1743446 03	.1185179-06	.9841749-01	.2885677-01	.3500000 01
.6759977-02	.1743421 03	.2315912-06	.1213892 00	.3559210-01	.3250000 01
.8679799-02	.1743384 03	.4524251-06	.1496958 00	.4389154-01	.3000000 01
.1114472-01	.1743328 03	.8835379-06	.1845607 00	.5411368-01	.2750000 01
.1430940-01	.1743242 03	.1724711-05	.2274782 00	.6669659-01	.2500000 01
.1837226-01	.1743112 03	.3364857-05	.2802690 00	.8217388-01	.2250000 01
.2358777-01	.1742914 03	.6560065-05	.3451424 00	.1011929 00	.2000000 01
.3028207-01	.1742613 03	.1277772-04	.4247652 00	.1245352 00	.1750000 01
.3887277-01	.1742157 03	.2485936-04	.5223356 00	.1531376 00	.1500000 01
.4989386-01	.1741467 03	.4829189-04	.6416542 00	.1881130 00	.1250000 01
.6402661-01	.1740424 03	.9363142-04	.7871830 00	.2307677 00	.1000000 01
.8213748-01	.1738851 03	.1810908-03	.9640726 00	.2826085 00	.7500000 00
.1053231 00	.1736485 03	.3491372-03	.1178129 01	.3453327 00	.5000000 00
.1349615 00	.1732940 03	.6704017-03	.1435673 01	.4207852 00	.2500000 00
.1727653 00	.1727654 03	.1280620-02	.1743215 01	.5108630 00	.0000000-39
.2208286 00	.1719815 03	.2430099-02	.2106854 01	.6173360 00	.2500000 00
.2816479 00	.1708281 03	.4572436-02	.2531253 01	.7415439 00	.5000000 00
.3580847 00	.1691473 03	.8510983-02	.3018019 01	.8839189 00	.7500000 00
.4532127 00	.1667277 03	.1562585-01	.3563312 01	.1043283 01	.1000000 01
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.7104992 00	.1585338 03	.4975885-01	.4766417 01	.1394207 01	.1500000 01
.8751345 00	.1520756 03	.8542598-01	.5356358 01	.1565726 01	.1750000 01
.1060992 01	.1435897 03	.1416885 00	.5861604 01	.1712008 01	.2000000 01
.1260539 01	.1328599 03	.2252248 00	.6199744 01	.1808973 01	.2250000 01
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.1644049 01	.1051517 03	.4828977 00	.6009449 01	.1749018 01	.2750000 01
.1795197 01	.8937762 02	.6396380 00	.5354600 01	.1956007 01	.3000000 01
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.1999999 01	.1730339 02	.9999957 00	.2280347-01	.6486093-02	.4750000 01
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.2000000 01	.1049504 02	.1000000 01	.1599996-03	.4510425-04	.5250000 01
.2000000 01	.8173546 01	.1000000 01	.4150953-05	.1164697-05	.5500000 01
.2000000 01	.6365564 01	.1000000 01	.3671177-07	.1025440-07	.5750000 01
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.2000000 01	.3860910 01	.1000000 01	.0000000-39	.0000000-39	.6250000 01
.2000000 01	.3006880 01	.1000000 01	.0000000-39	.0000000-39	.6500000 01
.2000000 01	.2341760 01	.1000000 01	.0000000-39	.0000000-39	.6750000 01

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•2000000 01 •1420349 01 •0000000 01 •0000000-39 •0000000 01 •7250000 01
•2000000 01 •1106169 01 •1000000 01 •0000000-39 •0000000 01 •7300000 01
•2000000 01 •8614855 00 •1000000 01 •0000000-39 •0000000 01 •7750000 01
•2000000 01 •6709256 00 •1000000 01 •0000000-39 •0000000 01 •8000000 01
•2000000 01 •5225173 00 •1000000 01 •0000000-39 •0000000 01 •8250000 01
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•2000000 01 •3169228 00 •1000000 01 •0000000-39 •0000000 01 •8750000 01
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•2000000 01 •3340342-01 •1000000 01 •0000000-39 •0000000 01 •1100000 02

DESIGNATION	-NP	BIND.	ENERGY	V(I)	LAMBDA
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	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.6981214-06	.2712815-04-	.5351646-03	.7133300-02-	.7177917-01
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R TIMES V(I)	-V(I)	INTEGRAL	F	G	RND
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.8339062-03	.3545859 02	.3927535-15	.8206647-05-	.1128799-05-	.3790000 01
.1070757-02	.3545859 02	.1118632-14	.1327829-04-	.1826360-05-	.3500000 01
.1374879-02	.3545859 02	.3760097-14	.2148266-04-	.2954773-05-	.9290000 01
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02000000	01	00661489	00	01000000	01	00000000-39	00000000-39	07750000	01
02000000	01	00670929	00	01000000	01	00000000-39	00000000-39	08000000	01
02000000	01	00522517	00	01000000	01	00000000-39	00000000-39	08250000	01
02000000	01	00406996	00	01000000	01	00000000-39	00000000-39	08500000	01
02000000	01	00916922	00	01000000	01	00000000-39	00000000-39	08750000	01
02000000	01	00246819	00	01000000	01	00000000-39	00000000-39	09000000	01
02000000	01	00192223	00	01000000	01	00000000-39	00000000-39	09250000	01
02000000	01	00149708	00	01000000	01	00000000-39	00000000-39	09500000	01
02000000	01	00116989	00	01000000	01	00000000-39	00000000-39	09750000	01
02000000	01	00907999	01	01000000	01	00000000-39	00000000-39	01000000	02
02000000	01	00707190	01	01000000	01	00000000-39	00000000-39	01025000	02
02000000	01	00950729	01	01000000	01	00000000-39	00000000-39	01050000	02
02000000	01	00428908	01	01000000	01	00000000-39	00000000-39	01075000	02
02000000	01	00994094	01	01000000	01	00000000-39	00000000-39	01100000	02

DESIGNATION	NP	BIND. ENERGY	V(0)	LAMBDA
2 P 1/2	.2000000	01-.8457407	03 .4218936	02 .8416657

ALPHA S	.1750532-02	.5027719	00-.2033624	02 .4184416	03-.5747002	04
BETA S	.5970185-02	.3082477	00 .7842806	01-.1287981	03 .1597897	04

R TIMES V(0)	V(R)	INTEGRAL	F	G	RHO	
.7727251-03	.4218936	02 .2640315-09	.1759733-02	.5964542-02	.4000000	01
.9921984-03	.4218935	02 .5163133-09	.2175071-07	.7359412-02	.3750000	01
.1274008-02	.4218934	02 .1009598-08	.2689860-02	.9079795-02	.9500000	01
.1635857-02	.4218932	02 .1974031-08	.3327817-02	.1120125-01	.3250000	01
.2100481-02	.4218929	02 .3859422-08	.4119595-02	.1381663-01	.3000000	01
.2697068-02	.4218924	02 .7544710-08	.5104636-02	.1703993-01	.2750000	01
.3463098-02	.4218917	02 .1474695-07	.6332174-02	.2101083-01	.2500000	01
.4446694-02	.4218906	02 .2881935-07	.7865861-02	.2590020-01	.2250000	01
.5709645-02	.4218889	02 .5630777-07	.9788222-02	.3191644-01	.2000000	01
.7331285-02	.4218863	02 .1099838-06	.1220735-01	.3931290-01	.1750000	01
.9413468-02	.4218824	02 .2147502-06	.1526646-01	.4839615-01	.1500000	01
.1208696-01	.4218764	02 .4191263-06	.1915762-01	.5953497-01	.1250000	01
.1551963-01	.4218674	02 .8175544-06	.2414183-01	.7316943-01	.1000000	01
.1992695-01	.4218536	02 .1593663-05	.3057836-01	.8981908-01	.7500000	00
.2558544-01	.4218327	02 .3104030-05	.3896792-01	.1100884	00-.5000000	00
.3284989-01	.4218010	02 .6040132-05	.5001630-01	.1346664	00-.2500000	00
.4217529-01	.4217529	02 .1174104-04	.6472743-01	.1643153	00 .0000000-39	
.5414480-01	.4216802	02 .2279705-04	.8453881-01	.1998415	00 .2500000	00
.6950519-01	.4215703	02 .4421679-04	.1115150	00 .2420359	00 .5000000	00
.8921130-01	.4214044	02 .8569410-04	.1486171	00 .2915704	00 .7500000	00
.1144815	00 .4213541	02 .1660529-03	.2000644	00 .3488276	00 .1000000	01
.1468652	00 .4207760	02 .3220980-03	.2717875	00 .4136416	00 .1250000	01
.1883224	00 .4202042	02 .6266256-03	.3719349	00 .4849261	00 .1500000	01
.2413108	00 .4193354	02 .1225976-02	.5113059	00 .5601835	00 .1750000	01
.3088667	00 .4180057	02 .2419910-02	.7034194	00 .6349250	00 .2000000	01
.3946415	00 .4159491	02 .4832183-02	.9636546	00 .7021145	00 .2250000	01
.5028077	00 .4127298	02 .9765691-02	.1306535	01 .7518886	00 .2500000	01
.6376536	00 .4076384	02 .1989113-01	.1739904	01 .7719999	00 .2750000	01
.8025469	00 .3995647	02 .4039972-01	.2254895	01 .7496120	00 .3000000	01
.9978567	00 .3869111	02 .8040084-01	.2812166	01 .6750400	00 .3250000	01
.1217680	01 .3677076	02 .1532387	00 .3328929	01 .5473523	00 .3500000	01
.1446417	01 .3401647	02 .2726295	00 .3678027	01 .3800361	00 .3750000	01
.1658472	01 .3037599	02 .4415805	00 .3715336	01 .2025894	00 .4000000	01
.1825505	01 .2603944	02 .6382596	00 .3344550	01 .5329476-01	.4250000	01
.1930900	01 .2145037	02 .8161890	00 .2598493	01-.3724780-01	.4500000	01
.1980493	01 .1713463	02 .9330212	00 .1673692	01-.6336111-01	.4750000	01
.1996462	01 .1345206	02 .9842983	00 .8500394	00-.4750244-01	.5000000	01
.1999638	01 .1049314	02 .9979239	00 .3199705	00-.2222815-01	.5250000	01
.1999982	01 .8173473	01 .9998685	00 .8258505-01	.6576437-02	.5500000	01
.1999999	01 .6365562	01 .9999968	00 .1322384-01	.1153631-02	.5750000	01
.2000000	01 .4957506	01 .1000000	01 .1155614-02	.1072915-03	.6000000	01
.2000000	01 .3860910	01 .1000000	01 .4694546-04	.4544712-05	.6250000	01
.2000000	01 .3006880	01 .1000000	01 .7245033-06	.7212198-07	.6500000	02
.2000000	01 .2341760	01 .1000000	01 .3281379-08	.3329677-09	.6750000	01

•2000000 01 •1023765 01 •1000000 01 •3088923-11- •2493415-12 •7000000 01
•2000000 01 •1420349 01 •1000000 01 •0000000-39 •0000000-39 •7250000 01
•2000000 01 •1106169 01 •1000000 01 •0000000-39 •0000000-39 •7500000 01
•2000000 01 •8614855 00 •1000000 01 •0000000-39 •0000000-39 •7750000 01
•2000000 01 •6709256 00 •1000000 01 •0000000-39 •0000000-39 •8000000 01
•2000000 01 •5225173 00 •1000000 01 •0000000-39 •0000000-39 •8250000 01
•2000000 01 •4069369 00 •1000000 01 •0000000-39 •0000000-39 •8500000 01
•2000000 01 •3169228 00 •1000000 01 •0000000-39 •0000000-39 •8750000 01
•2000000 01 •2468197 00 •1000000 01 •0000000-39 •0000000-39 •9000000 01
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•2000000 01 •1165894-00 •1000000 01 •0000000-39 •0000000-39 •9750000 01
•2000000 01 •9079991-01 •1000000 01 •0000000-39 •0000000-39 •1000000 02
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•2000000 01 •5507293-01 •1000000 01 •0000000-39 •0000000-39 •1050000 02
•2000000 01 •4289084-01 •1000000 01 •0000000-39 •0000000-39 •1075000 02
•2000000 01 •3340342-01 •1000000 01 •0000000-39 •0000000-39 •1100000 02

DESIGNATION .NP BIND. ENERGY V(I) LAMBDA
 2 S 1/2 .2000000 01-.0809031 03 .4222809 02 .8416657 00

ALPHA S .2498985-01-.1988119 01 .5997881 02-.1093796 04 .1419279 05
 -.0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39
 BETA S -.7151404-02 .4380057 00-.1206097 02 .2088892 03-.2621676 04
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39

R TIMES V(I)	.V(I)	.INTEGRAL	F	G	RKD
.7794944-03	.4222809 02	.4400065-08	.2435346-01-	.7143385-02-	.4000000 01
.9931059-03	.4222794 02	.8600719-08	.3004409-01-	.8819500-02-	.3720000 01
.1279166-02	.4222771 02	.1680878-07	.3705998-01-	.1087310-01-	.9900000 01
.1637399-02	.4222737 02	.3284289-07	.4570713-01-	.1341244-01-	.9290000 01
.2102391-02	.4222684 02	.6414395-07	.5636070-01-	.1654236-01-	.9000000 01
.2699420-02	.4222604 02	.1252700-06	.6947969-01-	.2039877-01-	.2790000 01
.3466025-02	.4222483 02	.2444936-06	.8562425-01-	.2514800-01-	.2500000 01
.4450269-02	.4222298 02	.4768996-06	.1054757 00-	.3099314-01-	.2290000 01
.5713879-02	.4222017 02	.9295037-06	.1298592 00-	.3818136-01-	.2000000 01
.7336025-02	.4221591 02	.1809858-05	.1597681 00-	.4701221-01-	.1790000 01
.9418202-02	.4220946 02	.3519531-05	.1963894 00-	.5784675-01-	.1900000 01
.1209041-01	.4219969 02	.6834045-05	.2411269 00-	.7111698-01-	.1290000 01
.1551897-01	.4218494 02	.1373824-04	.2956151 00-	.8733476-01-	.1000000 01
.1991625-01	.4216271 02	.2557834-04	.3617235 00-	.1070985 00-	.7900000 00
.2555272-01	.4212932 02	.4924986-04	.4415238 00-	.1310950 00-	.5000000 00
.3277143-01	.4207936 02	.9440524-04	.5372170 00-	.1600912 00-	.2900000 00
.4200499-01	.4200500 02	.1799240-03	.6509441 00-	.1949105 00	.0000000-39
.5379429-01	.4189504 02	.3403810-03	.7845392 00-	.2363808 00	.2900000 00
.6880743-01	.4173382 02	.6378178-03	.9389799 00-	.2892399 00	.9000000 00
.8785553-01	.4150002 02	.1180541-02	.1113620 01-	.3419787 00	.7900000 00
.1119000 00	.4116572 02	.2150599-02	.1304990 01-	.4065935 00	.1000000 01
.1420442 00	.4069634 02	.3837984-02	.1505090 01-	.4782219 00	.1290000 01
.1795037 00	.4005269 02	.6669055-02	.1699138 01-	.5546431 00	.1900000 01
.2255612 00	.3919667 02	.1114372-01	.1862883 01-	.6316509 00	.1790000 01
.2815421 00	.3810259 02	.1795893-01	.1960011 01-	.7023809 00	.2000000 01
.3489087 00	.3677472 02	.2716574-01	.1940843 01-	.7367942 00	.2290000 01
.4296500 00	.3526783 02	.3806728-01	.1744607 01-	.7817209 00	.2900000 01
.5271402 00	.3369895 02	.4841121-01	.1908755 01-	.7621041 00	.2790000 01
.6473234 00	.3222835 02	.9503478-01-	.5892892 00-	.6842328 00	.9000000 01
.7991159 00	.3098500 02	.5772514-01-	.4062179 00-	.5414978 00	.9290000 01
.9914968 00	.2994062 02	.6748631-01-	.1579207 01-	.3419872 00	.3900000 01
.1224805 01	.2880465 02	.1139651 00-	.2715850 01-	.1146285 00	.3790000 01
.1478955 01	.2708801 02	.2362750 00-	.3514968 01	.9249039-01	.4000000 01
.1711282 01	.2441013 02	.4456464 00-	.3699034 01	.2272009 00	.4290000 01
.1877392 01	.2085595 02	.6891573 00-	.3184185 01	.2606191 00	.4900000 01
.1963484 01	.1698747 02	.8778388 00-	.2192766 01	.2071119 00	.4790000 01
.1993151 01	.1342975 02	.9699146 00-	.1160078 01	.1187590 00	.5000000 01
.1999291 01	.1049132 02	.9959344 00-	.4459420 00	.4777616-01	.5290000 01
.1999965 01	.8173405 01	.9997440 00-	.1192972 00	.1269222-01	.9900000 01
.1999999 01	.6365562 01	.9999940 00-	.1817798-01	.2033011-02	.9790000 01
.2000000 01	.4957906 01	.1000000 01-	.1937059-02	.1739094-03	.6000000 01
.2000000 01	.3860910 01	.1000000 01-	.9992404-04	.6696216-05	.6290000 01
.2000000 01	.3006880 01	.1000000 01-	.8901397-06	.9974409-07	.6900000 01
.2000000 01	.2341760 01	.1000000 01-	.9481296-08	.3905327-09	.6790000 01

•2000000 01 •1623765 01 •1000000 01 •2923389-11 •3264743-12 •7000000 01
•2000000 01 •1420349 01 •1000000 01 •0000000-39 •0000000-39 •7250000 01
•2000000 01 •1106169 01 •1000000 01 •0000000-39 •0000000-39 •7506000 01
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•2000000 01 •4069369 00 •1000000 01 •0000000-39 •0000000-39 •8500000 01
•2000000 01 •3169228 00 •1000000 01 •0000000-39 •0000000-39 •8750000 01
•2000000 01 •2468197 00 •1000000 01 •0000000-39 •0000000-39 •9000000 01
•2000000 01 •1922234 00 •1000000 01 •0000000-39 •0000000-39 •9250000 01
•2000000 01 •1497037 00 •1000000 01 •0000000-39 •0000000-39 •9500000 01
•2000000 01 •1165894-00 •1000000 01 •0000000-39 •0000000-39 •9750000 01
•2000000 01 •9079991-01 •1000000 01 •0000000-39 •0000000-39 •1000000 02
•2000000 01 •7071504-01 •1000000 01 •0000000-39 •0000000-39 •1025000 02
•2000000 01 •5507293-01 •1000000 01 •0000000-39 •0000000-39 •1050000 02
•2000000 01 •4289084-01 •1000000 01 •0000000-39 •0000000-39 •1075000 02
•2000000 01 •3340342-01 •1000000 01 •0000000-39 •0000000-39 •1100000 02

DESIGNATION NP BIND. ENERGY V(0) LAMBDA
 S D 5/2 .6000000 01-.1914408 09 .1291150 02 .2951000 01

ALPHA S .1654000-09-.4019780-08 .5593209-07-.5388027-06 .4027069-09
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39
 BETA S -.1560927-10 .4166764-09-.6016594-08 .5992277-07-.4501461-06
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RKD
.2364823-03	.1291150 02	.7314480-25	.1653344-09-	.1500164-10-	.4000000 01
.3036493-03	.1291150 02	.4106288-24	.3457078-09-	.3136728-10-	.3750000 01
.3098934-03	.1291150 02	.2305747-23	.7228353-09-	.6558387-10-	.3500000 01
.5006330-03	.1291150 02	.1294000-22	.1521296-08-	.1371180-09-	.3250000 01
.6428239-03	.1291150 02	.7262838-22	.3139615-08-	.2886969-09-	.3000000 01
.8254043-03	.1291150 02	.4079872-21	.6609196-08-	.5992288-09-	.2750000 01
.1059840-02	.1291150 02	.2286971-20	.1380686-07-	.1232491-08-	.2500000 01
.1360862-02	.1291150 02	.1282937-19	.2885690-07-	.2617545-08-	.2250000 01
.1747381-02	.1291150 02	.7194958-19	.6030240-07-	.5469390-08-	.2000000 01
.2243682-02	.1291150 02	.4033414-18	.1259882-06-	.1142940-07-	.1750000 01
.2880944-02	.1291150 02	.2260263-17	.2631540-06-	.2386038-07-	.1500000 01
.3699205-02	.1291150 02	.1265801-16	.5494681-06-	.4980976-07-	.1250000 01
.4749873-02	.1291150 02	.7083377-16	.1146794-05-	.1039285-06-	.1000000 01
.6098958-02	.1291150 02	.3959951-15	.2392131-05-	.2167089-06-	.7500000 00
.7831217-02	.1291150 02	.2211024-14	.4986231-05-	.4315044-06-	.5000000 00
.1005548-01	.1291150 02	.1232529-13	.1038387-04-	.9396999-06-	.2500000 00
.1291149-01	.1291150 02	.6856503-13	.2159895-04-	.1953122-05	.0000000-39
.1657869-01	.1291150 02	.3804148-12	.4485877-04-	.4057443-05	.2500000 00
.2128749-01	.1291150 02	.2103476-11	.9298616-04-	.8389596-05	.5000000 00
.2733363-01	.1291150 02	.1158055-10	.1927685-03-	.1731940-04	.7500000 00
.3509708-01	.1291150 02	.6340218-10	.3962912-03-	.3962462-04	.1000000 01
.4506354-01	.1291150 02	.3446590-09	.8134867-03-	.7299924-04	.1250000 01
.5786530-01	.1291150 02	.1854647-08	.1661210-02-	.1484638-03	.1500000 01
.7430051-01	.1291150 02	.9884260-08	.3969850-02-	.2999469-03	.1750000 01
.9540373-01	.1291149 02	.5187270-07	.6778202-02-	.6003141-03	.2000000 01
.1225008 00	.1291149 02	.2671076-04	.1348744-01-	.1187293-02	.2250000 01
.1572937 00	.1291146 02	.1343087-05	.2647175-01-	.2313412-02	.2500000 01
.2019673 00	.1291134 02	.6553095-05	.3105851-01-	.4423797-02	.2750000 01
.2593225 00	.1291091 02	.3078186-04	.4633141-01-	.8261759-02	.3000000 01
.3329372 00	.1290938 02	.1378549-03	.1767505 00-	.1497660-01	.3250000 01
.4273288 00	.1290422 02	.5814506-03	.3131279 00-	.2615007-01	.3500000 01
.5480097 00	.1288796 02	.2279296-02	.5309003 00-	.4356966-01	.3750000 01
.7010861 00	.1284084 02	.8156327-02	.8921941 00-	.6851111-01	.4000000 01
.8915630 00	.1271747 02	.2613494-01	.1277993 01-	.1003610 00	.4250000 01
.1119042 01	.1243144 02	.7333834-01	.1761371 01-	.1347800 00	.4500000 01
.1370536 01	.1185746 02	.1759977 00	.2186722 01-	.1625486 00	.4750000 01
.1615094 01	.1080242 02	.3533346 00	.2988133 01-	.1716819 00	.5000000 01
.1811262 01	.9504633 01	.9051838 00	.2231540 01-	.1544636 00	.5250000 01
.1931633 01	.7094152 01	.6019221 00	.1723937 01-	.1147119 00	.5500000 01
.1983438 01	.6312850 01	.2368692 00	.1053040 01-	.6738158-01	.5750000 01
.1997608 01	.4951577 01	.9881086 00	.4817329 00-	.2957690-01	.6000000 01
.1999019 01	.3860561 01	.9988417 00	.1553534 00-	.9107890-02	.6250000 01
.1999994 01	.3006870 01	.9999501 00	.3289222-01-	.1836943-02	.6500000 01
.2000000 01	.2341760 01	.9999997 00	.4199213-02-	.2217563-03	.6750000 01

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•2000000	01	•1420349	01	•1000000	01	•8156919-05-	•4019209-06	•7250000	01
•2000000	01	•1106169	01	•1000000	01	•8621295-07-	•4115487-08	•7900000	01
•2000000	01	•8614855	00	•1000000	01	•2471701-09-	•1149152-10	•7750000	01
•2000000	01	•6709256	00	•1000000	01	•0000000-39	•0000000-39	•8000000	01
•2000000	01	•5225173	00	•1000000	01	•0000000-39	•0000000-39	•8250000	01
•2000000	01	•4089369	00	•1000000	02	•0000000-39	•0000000-39	•8500000	01
•2000000	01	•3169228	00	•1000000	02	•0000000-39	•0000000-39	•8750000	01
•2000000	01	•2468197	00	•1000000	01	•0000000-39	•0000000-39	•9000000	01
•2000000	01	•1922234	00	•1000000	01	•0000000-39	•0000000-39	•9250000	01
•2000000	01	•1497037	00	•1000000	01	•0000000-39	•0000000-39	•9500000	01
•2000000	01	•1165894	00	•1000000	01	•0000000-39	•0000000-39	•9750000	01
•2000000	01	•9079991-01	•1000000	01	•0000000-39	•0000000-39	•1000000	02	
•2000000	01	•7071504-01	•1000000	01	•0000000-39	•0000000-39	•1025000	02	
•2000000	01	•5507293-01	•1000000	01	•0000000-39	•0000000-39	•1050000	02	
•2000000	01	•4289084-01	•1000000	01	•0000000-39	•0000000-39	•1075000	02	
•2000000	01	•3340342-01	•1000000	01	•0000000-39	•0000000-39	•1100000	02	

DESIGNATION	NP	BIND.	ENERGY	V(O)	LAMBDA
3 D 3/2	.4000000	01-	.1360966	03 .1331907	02 .1925721
ALPHA S	.2856618-07	.1070022-04-	.2687738-03	.3800930-07-	.3699354-01
BETA S	.0000000-39-	.0000000-39	.0000000-39	.0000000-39	.0000000-39
	.2076724-06-	.6105883-05	.9983014-04-	.1105973-02	.9331141-02
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
.2439472-03	.1331907	02 .1657909-18	.2876208-07	.2073606-06-	.4000000
.3132344-03	.1331907	02 .5574629-18	.4663017-07	.3358620-06-	.3750000
.4022010-03	.1331907	02 .1874355-17	.7566558-07	.5434482-06-	.3500000
.5164362-03	.1331907	02 .6301668-17	.1228446-06	.8792879-06-	.3250000
.6631173-03	.1331907	02 .2118466-16	.1996167-06	.1427568-05-	.3000000
.8514594-03	.1331907	02 .7120961-16	.3247322-06	.2301309-05-	.2750000
.1093296-02	.1331907	02 .2393279-15	.5290206-06	.3722422-05-	.2500000
.1403819-02	.1331907	02 .8042082-15	.8633805-06	.6020194-05-	.2250000
.1802540-02	.1331907	02 .2701729-14	.1412268-05	.9734438-05-	.2000000
.2314507-02	.1331907	02 .9073724-14	.2316680-05	.1573631-04-	.1750000
.2971885-02	.1331907	02 .3046243-13	.3813737-05	.2543053-04-	.1500000
.3815976-02	.1331907	02 .1022197-12	.6305656-05	.4107990-04-	.1250000
.4899811-02	.1331907	02 .3427997-12	.1048152-04	.6637449-04-	.1000000
.6291481-02	.1331907	02 .1148722-11	.1753511-04	.1070099-03-	.7500000
.8078422-02	.1331907	02 .3845701-11	.2956002-04	.1725029-03-	.5000000
.1037290-01	.1331907	02 .1285950-10	.5027575-04	.2777692-03-	.2500000
.1331907-01	.1331907	02 .4293855-10	.8637821-04	.4466323-03	.0000000-39
.1710202-01	.1331907	02 .1431264-09	.1500778-03	.7168348-03	.2500000
.2195943-01	.1331907	02 .4761160-09	.2639078-03	.1147801-02	.5000000
.2819646-01	.1331907	02 .1580205-08	.4698805-03	.1832335-02	.7500000
.3620497-01	.1331907	02 .5231894-08	.8469515-03	.2913849-02	.1000000
.4648810-01	.1331907	02 .1728198-07	.1544247-02	.4610886-02	.1250000
.5969188-01	.1331906	02 .5698473-07	.2844820-02	.7250349-02	.1500000
.7664583-01	.1331905	02 .1878079-06	.5277572-02	.1130912-01	.1750000
.9841500-01	.1331903	02 .6201171-06	.9840507-02	.1745918-01	.2000000
.1263667 00	.1331896	02 .2058641-05	.1836735-01	.2660174-01	.2250000
.1622558 00	.1331877	02 .6901888-05	.3416654-01	.3985824-01	.2500000
.2083331 00	.1331830	02 .2346340-04	.6301201-01	.5845926-01	.2750000
.2674793 00	.1331702	02 .8096891-04	.1145168 00	.8344214-01	.3000000
.3433611 00	.1331356	02 .2822029-03	.2036290 00	.1150579 00	.3250000
.4405736 00	.1330417	02 .9802959-03	.3513118 00	.1518516 00	.3500000
.5646412 00	.1327909	02 .3322687-02	.5822918 00	.1895933 00	.3750000
.7214964 00	.1321467	02 .1069761-01	.4164385 00	.2206216 00	.4000000
.9155830 00	.1306009	02 .3175258-01	.1350448 01	.2346163 00	.4250000
.1145363 01	.1272384	02 .8424228-01	.1831594 01	.2219734 00	.4500000
.1396285 01	.1208024	02 .1938143 00	.2239492 01	.1799010 00	.4750000
.1636374 01	.1102580	02 .3766047 00	.2409074 01	.1178309 00	.5000000
.1825131 01	.9577414	01 .6080168 00	.2216208 01	.5541747-01	.5250000
.1938198 01	.7920974	01 .8175380 00	.1685605 01	.1156044-01	.5500000
.1985482 01	.6319357	01 .9436594 00	.1009377 01-	.6927876-02	.5750000
.1997983 01	.4952506	01 .9897974 00	.4519124 00-	.7682702-02	.6000000
.1999855 01	.3860630	01 .9990937 00	.1420331 00-	.3433499-02	.6250000
.1999995 01	.3006872	01 .9999617 00	.2913723-01-	.8495444-03	.6500000
.2000000 01	.2341760	01 .9999995 00	.3541978-02-	.1157545-03	.6750000

•2000000	01	•1823765	01	•1000000	01	•2238787-03-	•7883837-03	•7000000	01
•2000000	01	•1420349	01	•1000000	01	•6209999-05-	•2797903-06	•7250000	01
•2000000	01	•1106169	01	•1000000	01	•6049417-07-	•2320872-08	•7900000	01
•2000000	01	•8614854	00	•1000000	01	•1585699-09-	•6083233-11	•7750000	01
•2000000	01	•6709256	00	•1000000	01	•0000000-39	•0000000-39	•8000000	01
•2000000	01	•5225173	00	•1000000	01	•0000000-39	•0000000-39	•8250000	01
•2000000	01	•4069369	00	•1000000	01	•0000000-39	•0000000-39	•8500000	01
•2000000	01	•3169228	00	•1000000	01	•0000000-39	•0000000-39	•8750000	01
•2000000	01	•2468197	00	•1000000	01	•0000000-39	•0000000-39	•9000000	01
•2000000	01	•1922234	00	•1000000	01	•0000000-39	•0000000-39	•9250000	01
•2000000	01	•1497037	00	•1000000	01	•0000000-39	•0000000-39	•9500000	01
•2000000	01	•1165894	00	•1000000	01	•0000000-39	•0000000-39	•9750000	01
•2000000	01	•9079991-01	•1000000	01	•0000000-39	•0000000-39	•1000000	02	
•2000000	01	•7071504-01	•1000000	01	•0000000-39	•0000000-39	•1025000	02	
•2000000	01	•5507293-01	•1000000	01	•0000000-39	•0000000-39	•1050000	02	
•2000000	01	•4289084-01	•1000000	01	•0000000-39	•0000000-39	•1075000	02	
•2000000	01	•3340342-01	•1000000	01	•0000000-39	•0000000-39	•1100000	02	

DESIGNATION	MP	BIND.	ENERGY	V(0)	LAMBDA
3 P 3/2	.4000000	01-.1639301	03 .1351462	02	.1925721 01

ALPHA S	.2582296-05-	.9592484-04	.1737726-02-	.2079956-01	.1855864 00
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.3552054-06	.1287694-04-	.2312546-03	.2751666-02-	.2440256-01
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R. TIMES V(R)	V(R)	INTEGRAL	F	G	RKO
.2475288-03	.1351461 02	.2562204-16	.2580530-05-	.3549696-06-	.4000000 01
.3178332-03	.1351461 02	.8614142-16	.4175505-05-	.5743700-06-	.3750000 01
.4081060-03	.1351461 02	.2895837-15	.6755908-05-	.9293281-06-	.3500000 01
.5240104-03	.1351461 02	.9733819-15	.1093019-04-	.1503545-05-	.3250000 01
.6728930-03	.1351461 02	.3271354-14	.1768205-04-	.2432347-05-	.3000000 01
.8639603-03	.1351461 02	.1099229-13	.2860138-04-	.3934463-05-	.2750000 01
.1109347-02	.1351461 02	.3692676-13	.4625690-04-	.6363295-05-	.2500000 01
.1424430-02	.1351461 02	.1240099-12	.7479677-04-	.1028958-04-	.2250000 01
.1829004-02	.1351461 02	.4162887-12	.1209156-03-	.1663446-04-	.2000000 01
.2348488-02	.1351461 02	.1396708-11	.1954090-03-	.2688351-04-	.1750000 01
.3015518-02	.1351461 02	.4683005-11	.3156681-03-	.4343015-04-	.1500000 01
.3872001-02	.1351461 02	.1568805-10	.5096717-03-	.7012551-04-	.1250000 01
.4971748-02	.1351461 02	.5249675-10	.8223558-03-	.1131560-03-	.1000000 01
.6383851-02	.1351461 02	.1754197-09	.1325732-02-	.1824379-03-	.7500000 00
.8197026-02	.1351461 02	.5851018-09	.2134877-02-	.2938229-03-	.5000000 00
.1052519-01	.1351461 02	.1947004-08	.3433003-02-	.4725599-03-	.2500000 00
.1351461-01	.1351461 02	.6459458-08	.5510421-02-	.7586802-03	.0000000-39
.1735310-01	.1351461 02	.2134759-07	.8824289-02-	.1215273-02	.2500000 00
.2228179-01	.1351459 02	.7020208-07	.1408865-01-	.1940987-02	.5000000 00
.2861031-01	.1351456 02	.2293984-06	.2240689-01-	.3088508-02	.7500000 00
.3673613-01	.1351447 02	.7435132-06	.3545983-01-	.4890983-02	.1000000 01
.4716994-01	.1351425 02	.2384751-05	.5575924-01-	.7698091-02	.1250000 01
.6056414-01	.1351369 02	.7546907-05	.8696089-01-	.1202178-01	.1500000 01
.7775810-01	.1351233 02	.2347576-04	.1341915 00-	.1858707-01	.1750000 01
.9981940-01	.1350909 02	.7143023-04	.2042566 00-	.2837347-01	.2000000 01
.1280988 00	.1350152 02	.2112723-03	.3054350 00-	.4261367-01	.2250000 01
.1642739 00	.1348442 02	.6025726-03	.4463082 00-	.6268591-01	.2500000 01
.2103527 00	.1344740 02	.1640121-02	.6327170 00-	.8979557-01	.2750000 01
.2685722 00	.1337143 02	.4203408-02	.8617536 00-	.1243094 00	.3000000 01
.3411011 00	.1322593 02	.9967351-02	.1112027 01-	.1646378 00	.3250000 01
.4295424 00	.1297106 02	.2137241-01	.1331487 01-	.2057805 00	.3500000 01
.5346240 00	.1257316 02	.4021410-01	.1428820 01-	.2381875 00	.3750000 01
.6572351 00	.1203768 02	.6389594-01	.1281593 01-	.2483454 00	.4000000 01
.8020450 00	.1144056 02	.8227383-01-	.7783274 00-	.2227973 00	.4250000 01
.9813438 00	.1090175 02	.8673048-01-	.9696110-01-	.1560968 00	.4500000 01
.1208862 01	.1045871 02	.1004530 00-	.1172379 01-	.5983016-01	.4750000 01
.1479191 01	.9939491 01	.1950745 00-	.2079117 01	.3534872-01	.5000000 01
.1727375 01	.9064437 01	.4219083 00-	.2422346 01	.9382693-01	.5250000 01
.1899875 01	.7764357 01	.7071694 00-	.2069998 01	.9969013-01	.5500000 01
.1976030 01	.6291820 01	.9079595 00-	.1297001 01	.6829564-01	.5750000 01
.1997029 01	.4950143 01	.9042803 00-	.5738040 00	.3131375-01	.6000000 01
.1999817 01	.3860557 01	.9987365 00-	.1694326 00	.9297300-02	.6250000 01
.1999999 01	.3006872 01	.9999597 00-	.3099956-01	.1682518-02	.6500000 01
.2000000 01	.2341760 01	.9999996 00-	.3169886-02	.1690566-03	.6750000 01

02000000	01	01823765	01	01000000	01	01572708-03	08278209-05	07000000	01
02000000	01	01420349	01	01000000	01	03143997-05	01614208-06	07250000	01
02000000	01	01106169	01	01000000	01	01992182-07	01005382-08	07500000	01
02000000	01	08614854	00	01000000	01	02948358-10	01464209-11	07750000	01
02000000	01	06709256	00	01000000	01	00000000-39	00000000-39	08000000	01
02000000	01	05225173	00	01000000	01	00000000-39	00000000-39	08250000	01
02000000	01	04069369	00	01000000	01	00000000-39	00000000-39	08500000	01
02000000	01	03169228	00	01000000	01	00000000-39	00000000-39	08750000	01
02000000	01	02468197	00	01000000	01	00000000-39	00000000-39	09000000	01
02000000	01	01922234	00	01000000	01	00000000-39	00000000-39	09250000	01
02000000	01	01497037	00	01000000	01	00000000-39	00000000-39	09500000	01
02000000	01	01165894	00	01000000	01	00000000-39	00000000-39	09750000	01
02000000	01	09079991-01	01	01000000	01	00000000-39	00000000-39	01000000	02
02000000	01	07071504-01	01	01000000	01	00000000-39	00000000-39	01025000	02
02000000	01	05507293-01	01	01000000	01	00000000-39	00000000-39	01050000	02
02000000	01	04289084-01	01	01000000	01	00000000-39	00000000-39	01075000	02
02000000	01	03340342-01	01	01000000	01	00000000-39	00000000-39	01100000	02

DESIGNATION	NP	RIND.	ENERGY	V(O)	LAMBDA
3 P 1/2	02000000	01-	01852101	03 01524563	02 08416657

ALPHA S	08697716-03	02515543	00-	01047100-02	01995681	03-	02473142	04
BETA S	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39
	02966355-02-	01566657	00	03695078	01-	05478041	02	05852792
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39

R TIMES V(P)	V(R)	INTEGRAL	F	G	RKO					
02792334-03	01524563	02 06518019-10	08743755-03	02963487-02-	04000000	01				
03985427-03	01524562	02 01274589-09	01080759-02	03656506-02-	03750000	01				
04603778-03	01524567	07 02492306-09	01336418-02	04511738-02-	09500000	01				
05911366-03	01524562	07 04873060-09	01653441-02	05565212-02-	03250000	01				
07590341-03	01524561	02 09527161-09	02047068-02	06864544-02-	03000000	01				
09746183-03	01524560	02 01862411-08	02536612-02	08465837-02-	02750000	01				
01251433-02	01524558	02 03640192-08	03146711-02	01043845-01-	02500000	01				
01606869-02	01524555	07 07113652-08	03909028-02	01286719-01-	02250000	01				
02063255-02	01524551	02 01389821-07	04864626-02	01585547-01-	02000000	01				
02649261-02	01524545	07 02714541-07	06067305-02	01952897-01-	01750000	01				
03401697-02	01524535	07 05299953-07	07588359-02	02403968-01-	01500000	01				
04367823-02	01524520	07 01034297-04	09523439-02	02957029-01-	01250000	01				
05608314-02	01524498	02 02017280-06	01200255-01	03633861-01-	01000000	01				
07201056-02	01524464	02 03931739-06	01520464-01	04460141-01-	07500000	00				
09246026-02	01524412	02 07656541-06	01937921-01	05465681-01-	05000000	00				
01187152-01	01524334	07 01489523-05	02487779-01	06684358-01-	02500000	00				
01524215-01	01524216	02 02894472-05	03220032-01	08153467-01	00000000-39					
01956901-01	01524036	02 05617740-05	04206206-01	09912114-01	02500000	00				
02512265-01	01523766	02 01089016-04	05548905-01	01199804	00	05000000	00			
03224946-01	01523357	02 02109045-04	07395907-01	01444206	00	07500000	00			
04139239-01	01522741	02 04082866-04	09953133-01	01725891	00	01000000	01			
05311646-01	01521812	02 07909413-04	01351507	00	02043323	00	01250000	01		
06814002-01	01520410	07 01535996-03	01847847	00	02389925	00	01500000	01		
08737111-01	01518283	02 02997595-03	02536295	00	02751335	00	01750000	01		
01119469	00	01515037	02 05895374-03	03480197	00	03102054	00	02000000	01	
01432687	00	01510041	02 01170798-02	04747619	00	03402011	00	02250000	01	
01830143	00	01502274	02 02346299-02	06393009	00	03594318	00	02500000	01	
02330942	00	01490122	02 04715798-02	08418940	00	03606699	00	02750000	01	
02954950	00	01471184	02 09375011-02	01070959	01	03360459	00	03000000	01	
03719795	00	01442321	02 01801886-01	01293567	01	02791545	00	03250000	01	
04637714	00	01400469	07 03243710-01	01445578	01	01885826	00	03500000	01	
05718002	00	01344746	02 05253904-01	01428897	01	07219578-01	03750000	01		
06983692	00	01279475	02 07308375-01	01129260	01-	05003649-01	04000000	01		
08518074	00	01215038	02 08416236-01	04685995	00-	01482742	00	04250000	01	
01045389	01	01161322	02 08640499-01-	05104472	00-	01930730	00	04500000	01	
01287398	01	01113818	02 01191229	00-	01573565	01-	01722095	00	04750000	01
01554863	01	01047658	02 02541454	00-	02332378	01-	01037178	00	05000000	01
01786976	01	09377193	01 05086261	00-	02454259	01-	02887206-01	05250000	01	
01929544	01	07885609	01 07774804	00-	01927435	01	01613855-01	05500000	01	
01985686	01	06320006	01 09390048	00-	01110842	01	02424276-01	05750000	01	
01998437	01	04953633	01 09911734	00-	04485631	00	01988517-01	06000000	01	
01999921	01	03860758	01 09994208	00-	01191100	00	04406571-02	06250000	01	
01999998	01	03006877	01 09999857	00-	01916432-01	07844220-03	06500000	01		
02000000	01	02341760	01 09999999	00-	01671040-02	07277305-04	06750000	01		

02000000	01	01823765	01	01000000	01	06785997-04	03073894-05	07000000	01
02000000	01	01420349	01	01000000	01	01052534-05	04897967-07	07250000	01
02000000	01	01106169	01	01000000	01	04830943-08	02287696-09	07500000	01
02000000	01	08614855	00	01000000	01	00000000-39	00000000-39	07750000	01
02000000	01	06709256	00	01000000	01	00000000-39	00000000-39	08000000	01
02000000	01	05225173	00	01000000	01	00000000-39	00000000-39	08250000	01
02000000	01	04069369	00	01000000	01	00000000-39	00000000-39	08500000	01
02000000	01	03169228	00	01000000	01	00000000-39	00000000-39	08750000	01
02000000	01	02468197	00	01000000	01	00000000-39	00000000-39	09000000	01
02000000	01	01922234	00	01000000	01	00000000-39	00000000-39	09250000	01
02000000	01	01497037	00	01000000	01	00000000-39	00000000-39	09500000	01
02000000	01	01165894	00	01000000	01	00000000-39	00000000-39	09750000	01
02000000	01	09079991-01	01	01000000	01	00000000-39	00000000-39	01000000	02
02000000	01	07071504-01	01	01000000	01	00000000-39	00000000-39	01025000	02
02000000	01	05507293-01	01	01000000	01	00000000-39	00000000-39	01050000	02
02000000	01	04289084-01	01	01000000	01	00000000-39	00000000-39	01075000	02
02000000	01	03340342-01	01	01000000	01	00000000-39	00000000-39	01100000	02

DESIGNATION	NP	SIND.	ENERGY	V(0)	LAMBDA
3 S 1/2	.2000000	01-	.2022109 03	.1541294 02	.8416697 00

ALPHA S	.1150115-01-	.9515059-00	.2771934 02-	.4634479 03	.5385606 04
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.3372277-02	.1995774 00-	.5044597 01	.7823132 02-	.8637791 03
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
.2822978-03	.1541294 02	.9783898-09	.1148373-01-	.3368623-02-	.4000000 01
.3624767-03	.1541290 02	.1912425-08	.1416702-01-	.4156248-02-	.3750000 01
.4654278-03	.1541285 02	.3737505-08	.1747516-01-	.5127579-02-	.3500000 01
.5976182-03	.1541278 02	.7302670-08	.2155239-01-	.6325205-02-	.3250000 01
.7673511-03	.1541266 02	.1426452-07	.2657553-01-	.7801428-02-	.3000000 01
.9852869-03	.1541248 02	.2785300-07	.3276090-01-	.9620400-02-	.2750000 01
.1265111-02	.1541221 02	.5436023-07	.4037243-01-	.1186066-01-	.2500000 01
.1624392-02	.1541180 02	.1060294-06	.4973109-01-	.1461813-01-	.2250000 01
.2085676-02	.1541118 02	.2066483-06	.6122543-01-	.1800961-01-	.2000000 01
.2677896-02	.1541023 02	.4023476-06	.7532310-01-	.2217674-01-	.1750000 01
.3438167-02	.1540880 02	.7823671-06	.9258247-01-	.2729038-01-	.1500000 01
.4414071-02	.1540662 02	.1518797-05	.1136632 00-	.3355520-01-	.1250000 01
.5666573-02	.1540335 02	.2942140-05	.1393334 00-	.4171404-01-	.1000000 01
.7273691-02	.1539841 02	.5683772-05	.1704685 00-	.5055135-01-	.7500000 00
.9335103-02	.1539099 02	.1094156-04	.2080373 00-	.6189441-01-	.5000000 00
.1197787-01	.1537989 02	.2096774-04	.2530613 00-	.7561021-01-	.2500000 00
.1536337-01	.1536338 02	.3994724-04	.3065350 00-	.9209483-01	.0000000-39
.1969562-01	.1533897 02	.7553561-04	.3692805 00-	.1117500 00	.2500000 00
.2523072-01	.1530321 02	.1414481-03	.4417034 00-	.1349402 00	.5000000 00
.3228716-01	.1525138 02	.2615714-03	.5234054 00-	.1619187 00	.7500000 00
.4125631-01	.1517735 02	.4759120-03	.6125995 00-	.1927119 00	.1000000 01
.5261193-01	.1507357 02	.8478292-03	.7052730 00-	.2269448 00	.1250000 01
.6691862-01	.1493157 02	.1469547-02	.7940747 00-	.2635959 00	.1500000 01
.8484167-01	.1474328 02	.2457628-02	.8669847 00-	.3006813 00	.1750000 01
.1071685 00	.1450369 02	.3921997-02	.9060235 00-	.3348932 00	.2000000 01
.1348662 00	.1421479 02	.5886039-02	.8866233 00-	.3612777 00	.2250000 01
.1692159 00	.1389009 02	.8153369-02	.7788811 00-	.3731329 00	.2500000 01
.2120612 00	.1355662 02	.1020409-01	.5526749 00-	.3624404 00	.2750000 01
.2661198 00	.1324933 02	.1140376-01	.1891640 00-	.3212829 00	.3000000 01
.3350733 00	.1299221 02	.1200056-01-	.2995482 00-	.2447017 00	.3250000 01
.4228600 00	.1276927 02	.1495027-01-	.8448016 00-	.1350262 00	.3500000 01
.5318918 00	.1250890 02	.2651455-01-	.1301313 01-	.6464818-02	.3750000 01
.6618217 00	.1212169 02	.5085495-01-	.1457364 01	.1132640 00	.4000000 01
.8130394 00	.1159739 02	.7855241-01-	.1106291 01	.1887709 00	.4250000 01
.9952794 00	.1105656 02	.8970652-01-	.1872229 00	.1925870 00	.4500000 01
.1225861 01	.1060578 02	.6915504-01	.1069321 01	.1253584 00	.4750000 01
.1498430 01	.1009634 02	.1941571 00	.2146238 01	.2494872-01	.5000000 01
.1753171 01	.9199801 01	.4402536 00	.2520780 01-	.5313292-01	.5250000 01
.1917727 01	.7837316 01	.7392987 00	.2073003 01-	.7596768-01	.5500000 01
.1983623 01	.6313440 01	.9290159 00	.1207054 01-	.5462461-01	.5750000 01
.1998307 01	.4953310 01	.9901890 00	.4793602 00-	.2402998-01	.6000000 01
.1999922 01	.3860760 01	.9994112 00	.1221204 00-	.6429177-02	.6250000 01
.1999998 01	.3006877 01	.9999873 00	.1836295-01-	.9867924-03	.6500000 01
.2000000 01	.2341760 01	.9999999 00	.1451995-02-	.7853788-04	.6750000 01

02000000	01	1823765	01	1000000	01	5157421-04-	2788762-05	7000000	01
02000000	01	1420340	01	1000000	01	6892880-06-	3605282-07	7290000	01
02000000	01	1106169	01	1000000	01	2432300-06-	1303569-09	8790000	01
02000000	01	6614894	00	1000000	01	1859257-11-	9746889-13	7790000	01
02000000	01	6709256	00	1000000	01	0000000-39	0000000-39	8000000	01
02000000	01	5223173	00	1000000	01	0000000-39	0000000-39	8290000	01
02000000	01	4069369	00	1000000	01	0000000-39	0000000-39	8500000	01
02000000	01	3169228	00	1000000	01	0000000-39	0000000-39	8790000	01
02000000	04	2460147	00	1000000	01	0000000-39	0000000-39	9000000	01
02000000	01	1922234	00	1000000	01	0000000-39	0000000-39	9290000	01
02000000	01	1497037	00	1000000	01	0000000-39	0000000-39	9500000	01
02000000	01	1165894	00	1000000	01	0000000-39	0000000-39	9790000	01
02000000	01	9079901	-01	1000000	01	0000000-39	0000000-39	1000000	02
02000000	04	7071504	-01	1000000	01	0000000-39	0000000-39	1025000	02
02000000	01	5507293	-01	1000000	01	0000000-39	0000000-39	1050000	02
02000000	01	4289084	-01	1000000	01	0000000-39	0000000-39	1075000	02
02000000	01	3340342	-01	1000000	01	0000000-39	0000000-39	1100000	02

DESTROYED MP BIND. ENERGY V(0) LAMBDA
 4 P 7/2 0000000 01-0292929 01 03992066 01 03963903 01

ALPHA S 01144630-14-02077906-13 02358328-12-01883490-11 01195441-10
 00000000-39 00000000-39 00000000-39 00000000-39 00000000-39
 BETA S -07761766-16 01756140-14-02101791-13 01777212-12-01161943-11
 00000000-39 00000000-39 00000000-39 00000000-39 00000000-39

R.TIMES	V(R)	V(R)	INTEGRAL	F	G	RHO		
07311721-04	03992065	01	02698924-35	01144250-14-07798550-16-04000000	01			
09388496-04	03992065	01	02513778-34	03081759-14-02089529-15-03750000	01			
01203499-03	03992065	01	02341281-33	08299746-14-05627319-15-03500000	01			
01547891-03	02992065	01	02180435-32	02295198-13-01515431-14-03250000	01			
01987592-03	03992065	01	02030477-31	06019327-13-04080813-14-03000000	01			
02592041-03	03992065	01	01890639-30	01620897-12-01098820-13-02750000	01			
03276886-03	03992065	01	01760201-29	04364465-12-02958468-13-02500000	01			
04207605-03	03992065	01	01638485-28	01175076-11-07964466-13-02250000	01			
05402672-03	03992065	01	01524857-27	03163363-11-02143786-12-02000000	01			
06937168-03	03992065	01	01418714-26	08514613-11-05769292-12-01750000	01			
08907900-03	03992065	01	01319490-25	02291369-10-01552232-11-01500000	01			
01143746-02	03992065	01	01226644-24	06164738-10-04174966-11-01250000	01			
01468598-02	03992065	01	01139663-23	01658032-09-01122465-10-01000000	01			
01885714-02	03992065	01	01058052-22	04457480-09-03016241-10-07500000	00			
02421309-02	03992065	01	09813370-22	01197714-08-08099690-10-05000000	00			
03109023-02	03992065	01	09090878-21	03216013-08-02173192-09-02500000	00			
03992064-02	03992065	01	08407653-20	08627791-08-05824381-09	00000000-39			
05125912-02	03992065	01	07760222-19	02312014-07-01558796-08	02500000	00		
06581891-02	03992065	01	07143999-18	06186609-07-04164336-08	05000000	00		
08491199-02	03992065	01	06554798-17	01652381-06-01109946-07	07500000	00		
01089156-01	03992065	01	05988580-16	04402895-06-02949726-07	01000000	01		
01393967-01	03992065	01	05441522-15	01169638-05-07809781-07	01250000	01		
01789119-01	03992065	01	04910158-14	03095188-05-02097969-06	01500000	01		
02297274-01	03992065	01	04391584-13	08150505-05-05390644-06	01750000	01		
02949750-01	03992065	01	03883753-12	02132862-04-01401441-05	02000000	01		
03787569-01	03992065	01	03385867-11	05537184-04-03609232-05	02250000	01		
04863329-01	03992065	01	02898839-10	01423125-03-09186270-05	02500000	01		
06244690-01	03992065	01	02425785-09	03611395-03-02303961-04	02750000	01		
08018274-01	03992065	01	01972409-08	09018951-03-05673125-04	03000000	01		
01029567	03992065	01	01547093-07	02207646-02-01365112-03	03250000	01		
01321490	03992064	01	01160384-06	05270631-02-03191782-03	03500000	01		
01697466	03992059	01	08235939-06	01220129-01-07202610-03	03750000	01		
02179577	03992035	01	05464128-05	02719822-01-01557119-02	04000000	01		
02798546	03991913	01	03340653-04	05790344-01-03197980-02	04250000	01		
03992914	03991368	01	01851464-03	01166059	00-06177622-02	04500000	01	
04610058	03989173	01	09133196-03	02197237	00-01108418-01	04750000	01	
05908919	03981397	01	03934613-02	03630223	00-01822124-01	05000000	01	
07541726	03957936	01	01453427-01	06104383	00-02713361-01	05250000	01	
09531478	03895299	01	04527051-01	08773476	00-03622029-01	05500000	01	
01181292	03759605	01	01165206	00	01119294	01-04258855-01	05750000	01
01418344	03525724	01	02496153	00	01259284	01-04315445-01	06000000	01
01694378	03355092	01	04662015	00	01232993	01-03744193-01	06250000	01
01802256	02709984	01	06642500	00	01072072	01-02821687-01	06500000	01
01910761	02237272	01	04432010	00	06251286	00-01869692-01	06750000	01

01967497	01	01794129	01	09103419	00	05563116	00	01083772	01	07000000	01
01990805	01	01413820	01	09095745	00	05249735	00	09494671	02	07250000	01
01998079	01	01105107	01	09929606	00	01619761	00	02332060	02	07900000	01
01999723	01	08613663	00	09986715	00	06698792	01	08377064	03	07790000	01
01999979	01	06709171	00	09998537	00	02202406	01	02420425	03	08000000	01
01999999	01	05229170	00	09999910	00	05441219	02	05319279	04	08290000	01
02000000	01	04069360	00	09999998	00	09379071	03	08270049	05	08900000	01
02000000	01	03169228	00	01000000	01	01018666	03	08231098	06	08750000	01
02000000	01	02403197	00	01000000	01	06068065	05	04566969	07	09000000	01
02000000	01	01922234	00	01000000	01	01651978	06	01174699	08	09250000	01
02000000	01	01497037	00	01000000	01	01616065	08	01107667	10	09500000	01
02000000	01	01169894	00	01000000	01	00000000	39	00000000	39	09750000	01
02000000	01	09079991	01	01000000	01	00000000	39	00000000	39	01000000	02
02000000	01	07071504	01	01000000	01	00000000	39	00000000	39	01025000	02
02000000	01	05507293	01	01000000	01	00000000	39	00000000	39	01050000	02
02000000	01	04289084	01	01000000	01	00000000	39	00000000	39	01075000	02
02000000	01	03340342	01	01000000	01	00000000	39	00000000	39	01100000	02

DESIGNATION	NP	RIND.	ENERGY	V(I)	LAMDA
A F 5/2	06000000	01-	02700948	01	04057532 01

ALPHA S	01651960-12	06781003-10-	01251960-08	01434055-07-	01150879-06
BETA S	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39
	01820524-11-	03781798-10	04837912-09-	04299751-08	03006477-07
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
07491628-04	04057532 01	08862614-29	01664375-12	01819832-11-	04000000 01
09542399-04	04057532 01	04975840-28	03487955-12	03805267-11-	03750000 01
01225268-03	04057531 01	02793573-27	07313887-12	07956565-11-	03500000 01
01573276-03	04057532 01	01568278-26	01534811-11	01663600-10-	03250000 01
02020126-03	04057532 01	08803490-26	03223893-11	03478167-10-	03000000 01
02593893-03	04057532 01	04941352-25	06780156-11	07271494-10-	02750000 01
03330624-03	04057531 01	02773223-24	01428153-10	01520060-09-	02500000 01
04276607-03	04057532 01	01556170-23	03014146-10	03177248-09-	02250000 01
05491271-03	04057532 01	08730605-23	06377178-10	06640213-09-	02000000 01
07050932-03	04057532 01	04896919-22	01353435-09	01387510-08-	01750000 01
09053576-03	04057531 01	02745761-21	02883483-09	02898626-08-	01500000 01
01162502-02	04057532 01	01538955-20	06172420-09	06053713-08-	01250000 01
01492682-02	04057531 01	08621148-20	01328929-08	01263833-07-	01000000 01
01916642-02	04057532 01	04826369-19	02881146-08	02637240-07-	07500000 00
02461017-02	04057531 01	02699719-18	06297960-08	03499751-07-	05000000 00
03160008-02	04057532 01	01508582-17	01389894-07	01146027-06-	02500000 00
04057531-02	04057531 01	08419042-17	03100782-07	02385659-06	00000000-39
05209973-02	04057532 01	04691075-16	07001067-07	04959757-06	02500000 00
06689737-02	04057531 01	02608874-15	01601158-06	01029472-05	05000000 00
08589793-02	04057532 01	01447606-14	03710852-06	02132095-05	07500000 00
01102951-01	04057532 01	08011548-14	08714510-06	04403956-05	01000000 01
01416217-01	04057532 01	04421211-13	02072224-05	09065182-05	01250000 01
01818459-01	04057531 01	02432811-12	04982759-05	01857774-04	01500000 01
02334948-01	04057532 01	01335316-11	01209164-04	03785881-04	01750000 01
02998132-01	04057531 01	07318911-11	02953729-04	07660109-04	02000000 01
03849678-01	04057532 01	04014599-10	07240736-04	01535890-03	02250000 01
04943084-01	04057531 01	02211640-09	01774829-03	03044328-03	02500000 01
06347046-01	04057532 01	01229574-08	04332169-03	05947216-03	02750000 01
08149767-01	04057531 01	06933368-08	01048090-02	01140758-02	03000000 01
01046451 00	04057531 01	03976609-07	07499983-02	02138560-02	03250000 01
01349669 00	04057520 01	02313686-06	05844025-02	03896451-02	03500000 01
01725302 00	04057521 01	01351095-05	01329759-01	06853619-02	03750000 01
02215311 00	04057484 01	07771965-05	02927628-01	01154529-01	04000000 01
02844402 00	04057323 01	04297516-04	06150088-01	01844880-01	04250000 01
03651601 00	04056652 01	02222764-03	01226560 00	02765019-01	04500000 01
04685897 00	04054097 01	01045923-02	02792353 00	03837901-01	04750000 01
06003858 00	04049369 01	04361440-02	03967724 00	04868733-01	05000000 01
07659410 00	04019291 01	01574915-01	06283725 00	05561478-01	05250000 01
09671584 00	03952557 01	04815161-01	08979043 00	05606865-01	05500000 01
01196001 01	03809158 01	01223480 00	01139095 01	04877694-01	05750000 01
01433955 01	03554421 01	02551265 00	01267971 01	03623734-01	06000000 01
01648039 01	03181464 01	04389052 00	01238830 01	02316011-01	06250000 01
01012374 01	02724795 01	06379092 00	01069444 01	01270901-01	06500000 01
01916916 01	02244479 01	08050161 00	08151238 00	05754652-02	06750000 01

•1970477	01	•1796843	01	•9169099	00	•5431117	00	•1971284-02	•7000000	01
•1991911	01	•1414605	01	•9726472	00	•3129136	00	•3865533-03	•7250000	01
•1998379	01	•1105273	01	•9933998	00	•1527515	00	•6891466-04	•7500000	01
•1999779	01	•8613901	00	•9989102	00	•6158338-01	•1039298-03	•7750000	01	01
•1999981	01	•6709192	00	•9998879	00	•1958364-01	•5107292-04	•8000000	01	01
•1999999	01	•5225171	00	•9999937	00	•4691782-02	•1525133-04	•8250000	01	01
•2000000	01	•4069369	00	•9999999	00	•7541217-03	•2875909-05	•8500000	01	01
•2000000	01	•3169228	00	•1000000	01	•7604217-04	•3219093-06	•8750000	01	01
•2000000	01	•2468197	00	•1000000	01	•4114260-05	•1870979-07	•9000000	01	01
•2000000	01	•1922234	00	•1000000	01	•9894552-07	•4801551-09	•9250000	01	01
•2000000	01	•1497037	00	•1000000	01	•8179517-09	•4298117-11	•9500000	01	01
•2000000	01	•1165894	00	•1000000	01	•0000000-39	•0000000-39	•9750000	01	01
•2000000	01	•9079991-01	•1000000	01	•0000000-39	•0000000-39	•1000000	02	02	02
•2000000	01	•7071504-01	•1000000	01	•0000000-39	•0000000-39	•1025000	02	02	02
•2000000	01	•5507293-01	•1000000	01	•0000000-39	•0000000-39	•1050000	02	02	02
•2000000	01	•4289084-01	•1000000	01	•0000000-39	•0000000-39	•1075000	02	02	02
•2000000	01	•3340342-01	•1000000	01	•0000000-39	•0000000-39	•1100000	02	02	02

DESIGNATION	NP	BIND.	ENERGY	V(0)	LAMBDA
4 D 9/2	.6000000	01-	.1699634 02	.5043307 01	.2951000 01

ALPHA S	.8156415-10-	.1987569-08	.2708320-07-	.2547831-06	.1849092-09
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.7401205-11	.2013218-09-	.2838817-08	.2746781-07-	.2027527-06
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R-TIMES V(I)	V(I)	INTEGRAL	F	G	RHO
.9237137-04	.5043306 01	.1778559-25	.8152776-10-	.7397519-11-	.4000000 01
.1186072-03	.5043306 01	.9984916-25	.1704713-09-	.1546769-10-	.9750000 01
.1522946-03	.5043306 01	.5605336-24	.3564338-09-	.3234053-10-	.9900000 01
.195502-03	.5043306 01	.3146430-23	.7452316-09-	.6761355-10-	.9250000 01
.2510914-03	.5043306 01	.1765995-22	.1558029-08-	.1413570-09-	.9000000 01
.3224077-03	.5043306 01	.9910671-22	.3257067-08-	.2954956-09-	.2750000 01
.4139797-03	.5043306 01	.5560864-21	.6808246-08-	.6176426-09-	.2500000 01
.5315605-03	.5043306 01	.3119508-20	.1422949-07-	.1290811-08-	.2250000 01
.6825372-03	.5043306 01	.1749474-19	.2973537-07-	.2697179-08-	.2000000 01
.8763951-03	.5043306 01	.9807801-19	.6212516-07-	.5634515-08-	.1750000 01
.1125314-02	.5043306 01	.5495839-18	.1297616-06-	.1176724-07-	.1500000 01
.1444931-02	.5043306 01	.3077778-17	.2709423-06-	.2456557-07-	.1250000 01
.1855328-02	.5043306 01	.1722298-16	.5654790-06-	.5125861-07-	.1000000 01
.2382289-02	.5043306 01	.9628362-16	.1179542-05-	.1068893-06-	.7500000 00
.3058919-02	.5043306 01	.5375875-15	.2458649-05-	.2227163-06-	.5000000 00
.3927730-02	.5043306 01	.2996701-14	.5120091-05-	.4635759-06-	.2500000 00
.5042305-02	.5043306 01	.1667005-13	.1064985-04-	.9636392-06	.0000000-39
.6475732-02	.5043306 01	.9248582-13	.2211810-04-	.1999727-05	.2500000 00
.8315004-02	.5043306 01	.5113672-12	.4584634-04-	.4140784-05	.5000000 00
.1067668-01	.5043306 01	.2815099-11	.9479278-04-	.8550404-05	.7500000 00
.1370912-01	.5043306 01	.1541083-10	.1953684-03-	.1759333-04	.1000000 01
.1760286-01	.5043306 01	.8376273-10	.4010070-03-	.3603650-04	.1250000 01
.2260252-01	.5043306 01	.4511319-09	.8187860-03-	.7338985-04	.1500000 01
.2902222-01	.5043306 01	.2401505-08	.1660638-02-	.1483740-03	.1750000 01
.3726526-01	.5043306 01	.1259485-07	.3339314-02-	.2972139-03	.2000000 01
.4784953-01	.5043304 01	.6481261-07	.6641819-02-	.5884697-03	.2250000 01
.6143992-01	.5043297 01	.3255667-06	.1302728-01-	.1148190-02	.2500000 01
.7888998-01	.5043269 01	.1585991-05	.2510082-01-	.2199328-02	.2750000 01
.1012946 00	.5043165 01	.7431405-05	.4727862-01-	.4115853-02	.3000000 01
.1300554 00	.5042796 01	.3314889-04	.8651256-01-	.7479192-02	.3250000 01
.1669535 00	.5041559 01	.1389627-03	.1525752 00-	.1309497-01	.3500000 01
.2142083 00	.5037697 01	.5387747-03	.2567206 00-	.2188015-01	.3750000 01
.2744466 00	.5026667 01	.1893986-02	.4066628 00-	.3448704-01	.4000000 01
.3504197 00	.4998471 01	.5889048-02	.5955723 00-	.5054770-01	.4250000 01
.4442986 00	.4935713 01	.1569627-01	.7853282 00-	.6759512-01	.4500000 01
.5569123 00	.4818237 01	.3445963-01	.8927203 00-	.8024782-01	.4750000 01
.6887934 00	.4641055 01	.5933489-01	.8001122 00-	.8115441-01	.5000000 01
.8492792 00	.4435620 01	.7654526-01	.4126293 00-	.6493085-01	.5250000 01
.1040907 01	.4253952 01	.7907435-01-	.2477403 00-	.3317064-01	.5500000 01
.1286502 01	.4094654 01	.1101815 00-	.9762417 00	.3516067-02	.5750000 01
.1557018 01	.3859464 01	.2534897 00-	.1457132 01	.2977675-01	.6000000 01
.1787395 01	.3450486 01	.5159520 00-	.1490402 01	.3679498-01	.6250000 01
.1926999 01	.2897128 01	.7790485 00-	.1145218 01	.2885779-01	.6500000 01
.1983502 01	.2322443 01	.9347695 00-	.6694381 00	.1634931-01	.6750000 01

•1997769	•81	•1821731	•01	•9886909	•00-	•2910905	•00	•6754947-	•02	•7000000	•01
•1999839	•81	•1420235	•01	•9989582	•00-	•9022268-	•01	•1977973-	•02	•7250000	•01
•1999999	•01	•1106166	•01	•9999563	•00-	•1871027-	•01	•3855288-	•03	•7500000	•01
•2000000	•01	•8614854	•00	•9999993	•00-	•2373625-	•02	•4626479-	•04	•7750000	•01
•2000000	•01	•6709255	•00	•1000000	•01-	•1624192-	•03	•3015530-	•05	•8000000	•01
•2000000	•01	•5225173	•00	•1000000	•01-	•5093962-	•05	•9069915-	•07	•8250000	•01
•2000000	•01	•4069369	•00	•1000000	•01-	•5927831-	•07	•1018999-	•08	•8500000	•01
•2000000	•01	•3169228	•00	•1000000	•01	•0000000-	•39	•0000000-	•39	•8750000	•01
•2000000	•01	•2468197	•00	•1000000	•01	•0000000-	•39	•0000000-	•39	•9000000	•01
•2000000	•01	•1922234	•00	•1000000	•01	•0000000-	•39	•0000000-	•39	•9250000	•01
•2000000	•01	•1497037	•00	•1000000	•01	•0000000-	•39	•0000000-	•39	•9500000	•01
•2000000	•01	•1165894	•00	•1000000	•01	•0000000-	•39	•0000000-	•39	•9750000	•01
•2000000	•01	•9079091-	•01	•1000000	•01	•0000000-	•39	•0000000-	•39	•1000000	•02
•2000000	•01	•7071504-	•01	•1000000	•01	•0000000-	•39	•0000000-	•39	•1025000	•02
•2000000	•01	•5507293-	•01	•1000000	•01	•0000000-	•39	•0000000-	•39	•1050000	•02
•2000000	•01	•4280094-	•01	•1000000	•01	•0000000-	•39	•0000000-	•39	•1075000	•02
•2000000	•01	•3340342-	•01	•1000000	•01	•0000000-	•39	•0000000-	•39	•1100000	•02

DESIGNATION NP RIND. ENERGY V(I) LAMBDA
 4 D 3/2 04000000 01-01791156 02 05191199 01 01925721 01

ALPHA S 01413931-07 05303494-05-01337909-03 01851763-02-01758735-01

00000000-39 00000000-39 00000000-39 00000000-39 00000000-39

BETA S 01027909-06-03032567-05 04853547-04-05247378-03 04307444-02

00000000-39 00000000-39 00000000-39 00000000-39 00000000-39

R. TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
09508012-04	05191199 01	04061733-19	01423640-07	01027394-06-04000000	01
01220853-03	05191199 01	01365735-18	02308461-07	01662401-06-09790000	01
01567606-03	05191199 01	04591997-18	03745251-07	02689879-06-03500000	01
02012846-03	05191199 01	01543849-17	06080514-07	04352164-06-03250000	01
02584546-03	05191199 01	03190033-17	00880604-07	07041200-06-03000000	01
03318622-03	05191199 01	01744562-16	01607367-06	01139064-05-02750000	01
04261195-03	05191199 01	05863270-16	02618581-06	01842459-05-02500000	01
05471483-03	05191199 01	01970214-15	04273665-06	02979763-05-02250000	01
07025523-03	05191199 01	06618885-15	06990709-06	04818155-05-02000000	01
09020951-03	05191199 01	02222931-14	01146773-05	07788807-05-01750000	01
01158313-02	05191199 01	07462728-14	01887867-05	01258697-04-01500000	01
01487303-02	05191199 01	02504191-13	03121491-05	02033257-04-01250000	01
01909735-02	05191199 01	08397848-13	0518828-05	03282714-04-01000000	01
02452149-02	05191199 01	02814073-12	08680989-05	05296367-04-07500000	00
03148621-02	05191199 01	09420777-12	01463470-04	08537758-04-05000000	00
04042909-02	05191199 01	03150092-11	02489189-04	01374747-03-02500000	00
05191198-02	05191199 01	01051794-10	04276863-04	02210432-03 00000000-39	
06665630-02	05191199 01	03505759-10	07431215-04	03547566-03 02500000	00
08558839-02	05191199 01	01166131-09	01306822-03	05680106-03 05000000	00
01098977-01	05191199 01	03869995-09	02326848-03	09067036-03 07500000	00
01411114-01	05191199 01	01281165-08	04194184-03	01441738-02 01000000	01
01811906-01	05191199 01	04231258-08	07647173-03	02281105-02 01250000	01
02326533-01	05191198 01	01394880-07	01408188-02	03586208-02 01500000	01
02987326-01	05191195 01	04595724-07	02612976-02	05592181-02 01750000	01
03835798-01	05191189 01	01516747-06	04870950-02	08629998-02 02000000	01
04925246-01	05191172 01	05031794-06	09087920-02	01313994-01 02250000	01
06324086-01	05191127 01	01685229-05	01689379-01	01966799-01 02500000	01
08120105-01	05191011 01	05719788-05	03112260-01	02880010-01 02750000	01
01042589 00	05190700 01	01968749-04	05646162-01	04100048-01 03000000	01
01338482 00	05189861 01	06833246-04	01001071 00	05629034-01 03250000	01
01717896 00	05187597 01	02357574-03	01718607 00	07374448-01 03500000	01
02203272 00	05181601 01	07901450-03	02825764 00	09088885-01 03750000	01
02820777 00	05166434 01	02496523-02	04384940 00	01032969 00 04000000	01
03597077 00	05130956 01	07178458-02	06900373 00	01049646 00 04250000	01
04552183 00	05057022 01	01803881-01	08150979 00	09022037-01 04500000	01
05693999 00	04925494 01	03779344-01	09067039 00	05744109-01 04750000	01
07027724 00	04735245 01	06254443-01	07069172 00	01264686-01 05000000	01
08618158 00	04522396 01	07806856-01	05676957 00	02938743-01 05250000	01
01061591 01	04338238 01	08037062-01	02149940 00	05431103-01 05500000	01
01910836 01	04172169 01	01180916 00	03041085 01	05934660-01 05750000	01
01980974 01	03917893 01	02794169 00	01994359 01	03328592-01 06000000	01
01804194 01	03602798 01	05418220 00	03059217 01	01403229-01 06250000	01
01999007 01	02909286 01	07900007 00	01326797 01	01075039-02 06500000	01
01980971 01	02329334 01	09631246 00	06990099 00	02240929-02 06750000	01

01998207	01	01822130	01	09906571	00	02683052	00	01880333	02	07000000	01
01999880	01	01420264	01	09992009	00	08017142	01	07480766	03	07280000	01
01999996	01	01106167	01	09999694	00	01989293	01	01734823	03	07500000	01
02000000	01	08614854	00	09999994	00	01902863	02	02290477	04	07750000	01
02000000	01	06709255	00	01000000	01	01210326	03	01558063	05	08000000	01
02000000	01	05225173	00	01000000	01	09457862	04	04646917	07	08250000	01
02000000	01	04069369	00	01000000	01	04566658	07	04959006	09	08500000	01
02000000	01	03169228	00	01000000	01	00000000	39	00000000	39	08750000	01
02000000	01	02468197	00	01000000	01	00000000	39	00000000	39	09000000	01
02000000	01	01922234	00	01000000	01	00000000	39	00000000	39	09250000	01
02000000	01	01497037	00	01000000	01	00000000	39	00000000	39	09500000	01
02000000	01	01165894	00	01000000	01	00000000	39	00000000	39	09750000	01
02000000	01	09079991	01	01000000	01	00000000	39	00000000	39	10000000	02
02000000	01	07071804	01	01000000	01	00000000	39	00000000	39	10250000	02
02000000	01	05507293	01	01000000	01	00000000	39	00000000	39	10500000	02
02000000	01	04289084	01	01000000	01	00000000	39	00000000	39	10750000	02
02000000	01	03340342	01	01000000	01	00000000	39	00000000	39	11000000	02

DESIGNATION	NP	RIND	ENERGY	V(I)	LAMBDA
4 P 3/2	04000000	01	02940530	02 05632310	01 01925721

ALPHA S	01260248-05	04696073-04	08365368-03	09761281-02	08449214-01
	00000000-99	00000000-39	00000000-39	00000000-39	00000000-39
BETA S	01733523-06	06182164-05	01082583-03	01249217-02	01079111-01
	00000000-99	00000000-39	00000000-39	00000000-39	00000000-39

R. TIMES	V(I)	V(I)	INTEGRAL	F	G	RHO
01021594-03	05632310	01	06102570-17	01259388-05	01732391-06	04000000 01
01324592-03	05632310	01	02051684-16	02037783-05	02803160-06	03750000 01
01700810-03	05632310	01	06897188-16	03297101-05	04535518-06	03500000 01
02189034-03	05632310	01	02318358-15	05334287-05	07337980-06	03250000 01
02804167-03	05632310	01	07791553-15	08629392-05	01187103-05	03000000 01
03600615-03	05632310	01	02618083-14	01395834-04	01920224-05	02750000 01
04623281-03	05632310	01	08794986-14	02257477-04	03105654-05	02500000 01
05936411-03	05632310	01	02953579-13	03650292-04	05021974-05	02250000 01
07622502-03	05632310	01	09914814-13	05900998-04	08118827-05	02000000 01
09787486-03	05632310	01	03326538-12	09536428-04	01312141-04	01750000 01
01256738-02	05632310	01	01115341-11	01540527-03	02119817-04	01500000 01
01613684-02	05632310	01	03736348-11	02487286-03	03422940-04	01250000 01
02072011-02	05632310	01	01250271-10	04013197-03	05523589-04	01000000 01
02660515-02	05632310	01	04177747-10	06469651-03	08906059-04	07500000 00
03416168-02	05632310	01	01393425-09	01041814-02	01434466-03	05000000 00
04386447-02	05632310	01	04636652-09	01675257-02	02307305-03	02500000 00
05632909-02	05632309	01	01538205-08	02688925-02	03704781-03	00000000-39
07232026-02	05632308	01	05083239-08	04305815-02	05935381-03	02500000 00
09286100-02	05632305	01	01671499-07	06874171-02	09481749-03	05000000 00
01192357-01	05632297	01	05461317-07	01093197-01	01509143-02	07500000 00
01531011-01	05632276	01	01769813-06	01729839-01	02390698-02	01000000 01
01965839-01	05632223	01	05675254-06	02719679-01	03764416-02	01250000 01
02524128-01	05632091	01	01795448-05	04240589-01	05881897-02	01500000 01
03240858-01	05631768	01	05582402-05	06541560-01	09100234-02	01750000 01
04160775-01	05630997	01	01697394-04	09952058-01	01390326-01	02000000 01
05340835-01	05629200	01	05015198-04	01487026 00	02090235-01	02250000 01
06852828-01	05625145	01	01428084-03	02170201 00	03078514-01	02500000 01
08785499-01	05616383	01	03877232-03	03070523 00	04415954-01	02750000 01
01124480 00	05598460	01	09896863-03	04168223 00	06122146-01	03000000 01
01435056 00	05564316	01	02331547-02	05348182 00	08118594-01	03250000 01
01823010 00	05505016	01	04946229-02	06337702 00	01015232 00	03500000 01
02301972 00	05413721	01	09143932-02	06663857 00	01173078 00	03750000 01
02890217 00	05293619	01	01411901-01	05702970 00	01213928 00	04000000 01
03620488 00	05164236	01	01745551-01	02926298 00	01063654 00	04250000 01
04547317 00	05051614	01	01805152-01	01598799 00	06881141-01	04500000 01
05727693 00	04955427	01	02329043-01	06617129 00	01479869-01	04750000 01
07168065 00	04829806	01	04703184-01	09576401 00	03771020-01	05000000 01
08838769 00	04638162	01	08219276-01	07739769 00	06572420-01	05250000 01
01083280 01	04427119	01	09500654-01	04441341-01	05666201-01	05500000 01
01334509 01	04247452	01	01153437 00	09198092 00	02029957-01	05750000 01
01614584 01	04002155	01	02706674 00	01570315 01	01600361-01	06000000 01
01840368 01	03552748	01	05741636 00	01575268 01	03066269-01	06250000 01
01957376 01	02942797	01	08444348 00	01092298 01	02489426-01	06500000 01
01993413 01	02334047	01	09679829 00	05343228 00	01275424-01	06750000 01

01999480	01	01823290	01	09966997	00	01790101	00	04290027	02	07000000	01
01999982	01	01420337	01	09998528	00	03872867	01	09157961	03	07250000	01
02000000	01	01106169	01	09999977	00	04961991	02	01143921	03	07500000	01
02000000	01	08614854	00	01000000	01	03329637	03	07488000	05	07750000	01
02000000	01	06709255	00	01000000	01	09920994	05	02180436	06	08000000	01
02000000	01	09275173	00	01000000	01	01057670	06	02277444	08	08250000	01
02000000	01	04069369	00	01000000	01	03059090	09	04472646	11	08500000	01
02000000	01	03169228	00	01000000	01	00000000	39	00000000	39	08750000	01
02000000	01	02468197	00	01000000	01	00000000	39	00000000	39	09000000	01
02000000	01	01922234	00	01000000	01	00000000	39	00000000	39	09250000	01
02000000	01	01497037	00	01000000	01	00000000	39	00000000	39	09500000	01
02000000	01	01165894	00	01000000	01	00000000	39	00000000	39	09750000	01
02000000	01	09079991	01	01000000	01	00000000	39	00000000	39	10000000	02
02000000	01	07071504	01	01000000	01	00000000	39	00000000	39	10250000	02
02000000	01	05507293	01	01000000	01	00000000	39	00000000	39	10500000	02
02000000	01	04289084	01	01000000	01	00000000	39	00000000	39	10750000	02
02000000	01	03340342	01	01000000	01	00000000	39	00000000	39	11000000	02

DESIGNATION NP BIND. ENERGY V(O) LAMBDA
 A P 1/2 .2000000 01-.3439004 02 .6251468 01 .8416657 00

ALPHA S .4277954-03 .1239187 00-.5190825 01 .9721952 02-.1171790 04
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39
 BETA S .1458996-02-.7744209-01 .1795005 01-.2588570 02 .2673844 03
 .0000000-39 .0000000-39 .0000000-39 .0000000-39 .0000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RKD
.1144996-03	.6251468 01	.1576794-10	.4900634-03	.1457578-02-	.4000000 01
.1470204-03	.6251468 01	.3083392-10	.5315749-03	.1798434-02-	.5750000 01
.1887700-03	.6251467 01	.6029192-10	.6573234-03	.2218826-02-	.3500000 01
.2423956-03	.6251466 01	.1178850-09	.8132556-03	.2737210-02-	.9250000 01
.3112421-03	.6251464 01	.2304723-09	.1006868-02	.3376267-02-	.3000000 01
.3996425-03	.6251461 01	.4505353-09	.1247663-02	.4163834-02-	.2750000 01
.5131508-03	.6251457 01	.8805930-09	.1547758-02	.5134017-02-	.2500000 01
.6588980-03	.6251451 01	.1720840-08	.1922734-02	.6928521-02-	.2250000 01
.8460404-03	.6251441 01	.3362040-08	.2392793-02	.7798198-02-	.2000000 01
.1086335-02	.6251425 01	.6566519-08	.2984406-02	.9604835-02-	.1750000 01
.1394876-02	.6251402 01	.1282048-07	.3732654-02	.1182315-01-	.1500000 01
.1791046-02	.6251366 01	.2501895-07	.4684608-02	.1454295-01-	.1750000 01
.2299729-02	.6251312 01	.4879563-07	.5904242-02	.1787126-01-	.1000000 01
.2952872-02	.6251230 01	.9510061-07	.7479635-02	.2193422-01-	.7500000 00
.3791487-02	.6251106 01	.1851880-06	.9533556-02	.2687823-01-	.5000000 00
.4868218-02	.6250916 01	.3602497-06	.1223902-01	.3286951-01-	.2500000 00
.6250629-02	.6250630 01	.6999951-06	.1584203-01	.4009085-01	.0000000-39
.8025410-02	.6250197 01	.1358461-05	.2069451-01	.4873354-01	.2500000 00
.1030375-01	.6249542 01	.2633095-05	.2730112-01	.5898153-01	.5000000 00
.1322819-01	.6248555 01	.5098570-05	.3638400-01	.7098347-01	.7500000 00
.1698128-01	.6247066 01	.9868113-05	.4896810-01	.8480717-01	.1000000 01
.2179656-01	.6244821 01	.1911115-04	.6648537-01	.1003693 00	.1250000 01
.2797216-01	.6241433 01	.3709870-04	.9088358-01	.1173335 00	.1500000 01
.3588740-01	.6236297 01	.7235957-04	.1246996 00	.1349718 00	.1750000 01
.4692248-01	.6228466 01	.1421917-03	.1710069 00	.1519954 00	.2000000 01
.5897976-01	.6216473 01	.2820473-03	.2330610 00	.1669784 00	.2250000 01
.7550378-01	.6197729 01	.5641448-03	.3133462 00	.1792399 00	.2500000 01
.9649242-01	.6168555 01	.1130464-02	.4115944 00	.1749079 00	.2750000 01
.1229891 00	.6123266 01	.2236519-02	.5213463 00	.1813718 00	.3000000 01
.1561522 00	.6054678 01	.4264936-02	.6250335 00	.1313675 00	.9250000 01
.1972433 00	.5956234 01	.7579549-02	.6889206 00	.8423829-01	.3500000 01
.2477840 00	.5827327 01	.1202288-01	.6619963 00	.7429695-01	.3750000 01
.3101296 00	.5680223 01	.1619360-01	.4865041 00-	.3742353-01	.4000000 01
.3883926 00	.5540124 01	.1796819-01	.1290166 00-	.8399958-01	.4250000 01
.4883788 00	.5425400 01	.1886068-01-	.9673103 00-	.9605459-01	.4500000 01
.6143000 00	.5314738 01	.2947632-01-	.8347628 00-	.7105136-01	.4750000 01
.7646236 00	.5151995 01	.5977208-01-	.1000160 01-	.1601311-01	.5000000 01
.9384004 00	.4924316 01	.9123439-01-	.6910304 00	.3806549-01	.5250000 01
.1150617 01	.4702312 01	.9722850-01	.2374116 00	.6348270-01	.5500000 01
.1415063 01	.4503836 01	.1423388 00	.1195797 01	.5134718-01	.5750000 01
.1689703 01	.4185884 01	.3483630 00	.1696626 01	.2091094-01	.6000000 01
.1889203 01	.3639300 01	.6635053 00	.1524660 01-	.1787743-02	.6250000 01
.1973571 01	.2967145 01	.8947971 00	.9571182 00-	.8182640-02	.6500000 01
.1996605 01	.2337789 01	.9821016 00	.4210463 00-	.5466972-02	.6750000 01

•1999787 01 •1823570 01 •9985396 00 •1247675 00 •1967167-02 •7000000 01
•1999994 01 •1420345 01 •9999513 00 •2926809-01 •4078238-03 •7250000 01
•2000000 01 •1106169 01 •9999999 00 •2478629-02 •4624961-04 •7500000 01
•2000000 01 •8614853 00 •1000000 01 •1518405-03 •2559809-05 •7790000 01
•2000000 01 •6709255 00 •1000000 01 •2924155-05 •3829384-07 •8000000 01
•2000000 01 •5225173 00 •1000000 01 •2140136-07 •4343556-09 •8250000 01
•2000000 01 •4049369 00 •1000000 01 •3764062-10 •7864979-12 •8500000 01
•2000000 01 •3169228 00 •1000000 01 •0000000-39 •0000000-39 •8750000 01
•2000000 01 •2468197 00 •1000000 01 •0000000-39 •0000000-39 •9000000 01
•2000000 01 •1922234 00 •1000000 01 •0000000-39 •0000000-39 •9250000 01
•2000000 01 •1497037 00 •1000000 01 •0000000-39 •0000000-39 •9500000 01
•2000000 01 •1165894 00 •1000000 01 •0000000-39 •0000000-39 •9790000 01
•2000000 01 •9079991-01 •1000000 01 •0000000-39 •0000000-39 •1000000 02
•2000000 01 •7071504-01 •1000000 01 •0000000-39 •0000000-39 •1025000 02
•2000000 01 •5507293-01 •1000000 01 •0000000-39 •0000000-39 •1050000 02
•2000000 01 •4289084-01 •1000000 01 •0000000-39 •0000000-39 •1075000 02
•2000000 01 •3340342-01 •1000000 01 •0000000-39 •0000000-39 •1100000 02

DESIGNATION	NP	RIND.	ENERGY	V(I)	LAMBDA
4 5 1/2	.2000000	01-	.4147069 02	.6478856 01	.8417657 00

ALPHA S	.5731608-02-	.4758086 00	.1374763 02-	.2246763 03	.2520912 04
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.1680578-02	.9865114-01-	.5436015 01	.3664962 02-	.3900357 03
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
.1186644-02	.6478856 01	.2429853-09	.5722898-02-	.1678772-02-	.4000000 01
.1523679-03	.6478848 01	.4749543-09	.7060103-02-	.2071294-02-	.3750000 01
.1956439-03	.6478835 01	.9282143-09	.8708688-02-	.2355372-02-	.3500000 01
.2512110-03	.6478816 01	.1813623-08	.1074054-01-	.3152231-02-	.3250000 01
.3225598-03	.6478787 01	.3542588-08	.1324375-01-	.3887943-02-	.3000000 01
.4141722-03	.6478743 01	.6917253-08	.1632613-01-	.4794484-02-	.2750000 01
.5318021-03	.6478676 01	.1350021-07	.2011917-01-	.5911005-02-	.2500000 01
.6828367-03	.6478574 01	.2633189-07	.2478279-01-	.7285328-02-	.2250000 01
.8767387-03	.6478419 01	.5131960-07	.3051057-01-	.8975688-02-	.2000000 01
.1125740-02	.6478185 01	.9991879-07	.3753545-01-	.1105272-01-	.1750000 01
.1445399-02	.6477828 01	.1942894-06	.4613557-01-	.1360164-01-	.1500000 01
.1855774-02	.6477289 01	.3771628-06	.5663943-01-	.1672455-01-	.1250000 01
.2382562-02	.6476475 01	.7306008-06	.6942936-01-	.2034265-01-	.1000000 01
.3058691-02	.6475248 01	.1411350-05	.8494112-01-	.2519795-01-	.7500000 00
.3926319-02	.6473406 01	.2716810-05	.1036564 00-	.3085395-01-	.5000000 00
.5039347-02	.6470651 01	.5205997-05	.1260828 00-	.3769416-01-	.2500000 00
.6466550-02	.6466551 01	.9917502-05	.1527132 00-	.4591685-01	.0000000-39
.8295435-02	.6460492 01	.1875072-04	.1839533 00-	.5572358-01	.2500000 00
.1063691-01	.6451615 01	.3510723-04	.2199983 00-	.6729776-01	.5000000 00
.1363084-01	.6438753 01	.6490805-04	.2606391 00-	.8076825-01	.7500000 00
.1745242-01	.6420387 01	.1180615-03	.3049675 00-	.9615134-01	.1000000 01
.2231951-01	.6394647 01	.2102385-03	.3509559 00-	.1132635 00	.1250000 01
.2850104-01	.6359443 01	.3641932-03	.3948969 00-	.1315985 00	.1500000 01
.3632764-01	.6312799 01	.6085524-03	.4307332 00-	.1501666 00	.1750000 01
.4629751-01	.6253508 01	.9699492-03	.4494074 00-	.1673099 00	.2000000 01
.5865436-01	.6182126 01	.1453005-02	.4385484 00-	.1805314 00	.2250000 01
.7433843-01	.6102072 01	.2007321-02	.3831227 00-	.1864295 00	.2500000 01
.9417045-01	.6020117 01	.2503056-02	.2680775 00-	.1808946 00	.2750000 01
.1194061 00	.5944881 01	.2787253-02	.8431556-01-	.1598056 00	.3000000 01
.1516996 00	.5882033 01	.2938807-02-	.1610035 00-	.1204795 00	.3250000 01
.1929662 00	.5827076 01	.3716474-02-	.4308867 00-	.6394776-01	.3500000 01
.2450053 00	.5761973 01	.6637610-02-	.6477248 00	.2485182-02	.3750000 01
.3093480 00	.5665907 01	.1246549-01-	.6990336 00	.6401577-01	.4000000 01
.3883910 00	.5540101 01	.1841183-01-	.4785060 00	.1009457 00	.4250000 01
.4875668 00	.5416379 01	.2014988-01	.2928930-01	.9692270-01	.4500000 01
.6140065 00	.5312199 01	.2442094-01	.6537797 00	.5110879-01	.4750000 01
.7686847 00	.5179358 01	.5077640-01	.1031199 01-	.1394699-01	.5000000 01
.9469118 00	.4968939 01	.9056463-01	.7932347 00-	.6099662-01	.5250000 01
.1159757 01	.4739663 01	.1019408 00-	.9820241-01-	.6383085-01	.5500000 01
.1425856 01	.4538190 01	.1402362 00-	.1170167 01-	.2910780-01	.5750000 01
.1703257 01	.4221954 01	.3518550 00-	.1741118 01	.9472943-02	.6000000 01
.1897544 01	.3663124 01	.6816402 00-	.1544152 01	.2495319-01	.6250000 01
.1978942 01	.2975220 01	.9102605 00-	.9234617 00	.1934006-01	.6500000 01
.1997720 01	.2339091 01	.9870529 00-	.3744736 00	.8694835-02	.6750000 01

•1999887	01	•1823662	01	•9991663	00-	•9862602-01	•2393234-02	•7000000	01
•1999998	01	•1420348	01	•9999799	00-	•1564928-01	•3897316-03	•7250000	01
•2000000	01	•1106160	01	•9999999	00-	•1343649-02	•3318075-04	•7500000	01
•2000000	01	•8614854	00	•9999999	00-	•5382047-04	•1323806-05	•7750000	01
•2000000	01	•6709255	00	•1000000	01-	•8250326-06	•2016831-07	•8000000	01
•2000000	01	•5225173	00	•9999999	00-	•3745846-08	•9095122-10	•8250000	01
•2000000	01	•4069360	00	•1000000	01-	•3642897-11	•8788340-13	•8500000	01
•2000000	01	•3169228	00	•1000000	01	•0000000-39	•0000000-39	•8750000	01
•2000000	01	•2468197	00	•1000000	01	•0000000-39	•0000000-39	•9000000	01
•2000000	01	•1922234	00	•1000000	01	•0000000-39	•0000000-39	•9250000	01
•2000000	01	•1497037	00	•1000000	01	•0000000-39	•0000000-39	•9500000	01
•2000000	01	•1165894	00	•1000000	01	•0000000-39	•0000000-39	•9750000	01
•2000000	01	•9079991-01	•1000000	01	•0000000-39	•0000000-39	•1000000	02	
•2000000	01	•7071504-01	•1000000	01	•0000000-39	•0000000-39	•1025000	02	
•2000000	01	•5507293-01	•1000000	01	•0000000-39	•0000000-39	•1050000	02	
•2000000	01	•4289084-01	•1000000	01	•0000000-39	•0000000-39	•1075000	02	
•2000000	01	•3340342-01	•1000000	01	•0000000-39	•0000000-39	•1100000	02	

DESIGNATION	NP	BIND.	ENERGY	V(I)	LAMBDA
5 D 3/2	04000000	01-	04110821	00	01121710 01
ALPHA S	02928800-08	01098746-05-	02773253-04	03828232-03-	03624599-02
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39
BETA S	02129205-07-	06284263-06	01003140-04-	01081172-03	08839955-03
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39

R. TIMES	V(LR)	V(R)	INTEGRAL	F	G	RHO
02054482-04	01121700	01	01742758-20	02948924-08	02128055-07-	04000000 01
02638007-04	01121709	01	05859922-20	04781742-08	03443488-07-	03750000 01
03387268-04	01121709	01	01970276-19	07757907-08	05571799-07-	03500000 01
04349338-04	01121709	01	06624152-19	01259518-07	09015047-07-	03250000 01
05584661-04	01121709	01	02226873-18	02046670-07	01498510-06-	03000000 01
07170846-04	01121709	01	07485340-18	03929909-07	02359449-06-	02750000 01
09207590-04	01121709	01	02515736-17	05424143-07	03816457-06-	02500000 01
01182273-03	01121709	01	08453535-17	08852502-07	06172258-06-	02250000 01
01518068-03	01121709	01	02839947-16	01448063-06	09980284-06-	02000000 01
01949238-03	01121709	01	09537849-16	02375444-06	01613366-05-	01750000 01
02502871-03	01121709	01	03202032-15	03910567-06	02607252-05-	01500000 01
03213750-03	01121709	01	01074462-14	06465941-06	04211663-05-	01250000 01
04126537-03	01121709	01	03603221-14	01074832-05	06799764-05-	01000000 01
05298578-03	01121709	01	01207417-13	01798219-05	01097080-04-	07500000 00
06803510-03	01121709	01	04042105-13	03031511-05	01768493-04-	05000000 00
08735879-03	01121709	01	01351583-12	05156272-05	02847614-04-	02500000 00
01121709-02	01121709	01	04512821-12	08859434-05	04578615-04	00000000-39
01440303-02	01121709	01	01504170-11	01539370-04	07348276-04	02500000 00
01849386-02	01121709	01	05003323-11	02707087-04	01176546-03	05000000 00
02374658-02	01121709	01	01660417-10	04820098-04	01878080-03	07500000 00
03049121-02	01121709	01	05496744-10	08688331-04	02986278-03	01000000 01
03915149-02	01121709	01	01815355-09	01584124-03	04724784-03	01250000 01
05027151-02	01121709	01	05984351-09	02917062-03	07427827-03	01500000 01
06454989-02	01121709	01	01971593-08	05412694-03	01158224-02	01750000 01
08288368-02	01121709	01	06506566-08	01008972-02	01787224-02	02000000 01
01064247-01	01121708	01	02158367-07	01882383-02	02721117-02	02250000 01
01366518-01	01121706	01	07227803-07	03498927-02	04072487-02	02500000 01
01754636-01	01121701	01	02452683-06	06445042-02	05962220-02	02750000 01
02252970-01	01121688	01	08439472-06	01168986-01	08485234-02	03000000 01
02892778-01	01121652	01	02927731-05	02071890-01	01164334-01	03250000 01
03714080-01	01121555	01	01009270-04	03555270-01	01523978-01	03500000 01
04767882-01	01121299	01	03377929-04	05839109-01	01875278-01	03750000 01
06118546-01	01120651	01	01064825-03	09045183-01	02125025-01	04000000 01
07845782-01	01119141	01	03049870-03	01295552 00	02146861-01	04250000 01
01004600 00	01116011	01	07613100-03	01666100 00	01821755-01	04500000 01
01283553 00	01110491	01	01576823-02	01830376 00	01117438-01	04750000 01
01636443 00	01102627	01	02559673-02	01539188 00	01712811-02	05000000 01
02084848 00	01094028	01	03112507-02	06160620-01-	07076499-02	05250000 01
02659111 00	01086718	01	03219327-02-	08252600-01-	01168091-01	05500000 01
03392595 00	01079789	01	05111372-02-	02231715 00-	01034028-01	05750000 01
04312281 00	01068908	01	01128190-01-	02786886 00-	04667676-02	06000000 01
05452335 00	01052549	01	01836211-01-	01951864 00	01597129-02	06250000 01
06869025 00	01035724	01	02022279-01	01392289-01	05669381-02	06500000 01
08723640 00	01021434	01	02564146-01	02784396 00	06855800-02	06750000 01
01097030 01	01000362	01	06658832-01	05105560 00	05945576-02	07000000 01

01944637	01	09549270	00	01760806	00	06403330	00	04202940-02	07250000	01
01960284	01	08740305	00	03560563	00	06799919	00	02499042-02	07500000	01
01769191	01	07620491	00	05691028	00	06020021	00	01211351-02	07750000	01
01894082	01	06353941	00	07604753	00	04706374	00	04301403-03	08000000	01
01260885	01	05122982	00	00928251	00	03219767	00	06388780-04	08250000	01
01988957	01	04046890	00	09630697	00	01912593	00	05568660-04	08500000	01
01997793	01	03165731	00	09908782	00	09611569-01	00	06372710-04	08750000	01
01999720	01	02467857	00	09985917	00	03881834-01	00	03770451-04	09000000	01
01999981	01	01922215	00	09998728	00	01168049-01	00	01440357-04	09250000	01
01999999	01	01497037	00	09999949	00	02772079-02	00	03446147-05	09500000	01
02000000	01	01165894	00	01000000	01	02869962-03	00	04688876-06	09750000	01
02000000	01	09079990-01	00	01000000	01	01767457-04	00	03147382-07	01000000	02
02000000	01	07071504-01	00	01000000	01	04538158-06	00	08617224-09	01025000	02
02000000	01	05507293-01	00	01000000	01	03747804-08	00	07548328-11	01050000	02
02000000	01	04289084-01	00	01000000	01	00000000-39	00	00000000-39	01075000	02
02000000	01	03340342-01	00	01000000	01	00000000-39	00	00000000-39	01100000	02

DESIGNATION	NP	BIND.	ENERGY	V(I)	LAMBDA
5 P 3/2	.4000000	01	.3058133	01	.1964575 01

ALPHA S	.4617388-06-	.1721540-04	.3057381-03-	.3550686-02	.3054269-01
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39
BETA S	-.6351407-07	.2258368-05-	.3936151-04	.4515961-03-	.3854335-02
	.0000000-39	.0000000-39	.0000000-39	.0000000-39	.0000000-39

R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO	
.3598244-04	.1964574	01	.8192063-18	.4614236-06-	.6347272-07-	.4000000 01
.4620236-04	.1964574	01	.2754171-17	.7466173-06-	.1027045-06-	.3750000 01
.5932501-04	.1964574	01	.9258751-17	.1208015-05-	.1661761-06-	.3500000 01
.7617481-04	.1964574	01	.3112152-16	.1954411-05-	.2688553-06-	.3250000 01
.9781040-04	.1964574	01	.1045934-15	.3161696-05-	.4349417-06-	.3000000 01
.1255910-03	.1964574	01	.3514498-15	.5114152-05-	.7035503-06-	.2750000 01
.1612621-03	.1964574	01	.1180633-14	.8271077-05-	.1137882-05-	.2500000 01
.2070646-03	.1964574	01	.3964861-14	.1337417-04-	.1840008-05-	.2250000 01
.2658762-03	.1964574	01	.1330955-13	.2162044-04-	.2974677-05-	.2000000 01
.3413910-03	.1964574	01	.4465509-13	.3494013-04-	.4807604-05-	.1750000 01
.4983558-03	.1964574	01	.1497220-12	.5644267-04-	.7766923-05-	.1500000 01
.5628599-03	.1964574	01	.5015614-12	.9113041-04-	.1254160-04-	.1250000 01
.7227265-03	.1964574	01	.1678340-11	.1470373-03-	.2023851-04-	.1000000 01
.9279991-03	.1964574	01	.5608101-11	.2370373-03-	.3263229-04-	.7500000 00
.1191575-02	.1964574	01	.1870492-10	.3817022-03-	.5256035-04-	.5000000 00
.1530012-02	.1964574	01	.6224063-10	.6137819-03-	.8454360-04-	.2500000 00
.1964574-02	.1964574	01	.2064810-09	.9851649-03-	.1357527-03	.0000000-39
.2522563-02	.1964574	01	.6823416-09	.1577547-02-	.2174939-03	.2500000 00
.3239034-02	.1964574	01	.2243680-08	.2518506-02-	.3474587-03	.5000000 00
.4158999-02	.1964573	01	.7330668-08	.4005113-02-	.5530517-03	.7500000 00
.5340254-02	.1964570	01	.2375535-07	.6337435-02-	.8761659-03	.1000000 01
.6856996-02	.1964563	01	.7617316-07	.9963533-02-	.1379725-02	.1250000 01
.8804479-02	.1964545	01	.2409709-06	.1553475-01-	.2156026-02	.1500000 01
.1130493-01	.1964592	01	.7491637-06	.2396256-01-	.3336118-02	.1750000 01
.1451505-01	.1964298	01	.2277637-05	.3645234-01-	.5097649-02	.2000000 01
.1863540-01	.1964157	01	.6728343-05	.5445907-01-	.7665293-02	.2250000 01
.2392170-01	.1963613	01	.1915350-04	.7946134-01-	.1129185-01	.2500000 01
.3069769-01	.1962438	01	.5197794-04	.1123863 00-	.1620141-01	.2750000 01
.3936838-01	.1960037	01	.1325809-03	.1524734 00-	.2246674-01	.3000000 01
.5043210-01	.1955465	01	.3119748-03	.1954351 00-	.2979939-01	.3250000 01
.6449359-01	.1947538	01	.6605658-03	.2311605 00-	.3726607-01	.3500000 01
.8229378-01	.1935365	01	.1217308-02	.2421523 00-	.4304362-01	.3750000 01
.1047965 00	.1919415	01	.1870074-02	.2054167 00-	.4447527-01	.4000000 01
.1333640 00	.1902336	01	.2295932-02	.1017461 00-	.3878750-01	.4250000 01
.1699120 00	.1887552	01	.2370736-02-	.6528354-01-	.2468354-01	.4500000 01
.2166984 00	.1874809	01	.3120063-02-	.2467744 00-	.4440146-02	.4750000 01
.2757402 00	.1857924	01	.6295188-02-	.3445749 00	.1508571-01	.5000000 01
.3492584 00	.1832741	01	.1057227-01-	.2557974 00	.2495392-01	.5250000 01
.4419695 00	.1806229	01	.1174561-01	.3420869-01	.2009603-01	.5500000 01
.5602552 00	.1783170	01	.1577303-01	.3766429 00	.4384772-02	.5750000 01
.7056712 00	.1749185	01	.3609184-01	.5140768 00-	.1066590-01	.6000000 01
.8790044 00	.1696878	01	.5739711-01	.2845127 00-	.1541042-01	.6250000 01
.1094908 01	.1646129	01	.6083200-01-	.2246255 00-	.9899017-02	.6500000 01
.1362230 01	.1595008	01	.1131340 00-	.7379987 00-	.8014503-03	.6750000 01
.1638617 01	.1494226	01	.3104585 00-	.9925975 00	.5529344-02	.7000000 01

•1847949 01	•1312367 01	•6076460 00-	•9140510 00	•6958102-02	•7250000 01
•1956055 01	•1081864 01	•8500184 00-	•6275754 00	•5151674-02	•7500000 01
•1991990 01	•8560354 00	•9849189 00-	•3234927 00	•2670614-02	•7750000 01
•1999168 01	•6706465 00	•9952833 00-	•1217931 00	•9831617-03	•8000000 01
•1999957 01	•5225060 00	•9996880 00-	•3186718-01	•2484740-03	•8250000 01
•1999999 01	•4069367 00	•9999913 00-	•5383411-02	•4043362-04	•8500000 01
•2000000 01	•3169228 00	•1000000 01-	•5280964-03	•3833667-05	•8750000 01
•2000000 01	•2468197 00	•1000000 01-	•2596906-04	•1832913-06	•9000000 01
•2000000 01	•1922234 00	•1000000 01-	•5266973-06	•3635644-08	•9250000 01
•2000000 01	•1497037 00	•1000000 01-	•3423784-08	•2322454-10	•9500000 01
•2000000 01	•1145894 00	•1000000 01	•0000000-39	•0000000-39	•9750000 01
•2000000 01	•9079991-01	•1000000 01	•0000000-39	•0000000-39	•1000000 02
•2000000 01	•7071504-01	•1000000 01	•0000000-39	•0000000-39	•1025000 02
•2000000 01	•5507293-01	•1000000 01	•0000000-39	•0000000-39	•1050000 02
•2000000 01	•4289084-01	•1000000 01	•0000000-39	•0000000-39	•1075000 02
•2000000 01	•3340342-01	•1000000 01	•0000000-39	•0000000-39	•1100000 02

DESIGNATION	NP	BIND.	ENERGY	V101	LAMBDA
5 P 1/2	02000000	01	03784704	01	02182771 01
					08416657 00

ALPHA S	01606478-03	04654806-01	01952147	01	03644215	02	04368816	03
	00000000-39	00000000-39	00000000-39		00000000-39		00000000-39	
BETA S	05478890-03	02910857-01	06724910	00	09645718	01	09097489	02
	00000000-39	00000000-39	00000000-39		00000000-39		00000000-39	

R TIMES VLDJ	V(R)	INTEGRAL	F	G	RHO	
03997884-04	02182771	01	02223574-11	01614997-03	05474860-03	04000000 01
05133384-04	02182770	01	04348157-11	01996199-03	06753557-03	03750000 01
06591396-04	02182771	01	08502281-11	02468418-03	08332727-03	03500000 01
08463519-04	02182770	01	01662396-10	03053985-03	01027888-02	03250000 01
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•1725269 01	•1973242 01	•4100699 00	•1090047 01	•3023006-02	•7000000 01
•1099279 01	•1948820 01	•7086106 00	•8682524 00	•8147150-03	•7250000 01
•1975601 01	•1092675 01	•9070687 00	•5344110 00	•1645433-02	•7500000 01
•1996440 01	•8599520 00	•9624580 00	•2435922 00	•1066203-02	•7750000 01
•1999721 01	•6708318 00	•9982404 00	•7922781-01	•4112080-03	•8000000 01
•1999990 01	•5225146 00	•9999184 00	•1731421-01	•9874579-04	•8250000 01
•2000000 01	•4069369 00	•9999986 00	•2333231-02	•1408523-04	•8500000 01
•2000000 01	•3169228 00	•1000000 01	•1718575-03	•1077640-05	•8750000 01
•2000000 01	•2468197 00	•1000000 01	•5868252-05	•3783475-07	•9000000 01
•2000000 01	•1922234 00	•1000000 01	•7477784-07	•4925084-09	•9250000 01
•2000000 01	•1497037 00	•1000000 01	•2693159-09	•1803256-11	•9500000 01
•2000000 01	•1165894 00	•1000000 01	•0000000-39	•0000000-39	•9750000 01
•2000000 01	•9072991-01	•1000000 01	•0000000-39	•0000000-39	•1000000 02
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•2000000 01	•5507293-01	•1000000 01	•0000000-39	•0000000-39	•1050000 02
•2000000 01	•4289084-01	•1000000 01	•0000000-39	•0000000-39	•1075000 02
•2000000 01	•3340342-01	•1000000 01	•0000000-39	•0000000-39	•1100000 02

DESIGNATION	NP	RIND	ENERGY	V(0)	LAMBDA
5 S 1/2	02000000	01	09889075	01 02459958	01 08416697
ALPHA S	02365492-02	01965104	00 05668074	01-0218284	02 01027261
BETA S	06935912-03	04064494-01	09996481	00 01492544	02-01575596

R TIMES V(R)	V(R)	INTEGRAL	F	G	RHO
04504471-04	02459358	01 04138752-10	02361895-02	06928471-03	04000000 01
05783852-04	02459956	01 08089861-10	02913771-02	08548456-03	03750000 01
07426607-04	02459355	01 01581020-09	03594156-02	01054631-02	03500000 01
09535939-04	02459351	01 03089127-09	04432716-02	01300962-02	03250000 01
01224497-03	02459947	01 06034054-09	05465813-02	01604601-02	03000000 01
01572203-03	02459339	01 01178207-08	06737931-02	01978744-02	02750000 01
02018739-03	02459328	01 02299471-08	08303342-02	02439551-02	02500000 01
02592094-03	02459310	01 04485067-08	01022804-01	03006759-02	02250000 01
03328279-03	02459284	01 08741164-08	01259191-01	03704406-02	02000000 01
04273525-03	02459244	01 01701892-07	01549110-01	04561646-02	01750000 01
05487179-03	02459183	01 03309272-07	01904036-01	05613656-02	01500000 01
07045414-03	02459091	01 06424069-07	02337525-01	06902586-02	01250000 01
09045982-03	02458953	01 01244397-06	02865354-01	08478465-02	01000000 01
01161428-02	02458744	01 02403882-06	03505502-01	01039993-01	07500000 00
01491113-02	02458430	01 04627329-06	04277838-01	01273449-01	05000000 00
01914262-02	02457961	01 08866849-06	05203299-01	01555793-01	02500000 00
02457263-02	02457263	01 01689118-05	06302208-01	01895217-01	00000000-39
03153863-02	02456231	01 03193489-05	07591265-01	02300049-01	02500000 00
04047147-02	02454719	01 05979022-05	09078477-01	02777876-01	05000000 00
05192002-02	02452529	01 01105384-04	01075511	00-03334037-01	07500000 00
06658161-02	02449401	01 02010466-04	01258355	00-03969232-01	01000000 01
08533950-02	02445018	01 03579839-04	01447986	00-04675915-01	01250000 01
01093095-01	02439024	01 06200551-04	01629066	00-05433214-01	01500000 01
01398992-01	02431084	01 01035905-03	01776538	00-06200280-01	01750000 01
01788884-01	02420992	01 01650663-03	01852938	00-06908596-01	02000000 01
02285449-01	02408846	01 02471783-03	01807102	00-07454866-01	02250000 01
02917989-01	02395232	01 03412858-03	01576871	00-07698161-01	02500000 01
03724983-01	02381303	01 04252497-03	01100095	00-07467893-01	02750000 01
04757310-01	02368526	01 04731852-03	03394884-01	06592441-01	03000000 01
06080989-01	02357856	01 04991425-03	06744017-01	04959266-01	03250000 01
07777191-01	02348509	01 06331954-03	01786479	00-02609912-01	03500000 01
09938894-01	02337404	01 01132315-02	02671960	00 01519106-02	03750000 01
01267249	00 02321049	01 02116937-02	02860858	00 02705928-01	04000000 01
01612268	00 02299777	01 03098183-02	01912667	00 04220097-01	04250000 01
02051536	00 02279051	01 03366737-02	02204672-01	03995910-01	04500000 01
02613944	00 02261505	01 04169123-02	02781863	00 01993307-01	04750000 01
03322496	00 02238681	01 08686235-02	04181833	00-08064060-02	05000000 01
04199202	00 02203540	01 01471262-01	02856837	00-02742765-01	05250000 01
05303127	00 02167268	01 01596347-01	01147220	00-02605400-01	05500000 01
06703648	00 02133625	01 02516103-01	05233760	00-07019008-02	05750000 01
08385962	00 02078673	01 05631800-01	05719679	00 01279098-01	06000000 01
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01289384	01 01938512	01 08823937-01	05613496	00 01133576-01	06500000 01
01576255	01 01845606	01 02284708	00 01053701	01 03175579-03	06750000 01
01816574	01 01656502	01 05304064	00 01098659	01-05961966-02	07000000 01

•1947646	01	•1383169	01	•8174609	00	•7887433	00	•6131890	-02	•7250000	01
•1991055	01	•1101222	01	•9586867	00	•4043463	00	•3556930	-02	•7500000	01
•1999183	01	•8611337	00	•9950980	00	•1452069	00	•1329628	-02	•7750000	01
•1999965	01	•6709139	00	•9997339	00	•3463669	-01	•3243383	-03	•8000000	01
•1999999	01	•5225172	00	•9999945	00	•5060297	-02	•4733495	-04	•8250000	01
•2000000	01	•4069349	00	•1000000	01	•4045557	-03	•3754774	-05	•8500000	01
•2000000	01	•3169228	00	•1000000	01	•1517156	-04	•1395223	-06	•8750000	01
•2000000	01	•2468197	00	•1000000	01	•2171478	-06	•1980798	-08	•9000000	01
•2000000	01	•1922234	00	•1000000	01	•9072399	-09	•8221019	-11	•9250000	01
•2000000	01	•1497037	00	•1000000	01	•7891598	-12	•7119113	-14	•9500000	01
•2000000	01	•1165894	00	•1000000	01	•0000000	-39	•0000000	-39	•9750000	01
•2000000	01	•9079991	-01	•1000000	01	•0000000	-39	•0000000	-39	•1000000	02
•2000000	01	•7071504	-01	•1000000	01	•0000000	-39	•0000000	-39	•1025000	02
•2000000	01	•5507293	-01	•1000000	01	•0000000	-39	•0000000	-39	•1050000	02
•2000000	01	•4289084	-01	•1000000	01	•0000000	-39	•0000000	-39	•1075000	02
•2000000	01	•3340342	-01	•1000000	01	•0000000	-39	•0000000	-39	•1100000	02

DESIGNATION	NP	BIND	ENERGY	V101	LAMBDA
G S 1/2	02000000	01-04926901	00	07094635 00	08416657 00

ALPHA S	06418341-03-	05332395-01	01537752 01-	02499512 02	02703167 03
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39
BETA S	-01881936-03	01102011-01-	02710314 00	04043477 01-	04264438 02
	00000000-39	00000000-39	00000000-39	00000000-39	00000000-39
R-TIMES V(R)	-V(R)	-INTEGRAL	F	G	RHO
01299428-04	07094635 00	09048997-11	06408580-08-	01879918-03-	04000000 01
01668498-04	07094634 00	05955848-11	07905997-03-	02919472-03-	03790000 01
02142393-04	07094632 00	01163965-10	09752100-03-	02861999-03-	03500000 01
02790807-04	07094630 00	02274250-10	01202738-02-	03529931-03-	03250000 01
03932207-04	07094627 00	04442338-10	01483051-02-	04353801-03-	03000000 01
04935499-04	07094621 00	08674094-10	01828217-02-	05368973-03-	02750000 01
05823613-04	07094613 00	01692896-09	02252963-02-	06619292-03-	02500000 01
07477654-04	07094601 00	03301955-09	02775194-02-	08158315-03-	02250000 01
09601471-04	07094581 00	06435238-09	03416588-02-	01005126-02-	02000000 01
01232848-03	07094552 00	01252951-08	04203228-02-	01237724-02-	01750000 01
01582999-03	07094508 00	02436320-08	05166253-02-	01523170-02-	01500000 01
02032591-03	07094440 00	04729463-04	06342443-02-	01872900-02-	01250000 01
02609861-03	07094338 00	09161367-08	07774607-02-	02300490-02-	01000000 01
03351055-03	07094185 00	01769759-07	09511522-02-	02821850-02-	07500000 00
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09106737-03	07092335 00	02351057-06	02059733-01-	06240862-02-	02500000 00
01169145-02	07091222 00	04401759-06	02463249-01-	07537407-02-	05000000 00
01500870-02	07089610 00	08137801-06	02918154-01-	09046520-02-	07500000 00
01926529-02	07087307 00	01480088-05	03414235-01-	01077011-01-	01000000 01
02472587-02	07084081 00	02635422-05	03928712-01-	01268771-01-	01250000 01
03172886-02	07079668 00	04564684-05	04419956-01-	01474269-01-	01500000 01
04070703-02	07073823 00	07625905-05	04819962-01-	01682422-01-	01750000 01
05221397-02	07066394 00	01215114-04	05027049-01-	01874636-01-	02000000 01
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01100800-01	07037180 00	03129806-04	02982934-01-	02026349-01-	02750000 01
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02978545-01	07004868 00	08337700-04-	07249449-01	04277940-03	03750000 01
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02153836 00	06855192 00	01863493-02-	01427583 00-	01729627-02	05750000 01
02749267 00	06814754 00	04098729-02-	01497775 00	03730169-02	06000000 01
03502614 00	06761638 00	05231783-02-	01944606-01	05208295-02	06250000 01
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02000000 01	07071503-01	09999999 00	03603988-06	09025300-09	01025000 02
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