

TABLES OF RELATIVE STRENGTHS OF SPECTRAL LINES WITH MIXED VECTOR COUPLINGS: DIPOLE TRANSITIONS BETWEEN LS AND OTHER COUPLINGS

A. Góngora-T.

Instituto de Física
Universidad Nacional Autónoma de México

and

Vladimir Escalante

Instituto de Astronomía
Universidad Nacional Autónoma de México

Received 1990 September 28

RESUMEN

Se presentan tablas de intensidades de oscilador de transiciones dipolares del tipo $(2S_p+1)L_p nl - (2S_p+1)L_p ml'$ para $0 \leq S_p \leq 2$, $0 \leq L_p \leq 2$, $1 \leq l \leq 4$, para cualquier n y m , en que uno de los estados se describe en el esquema de acoplamiento LS y el otro se describe en el esquema de acoplamiento LK, jK ó jj. Nuestros resultados son útiles en la interpretación e identificación de líneas espectrales entre estados con números cuánticos similares.

ABSTRACT

Tables are presented for the relative strength of dipole transitions of the type $(2S_p+1)L_p nl - (2S_p+1)L_p ml'$ for $0 \leq S_p \leq 2$, $0 \leq L_p \leq 2$, $1 \leq l \leq 4$, and for any n and m , in which one of the states is described with the LS coupling scheme, and the other is described with the LK, jK, or jj coupling scheme. Our results are useful in the interpretation and identification of spectral lines between states with similar quantum numbers.

Key words: ATOMIC AND MOLECULAR DATA – TRANSITION PROBABILITIES

I. INTRODUCTION

The identification and measurement of permitted transitions of complex atoms and ions is important in the determination of elemental abundances and the study of atomic processes in astrophysical objects and the laboratory. Relative strengths of lines are useful in the identification of such transitions. Relative strengths are needed to relate transition probabilities of individual fine structure components to the total transition probability of a multiplet.

Relative strengths of lines in which the two terms involved in the transition can be described with LS coupling have been tabulated extensively (Condon and Shortley 1935; Russell 1936; Shore and Menzel 1965; Allen 1973). There are many configurations, however, that cannot be described with the LS coupling scheme, and a different coupling is nec-

essary. The inappropriate assignment of the LS coupling scheme to these terms has led in some cases to report intercombination transitions that have strengths comparable to LS permitted transitions. Transitions between terms in couplings other than LS have been discussed by several authors (Vizbaraitė, Chiulis and Yutis 1960; Levinson and Nikitin 1962; Warner 1968; Escalante and Góngora-T. 1990).

We present tables of relative strengths for transitions not involving equivalent electrons in which one of the states is described in LS coupling, and the other is described in LK, jK, or jj coupling. The tables cover the configurations appearing in singly excited states of the first row of the periodic table (configurations $s^p p^q$ for $0 \leq p \leq 2$, $0 \leq q \leq 6$). A detailed discussion as well as the selection rules and formulae used for each type of transition have been given by Escalante and Góngora-T. (1990). Some

examples of the use of these tables in astrophysical situations have also been described by Escalante and Góngora-T. (1990).

II. TABLES

We consider transitions between two terms of the type

$$(2S_p+1)L_p nl (2S+1)L_J - (2S_p+1)L_p ml' T'U'J', \quad (1)$$

where S_p and L_p are the total spin and orbital angular momentum, respectively, of the atomic core or parent term described in LS coupling. The left term in transition (1) is described in LS coupling with total spin S , total angular momentum L , and total angular momentum J so that the vector sum $\mathbf{L} + \mathbf{S} = \mathbf{J}$. The other term in transition (1) is described in a different coupling scheme by intermediate quantum numbers T' and U' so that J' is the total angular momentum. If we represent the two levels in the transition with i and i' , the Einstein coefficient of radiative decay for transition (1) is

$$A(i - i') = \frac{64\pi^4 e^2 \nu_{i,i'}^3}{3hc^3} \frac{S(i - i')}{g_i}, \quad (2)$$

where g_i is the statistical weight of the initial state. The relative strength s is related to the line strength S of equation (2) by

$$S(i - i') = s(lSLJ - l'T'U'J') P(nl - ml')^2, \quad (3)$$

where $P(nl - ml')$ is the reduced dipole matrix element.

Tables 1 to 11 give the relative strengths $s(lSLJ - l'T'U'J')$. Tables 1a to 11a are for transitions between terms in LS coupling and terms in LK coupling, Tables 1b to 11b are for transitions between terms in LS coupling and terms in jK coupling, and Tables 1c to 11c are for transitions between terms in LS coupling and terms in jj coupling.

The notation that we use for terms in couplings other than LS is:

for LK coupling, $ml [K]_J$, where $\mathbf{J} = \mathbf{K} + \mathbf{s}_e$, and $\mathbf{K} = \mathbf{L} + \mathbf{S}_p$;

for jK coupling, $ml (J_p)[K]_J$, where $\mathbf{J} = \mathbf{K} + \mathbf{s}_e$, $\mathbf{K} = \mathbf{J}_p + 1$, and $\mathbf{J}_p = \mathbf{L}_p + \mathbf{S}_p$;

for jj coupling, $ml (J_p)(j)_J$, where $\mathbf{J} = \mathbf{J}_p + \mathbf{j}$, $\mathbf{j} = 1 + \mathbf{s}_e$, and $\mathbf{J}_p = \mathbf{L}_p + \mathbf{S}_p$.

In all cases the electron spin $s_e = 1/2$.

Similarly to Allen's tables (Allen 1973, p. 61) we call the line strengths between two terms $x_1, x_2, \dots, y_1, y_2, \dots$, and $z_1, z_2, \dots$. If we write the J values of one term horizontally and the J values of the other vertically, we obtain the arrangement

$$\begin{array}{cccc} & J_{\max} & J_{\max} - 1 & J_{\max} - 2 & \dots \\ J_{\max} - 1 & x_1 & y_1 & z_1 & \\ J_{\max} - 2 & & x_2 & y_2 & \ddots \\ \vdots & & & \ddots & \ddots \end{array},$$

where $J_{\max}$ is the maximum total angular momentum that is involved in the transition multiplet. If both terms in the transition have a level with $J = J_{\max}$, the following table must be used:

$$\begin{array}{cccc} & J_{\max}^{xx} & J_{\max}^{xx} - 1 & J_{\max}^{xx} - 2 & \dots \\ J_{\max}^{LS} & x_1 & z_1 & & \\ J_{\max}^{LS} - 1 & y_1 & x_2 & z_2 & \\ \vdots & & \ddots & \ddots & \ddots \end{array},$$

where the superscript LS refers to the states in LS coupling and xx refers to any other coupling.

The column labeled with $\sum_{J,J'} s$ gives the total multiplet strength summed over all the fine structure states in units of $P(nl - ml')^2$ (see equation (3)).

This work was partially supported by Consejo Nacional de Ciencia y Tecnología.

REFERENCES

- Allen, C.W. 1973, *Astrophysical Quantities*, Chapter 4, (London: The Athlone Press).
- Condon, E.U. and Shortley, G.H. 1935, *Theory of Atomic Spectra*, Chapter 9 (Cambridge: Cambridge Univ. Press).
- Escalante, V. and Góngora-T., A. 1990, *Ap. J. Suppl.*, Vol. 74, in press.
- Levinson, I.B. and Nikitin, A.A. 1962, *Handbook for Theoretical Computation of Line Intensities in Atomic Spectra*, Chapter VI (Jerusalem: Israel Program for Scientific Translations).
- Russell, H.N. 1936, *Ap. J.*, 83, 129.
- Shore, B.W. and Menzel, D.H. 1965, *Ap. J. Suppl.*, 12, 187.
- Vizbaraitė, Ya.I., Chiplis, V.I., and Yutsis, A.P. 1960, *Proceedings of the Academy of Sciences, USSR*, 135, 1101, (English translation in *Soviet Physics-Doklady*, 5, 1277, 1961).
- Warner, B. 1968, *M.N.R.A.S.*, 139, 273.

TABLE 1a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 1S			
$s\ (2S+1)L - p\ L'[K]$	$\sum_{J,J'}^s$		
$s\ ^2S - p\ P\ [1]$	2.0000	$x = 0.6667$	$y = 0.3333$
$p\ (2S+1)L - s\ L'[K]$	$\sum_{J,J'}^s$		
$p\ ^2P - s\ S\ [0]$	2.0000	$x = 0.6667$	$y = 0.3333$
$p\ (2S+1)L - d\ L'[K]$	$\sum_{J,J'}^s$		
$p\ ^2P - d\ D\ [2]$	2.0000	$x = 0.6000$	$0.3333\ y = 0.0667$
$d\ (2S+1)L - p\ L'[K]$	$\sum_{J,J'}^s$		
$d\ ^2D - p\ P\ [1]$	2.0000	$x = 0.6000$	$0.3333\ y = 0.0667$
$d\ (2S+1)L - f\ L'[K]$	$\sum_{J,J'}^s$		
$d\ ^2D - f\ F\ [3]$	2.0000	$x = 0.5714$	$0.4000\ y = 0.0286$
$f\ (2S+1)L - d\ L'[K]$	$\sum_{J,J'}^s$		
$f\ ^2F - d\ D\ [2]$	2.0000	$x = 0.5714$	$0.4000\ y = 0.0286$
$f\ (2S+1)L - g\ L'[K]$	$\sum_{J,J'}^s$		
$f\ ^2F - g\ G\ [4]$	2.0000	$x = 0.5556$	$0.4286\ y = 0.0159$
$g\ (2S+1)L - f\ L'[K]$	$\sum_{J,J'}^s$		
$g\ ^2G - f\ F\ [3]$	2.0000	$x = 0.5556$	$0.4286\ y = 0.0159$

TABLE 1b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 1S			
$s\ (2S+1)L - p\ (J_p)[K]$	$\sum_{J,J'}^s$		
$s\ ^2S - p\ (0)[1]$	2.0000	$x = 0.6667$	$y = 0.3333$
$p\ (2S+1)L - s\ (J_p)[K]$	$\sum_{J,J'}^s$		
$p\ ^2P - s\ (0)[0]$	2.0000	$x = 0.6667$	$y = 0.3333$
$p\ (2S+1)L - d\ (J_p)[K]$	$\sum_{J,J'}^s$		
$p\ ^2P - d\ (0)[2]$	2.0000	$x = 0.6000$	$0.3333\ y = 0.0667$
$d\ (2S+1)L - p\ (J_p)[K]$	$\sum_{J,J'}^s$		
$d\ ^2D - p\ (0)[1]$	2.0000	$x = 0.6000$	$0.3333\ y = 0.0667$

TABLE 1b (CONTINUED)

$d\ (2S+1)L - f\ (J_p)[K]$	$\sum_{J,J'}^s$		
$d\ ^2D - f\ (0)[3]$	2.0000	$x = 0.5714$	$0.4000\ y = 0.0286$
$f\ (2S+1)L - d\ (J_p)[K]$	$\sum_{J,J'}^s$		
$f\ ^2F - d\ (0)[2]$	2.0000	$x = 0.5714$	$0.4000\ y = 0.0286$
$f\ (2S+1)L - g\ (J_p)[K]$	$\sum_{J,J'}^s$		
$f\ ^2F - g\ (0)[4]$	2.0000	$x = 0.5556$	$0.4286\ y = 0.0159$
$g\ (2S+1)L - f\ (J_p)[K]$	$\sum_{J,J'}^s$		
$g\ ^2G - f\ (0)[3]$	2.0000	$x = 0.5556$	$0.4286\ y = 0.0159$

TABLE 1c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: 1S			
$s\ (2S+1)L - p\ (J_p,j)$	$\sum_{J,J'}^s$		
$s\ ^2S - p\ (0,\frac{1}{2})$	0.6667	$x = 1.0000$	
$s\ ^2S - p\ (0,\frac{3}{2})$	1.3333	$x = 1.0000$	
$p\ (2S+1)L - s\ (J_p,j)$	$\sum_{J,J'}^s$		
$p\ ^2P - s\ (0,\frac{1}{2})$	2.0000	$x = 0.6667$	$y = 0.3333$
$p\ (2S+1)L - d\ (J_p,j)$	$\sum_{J,J'}^s$		
$p\ ^2P - d\ (0,\frac{3}{2})$	0.8000	$x = 0.1667$	$z = 0.8333$
$p\ ^2P - d\ (0,\frac{5}{2})$	1.2000	$x = 1.0000$	
$d\ (2S+1)L - p\ (J_p,j)$	$\sum_{J,J'}^s$		
$d\ ^2D - p\ (0,\frac{1}{2})$	0.6667	$x = 1.0000$	
$d\ ^2D - p\ (0,\frac{3}{2})$	1.3333	$x = 0.9000$	$y = 0.1000$
$d\ (2S+1)L - f\ (J_p,j)$	$\sum_{J,J'}^s$		
$d\ ^2D - f\ (0,\frac{5}{2})$	0.8571	$x = 0.0667$	$z = 0.9333$
$d\ ^2D - f\ (0,\frac{7}{2})$	1.1429	$x = 1.0000$	
$f\ (2S+1)L - d\ (J_p,j)$	$\sum_{J,J'}^s$		
$f\ ^2F - d\ (0,\frac{3}{2})$	0.8000	$x = 1.0000$	
$f\ ^2F - d\ (0,\frac{5}{2})$	1.2000	$x = 0.9524$	$y = 0.0476$
$f\ (2S+1)L - g\ (J_p,j)$	$\sum_{J,J'}^s$		
$f\ ^2F - g\ (0,\frac{7}{2})$	0.8889	$x = 0.0357$	$z = 0.9643$
$f\ ^2F - g\ (0,\frac{9}{2})$	1.1111	$x = 1.0000$	

TABLE 1c (CONTINUED)

$g^{(2S+1)L} - f(J_p, i)$	$\sum_{J,J'}^s$
$g^{2G} - f(0, \frac{5}{2})$	0.8571 $x = 1.0000$
$g^{2G} - f(0, \frac{3}{2})$	1.1429 $x = 0.9722$ $y = 0.0278$

TABLE 2a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: $2S$

$g^{(2S+1)L} - p L'[K]$	$\sum_{J,J'}^s$
$s^1S - p P[\frac{1}{2}]$	0.3333 $x = 1.0000$
$s^1S - p P[\frac{3}{2}]$	0.6667 $x = 1.0000$
$s^3S - p P[\frac{1}{2}]$	1.0000 $x = 0.6667$ $y = 0.3333$
$s^3S - p P[\frac{3}{2}]$	2.0000 $x = 0.8333$ $y = 0.1667$
$p^{(2S+1)L} - s L'[K]$	$\sum_{J,J'}^s$
$p^1P - s S[\frac{1}{2}]$	1.0000 $x = 0.0000$ $y = 1.0000$
$p^3P - s S[\frac{3}{2}]$	3.0000 $x = 0.5556$ 0.0000 $y = 0.3333$ $z = 0.1111$
$p^{(2S+1)L} - d L'[K]$	$\sum_{J,J'}^s$
$p^1P - d D[\frac{3}{2}]$	0.4000 $x = 1.0000$ $y = 0.0000$
$p^1P - d D[\frac{5}{2}]$	0.6000 $x = 1.0000$
$p^3P - d D[\frac{3}{2}]$	1.2000 $x = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
$p^3P - d D[\frac{5}{2}]$	1.8000 $x = 0.7778$ 0.1667 $y = 0.0556$
$d^{(2S+1)L} - p L'[K]$	$\sum_{J,J'}^s$
$d^1D - p P[\frac{1}{2}]$	0.3333 $x = 1.0000$
$d^1D - p P[\frac{3}{2}]$	0.6667 $x = 0.0000$ $y = 1.0000$
$d^3D - p P[\frac{1}{2}]$	1.0000 $x = 0.5000$ 0.3333 $y = 0.1667$
$d^3D - p P[\frac{3}{2}]$	2.0000 $x = 0.7000$ 0.1250 $y = 0.1250$ 0.0417 $z = 0.0083$
$d^{(2S+1)L} - f L'[K]$	$\sum_{J,J'}^s$
$d^1D - f F[\frac{5}{2}]$	0.4286 $x = 1.0000$ $y = 0.0000$
$d^1D - f F[\frac{7}{2}]$	0.5714 $x = 1.0000$
$d^3D - f F[\frac{5}{2}]$	1.2857 $x = 0.0494$ 0.0864 $y = 0.0025$ $z = 0.3951$ 0.4667
$d^3D - f F[\frac{7}{2}]$	1.7143 $x = 0.7500$ 0.2222 $y = 0.0278$
$f^{(2S+1)L} - d L'[K]$	$\sum_{J,J'}^s$
$f^1F - d D[\frac{3}{2}]$	0.4000 $x = 1.0000$
$f^1F - d D[\frac{5}{2}]$	0.6000 $x = 0.0000$ $y = 1.0000$
$f^3F - d D[\frac{3}{2}]$	1.2000 $x = 0.4444$ 0.5000 $y = 0.0556$
$f^3F - d D[\frac{5}{2}]$	1.8000 $x = 0.7143$ 0.1975 $y = 0.0617$ 0.0247 $z = 0.0018$

TABLE 2a (CONTINUED)

$f^{(2S+1)L} - g L'[K]$	$\sum_{J,J'}^s$
$f^1F - g G[\frac{7}{2}]$	0.4444 $x = 1.0000$ $y = 0.0000$
$f^1F - g G[\frac{9}{2}]$	0.5556 $x = 1.0000$
$f^3F - g G[\frac{7}{2}]$	1.3333 $x = 0.0260$ 0.0469 $y = 0.0007$ $z = 0.3906$ 0.5557
$f^3F - g G[\frac{9}{2}]$	1.6667 $x = 0.7333$ 0.2500 $y = 0.0167$
$g^{(2S+1)L} - f L'[K]$	$\sum_{J,J'}^s$
$g^1G - f F[\frac{5}{2}]$	0.4286 $x = 1.0000$
$g^1G - f F[\frac{7}{2}]$	0.5714 $x = 0.0000$ $y = 1.0000$
$g^3G - f F[\frac{5}{2}]$	1.2857 $x = 0.4167$ 0.5556 $y = 0.0278$
$g^3G - f F[\frac{7}{2}]$	1.7143 $x = 0.7130$ 0.2344 $y = 0.0365$ 0.0156 $z = 0.0006$

TABLE 2b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: $2S$

$s^{(2S+1)L} - p (J_p)[K]$	$\sum_{J,J'}^s$
$s^1S - p(\frac{1}{2})[\frac{1}{2}]$	0.3333 $x = 1.0000$
$s^1S - p(\frac{1}{2})[\frac{3}{2}]$	0.6667 $x = 1.0000$
$s^3S - p(\frac{1}{2})[\frac{1}{2}]$	1.0000 $x = 0.6667$ $y = 0.3333$
$s^3S - p(\frac{1}{2})[\frac{3}{2}]$	2.0000 $x = 0.8333$ $y = 0.1667$
$p^{(2S+1)L} - s (J_p)[K]$	$\sum_{J,J'}^s$
$p^1P - s(\frac{1}{2})[\frac{1}{2}]$	1.0000 $x = 0.0000$ $y = 1.0000$
$p^3P - s(\frac{1}{2})[\frac{1}{2}]$	3.0000 $x = 0.5556$ 0.0000 $y = 0.3333$ $z = 0.1111$
$p^{(2S+1)L} - d (J_p)[K]$	$\sum_{J,J'}^s$
$p^1P - d(\frac{1}{2})[\frac{3}{2}]$	0.4000 $x = 1.0000$ $y = 0.0000$
$p^1P - d(\frac{3}{2})[\frac{3}{2}]$	0.6000 $x = 1.0000$
$p^3P - d(\frac{1}{2})[\frac{3}{2}]$	1.2000 $x = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
$p^3P - d(\frac{3}{2})[\frac{3}{2}]$	1.8000 $x = 0.7778$ 0.1667 $y = 0.0556$
$d^{(2S+1)L} - p (J_p)[K]$	$\sum_{J,J'}^s$
$d^1D - p(\frac{1}{2})[\frac{1}{2}]$	0.3333 $x = 1.0000$
$d^1D - p(\frac{1}{2})[\frac{3}{2}]$	0.6667 $x = 0.0000$ $y = 1.0000$
$d^3D - p(\frac{1}{2})[\frac{1}{2}]$	1.0000 $x = 0.5000$ 0.3333 $y = 0.1667$
$d^3D - p(\frac{1}{2})[\frac{3}{2}]$	2.0000 $x = 0.7000$ 0.1250 $y = 0.1250$ 0.0417 $z = 0.0083$
$d^{(2S+1)L} - f (J_p)[K]$	$\sum_{J,J'}^s$
$d^1D - f(\frac{1}{2})[\frac{5}{2}]$	0.4286 $x = 1.0000$ $y = 0.0000$
$d^1D - f(\frac{1}{2})[\frac{7}{2}]$	0.5714 $x = 1.0000$

TABLE 2b (CONTINUED)

$d^3D - f(\frac{1}{2}, \frac{5}{2})$	1.2857	$x = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$d^3D - f(\frac{1}{2}, \frac{7}{2})$	1.7143	$x = 0.7500$	0.2222	$y = 0.0278$		
$f^{(2S+1)L} - d(J_p)[K]$	$\sum_{J_p, J'}^s$					
$f^1F - d(\frac{1}{2}, \frac{3}{2})$	0.4000	$x = 1.0000$				
$f^1F - d(\frac{1}{2}, \frac{5}{2})$	0.6000	$x = 0.0000$	$y = 1.0000$			
$f^3F - d(\frac{1}{2}, \frac{3}{2})$	1.2000	$x = 0.4444$	0.5000	$y = 0.0556$		
$f^3F - d(\frac{1}{2}, \frac{5}{2})$	1.8000	$x = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$f^{(2S+1)L} - g(J_p)[K]$	$\sum_{J_p, J'}^s$					
$f^1F - g(\frac{1}{2}, \frac{7}{2})$	0.4444	$x = 1.0000$	$y = 0.0000$			
$f^1F - g(\frac{1}{2}, \frac{9}{2})$	0.5556	$x = 1.0000$				
$f^3F - g(\frac{1}{2}, \frac{7}{2})$	1.3333	$x = 0.0260$	0.0469	$y = 0.0007$	$z = 0.3906$	0.5357
$f^3F - g(\frac{1}{2}, \frac{9}{2})$	1.6667	$x = 0.7333$	0.2500	$y = 0.0167$		
$g^{(2S+1)L} - f(J_p)[K]$	$\sum_{J_p, J'}^s$					
$g^1G - f(\frac{1}{2}, \frac{5}{2})$	0.4286	$x = 1.0000$				
$g^1G - f(\frac{1}{2}, \frac{7}{2})$	0.5714	$x = 0.0000$	$y = 1.0000$			
$g^3G - f(\frac{1}{2}, \frac{5}{2})$	1.2857	$x = 0.4167$	0.5556	$y = 0.0278$		
$g^3G - f(\frac{1}{2}, \frac{7}{2})$	1.7143	$x = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$

TABLE 2c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $2S$

$s^{(2S+1)L} - p(J_p, j)$	$\sum_{J_p, j}^s$					
$s^1S - p(\frac{1}{2}, \frac{1}{2})$	0.3333	$x = 1.0000$				
$s^1S - p(\frac{1}{2}, \frac{3}{2})$	0.6667	$x = 1.0000$				
$s^3S - p(\frac{1}{2}, \frac{1}{2})$	1.0000	$x = 0.6667$	$y = 0.3333$			
$s^3S - p(\frac{1}{2}, \frac{3}{2})$	2.0000	$x = 0.8333$	$y = 0.1667$			
$p^{(2S+1)L} - s(J_p, j)$	$\sum_{J_p, j}^s$					
$p^1P - s(\frac{1}{2}, \frac{1}{2})$	1.0000	$x = 0.0000$	$y = 1.0000$			
$p^3P - s(\frac{1}{2}, \frac{1}{2})$	3.0000	$x = 0.5556$	0.0000	$y = 0.3333$	$z = 0.1111$	
$p^{(2S+1)L} - d(J_p, j)$	$\sum_{J_p, j}^s$					
$p^1P - d(\frac{1}{2}, \frac{3}{2})$	0.4000	$x = 1.0000$	$y = 0.0000$			
$p^1P - d(\frac{1}{2}, \frac{5}{2})$	0.6000	$x = 1.0000$				
$p^3P - d(\frac{1}{2}, \frac{3}{2})$	1.2000	$x = 0.1250$	0.2083	$y = 0.0139$	$z = 0.3750$	0.2778
$p^3P - d(\frac{1}{2}, \frac{5}{2})$	1.8000	$x = 0.7778$	0.1667	$y = 0.0556$		
$d^{(2S+1)L} - p(J_p, j)$	$\sum_{J_p, j}^s$					
$d^1D - p(\frac{1}{2}, \frac{1}{2})$	0.3333	$x = 1.0000$				

TABLE 2c (CONTINUED)

$d^1D - p(\frac{1}{2}, \frac{3}{2})$	0.6667	$x = 0.0000$	$y = 1.0000$			
$d^3D - p(\frac{1}{2}, \frac{1}{2})$	1.0000	$x = 0.5000$	0.3333	$y = 0.1667$		
$d^3D - p(\frac{1}{2}, \frac{3}{2})$	2.0000	$x = 0.7000$	0.1250	$y = 0.1250$	0.0417	$z = 0.0083$
$d^{(2S+1)L} - f(J_p, j)$	$\sum_{J_p, j}^s$					
$d^1D - f(\frac{1}{2}, \frac{5}{2})$	0.4286	$x = 1.0000$	$y = 0.0000$			
$d^1D - f(\frac{1}{2}, \frac{7}{2})$	0.5714	$x = 1.0000$				
$d^3D - f(\frac{1}{2}, \frac{5}{2})$	1.2857	$x = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$d^3D - f(\frac{1}{2}, \frac{7}{2})$	1.7143	$x = 0.7500$	0.2222	$y = 0.0278$		
$f^{(2S+1)L} - d(J_p, j)$	$\sum_{J_p, j}^s$					
$f^1F - d(\frac{1}{2}, \frac{3}{2})$	0.4000	$x = 1.0000$				
$f^1F - d(\frac{1}{2}, \frac{5}{2})$	0.6000	$x = 0.0000$	$y = 1.0000$			
$f^3F - d(\frac{1}{2}, \frac{3}{2})$	1.2000	$x = 0.4444$	0.5000	$y = 0.0556$		
$f^3F - d(\frac{1}{2}, \frac{5}{2})$	1.8000	$x = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$f^{(2S+1)L} - g(J_p, j)$	$\sum_{J_p, j}^s$					
$f^1F - g(\frac{1}{2}, \frac{7}{2})$	0.4444	$x = 1.0000$	$y = 0.0000$			
$f^1F - g(\frac{1}{2}, \frac{9}{2})$	0.5556	$x = 1.0000$				
$f^3F - g(\frac{1}{2}, \frac{7}{2})$	1.3333	$x = 0.0260$	0.0469	$y = 0.0007$	$z = 0.3906$	0.5357
$f^3F - g(\frac{1}{2}, \frac{9}{2})$	1.6667	$x = 0.7333$	0.2500	$y = 0.0167$		
$g^{(2S+1)L} - f(J_p, j)$	$\sum_{J_p, j}^s$					
$g^1G - f(\frac{1}{2}, \frac{5}{2})$	0.4286	$x = 1.0000$				
$g^1G - f(\frac{1}{2}, \frac{7}{2})$	0.5714	$x = 0.0000$	$y = 1.0000$			
$g^3G - f(\frac{1}{2}, \frac{5}{2})$	1.2857	$x = 0.4167$	0.5556	$y = 0.0278$		
$g^3G - f(\frac{1}{2}, \frac{7}{2})$	1.7143	$x = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$

TABLE 3a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: $3S$

$s^{(2S+1)L} - p(J_p)[K]$	$\sum_{J_p}^s$					
$s^2S - p(1)[0]$	0.2222	$x = 1.0000$				
$s^2S - p(1)[1]$	0.6667	$x = 0.3333$	$y = 0.6667$			
$s^2S - p(1)[2]$	1.1111	$x = 1.0000$				
$s^4S - p(1)[0]$	0.4444	$x = 1.0000$				
$s^4S - p(1)[1]$	1.3333	$x = 0.8333$	$y = 0.1667$			
$s^4S - p(1)[2]$	2.2222	$x = 0.9000$	$y = 0.1000$			
$p^{(2S+1)L} - s(J_p)[K]$	$\sum_{J_p}^s$					
$p^2P - s(1)[1]$	2.0000	$x = 0.0000$	0.3333	$y = 0.6667$	$z = 0.0000$	
$p^4P - s(1)[1]$	4.0000	$x = 0.5000$	0.0000	$y = 0.3333$	0.0000	$z = 0.1667$

TABLE 3a (CONTINUED)

$g^{(2s+1)L} - f(J_p)[K]$	$\sum_{j,j'}^s$				
$g^{2G} - f(1)[2]$	0.4762	$z = 1.0000$			
$g^{2G} - f(1)[3]$	0.6667	$z = 0.4167$	0.5714	$y = 0.0119$	
$g^{2G} - f(1)[4]$	0.8571	$z = 0.0000$	0.0278	$y = 0.9722$	$z = 0.0000$
$g^{4G} - f(1)[2]$	0.9524	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^{4G} - f(1)[3]$	1.3333	$z = 0.5729$	0.3189	$y = 0.0680$	0.0383 $z = 0.0019$
$g^{4G} - f(1)[4]$	1.7143	$z = 0.7778$	0.1485	$y = 0.0540$	0.0176
		$z = 0.0015$	0.0005		

TABLE 3b

TRANSITIONS BETWEEN LS AND jK STATES. PARENT TERM: 3^3S									
s	$(2s+1)L$	$-p(j_p)[K]$	$\sum_{j_p'} s$	s	$(2s+1)L$	$-p(j_p)[K]$	$\sum_{j_p'} s$	s	$(2s+1)L$
s^2S	$-p(1)[0]$		0.2222	$z = 1.0000$	s^2S	$-p(1)[0]$		0.2222	$z = 1.0000$
s^2S	$-p(1)[1]$		0.6667	$z = 0.3333$	s^2S	$-p(1)[1]$		0.6667	$z = 0.6667$
s^2S	$-p(1)[2]$		1.1111	$z = 1.0000$	s^2S	$-p(1)[2]$		1.1111	$z = 1.0000$
s^4S	$-p(1)[0]$		0.4444	$z = 1.0000$	s^4S	$-p(1)[0]$		0.4444	$z = 1.0000$
s^4S	$-p(1)[1]$		1.3333	$z = 0.8333$	s^4S	$-p(1)[1]$		1.3333	$z = 0.1667$
s^4S	$-p(1)[2]$		2.2222	$z = 0.9000$	s^4S	$-p(1)[2]$		2.2222	$z = 0.1000$
$p(2s+1)L$	$-s(j_p)[K]$		$\sum_{j_p'} s$		$p(2s+1)L$	$-s(j_p)[K]$		$\sum_{j_p'} s$	
p^2P	$-s(1)[1]$		2.0000	$z = 0.0000$	p^2P	$-s(1)[1]$		2.0000	$z = 0.0000$
p^4P	$-s(1)[1]$		4.0000	$z = 0.5000$	p^4P	$-s(1)[1]$		4.0000	$z = 0.3333$
$p(2s+1)L$	$-d(j_p)[K]$		$\sum_{j_p'} s$		$p(2s+1)L$	$-d(j_p)[K]$		$\sum_{j_p'} s$	
p^2P	$-d(1)[1]$		0.4000	$z = 0.1667$	p^2P	$-d(1)[1]$		0.4000	$z = 0.8333$
p^2P	$-d(1)[2]$		0.6667	$z = 0.4000$	p^2P	$-d(1)[2]$		0.6667	$z = 0.1000$
p^2P	$-d(1)[3]$		0.9333	$z = 1.0000$	p^2P	$-d(1)[3]$		0.9333	$z = 1.0000$
p^4P	$-d(1)[1]$		0.8000	$z = 0.0250$	p^4P	$-d(1)[1]$		0.8000	$z = 0.2667$
p^4P	$-d(1)[2]$		1.3333	$z = 0.2100$	p^4P	$-d(1)[2]$		1.3333	$z = 0.4167$
p^4P	$-d(1)[3]$		1.8667	$z = 0.8571$	p^4P	$-d(1)[3]$		1.8667	$z = 0.0150$
$d(2s+1)L$	$-p(j_p)[K]$		$\sum_{j_p'} s$		$d(2s+1)L$	$-p(j_p)[K]$		$\sum_{j_p'} s$	
d^2D	$-p(1)[0]$		0.2222	$z = 1.0000$	d^2D	$-p(1)[0]$		0.2222	$z = 1.0000$
d^2D	$-p(1)[1]$		0.6667	$z = 0.3000$	d^2D	$-p(1)[1]$		0.6667	$z = 0.0333$
d^2D	$-p(1)[2]$		1.1111	$z = 0.0000$	d^2D	$-p(1)[2]$		1.1111	$z = 0.9000$
d^4D	$-p(1)[0]$		0.4444	$z = 0.5000$	d^4D	$-p(1)[0]$		0.4444	$z = 0.5000$
d^4D	$-p(1)[1]$		1.3333	$z = 0.5250$	d^4D	$-p(1)[1]$		1.3333	$z = 0.0833$
d^4D	$-p(1)[2]$		2.2222	$z = 0.7200$	d^4D	$-p(1)[2]$		2.2222	$z = 0.1620$
				$z = 0.0180$					$z = 0.0050$
$d(2s+1)L$	$-f(j_p)[K]$		$\sum_{j_p'} s$		$d(2s+1)L$	$-f(j_p)[K]$		$\sum_{j_p'} s$	
d^2D	$-f(1)[2]$		0.4762	$z = 0.0667$	d^2D	$-f(1)[2]$		0.4762	$z = 0.0000$
				$z = 0.9333$					$z = 0.9333$

TABLE 3a (CONTINUED)

$p^{(2s+1)L} - d(J_p)[K]$	$\sum_{J_p'} s$				
$p^2 P - d(1)[1]$	0.4000	$z = 0.1667$	0.0000	$y = 0.0000$	$z = 0.8333$
$p^2 P - d(1)[2]$	0.6667	$z = 0.4000$	0.5000	$y = 0.1000$	
$p^2 P - d(1)[3]$	0.9333	$z = 1.0000$			
$p^4 P - d(1)[1]$	0.8000	$z = 0.0950$	0.0833	$y = 0.2667$	$z = 0.4167$
$p^4 P - d(1)[2]$	1.3333	$z = 0.2100$	0.1600	$y = 0.0150$	$z = 0.4900$
$p^4 P - d(1)[3]$	1.8667	$z = 0.8571$	0.1000	$y = 0.0429$	
$d^{(2s+1)L} - p(J_p)[K]$	$\sum_{J_p'} s$				
$d^2 D - p(1)[0]$	0.2222	$z = 1.0000$			
$d^2 D - p(1)[1]$	0.6667	$z = 0.3000$	0.6667	$y = 0.0333$	
$d^2 D - p(1)[2]$	1.1111	$z = 0.0000$	0.1000	$y = 0.9000$	$z = 0.0000$
$d^4 D - p(1)[0]$	0.4444	$z = 0.5000$	$y = 0.5000$		
$d^4 D - p(1)[1]$	1.3333	$z = 0.5250$	0.0833	$y = 0.2667$	$z = 0.0417$
$d^4 D - p(1)[2]$	2.2222	$z = 0.7200$	0.0630	$y = 0.1620$	0.0320
		$z = 0.0180$	0.0050		
$f^{(2s+1)L} - f(J_p)[K]$	$\sum_{J_p'} s$				
$d^2 D - f(1)[2]$	0.4762	$z = 0.0667$	0.0000	$y = 0.0000$	$z = 0.9333$
$d^2 D - f(1)[3]$	0.6667	$z = 0.4286$	0.5333	$y = 0.0381$	
$d^2 D - f(1)[4]$	0.8571	$z = 1.0000$			
$d^4 D - f(1)[2]$	0.9524	$z = 0.0038$	0.0120	$y = 0.0975$	0.1680
		$z = 0.2987$	0.4200		
$d^4 D - f(1)[3]$	1.3333	$z = 0.0918$	0.0871	$y = 0.0034$	$z = 0.5510$
$d^4 D - f(1)[4]$	1.7143	$z = 0.8338$	0.1429	$y = 0.0238$	
$f^{(2s+1)L} - d(J_p)[K]$	$\sum_{J_p'} s$				
$f^2 F - d(1)[1]$	0.4000	$z = 1.0000$			
$f^2 F - d(1)[2]$	0.6667	$z = 0.3810$	0.6000	$y = 0.0190$	
$f^2 F - d(1)[3]$	0.9333	$z = 0.0000$	0.0476	$y = 0.9524$	$z = 0.0000$
$f^4 F - d(1)[1]$	0.8000	$z = 0.4000$	0.5000	$y = 0.1000$	
$f^4 F - d(1)[2]$	1.3333	$z = 0.5714$	0.2400	$y = 0.1219$	0.0600
$f^4 F - d(1)[3]$	1.8667	$z = 0.7653$	0.1166	$y = 0.0875$	0.0249
		$z = 0.0044$	0.0014		
$f^{(2s+1)L} - g(J_p)[K]$	$\sum_{J_p'} s$				
$f^2 F - g(1)[3]$	0.5185	$z = 0.0357$	0.0000	$y = 0.0000$	$z = 0.9643$
$f^2 F - g(1)[4]$	0.6667	$z = 0.4444$	0.5357	$y = 0.0196$	
$f^2 F - g(1)[5]$	0.8148	$z = 1.0000$			
$f^4 F - g(1)[3]$	1.0370	$z = 0.0011$	0.0033	$y = 0.0486$	0.0886
		$z = 0.3075$	0.5510		
$f^4 F - g(1)[4]$	1.3333	$z = 0.0509$	0.0529	$y = 0.0012$	$z = 0.5602$
$f^4 F - g(1)[5]$	1.6996	$z = 0.8182$	0.1667	$y = 0.0152$	

TABLE 3c (CONTINUED)

$p^{(2S+1)L - s}(J_p, j)$	$\sum_{J_p, j}^s$	$p^2P - s(1, \frac{1}{2})$	$z = 0.0000$	$y = 0.6667$	$z = 0.0000$
$p^4P - s(1, \frac{1}{2})$	2.0000	$p^4P - s(1, \frac{1}{2})$	$z = 0.5000$	$y = 0.3333$	$z = 0.1667$
$p^{(2S+1)L - d}(J_p, j)$	$\sum_{J_p, j}^s$	$p^2P - d(1, \frac{3}{2})$	$z = 0.8000$	$y = 0.3333$	$z = 0.0000$
$p^2P - d(1, \frac{3}{2})$	0.8000	$p^2P - d(1, \frac{5}{2})$	$z = 0.4667$	$y = 0.0889$	
$p^4P - d(1, \frac{3}{2})$	1.2000	$p^4P - d(1, \frac{5}{2})$	$z = 0.1050$	$y = 0.2083$	$z = 0.0200$
$p^4P - d(1, \frac{5}{2})$	1.8000	$p^4P - d(1, \frac{5}{2})$	$z = 0.2450$	$y = 0.1667$	
$p^4P - d(1, \frac{5}{2})$	2.4000	$p^4P - d(1, \frac{5}{2})$	$z = 0.6667$	$y = 0.0800$	$z = 0.0356$
$p^4P - d(1, \frac{5}{2})$	$z = 0.0033$				
$d^{(2S+1)L - p}(J_p, j)$	$\sum_{J_p, j}^s$	$d^2D - p(1, \frac{1}{2})$	$z = 0.8000$	$y = 0.1111$	$z = 0.0889$
$d^2D - p(1, \frac{1}{2})$	0.6667	$d^2D - p(1, \frac{3}{2})$	$z = 0.0000$	$y = 0.5000$	$z = 0.0000$
$d^2D - p(1, \frac{3}{2})$	1.3333	$d^2D - p(1, \frac{5}{2})$	$z = 0.3500$	$y = 0.1778$	$z = 0.0278$
$d^4D - p(1, \frac{1}{2})$	1.3333	$d^4D - p(1, \frac{3}{2})$	$z = 0.6000$	$y = 0.1400$	$z = 0.1350$
$d^4D - p(1, \frac{3}{2})$	2.6667	$d^4D - p(1, \frac{5}{2})$	$z = 0.0150$	$y = 0.0111$	
$d^{(2S+1)L - f}(J_p, j)$	$\sum_{J_p, j}^s$	$d^2D - f(1, \frac{5}{2})$	$z = 0.7619$	$y = 0.0159$	$z = 0.0000$
$d^2D - f(1, \frac{5}{2})$	0.8571	$d^2D - f(1, \frac{7}{2})$	$z = 0.4286$	$y = 0.0381$	
$d^2D - f(1, \frac{7}{2})$	1.1429	$d^4D - f(1, \frac{5}{2})$	$z = 0.0408$	$y = 0.0929$	$z = 0.0036$
$d^4D - f(1, \frac{5}{2})$	1.7143	$d^4D - f(1, \frac{7}{2})$	$z = 0.2449$	$y = 0.2833$	
$d^4D - f(1, \frac{7}{2})$	2.2857	$d^4D - f(1, \frac{7}{2})$	$z = 0.6250$	$y = 0.2449$	$z = 0.0408$
$d^4D - f(1, \frac{7}{2})$	$z = 0.0009$				
$f^{(2S+1)L - d}(J_p, j)$	$\sum_{J_p, j}^s$	$f^2F - d(1, \frac{3}{2})$	$z = 0.8000$	$y = 0.7619$	$z = 0.0381$
$f^2F - d(1, \frac{3}{2})$	0.8000	$f^2F - d(1, \frac{5}{2})$	$z = 0.0000$	$y = 0.4444$	$z = 0.0000$
$f^2F - d(1, \frac{5}{2})$	1.2000	$f^4F - d(1, \frac{3}{2})$	$z = 0.2857$	$y = 0.3200$	$z = 0.0610$
$f^4F - d(1, \frac{3}{2})$	1.6000	$f^4F - d(1, \frac{5}{2})$	$z = 0.0033$		
$f^4F - d(1, \frac{5}{2})$	2.4000	$f^4F - d(1, \frac{5}{2})$	$z = 0.5952$	$y = 0.2177$	$z = 0.0680$
$f^4F - d(1, \frac{5}{2})$	$z = 0.0034$				
$f^{(2S+1)L - g}(J_p, j)$	$\sum_{J_p, j}^s$	$f^2F - g(1, \frac{7}{2})$	$z = 0.8889$	$y = 0.0093$	$z = 0.0000$
$f^2F - g(1, \frac{7}{2})$	0.8889	$f^2F - g(1, \frac{9}{2})$	$z = 0.4074$	$y = 0.0212$	
$f^2F - g(1, \frac{9}{2})$	1.1111	$f^4F - g(1, \frac{7}{2})$	$z = 0.0212$	$y = 0.0504$	$z = 0.0019$
$f^4F - g(1, \frac{7}{2})$	1.7778	$f^4F - g(1, \frac{9}{2})$	$z = 0.2334$	$y = 0.3189$	$z = 0.0247$
$f^4F - g(1, \frac{9}{2})$	2.2222	$f^4F - g(1, \frac{9}{2})$	$z = 0.6000$	$y = 0.2716$	$z = 0.0003$
$f^4F - g(1, \frac{9}{2})$	$z = 0.0003$				

TABLE 3b (CONTINUED)

$d^2D - f(1)[3]$	0.6667	$z = 0.4286$	$y = 0.0381$
$d^2D - f(1)[4]$	0.8571	$z = 1.0000$	
$d^4D - f(1)[2]$	0.9524	$z = 0.0058$	$y = 0.0975$
$d^4D - f(1)[2]$	$z = 0.2987$	$z = 0.4200$	
$d^4D - f(1)[3]$	1.3333	$z = 0.0918$	$y = 0.0034$
$d^4D - f(1)[4]$	1.7143	$z = 0.8333$	$y = 0.0238$
$f^{(2S+1)L - d}(J_p)[K]$	$\sum_{J_p, j}^s$	$f^2F - d(1)[1]$	$z = 0.4000$
$f^2F - d(1)[1]$	0.4000	$f^2F - d(1)[2]$	$z = 0.3810$
$f^2F - d(1)[2]$	0.6667	$f^2F - d(1)[3]$	$z = 0.0000$
$f^2F - d(1)[3]$	0.9333	$f^2F - d(1)[4]$	$z = 0.0000$
$f^4F - d(1)[1]$	0.8000	$f^4F - d(1)[2]$	$z = 0.0000$
$f^4F - d(1)[2]$	1.3333	$f^4F - d(1)[3]$	$z = 0.1219$
$f^4F - d(1)[3]$	1.8667	$f^4F - d(1)[4]$	$z = 0.0067$
$f^4F - d(1)[4]$	$z = 0.7653$	$z = 0.1166$	$y = 0.0875$
$f^4F - d(1)[4]$	$z = 0.0044$	$z = 0.0014$	
$f^{(2S+1)L - g}(J_p)[K]$	$\sum_{J_p, j}^s$	$f^2F - g(1)[3]$	$z = 0.5185$
$f^2F - g(1)[3]$	0.5185	$f^2F - g(1)[4]$	$z = 0.0357$
$f^2F - g(1)[4]$	0.6667	$f^2F - g(1)[5]$	$z = 0.4444$
$f^2F - g(1)[5]$	0.8148	$f^4F - g(1)[3]$	$z = 1.0000$
$f^4F - g(1)[3]$	1.0370	$f^4F - g(1)[4]$	$z = 0.0011$
$f^4F - g(1)[4]$	$z = 0.3075$	$z = 0.5510$	$y = 0.0486$
$f^4F - g(1)[4]$	1.3333	$f^4F - g(1)[5]$	$z = 0.0509$
$f^4F - g(1)[5]$	1.6296	$f^4F - g(1)[5]$	$z = 0.8182$
$f^4F - g(1)[5]$	$z = 0.0012$	$z = 0.5602$	$z = 0.3348$
$g^{(2S+1)L - f}(J_p)[K]$	$\sum_{J_p, j}^s$	$g^2G - f(1)[2]$	$z = 0.4762$
$g^2G - f(1)[2]$	0.4762	$g^2G - f(1)[3]$	$z = 0.4167$
$g^2G - f(1)[3]$	0.6667	$g^2G - f(1)[4]$	$z = 0.0000$
$g^2G - f(1)[4]$	0.8571	$g^2G - f(1)[5]$	$z = 0.9722$
$g^4G - f(1)[2]$	0.9524	$g^4G - f(1)[3]$	$z = 0.3571$
$g^4G - f(1)[3]$	1.3333	$g^4G - f(1)[4]$	$z = 0.5729$
$g^4G - f(1)[4]$	1.7143	$g^4G - f(1)[5]$	$z = 0.7778$
$g^4G - f(1)[5]$	$z = 0.0015$	$z = 0.0005$	

TABLE 3c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: 3S

$s^{(2S+1)L - p}(J_p, j)$	$\sum_{J_p, j}^s$	$s^2S - p(1, \frac{1}{2})$	$z = 0.8889$	$y = 0.1111$
$s^2S - p(1, \frac{1}{2})$	0.6667	$s^2S - p(1, \frac{3}{2})$	$z = 0.5556$	$y = 0.4444$
$s^2S - p(1, \frac{3}{2})$	1.3333	$s^4S - p(1, \frac{1}{2})$	$z = 0.5556$	$y = 0.4444$
$s^4S - p(1, \frac{1}{2})$	1.3333	$s^4S - p(1, \frac{3}{2})$	$z = 0.7500$	$y = 0.2222$
$s^4S - p(1, \frac{3}{2})$	2.6667	$s^4S - p(1, \frac{3}{2})$	$z = 0.0278$	

TABLE 4a (CONTINUED)

$d^{(2S+1)L} - f^{L'[K]}$	$\sum_{J,J'}^s$	$d^{(2S+1)L} - f^{L'[K]}$	$\sum_{J,J'}^s$
$d^3D - f^3F \left[\frac{3}{2} \right]$	0.4286	$d^3D - f^3F \left[\frac{3}{2} \right]$	0.4286
$d^3D - f^3F \left[\frac{5}{2} \right]$	0.6429	$d^3D - f^3F \left[\frac{5}{2} \right]$	0.6429
$d^3D - f^3F \left[\frac{7}{2} \right]$	0.8571	$d^3D - f^3F \left[\frac{7}{2} \right]$	0.8571
$d^3D - f^3F \left[\frac{9}{2} \right]$	1.0714	$d^3D - f^3F \left[\frac{9}{2} \right]$	1.0714
$d^5D - f^5F \left[\frac{3}{2} \right]$	0.7143	$d^5D - f^5F \left[\frac{3}{2} \right]$	0.7143
$d^5D - f^5F \left[\frac{5}{2} \right]$	1.0714	$d^5D - f^5F \left[\frac{5}{2} \right]$	1.0714
$d^5D - f^5F \left[\frac{7}{2} \right]$	1.4286	$d^5D - f^5F \left[\frac{7}{2} \right]$	1.4286
$d^5D - f^5F \left[\frac{9}{2} \right]$	1.7857	$d^5D - f^5F \left[\frac{9}{2} \right]$	1.7857
$f^{(2S+1)L} - d^{L'[K]}$	$\sum_{J,J'}^s$	$f^{(2S+1)L} - d^{L'[K]}$	$\sum_{J,J'}^s$
$f^3F - d^3D \left[\frac{1}{2} \right]$	0.3000	$f^3F - d^3D \left[\frac{1}{2} \right]$	0.3000
$f^3F - d^3D \left[\frac{3}{2} \right]$	0.8000	$f^3F - d^3D \left[\frac{3}{2} \right]$	0.8000
$f^3F - d^3D \left[\frac{5}{2} \right]$	0.9000	$f^3F - d^3D \left[\frac{5}{2} \right]$	0.9000
$f^3F - d^3D \left[\frac{7}{2} \right]$	1.2000	$f^3F - d^3D \left[\frac{7}{2} \right]$	1.2000
$f^3F - d^3D \left[\frac{9}{2} \right]$	0.5000	$f^3F - d^3D \left[\frac{9}{2} \right]$	0.5000
$f^5F - d^5D \left[\frac{1}{2} \right]$	1.0000	$f^5F - d^5D \left[\frac{1}{2} \right]$	1.0000
$f^5F - d^5D \left[\frac{3}{2} \right]$	1.5000	$f^5F - d^5D \left[\frac{3}{2} \right]$	1.5000
$f^5F - d^5D \left[\frac{5}{2} \right]$	2.0000	$f^5F - d^5D \left[\frac{5}{2} \right]$	2.0000
$f^5F - d^5D \left[\frac{7}{2} \right]$	0.0071	$f^5F - d^5D \left[\frac{7}{2} \right]$	0.0071
$f^5F - d^5D \left[\frac{9}{2} \right]$	0.0020	$f^5F - d^5D \left[\frac{9}{2} \right]$	0.0020
$g^{(2S+1)L} - g^{L'[K]}$	$\sum_{J,J'}^s$	$g^{(2S+1)L} - g^{L'[K]}$	$\sum_{J,J'}^s$
$g^3G - g^3F \left[\frac{3}{2} \right]$	0.4286	$g^3G - g^3F \left[\frac{3}{2} \right]$	0.4286
$g^3G - g^3F \left[\frac{5}{2} \right]$	0.6429	$g^3G - g^3F \left[\frac{5}{2} \right]$	0.6429
$g^3G - g^3F \left[\frac{7}{2} \right]$	0.8571	$g^3G - g^3F \left[\frac{7}{2} \right]$	0.8571
$g^3G - g^3F \left[\frac{9}{2} \right]$	1.0714	$g^3G - g^3F \left[\frac{9}{2} \right]$	1.0714
$g^5G - g^5F \left[\frac{3}{2} \right]$	0.7143	$g^5G - g^5F \left[\frac{3}{2} \right]$	0.7143
$g^5G - g^5F \left[\frac{5}{2} \right]$	1.0714	$g^5G - g^5F \left[\frac{5}{2} \right]$	1.0714

TABLE 3c (CONTINUED)

$g^{(2S+1)L} - f^{L'[K]}$	$\sum_{J,J'}^s$
$g^2G - f^1\left(\frac{5}{2}\right)$	0.8571
$g^2G - f^1\left(\frac{7}{2}\right)$	1.1429
$g^4G - f^1\left(\frac{5}{2}\right)$	1.7143
$g^4G - f^1\left(\frac{7}{2}\right)$	2.2857

TABLE 4a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: $4S$

$s^{(2S+1)L} - p^{L'[K]}$	$\sum_{J,J'}^s$
$s^3S - p^3P \left[\frac{1}{2} \right]$	0.5000
$s^3S - p^3P \left[\frac{3}{2} \right]$	1.0000
$s^3S - p^3P \left[\frac{5}{2} \right]$	1.5000
$s^5S - p^5P \left[\frac{1}{2} \right]$	0.8333
$s^5S - p^5P \left[\frac{3}{2} \right]$	1.6667
$s^5S - p^5P \left[\frac{5}{2} \right]$	2.5000
$p^{(2S+1)L} - s^{L'[K]}$	$\sum_{J,J'}^s$
$p^3P - s^3S \left[\frac{3}{2} \right]$	0.3000
$p^5P - s^5S \left[\frac{3}{2} \right]$	5.0000
$p^{(2S+1)L} - d^{L'[K]}$	$\sum_{J,J'}^s$
$p^3P - d^3D \left[\frac{1}{2} \right]$	0.3000
$p^3P - d^3D \left[\frac{3}{2} \right]$	0.8000
$p^3P - d^3D \left[\frac{5}{2} \right]$	0.9000
$p^3P - d^3D \left[\frac{7}{2} \right]$	1.2000
$p^5P - d^5D \left[\frac{1}{2} \right]$	0.5000
$p^5P - d^5D \left[\frac{3}{2} \right]$	1.0000
$p^5P - d^5D \left[\frac{5}{2} \right]$	1.5000
$p^5P - d^5D \left[\frac{7}{2} \right]$	2.0000
$d^{(2S+1)L} - p^{L'[K]}$	$\sum_{J,J'}^s$
$d^3D - p^3P \left[\frac{1}{2} \right]$	0.5000
$d^3D - p^3P \left[\frac{3}{2} \right]$	1.0000
$d^3D - p^3P \left[\frac{5}{2} \right]$	1.5000
$d^5D - p^5P \left[\frac{1}{2} \right]$	0.8333
$d^5D - p^5P \left[\frac{3}{2} \right]$	1.6667
$d^5D - p^5P \left[\frac{5}{2} \right]$	2.5000

TABLE 4a (CONTINUED)

$g^5G - f^5F \left[\frac{7}{2} \right]$	1.4286	$z = 0.6417$	0.2046	$y = 0.1031$	0.0434
		$z = 0.0052$	0.0020		
$g^5G - f^5F \left[\frac{9}{2} \right]$	1.7857	$z = 0.8089$	0.1027	$y = 0.0684$	0.0165
		$z = 0.0027$	0.0008		

TABLE 4b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: $4S$

$s^{(2S+1)L} - p(J_p)[K]$	$\sum_{J,J'}^s$				
$s^3S - p\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.5000	$z = 0.3333$	$y = 0.6667$		
$s^3S - p\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.0000	$z = 0.1667$	$y = 0.8333$		
$s^3S - p\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.5000	$z = 1.0000$			
$s^5S - p\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.8333	$z = 1.0000$			
$s^5S - p\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.6667	$z = 0.9000$	$y = 0.1000$		
$s^5S - p\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	2.5000	$z = 0.9333$	$y = 0.0667$		
$p^{(2S+1)L} - s(J_p)[K]$	$\sum_{J,J'}^s$				
$p^3P - s\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	3.0000	$z = 0.0000$	0.3333	$y = 0.5556$	$z = 0.0000$
$p^5P - s\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	5.0000	$z = 0.4667$	0.0000	$y = 0.3333$	0.0000
$p^{(2S+1)L} - d(J_p)[K]$	$\sum_{J,J'}^s$				
$p^3P - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.3000	$z = 0.0278$	0.0000	$y = 0.4167$	$z = 0.5556$
$p^3P - d\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.6000	$z = 0.1250$	0.2083	$y = 0.0139$	$z = 0.3750$
$p^3P - d\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	0.9000	$z = 0.2222$	0.5833	$y = 0.1944$	
$p^3P - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.2000	$z = 1.0000$			
$p^5P - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.5000	$z = 0.1500$	0.4000	$y = 0.4500$	
$p^5P - d\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.0000	$z = 0.0467$	0.0750	$y = 0.4083$	0.2250
$p^5P - d\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.5000	$z = 0.2667$	0.1167	$y = 0.0133$	$z = 0.5333$
$p^5P - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	2.0000	$z = 0.9000$	0.0667	$y = 0.0333$	
$d^{(2S+1)L} - p(J_p)[K]$	$\sum_{J,J'}^s$				
$d^3D - p\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.5000	$z = 0.2500$	0.6667	$y = 0.0833$	
$d^3D - p\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.0000	$z = 0.1400$	0.6250	$y = 0.0250$	0.2083
$d^3D - p\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.5000	$z = 0.0000$	0.1500	$y = 0.8400$	$z = 0.0000$
$d^5D - p\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.8333	$z = 0.3500$	0.0000	$y = 0.4500$	$z = 0.2000$
$d^5D - p\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.6667	$z = 0.5040$	0.0350	$y = 0.3150$	0.0450
		$z = 0.0810$	0.0200		
$d^5D - p\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	2.5000	$z = 0.7200$	0.0373	$y = 0.1867$	0.0233
		$z = 0.0267$	0.0060		
$d^{(2S+1)L} - f(J_p)[K]$	$\sum_{J,J'}^s$				
$d^3D - f\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.4286	$z = 0.0044$	0.0000	$y = 0.1556$	0.0000
$d^3D - f\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	0.6429	$z = 0.0617$	0.0691	$y = 0.0020$	$z = 0.4938$

TABLE 4b (CONTINUED)

$d^3D - f\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.8571	$z = 0.2500$	0.6667	$y = 0.0833$	
$d^3D - f\left(\frac{1}{2}\right)\left[\frac{3}{2}\right]$	1.0714	$z = 1.0000$			
$d^5D - f\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.7143	$z = 0.0160$	0.0400	$y = 0.1600$	0.2800
		$z = 0.2240$	0.2800		
$d^5D - f\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.0714	$z = 0.0086$	0.0160	$y = 0.1800$	0.1600
		$z = 0.4114$	0.2240		
$d^5D - f\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.4286	$z = 0.1250$	0.0750	$y = 0.0036$	$z = 0.8250$
$d^5D - f\left(\frac{1}{2}\right)\left[\frac{3}{2}\right]$	1.7857	$z = 0.8800$	0.1000	$y = 0.0200$	
$f^{(2S+1)L} - d(J_p)[K]$	$\sum_{J,J'}^s$				
$f^3F - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.3000	$z = 1.0000$			
$f^3F - d\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.6000	$z = 0.4444$	0.5000	$y = 0.0556$	
$f^3F - d\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	0.9000	$z = 0.2041$	0.6914	$y = 0.0176$	0.0864
$f^3F - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.2000	$z = 0.0000$	0.0794	$y = 0.9184$	$z = 0.0000$
$f^5F - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	0.5000	$z = 0.4000$	0.4000	$y = 0.2000$	
$f^5F - d\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	1.0000	$z = 0.4800$	0.2000	$y = 0.2000$	0.1000
$f^5F - d\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.5000	$z = 0.6122$	0.1371	$y = 0.1714$	0.0571
		$z = 0.0163$	0.0057		
$f^5F - d\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	2.0000	$z = 0.7857$	0.0765	$y = 0.1071$	0.0214
		$z = 0.0071$	0.0020		
$f^{(2S+1)L} - g(J_p)[K]$	$\sum_{J,J'}^s$				
$f^3F - g\left(\frac{3}{2}\right)\left[\frac{5}{2}\right]$	0.5000	$z = 0.0013$	0.0000	$y = 0.0804$	0.0000
$f^3F - g\left(\frac{3}{2}\right)\left[\frac{7}{2}\right]$	0.6667	$z = 0.0365$	0.0335	$y = 0.0005$	$z = 0.5469$
$f^3F - g\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	0.8333	$z = 0.2667$	0.6875	$y = 0.0458$	
$f^3F - g\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.0000	$z = 1.0000$			
$f^5F - g\left(\frac{3}{2}\right)\left[\frac{5}{2}\right]$	0.8333	$z = 0.0038$	0.0095	$y = 0.0744$	0.1429
		$z = 0.2551$	0.5143		
$f^5F - g\left(\frac{3}{2}\right)\left[\frac{7}{2}\right]$	1.1111	$z = 0.0026$	0.0052	$y = 0.0972$	0.1004
		$z = 0.4501$	0.3444		
$f^5F - g\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.3889	$z = 0.0720$	0.0495	$y = 0.0013$	$z = 0.6480$
$f^5F - g\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.6667	$z = 0.8667$	0.1200	$y = 0.0133$	
$g^{(2S+1)L} - f(J_p)[K]$	$\sum_{J,J'}^s$				
$g^3G - f\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.4286	$z = 1.0000$			
$g^3G - f\left(\frac{3}{2}\right)\left[\frac{5}{2}\right]$	0.6429	$z = 0.5208$	0.4444	$y = 0.0347$	
$g^3G - f\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	0.8571	$z = 0.2377$	0.7031	$y = 0.0122$	0.0469
$g^3G - f\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.0714	$z = 0.0000$	0.0486	$y = 0.9506$	$z = 0.0000$
$g^5G - f\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]$	0.7143	$z = 0.3333$	0.6000	$y = 0.0667$	
$g^5G - f\left(\frac{3}{2}\right)\left[\frac{5}{2}\right]$	1.0714	$z = 0.4911$	0.3333	$y = 0.1042$	0.0667
$g^5G - f\left(\frac{1}{2}\right)\left[\frac{1}{2}\right]$	1.4286	$z = 0.6417$	0.2046	$y = 0.1031$	0.0434
		$z = 0.0052$	0.0020		
$g^5G - f\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]$	1.7857	$z = 0.8089$	0.1027	$y = 0.0684$	0.0165
		$z = 0.0027$	0.0008		

TABLE 4c (CONTINUED)

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $4S$			
$s^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, j'} s$	$f^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, j'} s$
$s^3S - p^{(\frac{3}{2}, \frac{1}{2})}$	1.0000	$f^3F - d^{(\frac{3}{2}, \frac{3}{2})}$	1.2000
$s^3S - p^{(\frac{3}{2}, \frac{3}{2})}$	2.0000	$f^3F - d^{(\frac{3}{2}, \frac{5}{2})}$	1.8000
$s^5S - p^{(\frac{5}{2}, \frac{1}{2})}$	1.6667	$f^5F - d^{(\frac{5}{2}, \frac{3}{2})}$	2.0000
$s^5S - p^{(\frac{5}{2}, \frac{3}{2})}$	3.3333	$f^5F - d^{(\frac{5}{2}, \frac{5}{2})}$	3.0000
$p^{(2S+1)L} - s^{(J_p, j)}$	$\sum_{J, j'} s$		
$p^3P - s^{(\frac{3}{2}, \frac{1}{2})}$	3.0000	$f^{(2S+1)L} - g^{(J_p, j)}$	$\sum_{J, j'} s$
$p^5P - s^{(\frac{5}{2}, \frac{1}{2})}$	5.0000	$f^3F - g^{(\frac{3}{2}, \frac{7}{2})}$	1.3333
$p^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, j'} s$	$f^3F - g^{(\frac{3}{2}, \frac{9}{2})}$	1.6667
$p^3P - d^{(\frac{3}{2}, \frac{3}{2})}$	1.2000	$f^5F - g^{(\frac{3}{2}, \frac{7}{2})}$	2.2222
$p^3P - d^{(\frac{3}{2}, \frac{5}{2})}$	1.8000	$f^5F - g^{(\frac{3}{2}, \frac{9}{2})}$	2.7778
$p^5P - d^{(\frac{5}{2}, \frac{3}{2})}$	2.0000	$g^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, j'} s$
$p^5P - d^{(\frac{5}{2}, \frac{5}{2})}$	3.0000	$g^3G - f^{(\frac{3}{2}, \frac{5}{2})}$	1.2857
		$g^3G - f^{(\frac{3}{2}, \frac{7}{2})}$	1.7143
		$g^5G - f^{(\frac{3}{2}, \frac{5}{2})}$	2.1429
		$g^5G - f^{(\frac{3}{2}, \frac{7}{2})}$	2.8571

TABLE 5a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: $5S$

$s^{(2S+1)L} - p^{L'[K]}$	$\sum_{J, j'} s$
$s^4S - p^P [1]$	0.8000
$s^4S - p^P [2]$	1.3333
$s^4S - p^P [3]$	1.8667
$s^6S - p^P [1]$	1.2000

TABLE 4c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $4S$			
$s^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, j'} s$	$p^{(2S+1)L} - s^{(J_p, j)}$	$\sum_{J, j'} s$
$s^3S - p^{(\frac{3}{2}, \frac{1}{2})}$	1.0000	$p^3P - s^{(\frac{3}{2}, \frac{1}{2})}$	3.0000
$s^3S - p^{(\frac{3}{2}, \frac{3}{2})}$	2.0000	$p^5P - s^{(\frac{5}{2}, \frac{1}{2})}$	5.0000
$s^5S - p^{(\frac{5}{2}, \frac{1}{2})}$	1.6667	$p^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, j'} s$
$s^5S - p^{(\frac{5}{2}, \frac{3}{2})}$	3.3333	$p^3P - d^{(\frac{3}{2}, \frac{3}{2})}$	1.2000
		$p^3P - d^{(\frac{3}{2}, \frac{5}{2})}$	1.8000
		$p^5P - d^{(\frac{5}{2}, \frac{3}{2})}$	2.0000
		$p^5P - d^{(\frac{5}{2}, \frac{5}{2})}$	3.0000
		$d^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, j'} s$
		$d^3D - p^{(\frac{3}{2}, \frac{1}{2})}$	1.0000
		$d^3D - p^{(\frac{3}{2}, \frac{3}{2})}$	2.0000
		$d^5D - p^{(\frac{5}{2}, \frac{1}{2})}$	1.6667
		$d^5D - p^{(\frac{5}{2}, \frac{3}{2})}$	3.3333
		$d^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, j'} s$
		$d^3D - f^{(\frac{3}{2}, \frac{5}{2})}$	1.2857
		$d^3D - f^{(\frac{3}{2}, \frac{7}{2})}$	1.7143
		$d^5D - f^{(\frac{5}{2}, \frac{5}{2})}$	2.1429
		$d^5D - f^{(\frac{5}{2}, \frac{7}{2})}$	2.8571

TABLE 5a (CONTINUED)

$s^6S - p^6P [2]$	2.0000	$z = 0.9333$	$y = 0.0867$
$s^6S - p^6P [3]$	2.8000	$z = 0.9524$	$y = 0.0476$
$p^{(2s+1)}L - s^6L'[K]$	$\sum_{J,J'}^s$		
$p^4P - s^6S [2]$	4.0000	$z = 0.0000$	$z = 0.0000$
$p^6P - s^6S [2]$	6.0000	$z = 0.4444$	$z = 0.3333$
$p^{(2s+1)}L - d^6L'[K]$	$\sum_{J,J'}^s$		
$p^4P - d^6D [0]$	0.1600	$z = 0.1667$	$y = 0.8333$
$p^4P - d^6D [1]$	0.4800	$z = 0.0250$	$z = 0.0833$
$p^4P - d^6D [2]$	0.8000	$z = 0.0900$	$z = 0.3733$
$p^4P - d^6D [3]$	1.1200	$z = 0.1429$	$z = 0.6000$
$p^4P - d^6D [4]$	1.4400	$z = 1.0000$	$y = 0.2571$
$p^6P - d^6D [0]$	0.2400	$z = 1.0000$	$y = 0.2571$
$p^6P - d^6D [1]$	0.7200	$z = 0.2333$	$z = 0.2222$
$p^6P - d^6D [2]$	1.2000	$z = 0.0635$	$z = 0.0600$
$p^6P - d^6D [3]$	1.6800	$z = 0.3061$	$z = 0.0871$
$p^6P - d^6D [4]$	2.1600	$z = 0.9259$	$z = 0.0476$
$d^{(2s+1)}L - p^6L'[K]$	$\sum_{J,J'}^s$		
$d^4D - p^6P [1]$	0.8000	$z = 0.1050$	$z = 0.4167$
$d^4D - p^6P [2]$	1.3333	$z = 0.0800$	$z = 0.5670$
$d^4D - p^6P [3]$	1.8667	$z = 0.0020$	$z = 0.0450$
$d^4D - p^6P [4]$	2.4000	$z = 0.0000$	$z = 0.1800$
$d^6D - p^6P [1]$	1.2000	$z = 0.2800$	$z = 0.0000$
$d^6D - p^6P [2]$	2.0000	$z = 0.4800$	$z = 0.0187$
$d^6D - p^6P [3]$	2.8000	$z = 0.1120$	$z = 0.0200$
$d^6D - p^6P [4]$	3.6000	$z = 0.7143$	$z = 0.0245$
$d^6D - p^6P [5]$	4.4000	$z = 0.0340$	$z = 0.0057$
$d^{(2s+1)}L - f^6L'[K]$	$\sum_{J,J'}^s$		
$d^4D - f^6F [1]$	0.3429	$z = 0.0200$	$z = 0.0000$
$d^4D - f^6F [2]$	0.5714	$z = 0.0057$	$z = 0.0080$
$d^4D - f^6F [3]$	0.8000	$z = 0.0510$	$z = 0.1567$
$d^4D - f^6F [4]$	1.0286	$z = 0.1667$	$z = 0.7143$
$d^4D - f^6F [5]$	1.2571	$z = 1.0000$	$y = 0.1190$
$d^6D - f^6F [1]$	0.5143	$z = 0.0533$	$z = 0.1235$
$d^6D - f^6F [2]$	0.8571	$z = 0.0343$	$z = 0.0480$
$d^6D - f^6F [3]$	1.2000	$z = 0.0132$	$z = 0.0163$
$d^6D - f^6F [4]$	1.5429	$z = 0.4592$	$z = 0.1371$
$d^6D - f^6F [5]$	1.8857	$z = 0.1509$	$z = 0.0627$

TABLE 5a (CONTINUED)

$f^{(2s+1)}L - d^6L'[K]$	$\sum_{J,J'}^s$		
$f^4F - d^6D [0]$	0.1600	$z = 1.0000$	$y = 0.1000$
$f^4F - d^6D [1]$	0.4800	$z = 0.4000$	$z = 0.5000$
$f^4F - d^6D [2]$	0.8000	$z = 0.2449$	$z = 0.5600$
$f^4F - d^6D [3]$	1.1200	$z = 0.1276$	$z = 0.6997$
$f^4F - d^6D [4]$	1.4400	$z = 0.0007$	$z = 0.0082$
$f^4F - d^6D [5]$	1.7600	$z = 0.0000$	$z = 0.1020$
$f^6F - d^6D [0]$	0.2400	$z = 0.4444$	$y = 0.5556$
$f^6F - d^6D [1]$	0.7200	$z = 0.4000$	$z = 0.0988$
$f^6F - d^6D [2]$	1.2000	$z = 0.4898$	$z = 0.1029$
$f^6F - d^6D [3]$	1.6800	$z = 0.0457$	$z = 0.0159$
$f^6F - d^6D [4]$	2.1600	$z = 0.6236$	$z = 0.0875$
$f^6F - d^6D [5]$	2.6400	$z = 0.0262$	$z = 0.0082$
$f^6F - d^6D [6]$	3.1200	$z = 0.7937$	$z = 0.0539$
$f^6F - d^6D [7]$	3.6000	$z = 0.0098$	$z = 0.0023$
$f^{(2s+1)}L - g^6L'[K]$	$\sum_{J,J'}^s$		
$f^4F - g^6G [2]$	0.4444	$z = 0.0051$	$z = 0.0000$
$f^4F - g^6G [3]$	0.6222	$z = 0.0019$	$z = 0.0018$
$f^4F - g^6G [4]$	0.8000	$z = 0.5535$	$z = 0.3061$
$f^4F - g^6G [5]$	0.9778	$z = 0.0324$	$z = 0.0831$
$f^4F - g^6G [6]$	1.1556	$z = 0.1818$	$z = 0.7500$
$f^4F - g^6G [7]$	1.3333	$z = 1.0000$	$y = 0.0082$
$f^6F - g^6G [2]$	0.6667	$z = 0.0102$	$z = 0.0238$
$f^6F - g^6G [3]$	0.8333	$z = 0.2143$	$z = 0.4286$
$f^6F - g^6G [4]$	1.0000	$z = 0.0094$	$z = 0.0146$
$f^6F - g^6G [5]$	1.1667	$z = 0.3675$	$z = 0.3061$
$f^6F - g^6G [6]$	1.3333	$z = 0.0043$	$z = 0.0060$
$f^6F - g^6G [7]$	1.5000	$z = 0.5238$	$z = 0.2338$
$f^6F - g^6G [8]$	1.6667	$z = 0.0895$	$z = 0.0441$
$f^6F - g^6G [9]$	1.8333	$z = 0.8974$	$z = 0.0909$
$g^{(2s+1)}L - f^6L'[K]$	$\sum_{J,J'}^s$		
$g^4G - f^6F [1]$	0.3429	$z = 1.0000$	$y = 0.0643$
$g^4G - f^6F [2]$	0.5714	$z = 0.5357$	$z = 0.4000$
$g^4G - f^6F [3]$	0.8000	$z = 0.3183$	$z = 0.5740$
$g^4G - f^6F [4]$	1.0286	$z = 0.1556$	$z = 0.7427$
$g^4G - f^6F [5]$	1.2571	$z = 0.0003$	$z = 0.0025$
$g^6G - f^6F [1]$	0.5143	$z = 0.0000$	$z = 0.0648$
$g^6G - f^6F [2]$	0.8571	$z = 0.3333$	$z = 0.5556$
$g^6G - f^6F [3]$	1.2000	$z = 0.4365$	$z = 0.3000$
$g^6G - f^6F [4]$	1.5429	$z = 0.5456$	$z = 0.2079$
$g^6G - f^6F [5]$	1.8857	$z = 0.0128$	$z = 0.0053$
$g^6G - f^6F [6]$	2.2286	$z = 0.6741$	$z = 0.1415$
$g^6G - f^6F [7]$	2.5714	$z = 0.8249$	$z = 0.0752$
$g^6G - f^6F [8]$	2.9143	$z = 0.0038$	$z = 0.0010$

TABLE 5b (CONTINUED)

$d^4D - f(2)[5]$	1.2571	$z = 1.0000$
$d^6D - f(2)[1]$	0.5143	$z = 0.0533$ 0.1235 $y = 0.2528$ 0.4321 $z = 0.1383$
$d^6D - f(2)[2]$	0.8571	$z = 0.0343$ 0.0480 $y = 0.2777$ 0.2276
		$z = 0.2880$ 0.1244
$d^6D - f(2)[3]$	1.2000	$z = 0.0132$ 0.0163 $y = 0.2419$ 0.1322
		$z = 0.4592$ 0.1371
$d^6D - f(2)[4]$	1.5429	$z = 0.1509$ 0.0627 $y = 0.0034$ $z = 0.6639$ 0.1190
$d^6D - f(2)[5]$	1.8857	$z = 0.9091$ 0.0741 $y = 0.0163$
$f^{(2s+1)}L - d(J_p)[K]$	$\sum_{J,J'}^s$	
$f^4F - d(2)[0]$	0.1600	$z = 1.0000$
$f^4F - d(2)[1]$	0.4800	$z = 0.4000$ 0.5000 $y = 0.1000$
$f^4F - d(2)[2]$	0.8000	$z = 0.2449$ 0.5600 $y = 0.0522$ 0.1400 $z = 0.0029$
$f^4F - d(2)[3]$	1.1200	$z = 0.1276$ 0.6997 $y = 0.0146$ 0.1493
		$z = 0.0007$ 0.0082
$f^4F - d(2)[4]$	1.4400	$z = 0.0000$ 0.1020 $y = 0.8929$ $z = 0.0000$ 0.0051
$f^6F - d(2)[0]$	0.2400	$z = 0.4444$ $y = 0.5556$
$f^6F - d(2)[1]$	0.7200	$z = 0.4000$ 0.0988 $y = 0.3160$ 0.1235 $z = 0.0617$
$f^6F - d(2)[2]$	1.2000	$z = 0.4898$ 0.1029 $y = 0.2645$ 0.0813
		$z = 0.0457$ 0.0159
$f^6F - d(2)[3]$	1.6800	$z = 0.6236$ 0.0875 $y = 0.2073$ 0.0472
		$z = 0.0262$ 0.0082
$f^6F - d(2)[4]$	2.1600	$z = 0.7937$ 0.0539 $y = 0.1225$ 0.0179
		$z = 0.0098$ 0.0023
$f^{(2s+1)}L - g(J_p)[K]$	$\sum_{J,J'}^s$	
$f^4F - g(2)[2]$	0.4444	$z = 0.0051$ 0.0000 $y = 0.1378$ 0.0000 $z = 0.8571$
$f^4F - g(2)[3]$	0.6222	$z = 0.0019$ 0.0018 $y = 0.0875$ 0.0492
		$z = 0.5535$ 0.3061
$f^4F - g(2)[4]$	0.8000	$z = 0.0324$ 0.0831 $y = 0.0018$ $z = 0.3565$ 0.5261
$f^4F - g(2)[5]$	0.9778	$z = 0.1818$ 0.7500 $y = 0.0682$
$f^4F - g(2)[6]$	1.1556	$z = 1.0000$
$f^6F - g(2)[2]$	0.6667	$z = 0.0102$ 0.0238 $y = 0.1088$ 0.2143
		$z = 0.2143$ 0.4286
$f^6F - g(2)[3]$	0.9333	$z = 0.0094$ 0.0146 $y = 0.1470$ 0.1555
		$z = 0.3675$ 0.3061
$f^6F - g(2)[4]$	1.2000	$z = 0.0043$ 0.0060 $y = 0.1385$ 0.0935
		$z = 0.5238$ 0.2338
$f^6F - g(2)[5]$	1.4667	$z = 0.0895$ 0.0441 $y = 0.0014$ $z = 0.6983$ 0.1667
$f^6F - g(2)[6]$	1.7333	$z = 0.8974$ 0.0909 $y = 0.0117$
$g^{(2s+1)}L - f(J_p)[K]$	$\sum_{J,J'}^s$	
$g^4G - f(2)[1]$	0.3429	$z = 1.0000$
$g^4G - f(2)[2]$	0.5714	$z = 0.5357$ 0.4000 $y = 0.0643$

TABLE 5b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 5S

$s^{(2s+1)}L - p(J_p)[K]$	$\sum_{J,J'}^s$	
$s^4S - p(2)[1]$	0.8000	$z = 0.1667$ $y = 0.8333$
$s^4S - p(2)[2]$	1.3333	$z = 0.1000$ $y = 0.9000$
$s^4S - p(2)[3]$	1.8667	$z = 1.0000$
$s^6S - p(2)[1]$	1.2000	$z = 1.0000$
$s^6S - p(2)[2]$	2.0000	$z = 0.9333$ $y = 0.0667$
$s^6S - p(2)[3]$	2.8000	$z = 0.9524$ $y = 0.0476$
$p^{(2s+1)}L - s(J_p)[K]$	$\sum_{J,J'}^s$	
$p^4P - s(2)[2]$	4.0000	$z = 0.0000$ 0.3333 $y = 0.5000$ $z = 0.0000$ 0.1667
$p^6P - s(2)[2]$	6.0000	$z = 0.4444$ 0.0000 $y = 0.3333$ 0.0000 $z = 0.2222$
$p^{(2s+1)}L - d(J_p)[K]$	$\sum_{J,J'}^s$	
$p^4P - d(2)[0]$	0.1600	$z = 0.1667$ $y = 0.8333$
$p^4P - d(2)[1]$	0.4800	$z = 0.0250$ 0.0633 $y = 0.2667$ 0.4167 $z = 0.2083$
$p^4P - d(2)[2]$	0.8000	$z = 0.0900$ 0.3733 $y = 0.0350$ $z = 0.2100$ 0.2917
$p^4P - d(2)[3]$	1.1200	$z = 0.1429$ 0.6000 $y = 0.2571$
$p^4P - d(2)[4]$	1.4400	$z = 1.0000$
$p^6P - d(2)[0]$	0.2400	$z = 1.0000$
$p^6P - d(2)[1]$	0.7200	$z = 0.2333$ 0.2222 $y = 0.5444$
$p^6P - d(2)[2]$	1.2000	$z = 0.0635$ 0.0600 $y = 0.4876$ 0.1400 $z = 0.2489$
$p^6P - d(2)[3]$	1.6800	$z = 0.3061$ 0.0871 $y = 0.0113$ $z = 0.5510$ 0.0444
$p^6P - d(2)[4]$	2.1600	$z = 0.9259$ 0.0476 $y = 0.0265$
$d^{(2s+1)}L - p(J_p)[K]$	$\sum_{J,J'}^s$	
$d^4D - p(2)[1]$	0.8000	$z = 0.1050$ 0.4167 $y = 0.0533$ 0.4167 $z = 0.0083$
$d^4D - p(2)[2]$	1.3333	$z = 0.0800$ 0.5670 $y = 0.0180$ 0.2880
		$z = 0.0020$ 0.0450
$d^4D - p(2)[3]$	1.8667	$z = 0.0000$ 0.1800 $y = 0.8000$ $z = 0.0000$ 0.0200
$d^6D - p(2)[1]$	1.2000	$z = 0.2800$ 0.0000 $y = 0.4200$ 0.0000 $z = 0.3000$
$d^6D - p(2)[2]$	2.0000	$z = 0.4800$ 0.0187 $y = 0.3413$ 0.0280
		$z = 0.1120$ 0.0200
$d^6D - p(2)[3]$	2.8000	$z = 0.7143$ 0.0245 $y = 0.2041$ 0.0174
		$z = 0.0340$ 0.0057
$d^{(2s+1)}L - f(J_p)[K]$	$\sum_{J,J'}^s$	
$d^4D - f(2)[1]$	0.3429	$z = 0.0200$ 0.0000 $y = 0.2800$ 0.0000 $z = 0.7000$
$d^4D - f(2)[2]$	0.5714	$z = 0.0057$ 0.0080 $y = 0.1463$ 0.1120
		$z = 0.4480$ 0.2800
$d^4D - f(2)[3]$	0.8000	$z = 0.0510$ 0.1567 $y = 0.0061$ $z = 0.3061$ 0.4800
$d^4D - f(2)[4]$	1.0286	$z = 0.1667$ 0.7143 $y = 0.1190$

TABLE 5b (CONTINUED)

$g^4G - f(2)[5]$	0.8000	$z = 0.3183$	0.5740	$y = 0.0378$	0.0689	$z = 0.0011$
$g^4G - f(2)[4]$	1.0286	$z = 0.1556$	0.7427	$y = 0.0108$	0.0882	
		$z = 0.0003$	0.0025			
$g^4G - f(2)[5]$	1.2571	$z = 0.0000$	0.0648	$y = 0.9333$	$z = 0.0000$	0.0019
$g^6G - f(2)[1]$	0.5143	$z = 0.3333$	0.5556	$y = 0.1111$		
$g^6G - f(2)[2]$	0.8571	$z = 0.4365$	0.3000	$y = 0.1524$	0.1000	$z = 0.0111$
$g^6G - f(2)[3]$	1.2000	$z = 0.5456$	0.2079	$y = 0.1559$	0.0726	
		$z = 0.0128$	0.0053			
$g^6G - f(2)[4]$	1.5429	$z = 0.6741$	0.1415	$y = 0.1317$	0.0404	
		$z = 0.0091$	0.0033			
$g^6G - f(2)[5]$	1.8657	$z = 0.8249$	0.0752	$y = 0.0803$	0.0147	
		$z = 0.0038$	0.0010			

TABLE 5c

TRANSITIONS BETWEEN LS AND jJ STATES. PARENT TERM: $5S$

$s^{(2S+1)L} - p(J_p, j)$	$\sum_{j,j'}^s$					
$s^4S - p(2, \frac{1}{2})$	1.3333	$z = 0.8000$	$y = 0.2000$			
$s^4S - p(2, \frac{3}{2})$	2.6667	$z = 0.3500$	$y = 0.4000$	$z = 0.2500$		
$s^6S - p(2, \frac{1}{2})$	2.0000	$z = 0.4667$	$y = 0.5333$			
$s^6S - p(2, \frac{3}{2})$	4.0000	$z = 0.6667$	$y = 0.2667$	$z = 0.0667$		
$p^{(2S+1)L} - s(J_p, j)$	$\sum_{j,j'}^s$					
$p^4P - s(2, \frac{1}{2})$	4.0000	$z = 0.0000$	0.3333	$y = 0.5000$	$z = 0.0000$	0.1667
$p^6P - s(2, \frac{1}{2})$	6.0000	$z = 0.4444$	0.0000	$y = 0.3333$	0.0000	$z = 0.2222$
$p^{(2S+1)L} - d(J_p, j)$	$\sum_{j,j'}^s$					
$p^4P - d(2, \frac{3}{2})$	1.6000	$z = 0.6400$	0.1890	0.0333	$y = 0.0810$	0.0427
		$z = 0.0040$	0.0017			
$p^4P - d(2, \frac{5}{2})$	2.4000	$z = 0.2400$	0.2240	0.1167	$y = 0.0960$	0.1493
		$z = 0.0140$	0.0267			
$p^6P - d(2, \frac{3}{2})$	2.4000	$z = 0.0857$	0.1950	0.1960	$y = 0.0254$	0.0840
		$z = 0.1543$	0.0996			
$p^6P - d(2, \frac{5}{2})$	3.6000	$z = 0.5556$	0.1829	0.0373	$y = 0.1016$	0.0731
		$z = 0.0095$	0.0107	0.0044		
$d^{(2S+1)L} - p(J_p, j)$	$\sum_{j,j'}^s$					
$d^4D - p(2, \frac{1}{2})$	1.3333	$z = 0.6400$	0.1260	$y = 0.1440$	0.0640	
		$z = 0.0160$	0.0100			
$d^4D - p(2, \frac{3}{2})$	2.6667	$z = 0.0000$	0.0630	0.1280	0.1250	
		$y = 0.2800$	0.2520	0.1250	$z = 0.0000$	0.0070
$d^6D - p(2, \frac{1}{2})$	2.0000	$z = 0.2400$	0.1493	$y = 0.1707$	0.2240	
		$z = 0.0560$	0.1600			

TABLE 5c (CONTINUED)

$d^6D - p(2, \frac{3}{2})$	4.0000	$z = 0.5000$	0.1371	0.0187	0.0000	
		$y = 0.1429$	0.0975	0.0280	0.0000	
		$z = 0.0238$	0.0320	0.0200		
$d^{(2S+1)L} - f(J_p, j)$	$\sum_{j,j'}^s$					
$d^4D - f(2, \frac{5}{2})$	1.7143	$z = 0.5714$	0.2449	0.0853	0.0200	
		$y = 0.0408$	0.0279	0.0080	0.0000	
		$z = 0.0011$	0.0006	0.0000		
$d^4D - f(2, \frac{7}{2})$	2.2857	$z = 0.1964$	0.2449	0.2160	0.1600	
		$y = 0.0408$	0.0705	0.0640	$z = 0.0028$	0.0046
$d^6D - f(2, \frac{5}{2})$	2.5714	$z = 0.0323$	0.0860	0.1190	0.1156	0.0864
		$y = 0.0047$	0.0147	0.0244	0.0247	
		$z = 0.1423$	0.1633	0.1234	0.0632	
$d^6D - f(2, \frac{7}{2})$	3.4286	$z = 0.5000$	0.2328	0.0918	0.0274	0.0044
		$y = 0.0529$	0.0484	0.0264	0.0081	
		$z = 0.0026$	0.0033	0.0017		
$f^{(2S+1)L} - d(J_p, j)$	$\sum_{j,j'}^s$					
$f^4F - d(2, \frac{3}{2})$	1.6000	$z = 0.5714$	0.2204	0.0640	0.0100	
		$y = 0.0653$	0.0470	0.0160	$z = 0.0033$	0.0026
$f^4F - d(2, \frac{5}{2})$	2.4000	$z = 0.0000$	0.0245	0.0557	0.0560	
		$y = 0.2143$	0.2612	0.2240	0.1600	
		$z = 0.0000$	0.0012	0.0030		
$f^6F - d(2, \frac{3}{2})$	2.4000	$z = 0.1746$	0.1959	0.1440	0.0711	
		$y = 0.0580$	0.1058	0.1138	0.0889	
		$z = 0.0073$	0.0183	0.0222		
$f^6F - d(2, \frac{5}{2})$	3.6000	$z = 0.4762$	0.2069	0.0735	0.0183	0.0020
		$y = 0.0735$	0.0688	0.0397	0.0144	0.0025
		$z = 0.0059$	0.0087	0.0069	0.0028	
$f^{(2S+1)L} - g(J_p, j)$	$\sum_{j,j'}^s$					
$f^4F - g(2, \frac{7}{2})$	1.7778	$z = 0.5333$	0.2674	0.1148	0.0357	
		$y = 0.0243$	0.0181	0.0057	0.0000	
		$z = 0.0004$	0.0002	0.0000		
$f^4F - g(2, \frac{9}{2})$	2.2222	$z = 0.1733$	0.2444	0.2526	0.2286	
		$y = 0.0222$	0.0399	0.0367	$z = 0.0009$	0.0014
$f^6F - g(2, \frac{7}{2})$	2.6667	$z = 0.0164$	0.0462	0.0886	0.0726	0.0536
		$y = 0.0014$	0.0044	0.0068	0.0060	
		$z = 0.1280$	0.1746	0.1715	0.1429	0.1071
$f^6F - g(2, \frac{9}{2})$	3.3333	$z = 0.4667$	0.2521	0.1222	0.0499	0.0143
		$y = 0.0523$	0.0323	0.0200	0.0073	
		$z = 0.0010$	0.0013	0.0007		
$g^{(2S+1)L} - f(J_p, j)$	$\sum_{j,j'}^s$					
$g^4G - f(2, \frac{5}{2})$	1.7143	$z = 0.5333$	0.2546	0.1020	0.0286	
		$y = 0.0370$	0.0302	0.0122	$z = 0.0011$	0.0009

TABLE 6a (CONTINUED)

$d^{(2s+1)L} - f L'[K]$	$\sum_{J,J'}^s$	1.2000	$z = 0.6000$	0.3333	$y = 0.0667$	$z = 0.0400$
$d^2P - f D [2]$		0.2222	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$d^2D - f D [2]$		1.7778	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^2F - f F [3]$		0.0063	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^2F - f D [2]$		0.2222	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$d^2F - f F [3]$		2.5714	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^{(2s+1)L} - d L'[K]$	$\sum_{J,J'}^s$	1.2000	$z = 0.6000$	0.3333	$y = 0.0667$	
$f^2D - d P [1]$		0.2222	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$f^2D - d D [2]$		0.0063	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2D - d F [3]$		1.7778	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2F - d D [2]$		0.2222	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$f^2F - d F [3]$		2.5714	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^{(2s+1)L} - g L'[K]$	$\sum_{J,J'}^s$	1.4286	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2D - g F [3]$		0.1250	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$f^2F - g F [3]$		1.8750	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^2F - g G [4]$		0.0020	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^2G - g F [3]$		0.1250	$z = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
$f^2G - g G [4]$		2.4444	$z = 0.5455$	0.4444	$y = 0.0101$	
$g^{(2s+1)L} - f L'[K]$	$\sum_{J,J'}^s$	1.4286	$z = 0.5714$	0.4000	$y = 0.0286$	
$g^2F - f D [2]$		0.1250	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$g^2F - f F [3]$		0.0020	$z = 0.5556$	0.4286	$y = 0.0159$	
$g^2F - f G [4]$		1.8750	$z = 0.5556$	0.4286	$y = 0.0159$	
$g^2G - f F [3]$		0.1250	$z = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
$g^2G - f G [4]$		2.4444	$z = 0.5455$	0.4444	$y = 0.0101$	

TABLE 6b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 1P

$s^{(2s+1)L} - p ({}^1P) [K]$	$\sum_{J,J'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$s^2P - p (1)[0]$		2.0000	$z = 0.5556$	0.2222	$y = 0.1111$
$s^2P - p (1)[1]$		3.3333	$z = 0.6000$	0.3333	$y = 0.0667$

TABLE 5c (CONTINUED)

$g^4G - f (2, \frac{7}{2})$	2.2857	$z = 0.0000$	0.0127	0.0302	0.0310
		$y = 0.1833$	0.2546	0.2583	0.2286
		$z = 0.0000$	0.0004	0.0009	
$g^6G - f (2, \frac{5}{2})$	2.5714	$z = 0.1444$	0.1940	0.1871	0.1524
		$y = 0.0282$	0.0554	0.0653	0.0508
		$z = 0.0019$	0.0045	0.0048	
$g^6G - f (2, \frac{3}{2})$	3.4286	$z = 0.4537$	0.2364	0.1091	0.0416
		$y = 0.0442$	0.0462	0.0312	0.0145
		$z = 0.0021$	0.0032	0.0026	0.0011

TABLE 6a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 1P

$s^{(2s+1)L} - p L'[K]$	$\sum_{J,J'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$s^2P - p S [0]$		2.0000	$z = 0.5556$	0.2222	$y = 0.1111$
$s^2P - p P [1]$		3.3333	$z = 0.6000$	0.3333	$y = 0.0667$
$p^{(2s+1)L} - s L'[K]$	$\sum_{J,J'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$p^2S - s P [1]$		2.0000	$z = 0.5556$	0.2222	$y = 0.1111$
$p^2D - s P [1]$		3.3333	$z = 0.6000$	0.3333	$y = 0.0667$
$p^{(2s+1)L} - d L'[K]$	$\sum_{J,J'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$p^2S - d P [1]$		0.5000	$z = 0.5556$	0.2222	$y = 0.1111$
$p^2P - d P [1]$		1.5000	$z = 0.6000$	0.3333	$y = 0.0667$
$p^2D - d D [2]$		0.0333	$z = 0.6000$	0.3333	$y = 0.0667$
$p^2D - d P [1]$		0.5000	$z = 0.5600$	0.3600	$y = 0.0400$
$p^2D - d D [2]$		2.8000	$z = 0.5714$	0.4000	$y = 0.0286$
$d^{(2s+1)L} - p L'[K]$	$\sum_{J,J'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$d^2P - p S [0]$		0.5000	$z = 0.5556$	0.2222	$y = 0.1111$
$d^2P - p P [1]$		0.0333	$z = 0.6000$	0.3333	$y = 0.0667$
$d^2D - p D [2]$		1.5000	$z = 0.6000$	0.3333	$y = 0.0667$
$d^2D - p P [1]$		0.5000	$z = 0.5600$	0.3600	$y = 0.0400$
$d^2D - p D [2]$		2.8000	$z = 0.5714$	0.4000	$y = 0.0286$

TABLE 6b (CONTINUED)

$p^{(2S+1)L - s(J_p)[K]}$	$\sum_{J_p'}^s$	0.6667	$z = 0.6667$	$y = 0.3333$	
$p^2S - s(1)[1]$	0.6667	$z = 0.6667$	$y = 0.3333$		
$p^2P - s(1)[1]$	2.0000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
$p^2D - s(1)[1]$	3.3333	$z = 0.6000$	0.3333	$y = 0.0667$	
$p^{(2S+1)L - d(J_p)[K]}$	$\sum_{J_p'}^s$				
$p^2S - d(1)[1]$	0.6667	$z = 0.6667$	$y = 0.3333$		
$p^2P - d(1)[1]$	0.5000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
$p^2P - d(1)[2]$	1.5000	$z = 0.6000$	0.3333	$y = 0.0667$	
$p^2D - d(1)[1]$	0.0333	$z = 0.6000$	0.3333	$y = 0.0667$	
$p^2D - d(1)[2]$	0.5000	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$p^2D - d(1)[3]$	2.8000	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^{(2S+1)L - p(J_p)[K]}$	$\sum_{J_p'}^s$				
$d^2P - p(1)[0]$	0.6667	$z = 0.6667$	$y = 0.3333$		
$d^2P - p(1)[1]$	0.5000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
$d^2P - p(1)[2]$	0.0333	$z = 0.6000$	0.3333	$y = 0.0667$	
$d^2D - p(1)[1]$	1.5000	$z = 0.6000$	0.3333	$y = 0.0667$	
$d^2D - p(1)[2]$	0.5000	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$d^2F - p(1)[2]$	2.8000	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^{(2S+1)L - f(J_p)[K]}$	$\sum_{J_p'}^s$				
$d^2P - f(1)[2]$	1.2000	$z = 0.6000$	0.3333	$y = 0.0667$	
$d^2D - f(1)[2]$	0.2222	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$d^2D - f(1)[3]$	1.7778	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^2F - f(1)[2]$	0.0063	$z = 0.5714$	0.4000	$y = 0.0286$	
$d^2F - f(1)[3]$	0.2222	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$d^2F - f(1)[4]$	2.5714	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^{(2S+1)L - d(J_p)[K]}$	$\sum_{J_p'}^s$				
$f^2D - d(1)[1]$	1.2000	$z = 0.6000$	0.3333	$y = 0.0667$	
$f^2D - d(1)[2]$	0.2222	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
$f^2D - d(1)[3]$	0.0063	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2F - d(1)[2]$	1.7778	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2F - d(1)[3]$	0.2222	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$f^2G - d(1)[3]$	2.5714	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^{(2S+1)L - g(J_p)[K]}$	$\sum_{J_p'}^s$				
$f^2D - g(1)[3]$	1.4286	$z = 0.5714$	0.4000	$y = 0.0286$	
$f^2F - g(1)[3]$	0.1250	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$f^2F - g(1)[4]$	1.8750	$z = 0.5556$	0.4286	$y = 0.0159$	
$f^2G - g(1)[3]$	0.0020	$z = 0.5556$	0.4286	$y = 0.0159$	

TABLE 6b (CONTINUED)

$f^2G - g(1)[4]$	0.1250	$z = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
$f^2G - g(1)[5]$	2.4444	$z = 0.5455$	0.4444	$y = 0.0101$	
$g^{(2S+1)L - f(J_p)[K]}$	$\sum_{J_p'}^s$				
$g^2F - f(1)[2]$	1.4286	$z = 0.5714$	0.4000	$y = 0.0286$	
$g^2F - f(1)[3]$	0.1250	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
$g^2F - f(1)[4]$	0.0020	$z = 0.5556$	0.4286	$y = 0.0159$	
$g^2G - f(1)[3]$	1.8750	$z = 0.5556$	0.4286	$y = 0.0159$	
$g^2G - f(1)[4]$	0.1250	$z = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
$g^2H - f(1)[4]$	2.4444	$z = 0.5455$	0.4444	$y = 0.0101$	
$TRANSITIONS BETWEEN IS AND JI STATES. PARENT TERM: ^1P$					
$s^{(2S+1)L - p(J_p, j)}$	$\sum_{J_p, j}^s$				
$s^2P - p(1, \frac{1}{2})$	2.0000	$z = 0.3704$	0.0370	$y = 0.2963$	$z = 0.2963$
$s^2P - p(1, \frac{3}{2})$	4.0000	$z = 0.5000$	0.1852	$y = 0.1481$	$z = 0.0185$
$p^{(2S+1)L - s(J_p, j)}$	$\sum_{J_p, j}^s$				
$p^2S - s(1, \frac{1}{2})$	0.6667	$z = 0.6667$	$y = 0.3333$		
$p^2P - s(1, \frac{1}{2})$	2.0000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
$p^2D - s(1, \frac{1}{2})$	3.3333	$z = 0.8000$	0.3333	$y = 0.0667$	
$p^{(2S+1)L - d(J_p, j)}$	$\sum_{J_p, j}^s$				
$p^2S - d(1, \frac{3}{2})$	0.2667	$z = 0.1667$	$y = 0.8333$		
$p^2S - d(1, \frac{5}{2})$	0.4000	$z = 1.0000$			
$p^2P - d(1, \frac{3}{2})$	0.8000	$z = 0.0750$	0.4444	$y = 0.2722$	0.1389
$p^2P - d(1, \frac{5}{2})$	1.2000	$z = 0.7000$	0.1667	$y = 0.1333$	
$p^2D - d(1, \frac{3}{2})$	1.3333	$z = 0.1260$	0.1127	$y = 0.0240$	0.0083
$p^2D - d(1, \frac{5}{2})$	2.0000	$z = 0.8000$	0.0840	$y = 0.0960$	0.0160
$d^{(2S+1)L - p(J_p, j)}$	$\sum_{J_p, j}^s$				
$d^2P - p(1, \frac{1}{2})$	0.4000	$z = 0.0741$	0.7407	$y = 0.0926$	$z = 0.0926$
$d^2P - p(1, \frac{3}{2})$	0.8000	$z = 0.0250$	0.0370	$y = 0.3130$	0.0463
$d^2D - p(1, \frac{1}{2})$	0.6667	$z = 0.1000$	0.5000	$y = 0.4000$	
$d^2D - p(1, \frac{3}{2})$	1.3333	$z = 0.2100$	0.0100	$y = 0.6400$	0.1250
$d^2F - p(1, \frac{1}{2})$	0.9333	$z = 1.0000$			
$d^2F - p(1, \frac{3}{2})$	1.8667	$z = 0.8571$	0.1000	$y = 0.0429$	

TABLE 6c

TRANSITIONS BETWEEN IS AND JI STATES. PARENT TERM: 1P

TABLE 6c (CONTINUED)

$d^{(2s+1)L} - f^{(J_p, j)}$	$\sum_{J, j'}^s$	
$d^2P - f(1, \frac{5}{2})$	0.5143	$z = 0.0667$ $y = 0.1556$
$d^2P - f(1, \frac{3}{2})$	0.6857	$z = 1.0000$
$d^2D - f(1, \frac{5}{2})$	0.8571	$z = 0.0423$ $y = 0.1029$ 0.0933 $z = 0.0104$
$d^2D - f(1, \frac{3}{2})$	1.1429	$z = 0.8571$ 0.0667 $y = 0.0762$
$d^2F - f(1, \frac{5}{2})$	1.2000	$z = 0.0583$ 0.0706 $y = 0.0052$ 0.0021 $z = 0.8638$
$d^2F - f(1, \frac{3}{2})$	1.6000	$z = 0.8929$ 0.0437 $y = 0.0583$ 0.0039 $z = 0.0012$
$f^{(2s+1)L} - d^{(J_p, j)}$	$\sum_{J, j'}^s$	
$f^2D - d(1, \frac{3}{2})$	0.5714	$z = 0.0107$ 0.2240 $y = 0.0560$ 0.7000 $z = 0.0093$
$f^2D - d(1, \frac{1}{2})$	0.8571	$z = 0.0042$ 0.0071 $y = 0.1383$ 0.0373 $z = 0.8130$
$f^2F - d(1, \frac{3}{2})$	0.8000	$z = 0.0476$ 0.8000 $y = 0.1524$
$f^2F - d(1, \frac{1}{2})$	1.2000	$z = 0.1020$ 0.0163 $y = 0.8186$ 0.0593 $z = 0.0038$
$f^2G - d(1, \frac{3}{2})$	1.0286	$z = 1.0000$
$f^2G - d(1, \frac{1}{2})$	1.5429	$z = 0.9259$ 0.0476 $y = 0.0265$
$f^{(2s+1)L} - g^{(J_p, j)}$	$\sum_{J, j'}^s$	
$f^2D - g(1, \frac{7}{2})$	0.6349	$z = 0.0357$ 0.9000 $y = 0.0643$
$f^2D - g(1, \frac{5}{2})$	0.7937	$z = 1.0000$
$f^2F - g(1, \frac{7}{2})$	0.8889	$z = 0.0260$ 0.8622 $y = 0.0514$ 0.0574 $z = 0.0029$
$f^2F - g(1, \frac{5}{2})$	1.1111	$z = 0.9167$ 0.0357 $y = 0.0476$
$f^2G - g(1, \frac{7}{2})$	1.1429	$z = 0.0350$ 0.0456 $y = 0.0017$ 0.0007 $z = 0.9190$
$f^2G - g(1, \frac{5}{2})$	1.4286	$z = 0.9333$ 0.0264 $y = 0.0384$ 0.0014 $z = 0.0005$
$g^{(2s+1)L} - f^{(J_p, j)}$	$\sum_{J, j'}^s$	
$g^2F - f(1, \frac{5}{2})$	0.6667	$z = 0.0029$ 0.1050 $y = 0.0328$ 0.8571 $z = 0.0022$
$g^2F - f(1, \frac{3}{2})$	0.8889	$z = 0.0012$ 0.0022 $y = 0.0753$ 0.0246 $z = 0.8966$
$g^2G - f(1, \frac{5}{2})$	0.8571	$z = 0.0278$ 0.8929 $y = 0.0794$
$g^2G - f(1, \frac{3}{2})$	1.1429	$z = 0.0594$ 0.0138 $y = 0.8920$ 0.0335 $z = 0.0014$
$g^2H - f(1, \frac{5}{2})$	1.0476	$z = 1.0000$
$g^2H - f(1, \frac{3}{2})$	1.3968	$z = 0.9545$ 0.0278 $y = 0.0177$

TABLE 7a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 2^2P

$s^{(2s+1)L} - p^{L'[K]}$	$\sum_{J, j'}^s$	
$s^1P - p^1S[\frac{1}{2}]$	0.3333	$z = 0.0000$ $y = 1.0000$
$s^1P - p^1P[\frac{1}{2}]$	0.3333	$z = 1.0000$ $y = 0.0000$

TABLE 7a (CONTINUED)

$s^1P - p^1P[\frac{3}{2}]$	0.6667	$z = 0.0000$ $y = 1.0000$
$s^1P - p^1D[\frac{3}{2}]$	0.6667	$z = 1.0000$ $y = 0.0000$
$s^1P - p^1D[\frac{5}{2}]$	1.0000	$z = 1.0000$
$s^3P - p^3S[\frac{1}{2}]$	1.0000	$z = 0.5556$ 0.0000 $y = 0.3333$ $z = 0.1111$
$s^3P - p^3P[\frac{1}{2}]$	1.0000	$z = 0.2778$ 0.3333 $y = 0.1667$ $z = 0.2222$
$s^3P - p^3P[\frac{3}{2}]$	2.0000	$z = 0.6250$ 0.0417 $y = 0.0694$ $z = 0.2083$ 0.0556
$s^3P - p^3D[\frac{3}{2}]$	2.0000	$z = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
$s^3P - p^3D[\frac{5}{2}]$	3.0000	$z = 0.7778$ 0.1667 $y = 0.0556$
$p^{(2s+1)L} - s^{L'[K]}$	$\sum_{J, j'}^s$	
$p^1S - s^1P[\frac{1}{2}]$	0.1111	$z = 1.0000$
$p^1S - s^1P[\frac{3}{2}]$	0.2222	$z = 1.0000$
$p^3S - s^3P[\frac{1}{2}]$	0.3333	$z = 0.6667$ $y = 0.3333$
$p^3S - s^3P[\frac{3}{2}]$	0.6667	$z = 0.8333$ $y = 0.1667$
$p^1P - s^1P[\frac{1}{2}]$	0.3333	$z = 1.0000$ $y = 0.0000$
$p^1P - s^1P[\frac{3}{2}]$	0.6667	$z = 0.0000$ $y = 1.0000$
$p^3P - s^3P[\frac{1}{2}]$	1.0000	$z = 0.2778$ 0.3333 $y = 0.1667$ $z = 0.2222$
$p^3P - s^3P[\frac{3}{2}]$	2.0000	$z = 0.6250$ 0.0417 $y = 0.0694$ $z = 0.2083$ 0.0556
$p^1D - s^1P[\frac{1}{2}]$	0.5556	$z = 1.0000$
$p^1D - s^1P[\frac{3}{2}]$	1.1111	$z = 0.0000$ $y = 1.0000$
$p^3D - s^3P[\frac{1}{2}]$	1.6667	$z = 0.5000$ 0.3333 $y = 0.1667$
$p^3D - s^3P[\frac{3}{2}]$	3.3333	$z = 0.7000$ 0.1250 $y = 0.1250$ 0.0417 $z = 0.0083$
$p^{(2s+1)L} - d^{L'[K]}$	$\sum_{J, j'}^s$	
$p^1S - d^1P[\frac{1}{2}]$	0.1111	$z = 1.0000$
$p^1S - d^1P[\frac{3}{2}]$	0.2222	$z = 1.0000$
$p^3S - d^3P[\frac{1}{2}]$	0.3333	$z = 0.6667$ $y = 0.3333$
$p^3S - d^3P[\frac{3}{2}]$	0.6667	$z = 0.8333$ $y = 0.1667$
$p^1P - d^1P[\frac{1}{2}]$	0.0833	$z = 1.0000$ $y = 0.0000$
$p^1P - d^1P[\frac{3}{2}]$	0.1667	$z = 0.0000$ $y = 1.0000$
$p^1P - d^1D[\frac{3}{2}]$	0.3000	$z = 1.0000$ $y = 0.0000$
$p^1P - d^1D[\frac{5}{2}]$	0.4500	$z = 1.0000$
$p^3P - d^3P[\frac{1}{2}]$	0.2500	$z = 0.2778$ 0.3333 $y = 0.1667$ $z = 0.2222$
$p^3P - d^3P[\frac{3}{2}]$	0.5000	$z = 0.6250$ 0.0417 $y = 0.0694$ $z = 0.2083$ 0.0556
$p^3P - d^3D[\frac{3}{2}]$	0.9000	$z = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
$p^3P - d^3D[\frac{5}{2}]$	1.3500	$z = 0.7778$ 0.1667 $y = 0.0556$
$p^1D - d^1P[\frac{1}{2}]$	0.0056	$z = 1.0000$
$p^1D - d^1P[\frac{3}{2}]$	0.0111	$z = 0.0000$ $y = 1.0000$
$p^1D - d^1D[\frac{3}{2}]$	0.1000	$z = 1.0000$ $y = 0.0000$
$p^1D - d^1D[\frac{5}{2}]$	0.1500	$z = 0.0000$ $y = 1.0000$
$p^1D - d^1F[\frac{5}{2}]$	0.6000	$z = 1.0000$ $y = 0.0000$
$p^1D - d^1F[\frac{7}{2}]$	0.8000	$z = 1.0000$
$p^3D - d^3P[\frac{1}{2}]$	0.0167	$z = 0.5000$ 0.3333 $y = 0.1667$
$p^3D - d^3P[\frac{3}{2}]$	0.0333	$z = 0.7000$ 0.1250 $y = 0.1250$ 0.0417 $z = 0.0083$
$p^3D - d^3D[\frac{3}{2}]$	0.3000	$z = 0.0778$ 0.1250 $y = 0.3472$ 0.3750 $z = 0.0750$

TABLE 7a (CONTINUED)

$p^3D - dD \left[\frac{5}{2} \right]$	0.4500	$z = 0.6914$	0.1543	$y = 0.0346$	$z = 0.0864$	0.0333
$p^3D - dF \left[\frac{5}{2} \right]$	1.8000	$z = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$p^3D - dF \left[\frac{3}{2} \right]$	2.4000	$z = 0.7500$	0.2222	$y = 0.0278$		
$d^{(2s+1)L} - pL[K]$	$\sum_{J,J'}^s$					
$d^1P - pS \left[\frac{1}{2} \right]$	0.3333	$z = 0.0000$	$y = 1.0000$			
$d^1P - pP \left[\frac{1}{2} \right]$	0.0833	$z = 1.0000$	$y = 0.0000$			
$d^1P - pP \left[\frac{3}{2} \right]$	0.1667	$z = 0.0000$	$y = 1.0000$			
$d^1P - pD \left[\frac{3}{2} \right]$	0.0067	$z = 1.0000$	$y = 0.0000$			
$d^1P - pD \left[\frac{5}{2} \right]$	0.0100	$z = 1.0000$				
$d^3P - pS \left[\frac{1}{2} \right]$	1.0000	$z = 0.5556$	0.0000	$y = 0.3333$	$z = 0.1111$	
$d^3P - pP \left[\frac{1}{2} \right]$	0.2500	$z = 0.2778$	0.3333	$y = 0.1667$	$z = 0.2222$	
$d^3P - pP \left[\frac{3}{2} \right]$	0.5000	$z = 0.6250$	0.0417	$y = 0.0694$	$z = 0.2083$	0.0556
$d^3P - pD \left[\frac{1}{2} \right]$	0.0200	$z = 0.1250$	0.2083	$y = 0.0139$	$z = 0.3750$	0.2778
$d^3P - pD \left[\frac{3}{2} \right]$	0.0300	$z = 0.7778$	0.1667	$y = 0.0556$		
$d^1D - pP \left[\frac{1}{2} \right]$	0.2500	$z = 1.0000$				
$d^1D - pP \left[\frac{3}{2} \right]$	0.5000	$z = 0.0000$	$y = 1.0000$			
$d^1D - pD \left[\frac{1}{2} \right]$	0.1000	$z = 1.0000$	$y = 0.0000$			
$d^1D - pD \left[\frac{3}{2} \right]$	0.1500	$z = 0.0000$	$y = 1.0000$			
$d^3D - pP \left[\frac{1}{2} \right]$	0.7500	$z = 0.5000$	0.3333	$y = 0.1667$		
$d^3D - pP \left[\frac{3}{2} \right]$	1.5000	$z = 0.0778$	0.1250	$y = 0.1250$	0.0417	$z = 0.0083$
$d^3D - pD \left[\frac{1}{2} \right]$	0.3000	$z = 0.7000$	0.1250	$y = 0.3472$	0.3750	$z = 0.0750$
$d^3D - pD \left[\frac{3}{2} \right]$	0.4500	$z = 0.6914$	0.1543	$y = 0.0346$	$z = 0.0864$	0.0333
$d^1F - pD \left[\frac{1}{2} \right]$	0.5800	$z = 1.0000$				
$d^1F - pD \left[\frac{3}{2} \right]$	0.8400	$z = 0.0000$	$y = 1.0000$			
$d^3F - pD \left[\frac{1}{2} \right]$	1.6800	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - pD \left[\frac{3}{2} \right]$	2.5200	$z = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$d^{(2s+1)L} - fL[K]$	$\sum_{J,J'}^s$					
$d^1P - fD \left[\frac{3}{2} \right]$	0.2400	$z = 1.0000$	$y = 0.0000$			
$d^1P - fD \left[\frac{5}{2} \right]$	0.3600	$z = 1.0000$				
$d^3P - fD \left[\frac{3}{2} \right]$	0.7200	$z = 0.1250$	0.2083	$y = 0.0139$	$z = 0.3750$	0.2778
$d^3P - fD \left[\frac{5}{2} \right]$	1.0800	$z = 0.7778$	0.1667	$y = 0.0556$		
$d^1D - fD \left[\frac{3}{2} \right]$	0.0444	$z = 1.0000$	$y = 0.0000$			
$d^1D - fD \left[\frac{5}{2} \right]$	0.0667	$z = 0.0000$	$y = 1.0000$			
$d^1D - fF \left[\frac{1}{2} \right]$	0.3810	$z = 1.0000$	$y = 0.0000$			
$d^1D - fF \left[\frac{3}{2} \right]$	0.5079	$z = 1.0000$				
$d^3D - fD \left[\frac{3}{2} \right]$	0.1333	$z = 0.0778$	0.1250	$y = 0.3472$	0.3750	$z = 0.0750$
$d^3D - fD \left[\frac{5}{2} \right]$	0.2000	$z = 0.6914$	0.1543	$y = 0.0346$	$z = 0.0864$	0.0333
$d^3D - fF \left[\frac{1}{2} \right]$	1.1429	$z = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$d^3D - fF \left[\frac{3}{2} \right]$	1.5238	$z = 0.7500$	0.2222	$y = 0.0278$		
$d^1F - fD \left[\frac{3}{2} \right]$	0.0013	$z = 1.0000$				
$d^1F - fD \left[\frac{5}{2} \right]$	0.0019	$z = 0.0000$	$y = 1.0000$			
$d^1F - fF \left[\frac{1}{2} \right]$	0.0476	$z = 1.0000$	$y = 0.0000$			
$d^1F - fF \left[\frac{3}{2} \right]$	0.0635	$z = 0.0000$	$y = 1.0000$			

TABLE 7a (CONTINUED)

$d^1F - fG \left[\frac{1}{2} \right]$	0.5714	$z = 1.0000$	$y = 0.0000$			
$d^1F - fG \left[\frac{3}{2} \right]$	0.7143	$z = 1.0000$				
$d^3F - fD \left[\frac{3}{2} \right]$	0.0038	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - fD \left[\frac{5}{2} \right]$	0.0057	$z = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$d^3F - fF \left[\frac{1}{2} \right]$	0.1429	$z = 0.0357$	0.0617	$y = 0.3735$	0.4938	$z = 0.0353$
$d^3F - fF \left[\frac{3}{2} \right]$	0.1905	$z = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$d^3F - fG \left[\frac{1}{2} \right]$	1.7143	$z = 0.0260$	0.0469	$y = 0.0007$	$z = 0.3908$	0.5357
$d^3F - fG \left[\frac{3}{2} \right]$	2.1429	$z = 0.7333$	0.2500	$y = 0.0167$		
$f^{(2s+1)L} - dL[K]$	$\sum_{J,J'}^s$					
$f^1D - dP \left[\frac{1}{2} \right]$	0.2000	$z = 1.0000$				
$f^1D - dP \left[\frac{3}{2} \right]$	0.4000	$z = 0.0000$	$y = 1.0000$			
$f^1D - dD \left[\frac{1}{2} \right]$	0.0444	$z = 1.0000$	$y = 0.0000$			
$f^1D - dD \left[\frac{3}{2} \right]$	0.0667	$z = 0.0000$	$y = 1.0000$			
$f^1D - dF \left[\frac{1}{2} \right]$	0.0014	$z = 1.0000$	$y = 0.0000$			
$f^1D - dF \left[\frac{3}{2} \right]$	0.0018	$z = 1.0000$				
$f^3D - dP \left[\frac{1}{2} \right]$	0.6000	$z = 0.5000$	0.3333	$y = 0.1667$		
$f^3D - dP \left[\frac{3}{2} \right]$	1.2000	$z = 0.7000$	0.1250	$y = 0.1250$	0.0417	$z = 0.0083$
$f^3D - dD \left[\frac{1}{2} \right]$	0.1333	$z = 0.0778$	0.1250	$y = 0.3472$	0.3750	$z = 0.0750$
$f^3D - dD \left[\frac{3}{2} \right]$	0.2000	$z = 0.6914$	0.1543	$y = 0.0346$	$z = 0.0864$	0.0333
$f^3D - dF \left[\frac{1}{2} \right]$	0.0041	$z = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$f^3D - dF \left[\frac{3}{2} \right]$	0.0054	$z = 0.7500$	0.2222	$y = 0.0278$		
$f^1F - dD \left[\frac{1}{2} \right]$	0.3556	$z = 1.0000$				
$f^1F - dD \left[\frac{3}{2} \right]$	0.5333	$z = 0.0000$	$y = 1.0000$			
$f^1F - dF \left[\frac{1}{2} \right]$	0.0476	$z = 1.0000$	$y = 0.0000$			
$f^1F - dF \left[\frac{3}{2} \right]$	0.0635	$z = 0.0000$	$y = 1.0000$			
$f^3F - dD \left[\frac{1}{2} \right]$	1.0667	$z = 0.4444$	0.5000	$y = 0.0556$		
$f^3F - dD \left[\frac{3}{2} \right]$	1.6000	$z = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$f^3F - dF \left[\frac{1}{2} \right]$	0.1429	$z = 0.0357$	0.0617	$y = 0.3735$	0.4938	$z = 0.0353$
$f^3F - dF \left[\frac{3}{2} \right]$	0.1905	$z = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$f^1G - dF \left[\frac{1}{2} \right]$	0.5510	$z = 1.0000$				
$f^1G - dF \left[\frac{3}{2} \right]$	0.7347	$z = 0.0000$	$y = 1.0000$			
$f^3G - dF \left[\frac{1}{2} \right]$	1.6531	$z = 0.4167$	0.5556	$y = 0.0278$		
$f^3G - dF \left[\frac{3}{2} \right]$	2.2041	$z = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$
$f^{(2s+1)L} - gL[K]$	$\sum_{J,J'}^s$					
$f^1D - gF \left[\frac{1}{2} \right]$	0.3061	$z = 1.0000$	$y = 0.0000$			
$f^1D - gF \left[\frac{3}{2} \right]$	0.4082	$z = 1.0000$				
$f^3D - gF \left[\frac{1}{2} \right]$	0.9184	$z = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$f^3D - gF \left[\frac{3}{2} \right]$	1.2245	$z = 0.7500$	0.2222	$y = 0.0278$		
$f^1F - gF \left[\frac{1}{2} \right]$	0.0268	$z = 1.0000$	$y = 0.0000$			
$f^1F - gF \left[\frac{3}{2} \right]$	0.0357	$z = 0.0000$	$y = 1.0000$			
$f^1F - gG \left[\frac{1}{2} \right]$	0.4167	$z = 1.0000$	$y = 0.0000$			
$f^1F - gG \left[\frac{3}{2} \right]$	0.5208	$z = 1.0000$				
$f^3F - gF \left[\frac{1}{2} \right]$	0.0804	$z = 0.0357$	0.0617	$y = 0.3735$	0.4938	$z = 0.0353$

TABLE 7a (CONTINUED)

$f^3F - g^3F \left[\frac{7}{2} \right]$	0.1071	$z = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$f^3F - g^3G \left[\frac{7}{2} \right]$	1.2500	$z = 0.0280$	0.0469	$y = 0.0007$	$z = 0.3906$	0.5357
$f^3F - g^3G \left[\frac{9}{2} \right]$	1.5625	$z = 0.7333$	0.2500	$y = 0.0167$		
$f^1G - g^3F \left[\frac{5}{2} \right]$	0.0004	$z = 1.0000$				
$f^1G - g^3F \left[\frac{7}{2} \right]$	0.0006	$z = 0.0000$	$y = 1.0000$			
$f^1G - g^3G \left[\frac{5}{2} \right]$	0.0278	$z = 1.0000$	$y = 0.0000$			
$f^1G - g^3G \left[\frac{9}{2} \right]$	0.0347	$z = 0.0000$	$y = 1.0000$			
$f^1G - g^3H \left[\frac{5}{2} \right]$	0.5556	$z = 1.0000$	$y = 0.0000$			
$f^1G - g^3H \left[\frac{7}{2} \right]$	0.6667	$z = 1.0000$				
$f^3G - g^3F \left[\frac{5}{2} \right]$	0.0013	$z = 0.4167$	0.5556	$y = 0.0278$		
$f^3G - g^3F \left[\frac{7}{2} \right]$	0.0017	$z = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$
$f^3G - g^3G \left[\frac{5}{2} \right]$	0.0833	$z = 0.0204$	0.0365	$y = 0.3760$	0.5469	$z = 0.0203$
$f^3G - g^3G \left[\frac{9}{2} \right]$	0.1042	$z = 0.7040$	0.2407	$y = 0.0130$	$z = 0.0293$	0.0130
$f^3G - g^3H \left[\frac{5}{2} \right]$	1.6667	$z = 0.0160$	0.0293	$y = 0.0003$	$z = 0.3840$	0.5704
$f^3G - g^3H \left[\frac{7}{2} \right]$	2.0000	$z = 0.7222$	0.2667	$y = 0.0111$		
$g^{(2S+1)L - f L' [K]} \sum_{J,J'}^s$						
$g^1F - f^1D \left[\frac{3}{2} \right]$	0.2857	$z = 1.0000$				
$g^1F - f^1D \left[\frac{5}{2} \right]$	0.4286	$z = 0.0000$	$y = 1.0000$			
$g^1F - f^1F \left[\frac{5}{2} \right]$	0.0288	$z = 1.0000$	$y = 0.0000$			
$g^1F - f^1F \left[\frac{7}{2} \right]$	0.0357	$z = 0.0000$	$y = 1.0000$			
$g^1F - f^1G \left[\frac{5}{2} \right]$	0.0004	$z = 1.0000$	$y = 0.0000$			
$g^1F - f^1G \left[\frac{7}{2} \right]$	0.0006	$z = 1.0000$				
$g^3F - f^1D \left[\frac{3}{2} \right]$	0.8571	$z = 0.4444$	0.5000	$y = 0.0556$		
$g^3F - f^1D \left[\frac{5}{2} \right]$	1.2857	$z = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$g^3F - f^1F \left[\frac{5}{2} \right]$	0.0804	$z = 0.0357$	0.0617	$y = 0.3735$	0.4938	$z = 0.0353$
$g^3F - f^1F \left[\frac{7}{2} \right]$	0.1071	$z = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$g^3F - f^1G \left[\frac{5}{2} \right]$	0.0013	$z = 0.0260$	0.0469	$y = 0.0007$	$z = 0.3906$	0.5357
$g^3F - f^1G \left[\frac{7}{2} \right]$	0.0017	$z = 0.7333$	0.2500	$y = 0.0167$		
$g^1G - f^1F \left[\frac{5}{2} \right]$	0.4018	$z = 1.0000$				
$g^1G - f^1F \left[\frac{7}{2} \right]$	0.5357	$z = 0.0000$	$y = 1.0000$			
$g^1G - f^1G \left[\frac{5}{2} \right]$	0.0278	$z = 1.0000$	$y = 0.0000$			
$g^1G - f^1G \left[\frac{7}{2} \right]$	0.0347	$z = 0.0000$	$y = 1.0000$			
$g^3G - f^1F \left[\frac{5}{2} \right]$	1.2054	$z = 0.4167$	0.5556	$y = 0.0278$		
$g^3G - f^1F \left[\frac{7}{2} \right]$	1.6071	$z = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$
$g^3G - f^1G \left[\frac{5}{2} \right]$	0.0833	$z = 0.0204$	0.0365	$y = 0.3760$	0.5469	$z = 0.0203$
$g^3G - f^1G \left[\frac{9}{2} \right]$	0.1042	$z = 0.7040$	0.2407	$y = 0.0130$	$z = 0.0293$	0.0130
$g^1H - f^1G \left[\frac{5}{2} \right]$	0.5432	$z = 1.0000$				
$g^1H - f^1G \left[\frac{7}{2} \right]$	0.8790	$z = 0.0000$	$y = 1.0000$			
$g^3H - f^1G \left[\frac{5}{2} \right]$	1.6296	$z = 0.4000$	0.5833	$y = 0.0167$		
$g^3H - f^1G \left[\frac{7}{2} \right]$	2.0370	$z = 0.7091$	0.2560	$y = 0.0240$	0.0107	$z = 0.0002$

TABLE 7b

$s^{(2S+1)L - p (J_p) [K]} \sum_{J,J'}^s$						
$s^1P - p^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.3333	$z = 0.6667$	$y = 0.3333$			
$s^1P - p^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.6667	$z = 0.8333$	$y = 0.1667$			
$s^1P - p^1 \left[\frac{3}{2} \right] \left[\frac{1}{2} \right]$	0.3333	$z = 0.3333$	$y = 0.6667$			
$s^1P - p^1 \left[\frac{3}{2} \right] \left[\frac{3}{2} \right]$	0.6667	$z = 0.1667$	$y = 0.8333$			
$s^1P - p^1 \left[\frac{5}{2} \right] \left[\frac{1}{2} \right]$	1.0000	$z = 1.0000$				
$s^3P - p^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	1.0000	$z = 0.0000$	0.2222	$y = 0.4444$	$z = 0.3333$	
$s^3P - p^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	2.0000	$z = 0.0000$	0.1111	$y = 0.0000$	$z = 0.5556$	0.3333
$s^3P - p^1 \left[\frac{3}{2} \right] \left[\frac{1}{2} \right]$	1.0000	$z = 0.8333$	0.1111	$y = 0.0556$	$z = 0.0000$	
$s^3P - p^1 \left[\frac{3}{2} \right] \left[\frac{3}{2} \right]$	2.0000	$z = 0.7500$	0.1389	$y = 0.0833$	$z = 0.0278$	0.0000
$s^3P - p^1 \left[\frac{5}{2} \right] \left[\frac{1}{2} \right]$	3.0000	$z = 0.7778$	0.1667	$y = 0.0556$		
$p^{(2S+1)L - s (J_p) [K]} \sum_{J,J'}^s$						
$p^1S - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.1111	$z = 1.0000$				
$p^1S - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.2222	$z = 1.0000$				
$p^3S - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.3333	$z = 0.6667$	$y = 0.3333$			
$p^3S - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.6667	$z = 0.8333$	$y = 0.1667$			
$p^1P - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.3333	$z = 1.0000$	$y = 0.0000$			
$p^1P - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.6667	$z = 0.0000$	$y = 1.0000$			
$p^3P - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	1.0000	$z = 0.2778$	0.3333	$y = 0.1667$	$z = 0.2222$	
$p^3P - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	2.0000	$z = 0.6250$	0.0417	$y = 0.0694$	$z = 0.2083$	0.0556
$p^1D - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.5556	$z = 1.0000$				
$p^1D - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	1.1111	$z = 0.0000$	$y = 1.0000$			
$p^3D - s^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	1.6667	$z = 0.5000$	0.3333	$y = 0.1667$		
$p^3D - s^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	3.3333	$z = 0.7000$	0.1250	$y = 0.1250$	0.0417	$z = 0.0083$
$p^{(2S+1)L - d (J_p) [K]} \sum_{J,J'}^s$						
$p^1S - d^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.1111	$z = 1.0000$				
$p^1S - d^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.1111	$z = 1.0000$				
$p^3S - d^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.1111	$z = 1.0000$				
$p^3S - d^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.3333	$z = 0.8333$	$y = 0.1667$			
$p^3S - d^1 \left[\frac{3}{2} \right] \left[\frac{1}{2} \right]$	0.3333	$z = 0.6667$	$y = 0.3333$			
$p^3S - d^1 \left[\frac{3}{2} \right] \left[\frac{3}{2} \right]$	0.3333	$z = 0.8333$	$y = 0.1667$			
$p^1P - d^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.2333	$z = 0.6429$	$y = 0.3571$			
$p^1P - d^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	1.0000	$z = 1.0000$				
$p^1P - d^1 \left[\frac{3}{2} \right] \left[\frac{1}{2} \right]$	0.0833	$z = 1.0000$	$y = 0.0000$			
$p^1P - d^1 \left[\frac{3}{2} \right] \left[\frac{3}{2} \right]$	0.2333	$z = 0.6429$	$y = 0.3571$			
$p^3P - d^1 \left[\frac{1}{2} \right] \left[\frac{1}{2} \right]$	0.3500	$z = 1.0000$				
$p^3P - d^1 \left[\frac{1}{2} \right] \left[\frac{3}{2} \right]$	0.7000	$z = 0.0357$	0.0595	$y = 0.0040$	$z = 0.5833$	0.3175
$p^3P - d^1 \left[\frac{3}{2} \right] \left[\frac{1}{2} \right]$	0.3000	$z = 0.7778$	0.1667	$y = 0.0556$		
$p^3P - d^1 \left[\frac{3}{2} \right] \left[\frac{3}{2} \right]$	0.2500	$z = 0.2778$	0.3333	$y = 0.1667$	$z = 0.2222$	
$p^3P - d^1 \left[\frac{5}{2} \right] \left[\frac{1}{2} \right]$	0.7000	$z = 0.5714$	0.2381	$y = 0.0635$	$z = 0.0476$	0.0794

דעם צווייטן טאג, (ה'תש"א) האט זיך אפגעשפילט דאס צווייטע אקט.

© Universidad Nacional Autónoma de México • Provided by the NASA Astrophysics Data System

TABLE 7b (CONTINUED)

$f^3F - d(\frac{1}{2})[\frac{5}{2}]$	0.4667	$z = 0.6888$	$y = 0.0066$	$z = 0.0423$	$z = 0.0030$
$f^3F - d(\frac{1}{2})[\frac{3}{2}]$	0.5333	$z = 0.4444$	$y = 0.0000$	$y = 0.0556$	
$f^3F - d(\frac{1}{2})[\frac{1}{2}]$	1.2762	$z = 0.6477$	$y = 0.1598$	$y = 0.1168$	$z = 0.0051$
$f^3F - d(\frac{3}{2})[\frac{7}{2}]$	0.1905	$z = 0.7031$	$y = 0.2101$	$y = 0.0201$	$z = 0.0469$
$f^3F - d(\frac{3}{2})[\frac{5}{2}]$	0.4286	$z = 1.0000$			
$f^3F - d(\frac{3}{2})[\frac{3}{2}]$	0.1224	$z = 1.0000$			
$f^3F - d(\frac{3}{2})[\frac{1}{2}]$	0.7347	$z = 0.0000$	$y = 1.0000$		
$f^3G - d(\frac{1}{2})[\frac{5}{2}]$	1.2857	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$	
$f^3G - d(\frac{1}{2})[\frac{3}{2}]$	0.3673	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$	
$f^3G - d(\frac{1}{2})[\frac{1}{2}]$	2.2041	$z = 0.7130$	$y = 0.2344$	$y = 0.0365$	$z = 0.0006$
$f^{(2S+1)L} - g(J_p)[K]$	$\sum_{J,J'}^s$				
$f^1D - g(\frac{1}{2})[\frac{7}{2}]$	0.2381	$z = 1.0000$			
$f^1D - g(\frac{1}{2})[\frac{5}{2}]$	0.3061	$z = 1.0000$	$y = 0.0000$		
$f^1D - g(\frac{1}{2})[\frac{3}{2}]$	0.1701	$z = 1.0000$			
$f^3D - g(\frac{1}{2})[\frac{7}{2}]$	0.7143	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$	
$f^3D - g(\frac{1}{2})[\frac{5}{2}]$	0.9184	$z = 0.0494$	$y = 0.0864$	$y = 0.0025$	$z = 0.3951$
$f^3D - g(\frac{1}{2})[\frac{3}{2}]$	0.5102	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$	
$f^1F - g(\frac{1}{2})[\frac{7}{2}]$	0.1944	$z = 0.8929$	$y = 0.1071$		
$f^1F - g(\frac{1}{2})[\frac{5}{2}]$	0.1359	$z = 1.0000$			
$f^1F - g(\frac{1}{2})[\frac{3}{2}]$	0.0268	$z = 1.0000$	$y = 0.0000$		
$f^1F - g(\frac{1}{2})[\frac{1}{2}]$	0.2579	$z = 0.9423$	$y = 0.0577$		
$f^1F - g(\frac{3}{2})[\frac{7}{2}]$	0.3819	$z = 1.0000$			
$f^3F - g(\frac{1}{2})[\frac{7}{2}]$	0.5833	$z = 0.0149$	$y = 0.0030$	$y = 0.0004$	$z = 0.4375$
$f^3F - g(\frac{1}{2})[\frac{5}{2}]$	0.4167	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$	
$f^3F - g(\frac{1}{2})[\frac{3}{2}]$	0.0804	$z = 0.0357$	$y = 0.0617$	$y = 0.3735$	$z = 0.0353$
$f^3F - g(\frac{1}{2})[\frac{1}{2}]$	0.7738	$z = 0.1282$	$y = 0.1026$	$y = 0.0037$	$z = 0.3077$
$f^3F - g(\frac{3}{2})[\frac{7}{2}]$	1.1458	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$	
$f^1G - g(\frac{1}{2})[\frac{7}{2}]$	0.0119	$z = 0.9722$	$y = 0.0278$		
$f^1G - g(\frac{1}{2})[\frac{5}{2}]$	0.4167	$z = 0.9778$	$y = 0.0222$		
$f^1G - g(\frac{1}{2})[\frac{3}{2}]$	0.0004	$z = 1.0000$			
$f^1G - g(\frac{1}{2})[\frac{1}{2}]$	0.0164	$z = 0.9856$	$y = 0.0144$		
$f^1G - g(\frac{3}{2})[\frac{7}{2}]$	0.1736	$z = 0.8533$	$y = 0.1467$		
$f^1G - g(\frac{3}{2})[\frac{5}{2}]$	0.8667	$z = 1.0000$			
$f^3G - g(\frac{1}{2})[\frac{7}{2}]$	0.0357	$z = 0.0000$	$y = 0.0116$	$y = 0.4051$	$z = 0.5625$
$f^3G - g(\frac{1}{2})[\frac{5}{2}]$	1.2500	$z = 0.0000$	$y = 0.0093$	$y = 0.0000$	$z = 0.4074$
$f^3G - g(\frac{1}{2})[\frac{3}{2}]$	0.0013	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$	
$f^3G - g(\frac{1}{2})[\frac{1}{2}]$	0.0493	$z = 0.0590$	$y = 0.0613$	$y = 0.3433$	$z = 0.0192$
$f^3G - g(\frac{3}{2})[\frac{7}{2}]$	0.5208	$z = 0.1920$	$y = 0.1198$	$y = 0.0036$	$z = 0.2569$
$f^3G - g(\frac{3}{2})[\frac{5}{2}]$	2.0000	$z = 0.7222$	$y = 0.2667$	$y = 0.0111$	
$g^{(2S+1)L} - f(J_p)[K]$	$\sum_{J,J'}^s$				
$g^1F - f(\frac{1}{2})[\frac{5}{2}]$	0.2500	$z = 0.0476$	$y = 0.9524$		
$g^1F - f(\frac{1}{2})[\frac{3}{2}]$	0.0093	$z = 0.0357$	$y = 0.9643$		

TABLE 7b (CONTINUED)

$g^1F - f(\frac{3}{2})[\frac{7}{2}]$	0.2857	$z = 1.0000$			
$g^1F - f(\frac{3}{2})[\frac{5}{2}]$	0.2054	$z = 0.0725$	$y = 0.9275$		
$g^1F - f(\frac{3}{2})[\frac{3}{2}]$	0.0269	$z = 0.0041$	$y = 0.9959$		
$g^1F - f(\frac{3}{2})[\frac{1}{2}]$	0.0006	$z = 1.0000$			
$g^3F - f(\frac{1}{2})[\frac{7}{2}]$	0.7500	$z = 0.7500$	$y = 0.2381$	$y = 0.0119$	$z = 0.0000$
$g^3F - f(\frac{1}{2})[\frac{5}{2}]$	0.0278	$z = 0.7292$	$y = 0.2411$	$y = 0.0208$	$z = 0.0089$
$g^3F - f(\frac{1}{2})[\frac{3}{2}]$	0.8571	$z = 0.4444$	$y = 0.5000$	$y = 0.0556$	
$g^3F - f(\frac{1}{2})[\frac{1}{2}]$	0.6161	$z = 0.5823$	$y = 0.1304$	$y = 0.1630$	$z = 0.0083$
$g^3F - f(\frac{3}{2})[\frac{7}{2}]$	0.0807	$z = 0.6831$	$y = 0.1967$	$y = 0.0195$	$z = 0.0656$
$g^3F - f(\frac{3}{2})[\frac{5}{2}]$	0.0017	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$	
$g^1G - f(\frac{1}{2})[\frac{7}{2}]$	0.1786	$z = 1.0000$			
$g^1G - f(\frac{1}{2})[\frac{5}{2}]$	0.1548	$z = 0.1346$	$y = 0.8654$		
$g^1G - f(\frac{1}{2})[\frac{3}{2}]$	0.2232	$z = 1.0000$			
$g^1G - f(\frac{1}{2})[\frac{1}{2}]$	0.4087	$z = 0.0170$	$y = 0.9830$		
$g^1G - f(\frac{3}{2})[\frac{7}{2}]$	0.0347	$z = 0.0000$	$y = 1.0000$		
$g^3G - f(\frac{1}{2})[\frac{7}{2}]$	0.5357	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$	
$g^3G - f(\frac{1}{2})[\frac{5}{2}]$	0.4643	$z = 0.7020$	$y = 0.2708$	$y = 0.0022$	$z = 0.0009$
$g^3G - f(\frac{1}{2})[\frac{3}{2}]$	0.6696	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$	
$g^3G - f(\frac{1}{2})[\frac{1}{2}]$	1.2262	$z = 0.8700$	$y = 0.2071$	$y = 0.0725$	$z = 0.0018$
$g^3G - f(\frac{3}{2})[\frac{7}{2}]$	0.1042	$z = 0.7040$	$y = 0.2407$	$y = 0.0130$	$z = 0.0293$
$g^1H - f(\frac{1}{2})[\frac{7}{2}]$	0.4074	$z = 1.0000$			
$g^1H - f(\frac{1}{2})[\frac{5}{2}]$	0.1358	$z = 1.0000$			
$g^1H - f(\frac{1}{2})[\frac{3}{2}]$	0.6790	$z = 0.0000$	$y = 1.0000$		
$g^3H - f(\frac{1}{2})[\frac{7}{2}]$	1.2222	$z = 0.4000$	$y = 0.5833$	$y = 0.0167$	
$g^3H - f(\frac{1}{2})[\frac{5}{2}]$	0.4074	$z = 0.4000$	$y = 0.5833$	$y = 0.0167$	
$g^3H - f(\frac{1}{2})[\frac{3}{2}]$	2.0370	$z = 0.7091$	$y = 0.2560$	$y = 0.0240$	$z = 0.0002$

TABLE 7c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $2P$

$s^{(2S+1)L} - p(J_p, j)$	$\sum_{J,J'}^s$				
$s^1P - p(\frac{1}{2}, \frac{1}{2})$	0.3333	$z = 0.6667$	$y = 0.3333$		
$s^1P - p(\frac{1}{2}, \frac{3}{2})$	0.6667	$z = 0.8333$	$y = 0.1667$		
$s^1P - p(\frac{3}{2}, \frac{1}{2})$	0.6667	$z = 0.8333$	$y = 0.1667$		
$s^1P - p(\frac{3}{2}, \frac{3}{2})$	1.3333	$z = 0.4167$	$y = 0.4167$	$z = 0.1667$	
$s^3P - p(\frac{1}{2}, \frac{1}{2})$	1.0000	$z = 0.0000$	$y = 0.2222$	$y = 0.4444$	$z = 0.3333$
$s^3P - p(\frac{1}{2}, \frac{3}{2})$	2.0000	$z = 0.0000$	$y = 0.1111$	$y = 0.0000$	$z = 0.5556$
$s^3P - p(\frac{3}{2}, \frac{1}{2})$	2.0000	$z = 0.4167$	$y = 0.0278$	$y = 0.4167$	$z = 0.1389$
$s^3P - p(\frac{3}{2}, \frac{3}{2})$	4.0000	$z = 0.5833$	$y = 0.0894$	$y = 0.2083$	$z = 0.0694$
$p^{(2S+1)L} - s(J_p, j)$	$\sum_{J,J'}^s$				
$p^1S - s(\frac{1}{2}, \frac{1}{2})$	0.1111	$z = 1.0000$			

TABLE 7c (CONTINUED)

$d^1P - p(\frac{3}{2}, \frac{3}{2})$	0.3667	$z = 0.0152$	$y = 0.3788$	$z = 0.6061$
$d^3P - p(\frac{1}{2}, \frac{1}{2})$	0.1000	$x = 0.1667$	$y = 0.5556$	$y = 0.2778$
$d^3P - p(\frac{3}{2}, \frac{3}{2})$	0.5000	$x = 0.1500$	$y = 0.0278$	$y = 0.8167$
$d^3P - p(\frac{1}{2}, \frac{1}{2})$	0.5000	$x = 0.0667$	$y = 0.4444$	$y = 0.0667$
$d^3P - p(\frac{3}{2}, \frac{3}{2})$	0.7000	$x = 0.0333$	$y = 0.0992$	$y = 0.2976$
$d^3P - p(\frac{1}{2}, \frac{1}{2})$	$z = 0.2881$	0.0397		
$i^1D - p(\frac{1}{2}, \frac{1}{2})$	0.1667	$x = 1.0000$		
$i^1D - p(\frac{3}{2}, \frac{3}{2})$	0.1667	$x = 0.5000$	$y = 0.5000$	
$d^1D - p(\frac{1}{2}, \frac{1}{2})$	0.1667	$x = 0.5000$	$y = 0.5000$	
$d^1D - p(\frac{3}{2}, \frac{3}{2})$	0.5000	$x = 0.0000$	$y = 0.1667$	$z = 0.8333$
$d^3D - p(\frac{1}{2}, \frac{1}{2})$	0.2778	$x = 0.1000$	$y = 0.6000$	$y = 0.3000$
$d^3D - p(\frac{3}{2}, \frac{3}{2})$	0.7222	$x = 0.4308$	$y = 0.4808$	$y = 0.0192$
$d^3D - p(\frac{1}{2}, \frac{1}{2})$	0.7222	$x = 0.1077$	$y = 0.3077$	$y = 0.3077$
$d^3D - p(\frac{3}{2}, \frac{3}{2})$	1.2778	$x = 0.3435$	$y = 0.0978$	$y = 0.0065$
$d^3D - p(\frac{1}{2}, \frac{1}{2})$	$z = 0.0304$	0.0065		
$d^1F - p(\frac{1}{2}, \frac{1}{2})$	0.4667	$x = 1.0000$		
$d^1F - p(\frac{3}{2}, \frac{3}{2})$	0.4667	$x = 1.0000$		
$d^1F - p(\frac{1}{2}, \frac{1}{2})$	0.4667	$x = 0.0000$	$y = 1.0000$	
$d^3F - p(\frac{1}{2}, \frac{1}{2})$	0.8222	$x = 1.0000$		
$d^3F - p(\frac{3}{2}, \frac{3}{2})$	0.7778	$x = 0.8000$	$y = 0.1000$	$y = 0.1000$
$d^3F - p(\frac{1}{2}, \frac{1}{2})$	0.7778	$x = 0.8000$	$y = 0.1000$	$y = 0.1000$
$d^3F - p(\frac{3}{2}, \frac{3}{2})$	2.0222	$x = 0.8901$	$y = 0.0000$	$y = 0.0769$
$d^3F - p(\frac{1}{2}, \frac{1}{2})$	$z = 0.0022$			

TABLE 7c (CONTINUED)

$p^1S - s(\frac{3}{2}, \frac{1}{2})$	0.2222	$z = 1.0000$		
$p^3S - s(\frac{1}{2}, \frac{1}{2})$	0.3333	$x = 0.6667$	$y = 0.3333$	
$p^3S - s(\frac{3}{2}, \frac{3}{2})$	0.6667	$x = 0.8333$	$y = 0.1667$	
$p^1P - s(\frac{1}{2}, \frac{1}{2})$	0.3333	$x = 1.0000$	$y = 0.0000$	
$p^1P - s(\frac{3}{2}, \frac{3}{2})$	0.6667	$x = 0.0000$	$y = 1.0000$	
$p^3P - s(\frac{1}{2}, \frac{1}{2})$	1.0000	$x = 0.2778$	$y = 0.3333$	$z = 0.2222$
$p^3P - s(\frac{3}{2}, \frac{3}{2})$	2.0000	$x = 0.8250$	$y = 0.0417$	$y = 0.0694$
$p^1D - s(\frac{1}{2}, \frac{1}{2})$	0.5556	$x = 1.0000$		$z = 0.2083$
$p^1D - s(\frac{3}{2}, \frac{3}{2})$	1.1111	$x = 0.0000$	$y = 1.0000$	0.0556
$p^3D - s(\frac{1}{2}, \frac{1}{2})$	1.6667	$x = 0.5000$	$y = 0.3333$	$z = 0.1667$
$p^3D - s(\frac{3}{2}, \frac{3}{2})$	3.3333	$x = 0.7000$	$y = 0.1250$	$z = 0.0083$
$p^{(2S+1)L} - d(J_p, j)$	$\sum_{J_p, j}$			
$p^1S - d(\frac{1}{2}, \frac{3}{2})$	0.1111	$x = 1.0000$		
$p^1S - d(\frac{3}{2}, \frac{3}{2})$	0.0222	$x = 1.0000$		
$p^1S - d(\frac{1}{2}, \frac{1}{2})$	0.2000	$x = 1.0000$		
$p^3S - d(\frac{1}{2}, \frac{1}{2})$	0.0667	$x = 0.1667$	$y = 0.8333$	
$p^3S - d(\frac{3}{2}, \frac{3}{2})$	0.2667	$x = 1.0000$		
$p^3S - d(\frac{1}{2}, \frac{1}{2})$	0.3333	$x = 0.1333$	$y = 0.5333$	$z = 0.3333$
$p^3S - d(\frac{3}{2}, \frac{3}{2})$	0.3333	$x = 0.7000$	$y = 0.3000$	
$p^1P - d(\frac{1}{2}, \frac{1}{2})$	0.2333	$x = 0.6429$	$y = 0.3571$	
$p^1P - d(\frac{3}{2}, \frac{3}{2})$	0.1000	$x = 1.0000$		
$p^1P - d(\frac{1}{2}, \frac{1}{2})$	0.1667	$x = 0.9000$	$y = 0.1000$	$z = 0.0000$
$p^1P - d(\frac{3}{2}, \frac{3}{2})$	0.5000	$x = 0.7000$	$y = 0.3000$	
$p^3P - d(\frac{1}{2}, \frac{1}{2})$	0.3000	$x = 0.0833$	$y = 0.1389$	$z = 0.0093$
$p^3P - d(\frac{3}{2}, \frac{3}{2})$	0.7000	$x = 0.3333$	$y = 0.6429$	$z = 0.0238$
$p^3P - d(\frac{1}{2}, \frac{1}{2})$	0.9000	$x = 0.0778$	$y = 0.2315$	$z = 0.2500$
$p^3P - d(\frac{3}{2}, \frac{3}{2})$	$z = 0.1043$	0.0926		
$p^3P - d(\frac{1}{2}, \frac{1}{2})$	1.1000	$x = 0.6788$	$y = 0.0000$	0.0909
$p^3P - d(\frac{3}{2}, \frac{3}{2})$	$z = 0.0182$			
$p^1D - d(\frac{1}{2}, \frac{3}{2})$	0.0556	$x = 0.9000$	$y = 0.1000$	
$p^1D - d(\frac{3}{2}, \frac{3}{2})$	0.5000	$x = 0.9333$	$y = 0.0667$	
$p^1D - d(\frac{1}{2}, \frac{1}{2})$	0.6111	$x = 0.9164$	$y = 0.0818$	$z = 0.0018$
$p^1D - d(\frac{3}{2}, \frac{3}{2})$	0.5000	$x = 0.7467$	$y = 0.2333$	$z = 0.0200$
$p^3D - d(\frac{1}{2}, \frac{1}{2})$	0.8333	$x = 0.0000$	$y = 0.0100$	$z = 0.8167$
$p^3D - d(\frac{3}{2}, \frac{3}{2})$	0.8333	$x = 0.0000$	$y = 0.0600$	$z = 0.8400$
$p^3D - d(\frac{1}{2}, \frac{1}{2})$	1.1667	$x = 0.1600$	$y = 0.1786$	$z = 0.0357$
$p^3D - d(\frac{3}{2}, \frac{3}{2})$	$z = 0.5000$	0.0576		
$p^3D - d(\frac{1}{2}, \frac{1}{2})$	2.1667	$x = 0.8308$	$y = 0.0000$	0.0215
$p^3D - d(\frac{3}{2}, \frac{3}{2})$	$z = 0.0092$	0.0000		
$d^{(2S+1)L} - p(J_p, j)$	$\sum_{J_p, j}$			
$d^1P - p(\frac{1}{2}, \frac{1}{2})$	0.1667	$x = 0.3333$	$y = 0.6667$	
$d^1P - p(\frac{3}{2}, \frac{3}{2})$	0.0333	$x = 0.1667$	$y = 0.8333$	
$d^1P - p(\frac{1}{2}, \frac{1}{2})$	0.0333	$x = 0.1667$	$y = 0.8333$	

 $d^{(2S+1)L} - f(J_p, j)$

$d^1P - f(\frac{1}{2}, \frac{1}{2})$	0.2000	$x = 1.0000$		
$d^1P - f(\frac{3}{2}, \frac{3}{2})$	0.0571	$x = 1.0000$	$y = 0.0000$	
$d^1P - f(\frac{1}{2}, \frac{1}{2})$	0.3429	$x = 1.0000$		
$d^3P - f(\frac{1}{2}, \frac{1}{2})$	0.1429	$x = 0.0667$	$y = 0.7000$	$z = 0.2333$
$d^3P - f(\frac{3}{2}, \frac{3}{2})$	0.4571	$x = 1.0000$		
$d^3P - f(\frac{1}{2}, \frac{1}{2})$	0.6286	$x = 0.0485$	$y = 0.2841$	$z = 0.3182$
$d^3P - f(\frac{3}{2}, \frac{3}{2})$	$z = 0.0159$			
$d^3P - f(\frac{1}{2}, \frac{1}{2})$	0.5714	$x = 0.6000$	$y = 0.3000$	$z = 0.1000$
$d^1D - f(\frac{1}{2}, \frac{1}{2})$	0.2063	$x = 0.8205$	$y = 0.1795$	
$d^1D - f(\frac{3}{2}, \frac{3}{2})$	0.1270	$x = 1.0000$		
$d^1D - f(\frac{1}{2}, \frac{1}{2})$	0.2222	$x = 0.9524$	$y = 0.0476$	$z = 0.0000$
$d^1D - f(\frac{3}{2}, \frac{3}{2})$	0.4444	$x = 0.8571$	$y = 0.1429$	
$d^3D - f(\frac{1}{2}, \frac{1}{2})$	0.3651	$x = 0.0386$	$y = 0.0169$	$z = 0.0019$
$d^3D - f(\frac{3}{2}, \frac{3}{2})$	0.6349	$x = 0.4500$	$y = 0.5333$	$z = 0.0167$
$d^3D - f(\frac{1}{2}, \frac{1}{2})$	0.9206	$x = 0.0443$	$y = 0.3923$	$z = 0.2095$
$d^3D - f(\frac{3}{2}, \frac{3}{2})$	$z = 0.0158$	0.0181		
$d^3D - f(\frac{1}{2}, \frac{1}{2})$	1.0794	$x = 0.7563$	$y = 0.0588$	$z = 0.0529$
$d^3D - f(\frac{3}{2}, \frac{3}{2})$	$z = 0.0045$			
$d^1F - f(\frac{1}{2}, \frac{1}{2})$	0.0222	$x = 0.9524$	$y = 0.0476$	
$d^1F - f(\frac{3}{2}, \frac{3}{2})$	0.4444	$x = 0.9643$	$y = 0.0357$	

TABLE 7c (CONTINUED)

$d^1F - f(\frac{3}{2}, \frac{5}{2})$	0.5778	$z = 0.9537$	$y = 0.0458$	$z = 0.0005$
$d^1F - f(\frac{3}{2}, \frac{3}{2})$	0.3556	$z = 0.8610$	$y = 0.1359$	$z = 0.0051$
$d^3F - f(\frac{3}{2}, \frac{5}{2})$	0.7778	$z = 0.0000$	0.0018	$y = 0.0363$
$d^3F - f(\frac{3}{2}, \frac{3}{2})$	0.6222	$z = 0.0000$	0.0340	$y = 0.0000$
$d^3F - f(\frac{3}{2}, \frac{5}{2})$	1.0222	$z = 0.0749$	0.1181	0.0308
		$z = 0.8039$	0.1516	$y = 0.0090$
$d^3F - f(\frac{3}{2}, \frac{7}{2})$	1.7778	$z = 0.8839$	0.0143	0.0163
		$z = 0.0029$	0.0001	$y = 0.0775$
$f^{(2s+1)L} - d(J_p, j)$	$\sum_{J_p, j}$			
$f^1D - d(\frac{1}{2}, \frac{3}{2})$	0.2222	$z = 0.1000$	$y = 0.9000$	
$f^1D - d(\frac{1}{2}, \frac{5}{2})$	0.0159	$z = 0.0667$	$y = 0.9333$	
$f^1D - d(\frac{1}{2}, \frac{7}{2})$	0.0635	$z = 0.0200$	$y = 0.3500$	$z = 0.6300$
$f^1D - d(\frac{3}{2}, \frac{5}{2})$	0.4127	$z = 0.0021$	$y = 0.1256$	$z = 0.8723$
$f^3D - d(\frac{1}{2}, \frac{3}{2})$	0.1587	$z = 0.0667$	0.8400	$y = 0.0933$
$f^3D - d(\frac{1}{2}, \frac{5}{2})$	0.5556	$z = 0.0635$	0.0178	$y = 0.9175$
$f^3D - d(\frac{1}{2}, \frac{7}{2})$	0.6984	$z = 0.0097$	0.1326	0.2577
		$z = 0.0076$	0.0286	$y = 0.0388$
$f^3D - d(\frac{3}{2}, \frac{5}{2})$	0.7302	$z = 0.0056$	0.0193	0.0117
		$z = 0.4245$	0.2283	$y = 0.1323$
$f^1F - d(\frac{1}{2}, \frac{3}{2})$	0.1778	$z = 0.1000$		
$f^1F - d(\frac{1}{2}, \frac{5}{2})$	0.1556	$z = 0.2381$	$y = 0.7619$	
$f^1F - d(\frac{1}{2}, \frac{7}{2})$	0.2222	$z = 0.2000$	$y = 0.8000$	
$f^1F - d(\frac{3}{2}, \frac{5}{2})$	0.4444	$z = 0.0000$	$y = 0.0667$	$z = 0.9333$
$f^3F - d(\frac{1}{2}, \frac{3}{2})$	0.3556	$z = 0.1667$	0.7500	$y = 0.0833$
$f^3F - d(\frac{1}{2}, \frac{5}{2})$	0.6444	$z = 0.4988$	0.4636	$y = 0.0048$
$f^3F - d(\frac{1}{2}, \frac{7}{2})$	0.8444	$z = 0.0508$	0.4386	0.2526
		$z = 0.0080$		$y = 0.1096$
$f^3F - d(\frac{3}{2}, \frac{5}{2})$	1.1556	$z = 0.1159$	0.0835	0.0012
		$z = 0.0077$	0.0030	$y = 0.6815$
$f^1G - d(\frac{1}{2}, \frac{5}{2})$	0.4286	$z = 0.1000$		
$f^1G - d(\frac{1}{2}, \frac{7}{2})$	0.5143	$z = 1.0000$		
$f^1G - d(\frac{3}{2}, \frac{5}{2})$	0.3429	$z = 0.0000$	$y = 1.0000$	
$f^3G - d(\frac{1}{2}, \frac{3}{2})$	0.6857	$z = 1.0000$		
$f^3G - d(\frac{1}{2}, \frac{5}{2})$	0.6000	$z = 0.8929$	0.0476	$y = 0.0595$
$f^3G - d(\frac{1}{2}, \frac{7}{2})$	0.8571	$z = 0.7500$	0.2000	$y = 0.0500$
$f^3G - d(\frac{3}{2}, \frac{5}{2})$	1.7143	$z = 0.9167$	0.0156	0.0190
		$z = 0.0007$		$y = 0.0469$
$f^{(2s+1)L} - g(J_p, j)$	$\sum_{J_p, j}$			
$f^1D - g(\frac{1}{2}, \frac{7}{2})$	0.2381	$z = 1.0000$		
$f^1D - g(\frac{3}{2}, \frac{7}{2})$	0.0794	$z = 1.0000$	$y = 0.0000$	
$f^1D - g(\frac{5}{2}, \frac{7}{2})$	0.3968	$z = 1.0000$		
$f^3D - g(\frac{1}{2}, \frac{7}{2})$	0.1852	$z = 0.0357$	0.8571	$y = 0.1071$
$f^3D - g(\frac{3}{2}, \frac{7}{2})$	0.5291	$z = 1.0000$		

TABLE 7c (CONTINUED)

$f^3D - g(\frac{3}{2}, \frac{7}{2})$	0.7672	$z = 0.0246$	0.2759	0.5586	$y = 0.0345$
		$z = 0.0030$			0.1034
$f^3D - g(\frac{5}{2}, \frac{7}{2})$	0.8614	$z = 0.5500$	0.4000	$y = 0.0500$	
$f^1F - g(\frac{1}{2}, \frac{7}{2})$	0.1944	$z = 0.8929$	$y = 0.1071$		
$f^1F - g(\frac{3}{2}, \frac{7}{2})$	0.1389	$z = 1.0000$			
$f^1F - g(\frac{5}{2}, \frac{7}{2})$	0.2500	$z = 0.9722$	$y = 0.0278$	$z = 0.0000$	
$f^1F - g(\frac{7}{2}, \frac{7}{2})$	0.4167	$z = 0.9167$	$y = 0.0833$		
$f^3F - g(\frac{1}{2}, \frac{7}{2})$	0.3981	$z = 0.0218$	0.0044	$y = 0.0006$	$z = 0.1759$
$f^3F - g(\frac{3}{2}, \frac{7}{2})$	0.6019	$z = 0.5077$	0.4808	$y = 0.0115$	0.7973
$f^3F - g(\frac{5}{2}, \frac{7}{2})$	0.9352	$z = 0.0272$	0.4248	0.3465	$y = 0.0448$
		$z = 0.0043$	0.0053		0.1046
$f^3F - g(\frac{7}{2}, \frac{7}{2})$	1.0848	$z = 0.7652$	0.1196	0.0311	$y = 0.0717$
		$z = 0.0016$			0.0109
$f^1G - g(\frac{1}{2}, \frac{7}{2})$	0.0119	$z = 0.9722$	$y = 0.0278$		
$f^1G - g(\frac{3}{2}, \frac{7}{2})$	0.4167	$z = 0.9778$	$y = 0.0222$		
$f^1G - g(\frac{5}{2}, \frac{7}{2})$	0.5595	$z = 0.9708$	$y = 0.0290$	$z = 0.0002$	
$f^1G - g(\frac{7}{2}, \frac{7}{2})$	0.2976	$z = 0.9126$	$y = 0.0856$	$z = 0.0019$	
$f^3G - g(\frac{1}{2}, \frac{7}{2})$	0.7500	$z = 0.0000$	0.0006	$y = 0.0193$	0.0268
$f^3G - g(\frac{3}{2}, \frac{7}{2})$	0.5357	$z = 0.0000$	0.0216	$y = 0.0000$	$z = 0.9534$
$f^3G - g(\frac{5}{2}, \frac{7}{2})$	0.9643	$z = 0.0422$	0.0770	0.0248	$y = 0.9506$
		$z = 0.6355$	0.2132		0.0278
$f^3G - g(\frac{7}{2}, \frac{7}{2})$	1.6071	$z = 0.8988$	0.0338	0.0113	$y = 0.0030$
		$z = 0.0012$	0.0001		0.0010
$g^{(2s+1)L} - f(J_p, j)$	$\sum_{J_p, j}$				
$g^1F - f(\frac{1}{2}, \frac{5}{2})$	0.2500	$z = 0.0476$	$y = 0.9524$		
$g^1F - f(\frac{3}{2}, \frac{5}{2})$	0.0093	$z = 0.0357$	$y = 0.9643$		
$g^1F - f(\frac{5}{2}, \frac{5}{2})$	0.0833	$z = 0.0051$	$y = 0.1786$	$z = 0.8163$	
$g^1F - f(\frac{7}{2}, \frac{5}{2})$	0.4352	$z = 0.0005$	$y = 0.0616$	$z = 0.9379$	
$g^3F - f(\frac{1}{2}, \frac{5}{2})$	0.1944	$z = 0.0357$	0.9184	$y = 0.0459$	0.0000
$g^3F - f(\frac{3}{2}, \frac{5}{2})$	0.5833	$z = 0.0347$	0.0115	$y = 0.9534$	$z = 0.0004$
$g^3F - f(\frac{5}{2}, \frac{5}{2})$	0.8056	$z = 0.0026$	0.0554	0.1267	$y = 0.0220$
		$z = 0.0016$	0.0063		0.2533
$g^3F - f(\frac{7}{2}, \frac{5}{2})$	0.7500	$z = 0.0016$	0.0059	0.0038	$y = 0.0707$
		$z = 0.4568$	0.3430		0.0956
$g^1G - f(\frac{1}{2}, \frac{5}{2})$	0.1786	$z = 1.0000$			
$g^1G - f(\frac{3}{2}, \frac{5}{2})$	0.1548	$z = 0.1346$	$y = 0.8654$		
$g^1G - f(\frac{5}{2}, \frac{5}{2})$	0.2500	$z = 0.1071$	$y = 0.8929$		
$g^1G - f(\frac{7}{2}, \frac{5}{2})$	0.4167	$z = 0.0000$	$y = 0.0357$	$z = 0.9643$	
$g^3G - f(\frac{1}{2}, \frac{5}{2})$	0.3929	$z = 0.2045$	0.7576	$y = 0.0379$	
$g^3G - f(\frac{3}{2}, \frac{5}{2})$	0.6071	$z = 0.5368$	0.4424	$y = 0.0017$	0.0184
$g^3G - f(\frac{5}{2}, \frac{5}{2})$	0.8929	$z = 0.0293$	0.4500	0.3810	$y = 0.0540$
		$z = 0.0024$			0.0833
$g^3G - f(\frac{7}{2}, \frac{5}{2})$	1.1071	$z = 0.0662$	0.0594	0.0034	$y = 0.7197$
		$z = 0.0028$	0.0013		0.1185

TABLE 7c (CONTINUED)

$g^1H - f(\frac{1}{2}, \frac{7}{2})$	0.4074	$x = 1.0000$
$g^1H - f(\frac{3}{2}, \frac{5}{2})$	0.5238	$x = 1.0000$
$g^1H - f(\frac{5}{2}, \frac{3}{2})$	0.2910	$x = 0.0000 \quad y = 1.0000$
$g^3H - f(\frac{1}{2}, \frac{5}{2})$	0.6984	$x = 1.0000$
$g^3H - f(\frac{3}{2}, \frac{3}{2})$	0.5238	$x = 0.9333 \quad 0.0278 \quad y = 0.0389$
$g^3H - f(\frac{5}{2}, \frac{1}{2})$	0.8730	$x = 0.7200 \quad 0.2500 \quad y = 0.0300$
$g^3H - f(\frac{7}{2}, \frac{1}{2})$	1.5714	$x = 0.9192 \quad 0.0356 \quad 0.0123 \quad y = 0.0311 \quad 0.0015$
	$z = 0.0003$	

TABLE 8a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 3P

$s^{(2S+1)L} - pL'[K]$	$\sum_{J,J'}^s$	
$s^2P - pS[1]$	0.6667	$x = 0.0000 \quad 0.3333 \quad y = 0.6667 \quad z = 0.0000$
$s^2P - pP[0]$	0.2222	$x = 0.3333 \quad y = 0.6667$
$s^2P - pP[1]$	0.6667	$x = 0.2778 \quad 0.4444 \quad y = 0.2222 \quad z = 0.0556$
$s^2P - pP[2]$	1.1111	$x = 0.0000 \quad 0.1667 \quad y = 0.8333$
$s^2P - pD[1]$	0.6667	$x = 0.1667 \quad 0.0000 \quad y = 0.0000 \quad z = 0.8333$
$s^2P - pD[2]$	1.1111	$x = 0.4000 \quad 0.5000 \quad y = 0.1000$
$s^2P - pD[3]$	1.5556	$x = 1.0000$
$s^4P - pS[1]$	1.3333	$x = 0.5000 \quad 0.0000 \quad y = 0.3333 \quad 0.0000 \quad z = 0.1667$
$s^4P - pP[0]$	0.4444	$x = 0.8333 \quad y = 0.1667$
$s^4P - pP[1]$	1.3333	$x = 0.3750 \quad 0.1389 \quad y = 0.1111 \quad 0.0278 \quad z = 0.3472$
$s^4P - pP[2]$	2.2222	$x = 0.6300 \quad 0.0133 \quad y = 0.0450 \quad z = 0.2700 \quad 0.0417$
$s^4P - pD[1]$	1.3333	$x = 0.0250 \quad 0.0833 \quad y = 0.2667 \quad 0.4167 \quad z = 0.2083$
$s^4P - pD[2]$	2.2222	$x = 0.2100 \quad 0.1600 \quad y = 0.0150 \quad z = 0.4900 \quad 0.1250$
$s^4P - pD[3]$	3.1111	$x = 0.8571 \quad 0.1000 \quad y = 0.0429$
$p^{(2S+1)L} - sL'[K]$	$\sum_{J,J'}^s$	
$p^2S - sP[0]$	0.0741	$x = 1.0000$
$p^2S - sP[1]$	0.2222	$x = 0.3333 \quad y = 0.6667$
$p^2S - sP[2]$	0.3704	$x = 1.0000$
$p^4S - sP[0]$	0.1481	$x = 1.0000$
$p^4S - sP[1]$	0.4444	$x = 0.8333 \quad y = 0.1667$
$p^4S - sP[2]$	0.7407	$x = 0.9000 \quad y = 0.1000$
$p^2P - sP[0]$	0.0556	$x = 0.3333 \quad y = 0.6667$
$p^2P - sP[1]$	0.1667	$x = 0.2778 \quad 0.4444 \quad y = 0.2222 \quad z = 0.0556$
$p^2P - sP[2]$	0.2778	$x = 0.0000 \quad 0.1667 \quad y = 0.8333$
$p^2P - sD[1]$	0.3000	$x = 0.1667 \quad 0.0000 \quad y = 0.0000 \quad z = 0.8333$
$p^2P - sD[2]$	0.5000	$x = 0.4000 \quad 0.5000 \quad y = 0.1000$
$p^2P - sD[3]$	0.7000	$x = 1.0000$
$p^4P - sP[0]$	0.1111	$x = 0.8333 \quad y = 0.1667$
$p^4P - sP[1]$	0.3333	$x = 0.3750 \quad 0.1389 \quad y = 0.1111 \quad 0.0278 \quad z = 0.3472$
$p^4P - sP[2]$	0.5556	$x = 0.6300 \quad 0.0133 \quad y = 0.0450 \quad z = 0.2700 \quad 0.0417$
$p^4P - sD[1]$	0.6000	$x = 0.0250 \quad 0.0833 \quad y = 0.2667 \quad 0.4167 \quad z = 0.2083$
$p^4P - sD[2]$	1.0000	$x = 0.2100 \quad 0.1600 \quad y = 0.0150 \quad z = 0.4900 \quad 0.1250$
$p^4P - sD[3]$	1.4000	$x = 0.8571 \quad 0.1000 \quad y = 0.0429$
$p^2D - sP[0]$	0.0037	$x = 1.0000$
$p^2D - sP[1]$	0.0111	$x = 0.3000 \quad 0.6667 \quad y = 0.0333$
$p^2D - sP[2]$	0.0185	$x = 0.0000 \quad 0.1000 \quad y = 0.9000 \quad z = 0.0000$
$p^2D - sD[1]$	0.1000	$x = 0.1000 \quad 0.0000 \quad y = 0.9000$
$p^2D - sD[2]$	0.1667	$x = 0.3733 \quad 0.5400 \quad y = 0.0600 \quad z = 0.0267$
$p^2D - sD[3]$	0.2333	$x = 0.0000 \quad 0.0667 \quad y = 0.9333$
$p^2D - sF[2]$	0.6667	$x = 0.0667 \quad 0.0000 \quad y = 0.0000 \quad z = 0.9333$
$p^2D - sF[3]$	0.9333	$x = 0.4286 \quad 0.5333 \quad y = 0.0381$
$p^2D - sF[4]$	1.2000	$x = 1.0000$
$p^4D - sP[0]$	0.0074	$x = 0.5000 \quad y = 0.5000$
$p^4D - sP[1]$	0.0222	$x = 0.5250 \quad 0.0833 \quad y = 0.2667 \quad 0.0833 \quad z = 0.0417$
$p^4D - sP[2]$	0.0370	$x = 0.7200 \quad 0.0630 \quad y = 0.1620 \quad 0.0320$
	$z = 0.0180 \quad 0.0050$	
$p^4D - sD[1]$	0.2000	$x = 0.1750 \quad 0.2500 \quad y = 0.2000 \quad 0.2500 \quad z = 0.1250$
$p^4D - sD[2]$	0.3333	$x = 0.1333 \quad 0.1050 \quad y = 0.4033 \quad 0.1200$
	$z = 0.1633 \quad 0.0750$	
$p^4D - sD[3]$	0.4667	$x = 0.7347 \quad 0.0823 \quad y = 0.0272 \quad z = 0.1224 \quad 0.0333$

TABLE 8a (CONTINUED)

$p^4P - sP[2]$	2.2222	$x = 0.6300 \quad 0.0133 \quad y = 0.0450 \quad z = 0.2700 \quad 0.0417$
$p^2D - sP[0]$	0.3704	$x = 1.0000$
$p^2D - sP[1]$	1.1111	$x = 0.3000 \quad 0.6667 \quad y = 0.0333$
$p^2D - sP[2]$	1.8519	$x = 0.0000 \quad 0.1000 \quad y = 0.9000 \quad z = 0.0000$
$p^4D - sP[0]$	0.7407	$x = 0.5000 \quad y = 0.5000$
$p^4D - sP[1]$	2.2222	$x = 0.5250 \quad 0.0833 \quad y = 0.2667 \quad 0.0833 \quad z = 0.0417$
$p^4D - sP[2]$	3.7037	$x = 0.7200 \quad 0.0630 \quad y = 0.1620 \quad 0.0320$
	$z = 0.0180 \quad 0.0050$	
$p^{(2S+1)L} - dL'[K]$	$\sum_{J,J'}^s$	
$p^2S - dP[0]$	0.0741	$x = 1.0000$
$p^2S - dP[1]$	0.2222	$x = 0.3333 \quad y = 0.6667$
$p^2S - dP[2]$	0.3704	$x = 1.0000$
$p^4S - dP[0]$	0.1481	$x = 1.0000$
$p^4S - dP[1]$	0.4444	$x = 0.8333 \quad y = 0.1667$
$p^4S - dP[2]$	0.7407	$x = 0.9000 \quad y = 0.1000$
$p^2P - dP[0]$	0.0556	$x = 0.3333 \quad y = 0.6667$
$p^2P - dP[1]$	0.1667	$x = 0.2778 \quad 0.4444 \quad y = 0.2222 \quad z = 0.0556$
$p^2P - dP[2]$	0.2778	$x = 0.0000 \quad 0.1667 \quad y = 0.8333$
$p^2P - dD[1]$	0.3000	$x = 0.1667 \quad 0.0000 \quad y = 0.0000 \quad z = 0.8333$
$p^2P - dD[2]$	0.5000	$x = 0.4000 \quad 0.5000 \quad y = 0.1000$
$p^2P - dD[3]$	0.7000	$x = 1.0000$
$p^4P - dP[0]$	0.1111	$x = 0.8333 \quad y = 0.1667$
$p^4P - dP[1]$	0.3333	$x = 0.3750 \quad 0.1389 \quad y = 0.1111 \quad 0.0278 \quad z = 0.3472$
$p^4P - dP[2]$	0.5556	$x = 0.6300 \quad 0.0133 \quad y = 0.0450 \quad z = 0.2700 \quad 0.0417$
$p^4P - dD[1]$	0.6000	$x = 0.0250 \quad 0.0833 \quad y = 0.2667 \quad 0.4167 \quad z = 0.2083$
$p^4P - dD[2]$	1.0000	$x = 0.2100 \quad 0.1600 \quad y = 0.0150 \quad z = 0.4900 \quad 0.1250$
$p^4P - dD[3]$	1.4000	$x = 0.8571 \quad 0.1000 \quad y = 0.0429$
$p^2D - dP[0]$	0.0037	$x = 1.0000$
$p^2D - dP[1]$	0.0111	$x = 0.3000 \quad 0.6667 \quad y = 0.0333$
$p^2D - dP[2]$	0.0185	$x = 0.0000 \quad 0.1000 \quad y = 0.9000 \quad z = 0.0000$
$p^2D - dD[1]$	0.1000	$x = 0.1000 \quad 0.0000 \quad y = 0.9000$
$p^2D - dD[2]$	0.1667	$x = 0.3733 \quad 0.5400 \quad y = 0.0600 \quad z = 0.0267$
$p^2D - dD[3]$	0.2333	$x = 0.0000 \quad 0.0667 \quad y = 0.9333$
$p^2D - dF[2]$	0.6667	$x = 0.0667 \quad 0.0000 \quad y = 0.0000 \quad z = 0.9333$
$p^2D - dF[3]$	0.9333	$x = 0.4286 \quad 0.5333 \quad y = 0.0381$
$p^2D - dF[4]$	1.2000	$x = 1.0000$
$p^4D - dP[0]$	0.0074	$x = 0.5000 \quad y = 0.5000$
$p^4D - dP[1]$	0.0222	$x = 0.5250 \quad 0.0833 \quad y = 0.2667 \quad 0.0833 \quad z = 0.0417$
$p^4D - dP[2]$	0.0370	$x = 0.7200 \quad 0.0630 \quad y = 0.1620 \quad 0.0320$
	$z = 0.0180 \quad 0.0050$	
$p^4D - dD[1]$	0.2000	$x = 0.1750 \quad 0.2500 \quad y = 0.2000 \quad 0.2500 \quad z = 0.1250$
$p^4D - dD[2]$	0.3333	$x = 0.1333 \quad 0.1050 \quad y = 0.4033 \quad 0.1200$
	$z = 0.1633 \quad 0.0750$	
$p^4D - dD[3]$	0.4667	$x = 0.7347 \quad 0.0823 \quad y = 0.0272 \quad z = 0.1224 \quad 0.0333$

TABLE 8a (CONTINUED)

$d^2P - fD [3]$	0.5800	$z = 1.0000$	
$d^4P - fD [1]$	0.4800	$z = 0.0250$	$0.0833 \quad y = 0.2667 \quad 0.4167 \quad z = 0.2083$
$d^4P - fD [2]$	0.8000	$z = 0.2100$	$0.1600 \quad y = 0.0150 \quad z = 0.4900 \quad 0.1250$
$d^4P - fD [3]$	1.1200	$z = 0.8571$	$0.1000 \quad y = 0.0429$
$d^2D - fD [1]$	0.0444	$z = 0.1000$	$0.0000 \quad y = 0.9000$
$d^2D - fD [2]$	0.0741	$z = 0.3733$	$0.5400 \quad y = 0.0600 \quad z = 0.0267$
$d^2D - fD [3]$	0.1037	$z = 0.0000$	$0.0667 \quad y = 0.9333$
$d^2D - fF [2]$	0.4233	$z = 0.0667$	$0.0000 \quad y = 0.0000 \quad z = 0.9333$
$d^2D - fF [3]$	0.5926	$z = 0.4286$	$0.5333 \quad y = 0.0381$
$d^2D - fF [4]$	0.7619	$z = 1.0000$	
$d^4D - fD [1]$	0.0889	$z = 0.1750$	$0.2500 \quad y = 0.2000 \quad 0.2500 \quad z = 0.1250$
$d^4D - fD [2]$	0.1481	$z = 0.1333$	$0.1050 \quad y = 0.4033 \quad 0.1200$
	$z = 0.1633$	0.0750	
$d^4D - fD [3]$	0.2074	$z = 0.7347$	$0.0823 \quad y = 0.0272 \quad z = 0.1224 \quad 0.0333$
$d^4D - fF [2]$	0.8466	$z = 0.0038$	$0.0120 \quad y = 0.0975 \quad 0.1680$
	$z = 0.2987$	0.4200	
$d^4D - fF [3]$	1.1852	$z = 0.0918$	$0.0871 \quad y = 0.0034 \quad z = 0.5510 \quad 0.2667$
$d^4D - fF [4]$	1.5238	$z = 0.8333$	$0.1429 \quad y = 0.0238$
$d^2F - fD [1]$	0.0013	$z = 1.0000$	
$d^2F - fD [2]$	0.0021	$z = 0.8310$	$0.6000 \quad y = 0.0190$
$d^2F - fD [3]$	0.0030	$z = 0.0000$	$0.0476 \quad y = 0.9524 \quad z = 0.0000$
$d^2F - fF [2]$	0.0529	$z = 0.0476$	$0.0000 \quad y = 0.9524$
$d^2F - fF [3]$	0.0741	$z = 0.4133$	$0.5442 \quad y = 0.0272 \quad z = 0.0153$
$d^2F - fF [4]$	0.0952	$z = 0.0000$	$0.0357 \quad y = 0.9643$
$d^2F - fG [3]$	0.6667	$z = 0.0357$	$0.0000 \quad y = 0.0000 \quad z = 0.9643$
$d^2F - fG [4]$	0.8571	$z = 0.4444$	$0.5357 \quad y = 0.0198$
$d^2F - fG [5]$	1.0476	$z = 1.0000$	
$d^4F - fD [1]$	0.0025	$z = 0.4000$	$0.5000 \quad y = 0.1000$
$d^4F - fD [2]$	0.0042	$z = 0.5714$	$0.2400 \quad y = 0.1219 \quad 0.0800 \quad z = 0.0067$
$d^4F - fD [3]$	0.0059	$z = 0.7653$	$0.1166 \quad y = 0.0875 \quad 0.0249$
	$z = 0.0044$	0.0014	
$d^4F - fF [2]$	0.1058	$z = 0.0714$	$0.1200 \quad y = 0.2752 \quad 0.4800 \quad z = 0.0533$
$d^4F - fF [3]$	0.1481	$z = 0.0670$	$0.0638 \quad y = 0.4898 \quad 0.2457$
	$z = 0.0861$	0.0476	
$d^4F - fF [4]$	0.1905	$z = 0.7639$	$0.1270 \quad y = 0.0174 \quad z = 0.0694 \quad 0.0223$
$d^4F - fG [3]$	1.3333	$z = 0.0011$	$0.0033 \quad y = 0.0486 \quad 0.0886$
	$z = 0.3075$	0.5510	
$d^4F - fG [4]$	1.7143	$z = 0.0509$	$0.0529 \quad y = 0.0012 \quad z = 0.5802 \quad 0.3348$
$d^4F - fG [5]$	2.0952	$z = 0.8182$	$0.1667 \quad y = 0.0152$
$f^{(2s+1)L} - dL'[K]$	$\sum_{J,J'}^s$		
$f^2D - dP [0]$	0.1333	$z = 1.0000$	
$f^2D - dP [1]$	0.4000	$z = 0.3000$	$0.6667 \quad y = 0.0333$
$f^2D - dP [2]$	0.6667	$z = 0.0000$	$0.1000 \quad y = 0.9000 \quad z = 0.0000$
$f^2D - dD [1]$	0.0444	$z = 0.1000$	$0.0000 \quad y = 0.9000$
$f^2D - dD [2]$	0.0741	$z = 0.3733$	$0.5400 \quad y = 0.0600 \quad z = 0.0267$

TABLE 8a (CONTINUED)

$p^4D - dF [2]$	1.3333	$z = 0.0038$	$0.0120 \quad y = 0.0975 \quad 0.1680$
	$z = 0.2987$	0.4200	
$p^4D - dF [3]$	1.8667	$z = 0.0918$	$0.0871 \quad y = 0.0034 \quad z = 0.5510 \quad 0.2667$
$p^4D - dF [4]$	2.4000	$z = 0.8333$	$0.1429 \quad y = 0.0238$
$d^{(2s+1)L} - pL'[K]$	$\sum_{J,J'}^s$		
$d^2P - pS [1]$	0.6667	$z = 0.0000$	$0.3333 \quad y = 0.6667 \quad z = 0.0000$
$d^2P - pP [0]$	0.0556	$z = 0.3333$	$y = 0.6667$
$d^2P - pP [1]$	0.1667	$z = 0.2778$	$0.4444 \quad y = 0.2222 \quad z = 0.0556$
$d^2P - pP [2]$	0.2778	$z = 0.0000$	$0.1667 \quad y = 0.8333$
$d^2P - pD [1]$	0.0067	$z = 0.1667$	$0.0000 \quad y = 0.0000 \quad z = 0.8333$
$d^2P - pD [2]$	0.0111	$z = 0.4000$	$0.5000 \quad y = 0.1000$
$d^2P - pD [3]$	0.0156	$z = 1.0000$	
$d^4P - pS [1]$	1.3333	$z = 0.5000$	$0.0000 \quad y = 0.3333 \quad 0.0000 \quad z = 0.1667$
$d^4P - pP [0]$	0.1111	$z = 0.8333$	$y = 0.1667$
$d^4P - pP [1]$	0.3333	$z = 0.3750$	$0.1389 \quad y = 0.1111 \quad 0.0278 \quad z = 0.3472$
$d^4P - pP [2]$	0.5556	$z = 0.6300$	$0.0133 \quad y = 0.0450 \quad z = 0.2700 \quad 0.0417$
$d^4P - pD [1]$	0.0133	$z = 0.0250$	$0.0833 \quad y = 0.2667 \quad 0.4167 \quad z = 0.2083$
$d^4P - pD [2]$	0.0222	$z = 0.2100$	$0.1600 \quad y = 0.0150 \quad z = 0.4900 \quad 0.1250$
$d^4P - pD [3]$	0.0311	$z = 0.8571$	$0.1000 \quad y = 0.0429$
$d^2D - pP [0]$	0.1667	$z = 1.0000$	
$d^2D - pP [1]$	0.5000	$z = 0.3000$	$0.6667 \quad y = 0.0333$
$d^2D - pP [2]$	0.8333	$z = 0.0000$	$0.1000 \quad y = 0.9000 \quad z = 0.0000$
$d^2D - pD [1]$	0.1000	$z = 0.1000$	$0.0000 \quad y = 0.9000$
$d^2D - pD [2]$	0.1667	$z = 0.3733$	$0.5400 \quad y = 0.0600 \quad z = 0.0267$
$d^2D - pD [3]$	0.2333	$z = 0.0000$	$0.0667 \quad y = 0.9333$
$d^4D - pP [0]$	0.3333	$z = 0.5000$	$y = 0.5000$
$d^4D - pP [1]$	1.0000	$z = 0.5250$	$0.0833 \quad y = 0.2667 \quad 0.0833 \quad z = 0.0417$
$d^4D - pP [2]$	1.6667	$z = 0.7200$	$0.0630 \quad y = 0.1620 \quad 0.0320$
	$z = 0.0180$	0.0050	
$d^4D - pD [1]$	0.2000	$z = 0.1750$	$0.2500 \quad y = 0.2000 \quad 0.2500 \quad z = 0.1250$
$d^4D - pD [2]$	0.3333	$z = 0.1333$	$0.1050 \quad y = 0.4033 \quad 0.1200$
	$z = 0.1633$	0.0750	
$d^4D - pD [3]$	0.4667	$z = 0.7347$	$0.0823 \quad y = 0.0272 \quad z = 0.1224 \quad 0.0333$
$d^2F - pD [1]$	0.5600	$z = 1.0000$	
$d^2F - pD [2]$	0.9333	$z = 0.3810$	$0.8000 \quad y = 0.0190$
$d^2F - pD [3]$	1.3067	$z = 0.0000$	$0.0476 \quad y = 0.9524 \quad z = 0.0000$
$d^4F - pD [1]$	1.1200	$z = 0.4000$	$0.5000 \quad y = 0.1000$
$d^4F - pD [2]$	1.8667	$z = 0.5714$	$0.2400 \quad y = 0.1219 \quad 0.0800 \quad z = 0.0067$
$d^4F - pD [3]$	2.6133	$z = 0.7653$	$0.1166 \quad y = 0.0875 \quad 0.0249$
	$z = 0.0044$	0.0014	
$d^{(2s+1)L} - fL'[K]$	$\sum_{J,J'}^s$		
$d^2P - fD [1]$	0.2400	$z = 0.1667$	$0.0000 \quad y = 0.0000 \quad z = 0.8333$
$d^2P - fD [2]$	0.4000	$z = 0.4000$	$0.5000 \quad y = 0.1000$

TABLE 8a (CONTINUED)

$f^2F - g F [2]$	0.0298	$z = 0.0476$	0.0000	$y = 0.9524$
$f^2F - g F [3]$	0.0417	$z = 0.4133$	0.5442	$y = 0.0272$ $z = 0.0153$
$f^2F - g F [4]$	0.0536	$z = 0.0000$	0.0357	$y = 0.9643$
$f^2F - g G [3]$	0.4861	$z = 0.0357$	0.0000	$y = 0.0000$ $z = 0.9643$
$f^2F - g G [4]$	0.6250	$z = 0.4444$	0.5357	$y = 0.0198$
$f^2F - g G [5]$	0.7639	$z = 1.0000$		
$f^4F - g F [2]$	0.0595	$z = 0.0714$	0.1200	$y = 0.2752$ 0.4800 $z = 0.0533$
$f^4F - g F [3]$	0.0833	$z = 0.0670$	0.0638	$y = 0.4898$ 0.2457
		$z = 0.0861$	0.0476	
$f^4F - g F [4]$	0.1071	$z = 0.7639$	0.1270	$y = 0.0174$ $z = 0.0694$ 0.0223
$f^4F - g G [3]$	0.9722	$z = 0.0011$	0.0033	$y = 0.0486$ 0.0886
		$z = 0.3075$	0.5510	
$f^4F - g G [4]$	1.2500	$z = 0.0509$	0.0529	$y = 0.0012$ $z = 0.5802$ 0.3348
$f^4F - g G [5]$	1.5278	$z = 0.8182$	0.1667	$y = 0.0152$
$f^2G - g F [2]$	0.0005	$z = 1.0000$		
$f^2G - g F [3]$	0.0007	$z = 0.4167$	0.5714	$y = 0.0119$
$f^2G - g F [4]$	0.0009	$z = 0.0000$	0.0278	$y = 0.9722$ $z = 0.0000$
$f^2G - g G [3]$	0.0324	$z = 0.0278$	0.0000	$y = 0.9722$
$f^2G - g G [4]$	0.0417	$z = 0.4346$	0.5401	$y = 0.0154$ $z = 0.0099$
$f^2G - g G [5]$	0.0509	$z = 0.0000$	0.0222	$y = 0.9778$
$f^2G - g H [4]$	0.6667	$z = 0.0222$	0.0000	$y = 0.0000$ $z = 0.9778$
$f^2G - g H [5]$	0.8148	$z = 0.4545$	0.5333	$y = 0.0121$
$f^2G - g H [6]$	0.9630	$z = 1.0000$		
$f^4G - g F [2]$	0.0009	$z = 0.3571$	0.6000	$y = 0.0429$
$f^4G - g F [3]$	0.0013	$z = 0.5729$	0.3189	$y = 0.0680$ 0.0383 $z = 0.0019$
$f^4G - g F [4]$	0.0017	$z = 0.7778$	0.1485	$y = 0.0540$ 0.0176
		$z = 0.0015$	0.0005	
$f^4G - g G [3]$	0.0648	$z = 0.0382$	0.0689	$y = 0.2902$ 0.5740 $z = 0.0287$
$f^4G - g G [4]$	0.0833	$z = 0.0400$	0.0416	$y = 0.5188$ 0.3160
		$z = 0.0523$	0.0313	
$f^4G - g G [5]$	0.1019	$z = 0.7736$	0.1544	$y = 0.0119$ $z = 0.0446$ 0.0156
$f^4G - g H [4]$	1.3333	$z = 0.0004$	0.0012	$y = 0.0287$ 0.0543
		$z = 0.3042$	0.6111	
$f^4G - g H [5]$	1.6296	$z = 0.0322$	0.0353	$y = 0.0005$ $z = 0.5587$ 0.3733
$f^4G - g H [6]$	1.9259	$z = 0.8077$	0.1818	$y = 0.0105$
$g^{(2S+1)L} - f L [K]$	$\sum_{J,J'}^s$			
$g^2F - f D [1]$	0.2857	$z = 1.0000$		
$g^2F - f D [2]$	0.4762	$z = 0.3810$	0.6000	$y = 0.0190$
$g^2F - f D [3]$	0.6667	$z = 0.0000$	0.0476	$y = 0.9524$ $z = 0.0000$
$g^2F - f F [2]$	0.0298	$z = 0.0476$	0.0000	$y = 0.9524$
$g^2F - f F [3]$	0.0417	$z = 0.4133$	0.5442	$y = 0.0272$ $z = 0.0153$
$g^2F - f F [4]$	0.0536	$z = 0.0000$	0.0357	$y = 0.9643$
$g^2F - f G [3]$	0.0005	$z = 0.0357$	0.0000	$y = 0.0000$ $z = 0.9643$
$g^2F - f G [4]$	0.0007	$z = 0.4444$	0.5357	$y = 0.0198$
$g^2F - f G [5]$	0.0008	$z = 1.0000$		

TABLE 8a (CONTINUED)

$f^2D - d D [3]$	0.1037	$z = 0.0000$	0.0667	$y = 0.9333$
$f^2D - d F [2]$	0.0015	$z = 0.0667$	0.0000	$y = 0.0000$ $z = 0.9333$
$f^2D - d F [3]$	0.0021	$z = 0.4286$	0.5333	$y = 0.0381$
$f^2D - d F [4]$	0.0027	$z = 1.0000$		
$f^4D - d P [0]$	0.2667	$z = 0.5000$	$y = 0.5000$	
$f^4D - d P [1]$	0.8000	$z = 0.5250$	0.0833	$y = 0.2667$ 0.0833 $z = 0.0417$
$f^4D - d P [2]$	1.3333	$z = 0.7200$	0.0630	$y = 0.1620$ 0.0320
		$z = 0.0180$	0.0050	
$f^4D - d D [1]$	0.0889	$z = 0.1750$	0.2500	$y = 0.2000$ 0.2500 $z = 0.1250$
$f^4D - d D [2]$	0.1481	$z = 0.1333$	0.1050	$y = 0.4033$ 0.1200
		$z = 0.1633$	0.0750	
$f^4D - d D [3]$	0.2074	$z = 0.7347$	0.0823	$y = 0.0272$ $z = 0.1224$ 0.0333
$f^4D - d F [2]$	0.0030	$z = 0.0038$	0.0120	$y = 0.0975$ 0.1680
		$z = 0.2987$	0.4200	
$f^4D - d F [3]$	0.0042	$z = 0.0918$	0.0871	$y = 0.0034$ $z = 0.5510$ 0.2667
$f^4D - d F [4]$	0.0054	$z = 0.8333$	0.1429	$y = 0.0238$
$f^2F - d D [1]$	0.3556	$z = 1.0000$		
$f^2F - d D [2]$	0.5926	$z = 0.3810$	0.6000	$y = 0.0190$
$f^2F - d D [3]$	0.8296	$z = 0.0000$	0.0476	$y = 0.9524$ $z = 0.0000$
$f^2F - d F [2]$	0.0529	$z = 0.0476$	0.0000	$y = 0.9524$
$f^2F - d F [3]$	0.0741	$z = 0.4133$	0.5442	$y = 0.0272$ $z = 0.0153$
$f^2F - d F [4]$	0.0952	$z = 0.0000$	0.0357	$y = 0.9643$
$f^4F - d D [1]$	0.7111	$z = 0.4000$	0.5000	$y = 0.1000$
$f^4F - d D [2]$	1.1852	$z = 0.5714$	0.2400	$y = 0.1219$ 0.0600 $z = 0.0067$
$f^4F - d D [3]$	1.6593	$z = 0.7653$	0.1166	$y = 0.0875$ 0.0249
		$z = 0.0044$	0.0014	
$f^4F - d F [2]$	0.1058	$z = 0.0714$	0.1200	$y = 0.2752$ 0.4800 $z = 0.0533$
$f^4F - d F [3]$	0.1481	$z = 0.0670$	0.0638	$y = 0.4898$ 0.2457
		$z = 0.0861$	0.0476	
$f^4F - d F [4]$	0.1905	$z = 0.7639$	0.1270	$y = 0.0174$ $z = 0.0694$ 0.0223
$f^2G - d F [2]$	0.6122	$z = 1.0000$		
$f^2G - d F [3]$	0.8571	$z = 0.4167$	0.5714	$y = 0.0119$
$f^2G - d F [4]$	1.1020	$z = 0.0000$	0.0278	$y = 0.9722$ $z = 0.0000$
$f^4G - d F [2]$	1.2245	$z = 0.3571$	0.6000	$y = 0.0429$
$f^4G - d F [3]$	1.7143	$z = 0.5729$	0.3189	$y = 0.0680$ 0.0383 $z = 0.0019$
$f^4G - d F [4]$	2.2041	$z = 0.7778$	0.1485	$y = 0.0540$ 0.0176
		$z = 0.0015$	0.0005	
$f^{(2S+1)L} - g L [K]$	$\sum_{J,J'}^s$			
$f^2D - g F [2]$	0.3401	$z = 0.0667$	0.0000	$y = 0.0000$ $z = 0.9333$
$f^2D - g F [3]$	0.4762	$z = 0.4286$	0.5333	$y = 0.0381$
$f^2D - g F [4]$	0.6122	$z = 1.0000$		
$f^4D - g F [2]$	0.6803	$z = 0.0038$	0.0120	$y = 0.0975$ 0.1680
		$z = 0.2987$	0.4200	
$f^4D - g F [3]$	0.9524	$z = 0.0918$	0.0871	$y = 0.0034$ $z = 0.5510$ 0.2667
$f^4D - g F [4]$	1.2245	$z = 0.8333$	0.1429	$y = 0.0238$

TABLE 8a (CONTINUED)

$g^4F - f^4D [1]$	0.5714	$x = 0.4000$	$y = 0.5000$	$z = 0.1000$
$g^4F - f^4D [2]$	0.9524	$x = 0.5714$	$y = 0.1219$	$z = 0.0600$
$g^4F - f^4D [3]$	1.3333	$x = 0.7653$	$y = 0.0875$	$z = 0.0249$
	$z = 0.0044$	0.0014		
$g^4F - f^4F [2]$	0.0595	$x = 0.0714$	$y = 0.1200$	$z = 0.2752$
$g^4F - f^4F [3]$	0.0833	$x = 0.0670$	$y = 0.0638$	$z = 0.4898$
	$z = 0.0861$	0.0476		
$g^4F - f^4F [4]$	0.1071	$x = 0.7639$	$y = 0.1270$	$z = 0.0174$
$g^4F - f^4G [3]$	0.0010	$x = 0.0011$	$y = 0.0033$	$z = 0.0486$
	$z = 0.3075$	0.5510		
$g^4F - f^4G [4]$	0.0013	$x = 0.0509$	$y = 0.0529$	$z = 0.0012$
$g^4F - f^4G [5]$	0.0016	$x = 0.8182$	$y = 0.1667$	$z = 0.0152$
$g^2G - f^4F [2]$	0.4464	$x = 1.0000$		
$g^2G - f^4F [3]$	0.8250	$x = 0.4167$	$y = 0.5714$	$z = 0.0119$
$g^2G - f^4F [4]$	0.8036	$x = 0.0000$	$y = 0.0278$	$z = 0.9722$
$g^2G - f^4G [3]$	0.0324	$x = 0.0278$	$y = 0.0000$	$z = 0.9722$
$g^2G - f^4G [4]$	0.0417	$x = 0.4346$	$y = 0.5401$	$z = 0.0154$
$g^2G - f^4G [5]$	0.0509	$x = 0.0000$	$y = 0.0222$	$z = 0.9778$
$g^4G - f^4F [2]$	0.8929	$x = 0.3571$	$y = 0.6000$	$z = 0.0429$
$g^4G - f^4F [3]$	1.2500	$x = 0.5729$	$y = 0.3189$	$z = 0.0680$
$g^4G - f^4F [4]$	1.6071	$x = 0.7778$	$y = 0.1485$	$z = 0.0540$
	$z = 0.0015$	0.0005		
$g^4G - f^4G [3]$	0.0648	$x = 0.0382$	$y = 0.0689$	$z = 0.2902$
$g^4G - f^4G [4]$	0.0833	$x = 0.0400$	$y = 0.0416$	$z = 0.5188$
	$z = 0.0523$	0.0313		
$g^4G - f^4G [5]$	0.1019	$x = 0.7736$	$y = 0.1544$	$z = 0.0119$
$g^2H - f^4G [3]$	0.8337	$x = 1.0000$		
$g^2H - f^4G [4]$	0.8148	$x = 0.4364$	$y = 0.5556$	$z = 0.0081$
$g^2H - f^4G [5]$	0.9959	$x = 0.0000$	$y = 0.0182$	$z = 0.9818$
$g^4H - f^4G [3]$	1.2675	$x = 0.3333$	$y = 0.6429$	$z = 0.0238$
$g^4H - f^4G [4]$	1.6296	$x = 0.5673$	$y = 0.3630$	$z = 0.0431$
$g^4H - f^4G [5]$	1.9918	$x = 0.7810$	$y = 0.1688$	$z = 0.0365$
	$z = 0.0007$	0.0002		

TABLE 8b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 3P

$s^2P - p^4D [1]$	$\sum_{J,J'} s$	
$s^2P - p^4D [2]$	0.6667	$z = 0.0000$
$s^2P - p^4D [3]$	0.2222	$z = 0.3333$
$s^2P - p^4D [4]$	0.6667	$z = 0.2778$

TABLE 8b (CONTINUED)

$s^2P - p^4D [1]$	1.1111	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$
$s^2P - p^4D [2]$	0.6667	$x = 0.1667$	$y = 0.0000$	$z = 0.0000$
$s^2P - p^4D [3]$	1.1111	$x = 0.1000$	$y = 0.0000$	$z = 0.9000$
$s^2P - p^4D [4]$	1.5556	$x = 1.0000$		
$s^4P - p^4D [1]$	1.3333	$x = 0.0000$	$y = 0.0000$	$z = 0.6667$
$s^4P - p^4D [2]$	0.4444	$x = 0.8333$	$y = 0.1667$	
$s^4P - p^4D [3]$	1.3333	$x = 0.0000$	$y = 0.1389$	$z = 0.8944$
$s^4P - p^4D [4]$	2.2222	$x = 0.0000$	$y = 0.0833$	$z = 0.0000$
$s^4P - p^4D [5]$	1.3333	$x = 0.9000$	$y = 0.0833$	$z = 0.0167$
$s^4P - p^4D [6]$	2.2222	$x = 0.8400$	$y = 0.0900$	$z = 0.0600$
$s^4P - p^4D [7]$	3.1111	$x = 0.8571$	$y = 0.1000$	$z = 0.0429$
$p^{(2S+1)L} - s^4(J_p)[K]$	$\sum_{J,J'} s$			
$p^2S - s^4(0)[0]$	0.0741	$x = 1.0000$		
$p^2S - s^4(1)[1]$	0.2222	$x = 0.3333$	$y = 0.6667$	
$p^2S - s^4(2)[2]$	0.3704	$x = 1.0000$		
$p^4S - s^4(0)[0]$	0.1481	$x = 1.0000$		
$p^4S - s^4(1)[1]$	0.4444	$x = 0.8333$	$y = 0.1667$	
$p^4S - s^4(2)[2]$	0.7407	$x = 0.9000$	$y = 0.1000$	
$p^2P - s^4(0)[0]$	0.2222	$x = 0.3333$	$y = 0.6667$	
$p^2P - s^4(1)[1]$	0.6667	$x = 0.2778$	$y = 0.4444$	$z = 0.0556$
$p^2P - s^4(2)[2]$	1.1111	$x = 0.0000$	$y = 0.1667$	$z = 0.8333$
$p^4P - s^4(0)[0]$	0.4444	$x = 0.8333$	$y = 0.1667$	
$p^4P - s^4(1)[1]$	1.3333	$x = 0.3750$	$y = 0.1389$	$z = 0.1111$
$p^4P - s^4(2)[2]$	2.2222	$x = 0.6300$	$y = 0.0133$	$z = 0.0450$
$p^2D - s^4(0)[0]$	0.3704	$x = 1.0000$		
$p^2D - s^4(1)[1]$	1.1111	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$
$p^2D - s^4(2)[2]$	1.8519	$x = 0.0000$	$y = 0.1000$	$z = 0.9000$
$p^4D - s^4(0)[0]$	0.7407	$x = 0.5000$	$y = 0.5000$	$z = 0.0000$
$p^4D - s^4(1)[1]$	2.2222	$x = 0.5250$	$y = 0.0833$	$z = 0.2667$
$p^4D - s^4(2)[2]$	3.7037	$x = 0.7200$	$y = 0.0630$	$z = 0.1620$
	$z = 0.0180$	0.0050		
$p^{(2S+1)L} - d^4(J_p)[K]$	$\sum_{J,J'} s$			
$p^2S - d^4(0)[2]$	0.0741	$x = 1.0000$		
$p^2S - d^4(1)[1]$	0.0556	$x = 0.3333$	$y = 0.6667$	
$p^2S - d^4(2)[2]$	0.1667	$x = 1.0000$		
$p^4S - d^4(0)[0]$	0.0741	$x = 1.0000$		
$p^4S - d^4(1)[1]$	0.1667	$x = 0.3333$	$y = 0.6667$	
$p^4S - d^4(2)[2]$	0.1296	$x = 1.0000$		
$p^2D - d^4(0)[2]$	0.1481	$x = 0.9000$	$y = 0.1000$	
$p^2D - d^4(1)[1]$	0.1111	$x = 0.8333$	$y = 0.1667$	
$p^2D - d^4(2)[2]$	0.3333	$x = 0.9000$	$y = 0.1000$	
$p^4D - d^4(0)[0]$	0.1481	$x = 1.0000$		
$p^4D - d^4(1)[1]$	0.3333	$x = 0.8333$	$y = 0.1667$	

TABLE 8b (CONTINUED)

$p^4S - d(2)[2]$	0.2593	$z = 0.9000$	$y = 0.1000$	
$p^2P - d(0)[2]$	0.2222	$z = 0.3000$	$y = 0.6667$	$y = 0.0333$
$p^2P - d(1)[1]$	0.2667	$z = 0.0278$	$y = 0.0694$	$y = 0.0347$ $z = 0.8681$
$p^2P - d(1)[2]$	0.1667	$z = 0.1000$	$y = 0.5000$	$y = 0.4000$
$p^2P - d(1)[3]$	0.2333	$z = 1.0000$		
$p^2P - d(2)[0]$	0.0556	$z = 0.3333$	$y = 0.6667$	
$p^2P - d(2)[1]$	0.2000	$z = 0.4444$	$y = 0.2778$	$y = 0.1389$ $z = 0.1389$
$p^2P - d(2)[2]$	0.3989	$z = 0.3000$	$y = 0.1667$	$y = 0.5333$
$p^2P - d(2)[3]$	0.4667	$z = 1.0000$		
$p^4P - d(0)[2]$	0.4444	$z = 0.0000$	$y = 0.0833$	$y = 0.0000$ $z = 0.7500$ 0.1667
$p^4P - d(1)[1]$	0.5333	$z = 0.0094$	$y = 0.0139$	$y = 0.1174$ 0.4340 $z = 0.4253$
$p^4P - d(1)[2]$	0.3333	$z = 0.2100$	$y = 0.0100$	$y = 0.0150$ $z = 0.6400$ 0.1250
$p^4P - d(1)[3]$	0.4667	$z = 0.8571$	$y = 0.1000$	$y = 0.0429$
$p^4P - d(2)[0]$	0.1111	$z = 0.8333$	$y = 0.1667$	
$p^4P - d(2)[1]$	0.4000	$z = 0.3375$	$y = 0.2222$	$y = 0.3361$ 0.0694 $z = 0.0347$
$p^4P - d(2)[2]$	0.7778	$z = 0.6300$	$y = 0.1633$	$y = 0.0450$ $z = 0.1200$ 0.0417
$p^4P - d(2)[3]$	0.9333	$z = 0.8571$	$y = 0.1000$	$y = 0.0429$
$p^2D - d(0)[2]$	0.3704	$z = 0.0000$	$y = 0.1000$	$z = 0.9000$
$p^2D - d(1)[1]$	0.0778	$z = 0.0429$	$y = 0.0238$	$y = 0.9333$
$p^2D - d(1)[2]$	0.3333	$z = 0.1400$	$y = 0.0400$	$y = 0.0100$ $z = 0.8100$
$p^2D - d(1)[3]$	0.7000	$z = 0.3810$	$y = 0.6000$	$y = 0.0190$
$p^2D - d(2)[0]$	0.0037	$z = 1.0000$		
$p^2D - d(2)[1]$	0.0333	$z = 0.3000$	$y = 0.1667$	$y = 0.5333$
$p^2D - d(2)[2]$	0.1481	$z = 0.4050$	$y = 0.2800$	$y = 0.1575$ $z = 0.1575$
$p^2D - d(2)[3]$	0.4667	$z = 0.2857$	$y = 0.2000$	$y = 0.5143$
$p^2D - d(2)[4]$	1.2000	$z = 1.0000$		
$p^4D - d(0)[2]$	0.7407	$z = 0.0000$	$y = 0.0000$	$y = 0.0000$ 0.0500
	$z = 0.4500$	0.5000		
$p^4D - d(1)[1]$	0.1556	$z = 0.0750$	$y = 0.1905$	$y = 0.2881$ 0.2976 $z = 0.1488$
$p^4D - d(1)[2]$	0.6667	$z = 0.0000$	$y = 0.0175$	$y = 0.2450$ 0.2450
	$z = 0.1800$	0.3125		
$p^4D - d(1)[3]$	1.4000	$z = 0.0000$	$y = 0.0333$	$y = 0.0000$ $z = 0.6667$ 0.3000
$p^4D - d(2)[0]$	0.0074	$z = 0.5000$	$y = 0.5000$	
$p^4D - d(2)[1]$	0.0667	$z = 0.5250$	$y = 0.3333$	$y = 0.0167$ 0.0833 $z = 0.0417$
$p^4D - d(2)[2]$	0.2963	$z = 0.2571$	$y = 0.1406$	$y = 0.3616$ 0.2187
	$z = 0.0000$	0.0219		
$p^4D - d(2)[3]$	0.9333	$z = 0.5510$	$y = 0.1653$	$y = 0.0204$ $z = 0.1633$ 0.1000
$p^4D - d(2)[4]$	2.4000	$z = 0.8333$	$y = 0.1429$	$y = 0.0238$

$d^{(2s+1)L} - p(J_p)[K]$	$\sum_{J_p'}^s$	
$d^2P - p(0)[1]$	0.1333	$z = 0.1667$ 0.0000 $y = 0.8333$ $z = 0.0000$
$d^2P - p(1)[0]$	0.0556	$z = 0.3333$ $y = 0.6667$
$d^2P - p(1)[1]$	0.2667	$z = 0.0278$ 0.0694 $y = 0.8681$ $z = 0.0347$
$d^2P - p(1)[2]$	0.0778	$z = 0.0429$ 0.0238 $y = 0.9333$
$d^2P - p(2)[1]$	0.4400	$z = 0.0404$ 0.6313 $y = 0.3157$ $z = 0.0126$

TABLE 8b (CONTINUED)

$d^2P - p(2)[2]$	0.2111	$z = 0.0053$	0.2368	$y = 0.7579$
$d^2P - p(2)[3]$	0.0156	$z = 1.0000$		
$d^4P - p(0)[1]$	0.2667	$z = 0.9000$	0.0833	$y = 0.0167$ 0.0000 $z = 0.0000$
$d^4P - p(1)[0]$	0.1111	$z = 0.8333$	$y = 0.1667$	
$d^4P - p(1)[1]$	0.5333	$z = 0.7594$	0.0139	$y = 0.2007$ 0.0174 $z = 0.0087$
$d^4P - p(1)[2]$	0.1556	$z = 0.8100$	0.0576	$y = 0.0579$ $z = 0.0686$ 0.0060
$d^4P - p(2)[1]$	0.8800	$z = 0.1670$	0.0202	$y = 0.4245$ 0.0063 $z = 0.3819$
$d^4P - p(2)[2]$	0.4222	$z = 0.5416$	0.0047	$y = 0.0387$ $z = 0.5558$ 0.0592
$d^4P - p(2)[3]$	0.0311	$z = 0.8571$	0.1000	$y = 0.0429$
$d^2D - p(0)[1]$	0.2222	$z = 0.4000$	0.5000	$y = 0.1000$
$d^2D - p(1)[0]$	0.1667	$z = 1.0000$		
$d^2D - p(1)[1]$	0.1667	$z = 0.1000$	0.5000	$y = 0.4000$
$d^2D - p(1)[2]$	0.3333	$z = 0.1400$	0.0400	$y = 0.8100$ $z = 0.0100$
$d^2D - p(2)[1]$	0.2111	$z = 0.2579$	0.6579	$y = 0.0842$
$d^2D - p(2)[2]$	0.6667	$z = 0.0233$	0.2400	$y = 0.7350$ $z = 0.0017$
$d^2D - p(2)[3]$	0.2333	$z = 0.0000$	0.0667	$y = 0.9333$
$d^4D - p(0)[1]$	0.4444	$z = 0.7000$	0.2500	$y = 0.0500$ 0.0000 $z = 0.0000$
$d^4D - p(1)[0]$	0.3333	$z = 0.5000$	$y = 0.5000$	
$d^4D - p(1)[1]$	0.3333	$z = 0.1750$	0.0000	$y = 0.4500$ 0.2500 $z = 0.1250$
$d^4D - p(1)[2]$	0.6667	$z = 0.8000$	0.1575	$y = 0.0050$ 0.0050
	$z = 0.0200$	0.0125		
$d^4D - p(2)[1]$	0.4222	$z = 0.4513$	0.0526	$y = 0.3184$ 0.1184 $z = 0.0592$
$d^4D - p(2)[2]$	1.3333	$z = 0.5333$	0.0263	$y = 0.3008$ 0.0675
	$z = 0.0533$	0.0188		
$d^4D - p(2)[3]$	0.4667	$z = 0.7347$	0.0823	$y = 0.0272$ $z = 0.1224$ 0.0333
$d^2F - p(0)[1]$	0.3111	$z = 1.0000$		
$d^2F - p(1)[1]$	0.2333	$z = 1.0000$		
$d^2F - p(1)[2]$	0.7000	$z = 0.3810$	0.6000	$y = 0.0190$
$d^2F - p(2)[1]$	0.0156	$z = 1.0000$		
$d^2F - p(2)[2]$	0.2333	$z = 0.3810$	0.6000	$y = 0.0190$
$d^2F - p(2)[3]$	1.3067	$z = 0.0000$	0.0476	$y = 0.9524$ $z = 0.0000$
$d^4F - p(0)[1]$	0.6222	$z = 0.4000$	0.5000	$y = 0.1000$
$d^4F - p(1)[1]$	0.4667	$z = 0.4000$	0.5000	$y = 0.1000$
$d^4F - p(1)[2]$	1.4000	$z = 0.5714$	0.2400	$y = 0.1219$ 0.0600 $z = 0.0067$
$d^4F - p(2)[1]$	0.0311	$z = 0.4000$	0.5000	$y = 0.1000$
$d^4F - p(2)[2]$	0.4667	$z = 0.5714$	0.2400	$y = 0.1219$ 0.0600 $z = 0.0067$
$d^4F - p(2)[3]$	2.6133	$z = 0.7653$	0.1166	$y = 0.0875$ 0.0249
	$z = 0.0044$	0.0014		

$d^{(2s+1)L} - f(J_p)[K]$	$\sum_{J_p'}^s$	
$d^2P - f(0)[3]$	0.1333	$z = 1.0000$
$d^2P - f(1)[2]$	0.1333	$z = 0.4000$ 0.5000 $y = 0.1000$
$d^2P - f(1)[3]$	0.2667	$z = 1.0000$
$d^2P - f(2)[1]$	0.2400	$z = 0.1667$ 0.0000 $y = 0.0000$ $z = 0.8333$
$d^2P - f(2)[2]$	0.2667	$z = 0.4000$ 0.5000 $y = 0.1000$
$d^2P - f(2)[3]$	0.1600	$z = 1.0000$

TABLE 8b (CONTINUED)

$f^{(2S+1)L-d(J_p)[K]}$	$\sum_{J_p'} s$	$f^{(2S+1)L-d(J_p)[K]}$	$\sum_{J_p'} s$
$f^2D-d(0)[2]$	0.1587	$f^2D-d(0)[2]$	0.1587
$f^2D-d(1)[1]$	0.1333	$f^2D-d(1)[1]$	0.1333
$f^2D-d(1)[2]$	0.3069	$f^2D-d(1)[2]$	0.3069
$f^2D-d(1)[3]$	0.0360	$f^2D-d(1)[3]$	0.0360
$f^2D-d(2)[0]$	0.1333	$f^2D-d(2)[0]$	0.1333
$f^2D-d(2)[1]$	0.3111	$f^2D-d(2)[1]$	0.3111
$f^2D-d(2)[2]$	0.2766	$f^2D-d(2)[2]$	0.2766
$f^2D-d(2)[3]$	0.0698	$f^2D-d(2)[3]$	0.0698
$f^2D-d(2)[4]$	0.0027	$f^2D-d(2)[4]$	0.0027
$f^4D-d(0)[2]$	0.3175	$f^4D-d(0)[2]$	0.3175
$f^4D-d(1)[1]$	0.2667	$f^4D-d(1)[1]$	0.2667
$f^4D-d(1)[2]$	0.6138	$f^4D-d(1)[2]$	0.6138
$f^4D-d(1)[3]$	0.0720	$f^4D-d(1)[3]$	0.0720
$f^4D-d(2)[0]$	0.2667	$f^4D-d(2)[0]$	0.2667
$f^4D-d(2)[1]$	0.6222	$f^4D-d(2)[1]$	0.6222
$f^4D-d(2)[2]$	0.5533	$f^4D-d(2)[2]$	0.5533
$f^4D-d(2)[3]$	0.1397	$f^4D-d(2)[3]$	0.1397
$f^4D-d(2)[4]$	0.0054	$f^4D-d(2)[4]$	0.0054
$f^2F-d(0)[2]$	0.2222	$f^2F-d(0)[2]$	0.2222
$f^2F-d(1)[1]$	0.2667	$f^2F-d(1)[1]$	0.2667
$f^2F-d(1)[2]$	0.0741	$f^2F-d(1)[2]$	0.0741
$f^2F-d(1)[3]$	0.3259	$f^2F-d(1)[3]$	0.3259
$f^2F-d(2)[1]$	0.0889	$f^2F-d(2)[1]$	0.0889
$f^2F-d(2)[2]$	0.3492	$f^2F-d(2)[2]$	0.3492
$f^2F-d(2)[3]$	0.5778	$f^2F-d(2)[3]$	0.5778
$f^2F-d(2)[4]$	0.0952	$f^2F-d(2)[4]$	0.0952
$f^4F-d(0)[2]$	0.4444	$f^4F-d(0)[2]$	0.4444
$f^4F-d(1)[1]$	0.5333	$f^4F-d(1)[1]$	0.5333
$f^4F-d(1)[2]$	0.1481	$f^4F-d(1)[2]$	0.1481
$f^4F-d(1)[3]$	0.6519	$f^4F-d(1)[3]$	0.6519
$f^4F-d(2)[1]$	0.1778	$f^4F-d(2)[1]$	0.1778
$f^4F-d(2)[2]$	0.6984	$f^4F-d(2)[2]$	0.6984
$f^4F-d(2)[3]$	1.1556	$f^4F-d(2)[3]$	1.1556
$f^4F-d(2)[4]$	0.1905	$f^4F-d(2)[4]$	0.1905
$f^2G-d(0)[2]$	0.2857	$f^2G-d(0)[2]$	0.2857
$f^2G-d(1)[2]$	0.2857	$f^2G-d(1)[2]$	0.2857
$f^2G-d(1)[3]$	0.5714	$f^2G-d(1)[3]$	0.5714
$f^2G-d(2)[2]$	0.0408	$f^2G-d(2)[2]$	0.0408
$f^2G-d(2)[3]$	0.2857	$f^2G-d(2)[3]$	0.2857

TABLE 8b (CONTINUED)

$d^4P-f(0)[3]$	0.2667	$z = 0.8571$	$y = 0.0429$
$d^4P-f(1)[2]$	0.2667	$z = 0.2100$	$y = 0.0150$
$d^4P-f(1)[3]$	0.5333	$z = 0.8571$	$y = 0.0429$
$d^4P-f(2)[1]$	0.4800	$z = 0.0950$	$y = 0.2667$
$d^4P-f(2)[2]$	0.5333	$z = 0.2100$	$y = 0.0150$
$d^4P-f(2)[3]$	0.3200	$z = 0.8571$	$y = 0.0429$
$d^2D-f(0)[3]$	0.2222	$z = 0.3810$	$y = 0.0190$
$d^2D-f(1)[2]$	0.3069	$z = 0.0055$	$y = 0.0048$
$d^2D-f(1)[3]$	0.0741	$z = 0.1429$	$y = 0.4571$
$d^2D-f(1)[4]$	0.2857	$z = 1.0000$	$y = 0.0000$
$d^2D-f(2)[1]$	0.0444	$z = 0.1000$	$y = 0.9000$
$d^2D-f(2)[2]$	0.1905	$z = 0.2844$	$y = 0.0156$
$d^2D-f(2)[3]$	0.4000	$z = 0.3968$	$y = 0.2032$
$d^2D-f(2)[4]$	0.4762	$z = 1.0000$	$y = 0.0000$
$d^4D-f(0)[3]$	0.4444	$z = 0.0000$	$y = 0.0000$
$d^4D-f(1)[2]$	0.6138	$z = 0.0020$	$y = 0.0142$
$d^4D-f(1)[3]$	0.1481	$z = 0.2755$	$y = 0.0041$
$d^4D-f(1)[4]$	0.5714	$z = 0.8333$	$y = 0.1429$
$d^4D-f(2)[1]$	0.0889	$z = 0.1750$	$y = 0.2500$
$d^4D-f(2)[2]$	0.3810	$z = 0.0571$	$y = 0.0672$
$d^4D-f(2)[3]$	0.8000	$z = 0.2755$	$y = 0.1311$
$d^4D-f(2)[4]$	0.9524	$z = 0.8333$	$y = 0.1429$
$d^2F-f(0)[3]$	0.3111	$z = 0.0000$	$y = 0.0000$
$d^2F-f(1)[2]$	0.0360	$z = 0.0168$	$y = 0.0118$
$d^2F-f(1)[3]$	0.3259	$z = 0.0626$	$y = 0.0074$
$d^2F-f(1)[4]$	0.5714	$z = 0.4167$	$y = 0.5714$
$d^2F-f(2)[1]$	0.0013	$z = 1.0000$	$y = 0.0000$
$d^2F-f(2)[2]$	0.0190	$z = 0.1429$	$y = 0.0444$
$d^2F-f(2)[3]$	0.1067	$z = 0.3189$	$y = 0.2177$
$d^2F-f(2)[4]$	0.3810	$z = 0.3750$	$y = 0.3571$
$d^2F-f(2)[5]$	1.0476	$z = 1.0000$	$y = 0.0000$
$d^4F-f(0)[3]$	0.6222	$z = 0.0000$	$y = 0.0000$
$d^4F-f(1)[2]$	0.0720	$z = 0.0252$	$y = 0.0753$
$d^4F-f(1)[3]$	0.6519	$z = 0.0000$	$y = 0.0035$
$d^4F-f(1)[4]$	1.1429	$z = 0.0000$	$y = 0.0000$
$d^4F-f(2)[1]$	0.0025	$z = 0.4000$	$y = 0.5000$
$d^4F-f(2)[2]$	0.0381	$z = 0.2143$	$y = 0.2178$
$d^4F-f(2)[3]$	0.2133	$z = 0.0744$	$y = 0.0574$
$d^4F-f(2)[4]$	0.7619	$z = 0.0514$	$y = 0.1714$
$d^4F-f(2)[5]$	2.0952	$z = 0.3056$	$y = 0.1240$
$d^4F-f(2)[6]$		$z = 0.8182$	$y = 0.1667$

TABLE 8b (CONTINUED)

$f^{(2s+1)L} - g(J_p)[K]$	$\sum_{J,J'}^s$	$g^{(2s+1)L} - f(J_p)[K]$	$\sum_{J,J'}^s$
$f^2G - d(2)[4]$	1.1020 $z = 0.0000$ 0.0278 $y = 0.9722$ $z = 0.0000$	$f^2G - g(2)[3]$	0.0126 $z = 0.0789$ 0.0188 $y = 0.9023$
$f^4G - d(0)[2]$	0.5714 $z = 0.3571$ 0.6000 $y = 0.0429$	$f^2G - g(2)[4]$	0.0961 $z = 0.2248$ 0.1442 $y = 0.0126$ $z = 0.6183$
$f^4G - d(1)[2]$	0.5714 $z = 0.3571$ 0.6000 $y = 0.0429$	$f^2G - g(2)[5]$	0.5565 $z = 0.4156$ 0.4286 $y = 0.1558$
$f^4G - d(1)[3]$	1.1429 $z = 0.5729$ 0.3189 $y = 0.0680$ 0.0383 $z = 0.0019$	$f^2G - g(2)[6]$	0.9630 $z = 1.0000$
$f^4G - d(2)[2]$	0.0816 $z = 0.3571$ 0.6000 $y = 0.0429$	$f^4G - g(0)[4]$	0.5714 $z = 0.0000$ 0.0000 $y = 0.0000$ 0.0099
$f^4G - d(2)[3]$	0.5714 $z = 0.5729$ 0.3189 $y = 0.0680$ 0.0383 $z = 0.0019$	$f^4G - g(1)[3]$	$z = 0.3472$ 0.6429
$f^4G - d(2)[4]$	2.2041 $z = 0.7778$ 0.1485 $y = 0.0540$ 0.0176	$f^4G - g(1)[4]$	0.0410 $z = 0.0123$ 0.0395 $y = 0.3183$ 0.5999 $z = 0.0300$
	$z = 0.0015$ 0.0005	$f^4G - g(1)[5]$	0.8548 $z = 0.0000$ 0.0011 $y = 0.0475$ 0.0724
$f^{(2s+1)L} - g(J_p)[K]$	$\sum_{J,J'}^s$	$f^4G - g(1)[6]$	$z = 0.2873$ 0.5917
$f^2D - g(0)[4]$	0.1587 $z = 1.0000$	$f^4G - g(2)[2]$	1.0185 $z = 0.0000$ 0.0111 $y = 0.0000$ $z = 0.8000$ 0.3889
$f^2D - g(1)[3]$	0.1786 $z = 0.4286$ 0.5333 $y = 0.0381$	$f^4G - g(2)[3]$	0.0009 $z = 0.3571$ 0.8000 $y = 0.0429$
$f^2D - g(1)[4]$	0.2976 $z = 1.0000$	$f^4G - g(2)[4]$	0.0251 $z = 0.1086$ 0.1500 $y = 0.2328$ 0.5035 $z = 0.0252$
$f^2D - g(2)[2]$	0.3401 $z = 0.0667$ 0.0000 $y = 0.0000$ $z = 0.9333$	$f^4G - g(2)[5]$	0.1922 $z = 0.0270$ 0.0242 $y = 0.2629$ 0.2381
$f^2D - g(2)[3]$	0.2976 $z = 0.4286$ 0.5333 $y = 0.0381$	$f^4G - g(2)[6]$	$z = 0.1219$ 0.3259
$f^2D - g(2)[4]$	0.1559 $z = 1.0000$	$f^4G - g(2)[7]$	0.7130 $z = 0.1842$ 0.0868 $y = 0.0028$ $z = 0.4262$ 0.3000
$f^4D - g(0)[4]$	0.3175 $z = 0.8333$ 0.1429 $y = 0.0238$	$f^4G - g(2)[8]$	1.9259 $z = 0.8077$ 0.1818 $y = 0.0105$
$f^4D - g(1)[3]$	0.3571 $z = 0.0918$ 0.0871 $y = 0.0034$ $z = 0.5510$ 0.2667		
$f^4D - g(1)[4]$	0.5952 $z = 0.8333$ 0.1429 $y = 0.0238$	$g^2F - f(0)[3]$	0.1728 $z = 0.0357$ 0.0000 $y = 0.9643$ $z = 0.0000$
$f^4D - g(2)[2]$	0.6803 $z = 0.0038$ 0.0120 $y = 0.0975$ 0.1680	$g^2F - f(1)[2]$	0.1786 $z = 0.4286$ 0.5333 $y = 0.0381$
	$z = 0.2987$ 0.4200	$g^2F - f(1)[3]$	0.3194 $z = 0.0018$ 0.0266 $y = 0.9703$ $z = 0.0013$
$f^4D - g(2)[3]$	0.5952 $z = 0.0918$ 0.0871 $y = 0.0034$ $z = 0.5510$ 0.2667	$g^2F - f(1)[4]$	0.0205 $z = 0.0090$ 0.0069 $y = 0.9841$
$f^4D - g(2)[4]$	0.3118 $z = 0.8333$ 0.1429 $y = 0.0238$	$g^2F - f(2)[1]$	0.2857 $z = 1.0000$
$f^2F - g(0)[4]$	0.2222 $z = 0.4167$ 0.5714 $y = 0.0119$	$g^2F - f(2)[2]$	0.3274 $z = 0.3247$ 0.5818 $y = 0.0935$
$f^2F - g(1)[3]$	0.3194 $z = 0.0018$ 0.0266 $y = 0.0013$ $z = 0.9703$	$g^2F - f(2)[3]$	0.2166 $z = 0.0485$ 0.2120 $y = 0.7362$ $z = 0.0033$
$f^2F - g(1)[4]$	0.0417 $z = 0.1667$ 0.3571 $y = 0.4762$	$g^2F - f(2)[4]$	0.0337 $z = 0.0033$ 0.0630 $y = 0.9337$
$f^2F - g(1)[5]$	0.3056 $z = 1.0000$	$g^2F - f(2)[5]$	0.0008 $z = 1.0000$
$f^2F - g(2)[2]$	0.0298 $z = 0.0476$ 0.0000 $y = 0.9524$	$g^4F - f(0)[3]$	0.3457 $z = 0.8333$ 0.1607 $y = 0.0060$ 0.0000
$f^2F - g(2)[3]$	0.2083 $z = 0.1633$ 0.0680 $y = 0.0034$ $z = 0.7653$	$g^4F - f(1)[2]$	$z = 0.0000$ 0.0000
$f^2F - g(2)[4]$	0.4147 $z = 0.4298$ 0.4699 $y = 0.1003$	$g^4F - f(1)[3]$	0.3571 $z = 0.6429$ 0.3333 $y = 0.0238$ 0.0000 $z = 0.0000$
$f^2F - g(2)[5]$	0.4583 $z = 1.0000$	$g^4F - f(1)[4]$	0.6389 $z = 0.7926$ 0.1278 $y = 0.0622$ 0.0166
$f^4F - g(0)[4]$	0.4444 $z = 0.0000$ 0.0179 $y = 0.0000$ $z = 0.6250$ 0.3571	$g^4F - f(2)[1]$	$z = 0.0008$ 0.0000
$f^4F - g(1)[3]$	0.6389 $z = 0.0006$ 0.0000 $y = 0.0036$ 0.0326	$g^4F - f(2)[2]$	0.0410 $z = 0.8050$ 0.1485 $y = 0.0183$ $z = 0.0239$ 0.0043
$f^4F - g(1)[4]$	0.0833 $z = 0.3056$ 0.0198 $y = 0.0069$ $z = 0.4334$ 0.2232	$g^4F - f(2)[3]$	0.5714 $z = 0.4000$ 0.5000 $y = 0.1000$
$f^4F - g(1)[5]$	0.6111 $z = 0.8182$ 0.1667 $y = 0.0152$	$g^4F - f(2)[4]$	0.6548 $z = 0.4870$ 0.1782 $y = 0.1894$ 0.1309 $z = 0.0145$
$f^4F - g(2)[2]$	0.0595 $z = 0.0714$ 0.1200 $y = 0.2752$ 0.4800 $z = 0.0533$	$g^4F - f(2)[5]$	0.4331 $z = 0.5346$ 0.0545 $y = 0.2671$ 0.0995
$f^4F - g(2)[3]$	0.4167 $z = 0.0149$ 0.0204 $y = 0.2058$ 0.2058	$g^4F - f(2)[6]$	$z = 0.0295$ 0.0147
$f^4F - g(2)[4]$	$z = 0.1722$ 0.3810	$g^4F - f(2)[7]$	0.0675 $z = 0.7249$ 0.1124 $y = 0.0165$ $z = 0.1068$ 0.0394
$f^4F - g(2)[5]$	0.8294 $z = 0.1447$ 0.0846 $y = 0.0033$ $z = 0.4737$ 0.2937	$g^4F - f(2)[8]$	0.0016 $z = 0.8182$ 0.1667 $y = 0.0152$
$f^2G - g(0)[4]$	0.9167 $z = 0.8182$ 0.1667 $y = 0.0152$	$g^2G - f(0)[3]$	0.2222 $z = 0.4444$ 0.5357 $y = 0.0198$
$f^2G - g(0)[5]$	0.2857 $z = 0.0000$ 0.0278 $y = 0.0000$ $z = 0.9722$	$g^2G - f(1)[2]$	0.2976 $z = 1.0000$
$f^2G - g(1)[3]$	0.0205 $z = 0.0090$ 0.0069 $y = 0.9841$	$g^2G - f(1)[3]$	0.0417 $z = 0.1667$ 0.3571 $y = 0.4762$
$f^2G - g(1)[4]$	0.3274 $z = 0.0346$ 0.0022 $y = 0.0008$ $z = 0.9624$	$g^2G - f(1)[4]$	0.3274 $z = 0.0346$ 0.0022 $y = 0.9624$ $z = 0.0008$
$f^2G - g(1)[5]$	0.5093 $z = 0.4364$ 0.5556 $y = 0.0081$	$g^2G - f(2)[2]$	0.1488 $z = 1.0000$
$f^2G - g(2)[2]$	0.0005 $z = 1.0000$	$g^2G - f(2)[3]$	0.3955 $z = 0.3954$ 0.5672 $y = 0.0373$

TABLE 8c (CONTINUED)

$s^4P - p(2, \frac{1}{2})$	2.2222	$z = 0.4200$	$y = 0.4800$	$z = 0.0800$	0.0000
$s^4P - p(2, \frac{3}{2})$	4.4444	$z = 0.6000$	0.0350	0.0000	$y = 0.2400$
		$z = 0.0600$	0.0250		
$\sum_{J,J'} s^{(2S+1)L - s(J_p, j)}$					
$p^2S - s(0, \frac{1}{2})$	0.0741	$z = 1.0000$			
$p^2S - s(1, \frac{1}{2})$	0.2222	$z = 0.3333$	$y = 0.6667$		
$p^2S - s(2, \frac{1}{2})$	0.3704	$z = 1.0000$			
$p^4S - s(0, \frac{1}{2})$	0.1481	$z = 1.0000$			
$p^4S - s(1, \frac{1}{2})$	0.4444	$z = 0.8333$	$y = 0.1667$		
$p^4S - s(2, \frac{1}{2})$	0.7407	$z = 0.9000$	$y = 0.1000$		
$p^2P - s(0, \frac{1}{2})$	0.2222	$z = 0.3333$	$y = 0.6667$		
$p^2P - s(1, \frac{1}{2})$	0.6667	$z = 0.2778$	0.4444	$y = 0.2222$	$z = 0.0556$
$p^2P - s(2, \frac{1}{2})$	1.1111	$z = 0.0000$	0.1667	$y = 0.8333$	
$p^4P - s(0, \frac{1}{2})$	0.4444	$z = 0.8333$	$y = 0.1667$		
$p^4P - s(1, \frac{1}{2})$	1.3333	$z = 0.3750$	0.1389	$y = 0.1111$	0.0278
$p^4P - s(2, \frac{1}{2})$	2.2222	$z = 0.6300$	0.0133	$y = 0.0450$	$z = 0.2700$
$p^2D - s(0, \frac{1}{2})$	0.3704	$z = 1.0000$			
$p^2D - s(1, \frac{1}{2})$	1.1111	$z = 0.3000$	0.6667	$y = 0.0333$	
$p^2D - s(2, \frac{1}{2})$	1.8519	$z = 0.0000$	0.1000	$y = 0.9000$	$z = 0.0000$
$p^4D - s(0, \frac{1}{2})$	0.7407	$z = 0.5000$	$y = 0.5000$		
$p^4D - s(1, \frac{1}{2})$	2.2222	$z = 0.5250$	0.0833	$y = 0.2667$	0.0833
$p^4D - s(2, \frac{1}{2})$	3.7037	$z = 0.7200$	0.0630	$y = 0.1620$	0.0320
		$z = 0.0180$	0.0050		

$\sum_{J,J'} s^{(2S+1)L - d(J_p, j)}$					
$p^2S - d(0, \frac{3}{2})$	0.0741	$z = 1.0000$			
$p^2S - d(1, \frac{3}{2})$	0.1556	$z = 0.7619$	$y = 0.2381$		
$p^2S - d(1, \frac{5}{2})$	0.0667	$z = 1.0000$			
$p^2S - d(2, \frac{3}{2})$	0.0370	$z = 0.8000$	$y = 0.2000$		
$p^2S - d(2, \frac{5}{2})$	0.3333	$z = 0.4667$	$y = 0.5333$		
$p^4S - d(0, \frac{3}{2})$	0.0148	$z = 1.0000$			
$p^4S - d(0, \frac{5}{2})$	0.1333	$z = 1.0000$			
$p^4S - d(1, \frac{3}{2})$	0.1111	$z = 0.1800$	$y = 0.6553$	$z = 0.1667$	
$p^4S - d(1, \frac{5}{2})$	0.3333	$z = 0.8400$	$y = 0.1600$		
$p^4S - d(2, \frac{3}{2})$	0.4074	$z = 0.1145$	$y = 0.4400$	$z = 0.4455$	
$p^4S - d(2, \frac{5}{2})$	0.3333	$z = 0.5600$	$y = 0.3733$	$z = 0.0667$	
$p^2P - d(0, \frac{3}{2})$	0.1556	$z = 0.0476$	$z = 0.9524$		
$p^2P - d(0, \frac{5}{2})$	0.0667	$z = 1.0000$			
$p^2P - d(1, \frac{3}{2})$	0.3667	$z = 0.6818$	0.0404	$y = 0.2020$	0.0505
$p^2P - d(1, \frac{5}{2})$	0.3000	$z = 0.0000$	1.0000	$y = 0.0000$	
$p^2P - d(2, \frac{3}{2})$	0.2778	$z = 0.7560$	0.0553	$y = 0.1707$	0.0133
$p^2P - d(2, \frac{5}{2})$	0.8333	$z = 0.4480$	0.0933	$y = 0.2987$	0.1067
$p^4P - d(0, \frac{3}{2})$	0.1111	$z = 0.0000$	$y = 0.3333$	$z = 0.6667$	
$p^4P - d(0, \frac{5}{2})$	0.3333	$z = 0.0000$	$z = 1.0000$		

TABLE 8b (CONTINUED)

$g^2G - f(2)[4]$	0.5179	$z = 0.0131$	0.0851	$y = 0.9014$	$z = 0.0003$
$g^2G - f(2)[5]$	0.0509	$z = 0.0000$	0.0222	$y = 0.9778$	
$g^4G - f(0)[3]$	0.4444	$z = 0.6111$	0.3750	$y = 0.0139$	0.0000
$g^4G - f(1)[2]$	0.5952	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^4G - f(1)[3]$	0.0833	$z = 0.2292$	0.0816	$y = 0.2874$	0.3827
$g^4G - f(1)[4]$	0.6548	$z = 0.8145$	0.1826	$y = 0.0004$	0.0010
		$z = 0.0007$	0.0008		
$g^4G - f(2)[2]$	0.2976	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^4G - f(2)[3]$	0.7870	$z = 0.5437$	0.2917	$y = 0.0937$	0.0675
$g^4G - f(2)[4]$	1.0357	$z = 0.6952$	0.1184	$y = 0.1253$	0.0522
		$z = 0.0061$	0.0028		
$g^4G - f(2)[5]$	0.1019	$z = 0.7736$	0.1544	$y = 0.0119$	$z = 0.0446$
$g^2H - f(0)[3]$	0.2716	$z = 1.0000$			0.0156
$g^2H - f(1)[3]$	0.3056	$z = 1.0000$			
$g^2H - f(1)[4]$	0.5093	$z = 0.4364$	0.5556	$y = 0.0081$	
$g^2H - f(2)[3]$	0.0566	$z = 1.0000$			
$g^2H - f(2)[4]$	0.3056	$z = 0.4364$	0.5556	$y = 0.0081$	
$g^2H - f(2)[5]$	0.9959	$z = 0.0000$	0.0182	$y = 0.9818$	$z = 0.0000$
$g^4H - f(0)[3]$	0.5432	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(1)[3]$	0.6111	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(1)[4]$	1.0185	$z = 0.5673$	0.3630	$y = 0.0431$	0.0259
$g^4H - f(2)[3]$	0.1132	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(2)[4]$	0.8111	$z = 0.5673$	0.3630	$y = 0.0431$	0.0259
$g^4H - f(2)[5]$	1.9918	$z = 0.7810$	0.1688	$y = 0.0365$	0.0128
		$z = 0.0007$	0.0002		

TABLE 8c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $3P$

$\sum_{J,J'} s^{(2S+1)L - p(J_p, j)}$					
$s^2P - p(0, \frac{1}{2})$	0.2222	$z = 0.0000$	$y = 1.0000$		
$s^2P - p(0, \frac{3}{2})$	0.4444	$z = 0.0000$	$z = 1.0000$		
$s^2P - p(1, \frac{1}{2})$	0.6667	$z = 0.1852$	0.0741	$y = 0.1481$	$z = 0.5926$
$s^2P - p(1, \frac{3}{2})$	1.3333	$z = 0.2500$	0.3704	$y = 0.0741$	0.2963
$s^2P - p(2, \frac{1}{2})$	1.1111	$z = 0.8000$	0.0000	$y = 0.2000$	
$s^2P - p(2, \frac{3}{2})$	2.2222	$z = 0.3500$	0.0000	$y = 0.4000$	0.0000
$s^4P - p(0, \frac{1}{2})$	0.4444	$z = 0.0000$	$y = 1.0000$		
$s^4P - p(0, \frac{3}{2})$	0.8889	$z = 0.0000$	$y = 0.0000$	$z = 1.0000$	
$s^4P - p(1, \frac{1}{2})$	1.3333	$z = 0.0000$	0.3704	$y = 0.4630$	0.0185
$s^4P - p(1, \frac{3}{2})$	2.6667	$z = 0.0000$	0.1852	0.0741	$y = 0.0000$
		$z = 0.6250$	0.0926		

TABLE 8c (CONTINUED)

$p^4P - d(1, \frac{3}{2})$	0.4333	$z = 0.0969$	0.0414	0.5342	$y = 0.0185$	0.0171
		$z = 0.0185$	0.2735			
$p^4P - d(1, \frac{5}{2})$	0.9000	$z = 0.4444$	0.2800	0.1667	$y = 0.0533$	0.0533
		$z = 0.0022$				
$p^4P - d(2, \frac{3}{2})$	1.0556	$z = 0.0758$	0.1592	0.0070	$y = 0.2293$	0.2359
		$z = 0.1213$	0.1698			
$p^4P - d(2, \frac{5}{2})$	1.1667	$z = 0.6171$	0.0160	0.0333	$y = 0.2469$	0.0107
		$z = 0.0360$	0.0019			
$p^2D - d(0, \frac{3}{2})$	0.0370	$z = 0.0000$	$y = 1.0000$			
$p^2D - d(0, \frac{5}{2})$	0.3333	$z = 0.0000$	$z = 1.0000$			
$p^2D - d(1, \frac{3}{2})$	0.2778	$z = 0.1008$	0.0021	$y = 0.0192$	0.0067	$z = 0.8712$
$p^2D - d(1, \frac{5}{2})$	0.8333	$z = 0.3200$	0.5376	$y = 0.0384$	0.1024	$z = 0.0016$
$p^2D - d(2, \frac{3}{2})$	1.0185	$z = 0.8378$	0.0412	$y = 0.1060$	0.0093	
		$z = 0.0052$	0.0004			
$p^2D - d(2, \frac{5}{2})$	0.8333	$z = 0.5760$	0.0896	$y = 0.2304$	0.0597	
		$z = 0.0336$	0.0107			
$p^4D - d(0, \frac{3}{2})$	0.4074	$z = 0.0000$	$y = 0.0909$	$z = 0.9091$		
$p^4D - d(0, \frac{5}{2})$	0.3333	$z = 0.0000$	$y = 0.0000$	$z = 1.0000$		
$p^4D - d(1, \frac{3}{2})$	1.0556	$z = 0.0000$	0.0177	0.0281	$y = 0.0928$	0.1921
		$z = 0.4851$	0.1404			
$p^4D - d(1, \frac{5}{2})$	1.1667	$z = 0.0000$	0.0960	0.0046	$y = 0.0000$	0.0040
		$z = 0.8000$	0.0240	0.0714		
$p^4D - d(2, \frac{3}{2})$	1.2037	$z = 0.1709$	0.2058	0.0444	0.0003	
		$y = 0.0506$	0.0620	0.0197	$z = 0.3829$	0.0620
$p^4D - d(2, \frac{5}{2})$	2.5000	$z = 0.8000$	0.0137	0.0075	0.0031	
		$y = 0.1463$	0.0055	0.0050	0.0036	
		$z = 0.0137$	0.0008	0.0009		

TABLE 8c (CONTINUED)

$d^2D - p(1, \frac{3}{2})$	0.3889	$z = 0.1200$	0.2057	$y = 0.0229$	0.6429	$z = 0.0086$
$d^2D - p(2, \frac{3}{2})$	0.2778	$z = 0.4480$	0.1280	$y = 0.3920$	$z = 0.0320$	
$d^2D - p(2, \frac{5}{2})$	0.8333	$z = 0.0000$	0.0093	$y = 0.1307$	0.1707	
		$z = 0.5227$	0.1667			
$d^4D - p(0, \frac{1}{2})$	0.1111	$z = 1.0000$	$y = 0.0000$			
$d^4D - p(0, \frac{3}{2})$	0.3333	$z = 0.9333$	$y = 0.0667$	$z = 0.0000$		
$d^4D - p(1, \frac{1}{2})$	0.3889	$z = 0.1000$	0.1429	$y = 0.1143$	0.5714	$z = 0.0714$
$d^4D - p(1, \frac{3}{2})$	0.9444	$z = 0.5647$	0.1318	0.1176	$y = 0.0035$	0.1153
		$z = 0.0141$	0.0235			
$d^4D - p(2, \frac{1}{2})$	0.8333	$z = 0.1067$	0.2333	$y = 0.2667$	0.2667	
		$z = 0.0667$	0.0600			
$d^4D - p(2, \frac{3}{2})$	1.3889	$z = 0.2469$	0.1565	0.0016	0.0380	
		$y = 0.4571$	0.0224	0.0160	$z = 0.0411$	0.0224
		$z = 1.0000$				
$d^2F - p(0, \frac{3}{2})$	0.3111	$z = 1.0000$				
$d^2F - p(1, \frac{1}{2})$	0.1556	$z = 1.0000$				
$d^2F - p(1, \frac{3}{2})$	0.7778	$z = 0.3429$	0.6400	$y = 0.0171$		
$d^2F - p(2, \frac{1}{2})$	0.7778	$z = 0.9143$	0.0400	$y = 0.0457$		
$d^2F - p(2, \frac{3}{2})$	0.7778	$z = 0.0000$	0.0400	$y = 0.8000$	0.1600	$z = 0.0000$
$d^4F - p(0, \frac{1}{2})$	0.3111	$z = 1.0000$				
$d^4F - p(0, \frac{3}{2})$	0.3111	$z = 0.8000$	$y = 0.2000$			
$d^4F - p(1, \frac{1}{2})$	0.7778	$z = 0.6400$	0.2000	$y = 0.1600$		
$d^4F - p(1, \frac{3}{2})$	1.0689	$z = 0.7347$	0.0229	0.0714	$y = 0.1567$	0.0057
		$z = 0.0086$				
$d^4F - p(2, \frac{1}{2})$	0.7778	$z = 0.6857$	0.1280	$y = 0.1463$	0.0320	$z = 0.0080$
$d^4F - p(2, \frac{3}{2})$	2.3333	$z = 0.8571$	0.0163	0.0107	0.0067	
		$y = 0.0980$	0.0035	0.0027	$z = 0.0049$	0.0002

$$d^{(2s+1)L} - f(J_p, j) \sum_{J, j'}^s$$

$d^2P - f(0, \frac{5}{2})$	0.1333	$z = 1.0000$				
$d^2P - f(1, \frac{5}{2})$	0.2857	$z = 0.7200$	0.2333	$y = 0.0467$		
$d^2P - f(1, \frac{7}{2})$	0.1143	$z = 1.0000$				
$d^2P - f(2, \frac{5}{2})$	0.0952	$z = 0.6400$	0.3000	$y = 0.0600$	0.0000	$z = 0.0000$
$d^2P - f(2, \frac{7}{2})$	0.5714	$z = 0.3600$	0.5333	$y = 0.1067$		
$d^4P - f(0, \frac{5}{2})$	0.0381	$z = 0.3000$	$z = 0.7000$			
$d^4P - f(0, \frac{7}{2})$	0.2286	$z = 1.0000$				
$d^4P - f(1, \frac{5}{2})$	0.2286	$z = 0.0714$	0.4050	0.1458	$y = 0.1736$	0.1867
		$z = 0.0175$				
$d^4P - f(1, \frac{7}{2})$	0.5714	$z = 0.7714$	0.1600	$y = 0.0686$		
$d^4P - f(2, \frac{5}{2})$	0.7619	$z = 0.0386$	0.1690	0.1688	$y = 0.0724$	0.2160
		$z = 0.0203$	0.0525			
$d^4P - f(2, \frac{7}{2})$	0.5714	$z = 0.4286$	0.2880	0.0667	$y = 0.1234$	0.0853
		$z = 0.0080$				
$d^2D - f(0, \frac{5}{2})$	0.1376	$z = 0.0308$	$z = 0.9692$			
$d^2D - f(0, \frac{7}{2})$	0.0847	$z = 1.0000$				
$d^2D - f(1, \frac{5}{2})$	0.3492	$z = 0.8485$	0.0073	$y = 0.1018$	0.0382	$z = 0.0042$
$d^2D - f(1, \frac{7}{2})$	0.3175	$z = 0.0000$	1.0000	$y = 0.0000$		

TABLE 8c (CONTINUED)

$f^4D - d(0, \frac{5}{2})$	0.2751	$z = 0.9890$	$y = 0.0110$	$z = 0.0000$
$f^4D - d(1, \frac{3}{2})$	0.2540	$z = 0.0714$	$y = 0.4860$	$z = 0.0926$
		$z = 0.0035$	$y = 0.0000$	
$f^4D - d(1, \frac{5}{2})$	0.6984	$z = 0.0835$	$y = 0.0698$	$z = 0.6698$
		$z = 0.0040$	$y = 0.0015$	$z = 0.0000$
$f^4D - d(2, \frac{3}{2})$	0.8466	$z = 0.0088$	$y = 0.0993$	$z = 0.2268$
		$y = 0.0298$	$y = 0.1352$	$z = 0.0069$
$f^4D - d(2, \frac{5}{2})$	0.7407	$z = 0.0061$	$y = 0.0269$	$z = 0.0529$
		$y = 0.1176$	$y = 0.1810$	$z = 0.0991$
		$z = 0.2730$	$y = 0.1896$	$z = 0.0480$
$f^2F - d(0, \frac{3}{2})$	0.1185	$z = 1.0000$		
$f^2F - d(0, \frac{5}{2})$	0.1037	$z = 0.9184$	$y = 0.0816$	
$f^2F - d(1, \frac{3}{2})$	0.3111	$z = 1.0000$	$y = 0.0000$	$z = 0.0000$
$f^2F - d(1, \frac{5}{2})$	0.3556	$z = 0.0574$	$y = 0.1020$	$z = 0.0051$
$f^2F - d(2, \frac{3}{2})$	0.3704	$z = 0.1763$	$y = 0.0940$	$z = 0.5951$
$f^2F - d(2, \frac{5}{2})$	0.7407	$z = 0.0000$	$y = 0.0018$	$z = 0.0496$
		$z = 0.5290$	$y = 0.3360$	
$f^4F - d(0, \frac{3}{2})$	0.1481	$z = 1.0000$	$y = 0.0000$	
$f^4F - d(0, \frac{5}{2})$	0.2963	$z = 0.9643$	$y = 0.0357$	$z = 0.0000$
$f^4F - d(1, \frac{3}{2})$	0.4889	$z = 0.1558$	$y = 0.0982$	$z = 0.0187$
		$z = 0.0073$		
$f^4F - d(1, \frac{5}{2})$	0.8444	$z = 0.6344$	$y = 0.0789$	$z = 0.0000$
		$z = 0.0022$	$y = 0.0048$	
$f^4F - d(2, \frac{3}{2})$	0.9630	$z = 0.0495$	$y = 0.3052$	$z = 0.2222$
		$y = 0.0904$	$y = 0.1632$	$z = 0.0113$
$f^4F - d(2, \frac{5}{2})$	1.2593	$z = 0.1155$	$y = 0.1229$	$z = 0.0245$
		$y = 0.5557$	$y = 0.1313$	$z = 0.0002$
		$z = 0.0105$	$y = 0.0091$	$z = 0.0012$
$f^2G - d(0, \frac{5}{2})$	0.2857	$z = 1.0000$		
$f^2G - d(1, \frac{3}{2})$	0.1714	$z = 1.0000$		
$f^2G - d(1, \frac{5}{2})$	0.6857	$z = 0.3472$	$y = 0.6429$	$z = 0.0099$
$f^2G - d(2, \frac{3}{2})$	0.8571	$z = 0.8889$	$y = 0.0857$	$z = 0.0254$
$f^2G - d(2, \frac{5}{2})$	0.5714	$z = 0.0000$	$y = 0.0214$	$z = 0.7500$
$f^4G - d(0, \frac{3}{2})$	0.3429	$z = 1.0000$		
$f^4G - d(0, \frac{5}{2})$	0.2286	$z = 0.8929$	$y = 0.1071$	
$f^4G - d(1, \frac{3}{2})$	0.8571	$z = 0.5714$	$y = 0.3600$	$z = 0.0686$
$f^4G - d(1, \frac{5}{2})$	0.8571	$z = 0.7639$	$y = 0.0918$	$z = 0.0907$
		$z = 0.0026$		
$f^4G - d(2, \frac{3}{2})$	0.8571	$z = 0.6111$	$y = 0.2449$	$z = 0.0726$
		$z = 0.0020$		
$f^4G - d(2, \frac{5}{2})$	2.0000	$z = 0.8571$	$y = 0.0655$	$z = 0.0073$
		$y = 0.0595$	$y = 0.0078$	$z = 0.0017$
$f^{(2S+1)L - g(J_p, j)}$	$\sum_{J, j'}^s$			
$f^2D - g(0, \frac{1}{2})$	0.1587	$z = 1.0000$		

TABLE 8c (CONTINUED)

$d^2D - f(2, \frac{5}{2})$	0.3704	$z = 0.7347$	$y = 0.1646$	$z = 0.0836$
		$z = 0.0017$	$y = 0.0000$	
$d^2D - f(2, \frac{7}{2})$	0.7407	$z = 0.4898$	$y = 0.2777$	$z = 0.1411$
$d^4D - f(0, \frac{3}{2})$	0.1481	$z = 0.0000$	$y = 0.1000$	$z = 0.9000$
$d^4D - f(0, \frac{5}{2})$	0.2963	$z = 0.0000$	$y = 1.0000$	
$d^4D - f(1, \frac{3}{2})$	0.5079	$z = 0.0459$	$y = 0.0000$	$z = 0.0041$
		$z = 0.1029$	$y = 0.1512$	$z = 0.5906$
$d^4D - f(1, \frac{5}{2})$	0.8254	$z = 0.5769$	$y = 0.1272$	$z = 0.2462$
		$z = 0.0008$		
$d^4D - f(2, \frac{5}{2})$	1.0582	$z = 0.0429$	$y = 0.2652$	$z = 0.1764$
		$y = 0.0828$	$y = 0.1812$	$z = 0.0210$
		$z = 0.0184$	$y = 0.0360$	$z = 0.0210$
$d^4D - f(2, \frac{7}{2})$	1.1640	$z = 0.6429$	$y = 0.1391$	$z = 0.0000$
		$y = 0.1336$	$y = 0.0401$	$z = 0.0090$
$d^2F - f(0, \frac{5}{2})$	0.0148	$z = 0.0000$	$y = 1.0000$	
$d^2F - f(0, \frac{7}{2})$	0.2963	$z = 0.0000$	$y = 1.0000$	
$d^2F - f(1, \frac{5}{2})$	0.2222	$z = 0.0525$	$y = 0.0002$	$z = 0.9407$
$d^2F - f(1, \frac{7}{2})$	0.7111	$z = 0.3348$	$y = 0.5904$	$z = 0.0219$
$d^2F - f(2, \frac{5}{2})$	0.9630	$z = 0.8477$	$y = 0.0807$	$z = 0.0606$
		$z = 0.0016$	$y = 0.0002$	
$d^2F - f(2, \frac{7}{2})$	0.5926	$z = 0.6314$	$y = 0.1749$	$z = 0.1312$
		$z = 0.0089$	$y = 0.0033$	
$d^4F - f(0, \frac{5}{2})$	0.3852	$z = 0.0000$	$y = 0.0308$	$z = 0.9692$
$d^4F - f(0, \frac{7}{2})$	0.2370	$z = 0.0000$	$y = 0.0000$	$z = 1.0000$
$d^4F - f(1, \frac{5}{2})$	0.9778	$z = 0.0000$	$y = 0.0032$	$z = 0.0055$
		$z = 0.5103$	$y = 0.3073$	
$d^4F - f(1, \frac{7}{2})$	0.8889	$z = 0.0000$	$y = 0.0525$	$z = 0.0084$
		$z = 0.8036$	$y = 0.0945$	$z = 0.0400$
$d^4F - f(2, \frac{5}{2})$	1.0370	$z = 0.0802$	$y = 0.1400$	$z = 0.0647$
		$y = 0.0117$	$y = 0.0090$	$z = 0.0012$
		$z = 0.4665$	$y = 0.1733$	$z = 0.0254$
$d^4F - f(2, \frac{7}{2})$	2.0741	$z = 0.8265$	$y = 0.0601$	$z = 0.0006$
		$y = 0.0875$	$y = 0.0125$	$z = 0.0002$
		$z = 0.0044$	$y = 0.0008$	$z = 0.0000$
$f^{(2S+1)L - d(J_p, j)}$	$\sum_{J, j'}^s$			
$f^2D - d(0, \frac{3}{2})$	0.1481	$z = 1.0000$	$y = 0.0000$	
$f^2D - d(0, \frac{5}{2})$	0.0106	$z = 1.0000$	$y = 0.0000$	
$f^2D - d(1, \frac{3}{2})$	0.3175	$z = 0.1152$	$y = 0.0672$	$z = 0.6048$
$f^2D - d(1, \frac{5}{2})$	0.1587	$z = 0.0038$	$y = 0.0064$	$z = 0.0005$
$f^2D - d(2, \frac{3}{2})$	0.1058	$z = 0.0183$	$y = 0.0324$	$z = 0.2633$
		$z = 0.3584$	$y = 0.1260$	
$f^2D - d(2, \frac{5}{2})$	0.6878	$z = 0.0016$	$y = 0.0089$	$z = 0.0720$
		$z = 0.2895$	$y = 0.4652$	
$f^4D - d(0, \frac{3}{2})$	0.0423	$z = 1.0000$	$y = 0.0000$	$z = 0.0000$

TABLE 8c (CONTINUED)

$f^2D - g(1, \frac{7}{2})$	0.3439	$z = 0.7033$	0.2769	$y = 0.0198$
$f^2D - g(1, \frac{9}{2})$	0.1323	$z = 1.0000$		
$f^2D - g(2, \frac{7}{2})$	0.1323	$z = 0.5714$	0.4000	$y = 0.0286$
$f^2D - g(2, \frac{9}{2})$	0.6614	$z = 0.3143$	0.6400	$y = 0.0457$
$f^4D - g(0, \frac{7}{2})$	0.0529	$z = 0.1429$	$z = 0.8571$	
$f^4D - g(0, \frac{9}{2})$	0.2646	$z = 1.0000$		
$f^4D - g(1, \frac{7}{2})$	0.2910	$z = 0.0379$	0.4490	0.3273
	$z = 0.0042$			$y = 0.0748$
$f^4D - g(1, \frac{9}{2})$	0.6614	$z = 0.7333$	0.2286	$y = 0.0381$
$f^4D - g(2, \frac{7}{2})$	0.9259	$z = 0.0187$	0.1458	0.2766
	$y = 0.0243$	0.0903	0.1234	$z = 0.0035$
$f^4D - g(2, \frac{9}{2})$	0.6614	$z = 0.3667$	0.3592	0.1600
	$z = 0.0020$	$y = 0.0599$	0.0522	
$f^2F - g(0, \frac{7}{2})$	0.1296	$z = 0.0204$	$z = 0.9796$	
$f^2F - g(0, \frac{9}{2})$	0.0926	$z = 1.0000$		
$f^2F - g(1, \frac{7}{2})$	0.3426	$z = 0.9122$	0.0022	$y = 0.0596$
$f^2F - g(1, \frac{9}{2})$	0.3241	$z = 0.0000$	1.0000	$y = 0.0000$
$f^2F - g(2, \frac{7}{2})$	0.4167	$z = 0.7130$	0.2268	$y = 0.0484$
	$z = 0.0006$	0.0000		0.0113
$f^2F - g(2, \frac{9}{2})$	0.6944	$z = 0.4889$	0.3741	$y = 0.0798$
	$z = 0.0000$	$y = 0.0544$	$z = 0.0027$	
$f^4F - g(0, \frac{7}{2})$	0.1697	$z = 0.0000$	$y = 0.0476$	$z = 0.9524$
$f^4F - g(0, \frac{9}{2})$	0.2778	$z = 0.0000$	$z = 1.0000$	
$f^4F - g(1, \frac{7}{2})$	0.5463	$z = 0.0259$	0.0019	0.0381
	$z = 0.1507$	0.0847	0.6973	$y = 0.0013$
$f^4F - g(1, \frac{9}{2})$	0.7870	$z = 0.6353$	0.0719	0.2626
	$z = 0.0003$	$y = 0.0261$	0.0037	
$f^4F - g(2, \frac{7}{2})$	1.0648	$z = 0.0261$	0.2733	0.2839
	$y = 0.0388$	0.1074	0.0941	0.0268
$f^4F - g(2, \frac{9}{2})$	1.1574	$z = 0.6240$	0.2200	0.0112
	$z = 0.0050$	0.0106	0.0067	
$f^2G - g(0, \frac{7}{2})$	0.0079	$z = 0.0000$	$y = 1.0000$	
$f^2G - g(0, \frac{9}{2})$	0.2778	$z = 0.0000$	$z = 1.0000$	
$f^2G - g(1, \frac{7}{2})$	0.2024	$z = 0.0311$	0.0000	$y = 0.0016$
$f^2G - g(1, \frac{9}{2})$	0.6548	$z = 0.3394$	0.6145	$y = 0.0140$
$f^2G - g(2, \frac{7}{2})$	0.9325	$z = 0.8473$	0.1062	$y = 0.0386$
	$z = 0.0006$	0.0001		0.0072
$f^2G - g(2, \frac{9}{2})$	0.4960	$z = 0.6471$	0.2281	$y = 0.0830$
	$z = 0.0033$	0.0013		0.0372
$f^4G - g(0, \frac{7}{2})$	0.3730	$z = 0.0000$	$y = 0.0152$	$z = 0.9848$
$f^4G - g(0, \frac{9}{2})$	0.1984	$z = 0.0000$	$y = 0.0000$	$z = 1.0000$
$f^4G - g(1, \frac{7}{2})$	0.9405	$z = 0.0000$	0.0010	0.0017
	$z = 0.5018$	0.3929	$y = 0.0184$	0.0580
$f^4G - g(1, \frac{9}{2})$	0.7738	$z = 0.0000$	0.0325	0.0075
	$z = 0.7897$	0.1451	0.0247	$y = 0.0000$

TABLE 8c (CONTINUED)

$f^4G - g(2, \frac{7}{2})$	0.9722	$z = 0.0450$	0.0915	0.0529
	$y = 0.0040$	0.0067	0.0037	0.0006
$f^4G - g(2, \frac{9}{2})$	1.8849	$z = 0.4851$	0.2433	0.0555
	$z = 0.8253$	0.0968	0.0004	0.0049
	$y = 0.0572$	0.0124	0.0001	0.0007
	$z = 0.0018$	0.0005	0.0000	
$g^{(2S+1)L} - f(J_p, j)$	$\sum_{J,J'}^s$			
$g^2F - f(0, \frac{5}{2})$	0.1667	$z = 1.0000$	$y = 0.0000$	
$g^2F - f(0, \frac{7}{2})$	0.0062	$z = 1.0000$	$z = 0.0000$	
$g^2F - f(1, \frac{5}{2})$	0.3611	$z = 0.0574$	0.0323	$y = 0.6459$
$g^2F - f(1, \frac{7}{2})$	0.1574	$z = 0.0012$	0.0021	$y = 0.0001$
$g^2F - f(2, \frac{5}{2})$	0.1389	$z = 0.0045$	0.0087	$y = 0.1296$
	$z = 0.4373$	0.2939		
$g^2F - f(2, \frac{7}{2})$	0.7253	$z = 0.0004$	0.0022	$y = 0.0331$
	$z = 0.2826$	0.6003		0.0814
$g^4F - f(0, \frac{5}{2})$	0.0556	$z = 1.0000$	$y = 0.0000$	$z = 0.0000$
$g^4F - f(0, \frac{7}{2})$	0.2901	$z = 0.9929$	$y = 0.0071$	$z = 0.0000$
$g^4F - f(1, \frac{5}{2})$	0.3056	$z = 0.0379$	0.4810	0.3896
	$z = 0.0010$	0.0000	$y = 0.0428$	0.0477
$g^4F - f(1, \frac{7}{2})$	0.7315	$z = 0.0451$	0.0448	0.0062
	$z = 0.0013$	0.0006	0.0000	$y = 0.6774$
$g^4F - f(2, \frac{5}{2})$	0.9722	$z = 0.0024$	0.0386	0.1089
	$y = 0.0163$	0.1302	0.2540	0.2939
$g^4F - f(2, \frac{7}{2})$	0.7562	$z = 0.0013$	0.0076	0.0126
	$z = 0.0017$	0.0081	0.0107	0.0048
	$y = 0.0617$	0.1135	0.0810	0.0162
	$z = 0.2867$	0.2856	0.1300	
$g^2G - f(0, \frac{5}{2})$	0.1190	$z = 1.0000$		
$g^2G - f(0, \frac{7}{2})$	0.1032	$z = 0.9573$	$y = 0.0427$	
$g^2G - f(1, \frac{5}{2})$	0.3214	$z = 1.0000$	0.0000	$y = 0.0000$
$g^2G - f(1, \frac{7}{2})$	0.3452	$z = 0.0328$	0.0596	$y = 0.0017$
$g^2G - f(2, \frac{5}{2})$	0.4167	$z = 0.0931$	0.0605	$y = 0.6402$
$g^2G - f(2, \frac{7}{2})$	0.6944	$z = 0.0000$	0.0006	$y = 0.0256$
	$z = 0.5122$	0.4133		0.0484
$g^4G - f(0, \frac{5}{2})$	0.1667	$z = 1.0000$	$y = 0.0000$	
$g^4G - f(0, \frac{7}{2})$	0.2778	$z = 0.9778$	$y = 0.0222$	$z = 0.0000$
$g^4G - f(1, \frac{5}{2})$	0.5857	$z = 0.1833$	0.0612	0.6667
	$z = 0.0017$	$y = 0.0054$	0.0816	
$g^4G - f(1, \frac{7}{2})$	0.7976	$z = 0.6687$	0.0507	0.2339
	$z = 0.0006$	0.0015	$y = 0.0003$	0.0272
$g^4G - f(2, \frac{5}{2})$	1.0119	$z = 0.0282$	0.2936	0.3175
	$y = 0.0427$	0.0941	0.0648	$z = 0.0033$

TABLE 9a (CONTINUED)

$d^{(2s+1)L} - p L'[K]$	$\sum_{J,J'}^s$	$d^{2S} - p P [1]$	0.4000	$z = 0.6667$	$y = 0.3333$		
		$d^{2P} - p P [1]$	0.9000	$x = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
		$d^{2P} - p D [2]$	0.3000	$x = 0.6000$	0.3333	$y = 0.0667$	
		$d^{2D} - p P [1]$	0.7000	$x = 0.6000$	0.3333	$y = 0.0667$	
		$d^{2D} - p D [2]$	1.1667	$x = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
		$d^{2D} - p F [3]$	0.1333	$x = 0.5714$	0.4000	$y = 0.0286$	
		$d^{2F} - p D [2]$	1.8667	$x = 0.5714$	0.4000	$y = 0.0286$	
		$d^{2F} - p F [3]$	0.9333	$x = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
		$d^{2G} - p F [3]$	3.6000	$x = 0.5556$	0.4286	$y = 0.0159$	
$d^{(2s+1)L} - f L'[K]$	$\sum_{J,J'}^s$	$d^{2S} - f P [1]$	0.4000	$z = 0.6667$	$y = 0.3333$		
		$d^{2P} - f P [1]$	0.4000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
		$d^{2P} - f D [2]$	0.8000	$x = 0.6000$	0.3333	$y = 0.0667$	
		$d^{2D} - f P [1]$	0.0571	$z = 0.6000$	0.3333	$y = 0.0667$	
		$d^{2D} - f D [2]$	0.5714	$x = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
		$d^{2D} - f F [3]$	1.3714	$x = 0.5714$	0.4000	$y = 0.0286$	
		$d^{2F} - f D [2]$	0.0571	$x = 0.5714$	0.4000	$y = 0.0286$	
		$d^{2F} - f F [3]$	0.6000	$x = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
		$d^{2G} - f G [4]$	2.1429	$z = 0.5556$	0.4286	$y = 0.0159$	
		$d^{2G} - f F [3]$	0.0286	$x = 0.5556$	0.4286	$y = 0.0159$	
		$d^{2G} - f G [4]$	0.4286	$x = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
		$d^{2G} - f H [5]$	3.1429	$x = 0.5455$	0.4444	$y = 0.0101$	
$f^{(2s+1)L} - d L'[K]$	$\sum_{J,J'}^s$	$f^{2P} - d S [0]$	0.4000	$z = 0.6667$	$y = 0.3333$		
		$f^{2P} - d P [1]$	0.4000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$
		$f^{2P} - d D [2]$	0.0571	$z = 0.6000$	0.3333	$y = 0.0667$	
		$f^{2D} - d P [1]$	0.8000	$x = 0.6000$	0.3333	$y = 0.0667$	
		$f^{2D} - d D [2]$	0.5714	$x = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
		$f^{2D} - d F [3]$	0.0571	$x = 0.5714$	0.4000	$y = 0.0286$	
		$f^{2F} - d D [2]$	1.3714	$x = 0.5714$	0.4000	$y = 0.0286$	
		$f^{2F} - d F [3]$	0.6000	$x = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$
		$f^{2F} - d G [4]$	0.0286	$x = 0.5556$	0.4286	$y = 0.0159$	
		$f^{2G} - d F [3]$	2.1429	$x = 0.5556$	0.4286	$y = 0.0159$	
		$f^{2G} - d G [4]$	0.4286	$x = 0.5432$	0.4321	$y = 0.0123$	$z = 0.0123$
		$f^{2H} - d G [4]$	3.1429	$x = 0.5455$	0.4444	$y = 0.0101$	
$f^{(2s+1)L} - g L'[K]$	$\sum_{J,J'}^s$	$f^{2P} - g D [2]$	0.8571	$x = 0.6000$	0.3333	$y = 0.0667$	
		$f^{2D} - g D [2]$	0.2381	$x = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$
		$f^{2D} - g F [3]$	1.1905	$x = 0.5714$	0.4000	$y = 0.0286$	
		$f^{2F} - g D [2]$	0.0159	$x = 0.5714$	0.4000	$y = 0.0286$	

TABLE 8c (CONTINUED)

$g^4G - f(2, \frac{7}{2})$	1.2103	$z = 0.0651$	0.0845	0.0289	0.0003
		$y = 0.5723$	0.2094	0.0120	0.0211
		$z = 0.0038$	0.0038	0.0008	
$g^2H - f(0, \frac{7}{2})$	0.2716	$z = 1.0000$			
$g^2H - f(1, \frac{5}{2})$	0.1746	$z = 1.0000$			
$g^2H - f(1, \frac{7}{2})$	0.6402	$z = 0.3471$	0.6465	$y = 0.0064$	
$g^2H - f(2, \frac{5}{2})$	0.8730	$z = 0.8727$	0.1111	$y = 0.0162$	
$g^2H - f(2, \frac{7}{2})$	0.4850	$z = 0.0000$	0.0133	$y = 0.7200$	0.2667
$g^4H - f(0, \frac{5}{2})$	0.3492	$z = 1.0000$			
$g^4H - f(0, \frac{7}{2})$	0.1940	$z = 0.9333$	$y = 0.0667$		
$g^4H - f(1, \frac{5}{2})$	0.8730	$z = 0.5333$	0.4286	$y = 0.0381$	
$g^4H - f(1, \frac{7}{2})$	0.7566	$z = 0.7636$	0.1425	0.0247	$y = 0.0580$
		$z = 0.0010$			
$g^4H - f(2, \frac{5}{2})$	0.8730	$z = 0.5673$	0.2963	0.0714	$y = 0.0431$
		$z = 0.0007$			
$g^4H - f(2, \frac{7}{2})$	1.8430	$z = 0.8440$	0.1018	0.0005	0.0056
		$y = 0.0395$	0.0077	0.0000	$z = 0.0007$
					$y = 0.0007$

TABLE 9a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 1D

$p^{(2s+1)L} - p L'[K]$	$\sum_{J,J'}^s$	$p^{2D} - p P [1]$	2.0000	$z = 0.6000$	0.3333	$y = 0.0667$
$p^{2D} - p P [1]$	3.3333	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$	
$p^{2D} - p F [3]$	4.6667	$z = 0.5714$	0.4000	$y = 0.0286$		
$p^{(2s+1)L} - s L'[K]$	$\sum_{J,J'}^s$	$p^{2P} - s D [2]$	2.0000	$z = 0.6000$	0.3333	$y = 0.0667$
$p^{2P} - s D [2]$	3.3333	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$	
$p^{2F} - s D [2]$	4.6667	$z = 0.5714$	0.4000	$y = 0.0286$		
$p^{(2s+1)L} - d L'[K]$	$\sum_{J,J'}^s$	$p^{2P} - d S [0]$	0.4000	$z = 0.6667$	$y = 0.3333$	
$p^{2P} - d S [0]$	0.9000	$z = 0.5556$	0.2222	$y = 0.1111$	$z = 0.1111$	
$p^{2P} - d D [2]$	0.7000	$z = 0.6000$	0.3333	$y = 0.0667$		
$p^{2D} - d P [1]$	0.3000	$z = 0.6000$	0.3333	$y = 0.0667$		
$p^{2D} - d D [2]$	1.1667	$z = 0.5600$	0.3600	$y = 0.0400$	$z = 0.0400$	
$p^{2D} - d F [3]$	1.8667	$z = 0.5714$	0.4000	$y = 0.0286$		
$p^{2F} - d D [2]$	0.1333	$z = 0.5714$	0.4000	$y = 0.0286$		
$p^{2F} - d F [3]$	0.9333	$z = 0.5510$	0.4082	$y = 0.0204$	$z = 0.0204$	
$p^{2F} - d G [4]$	3.6000	$z = 0.5556$	0.4286	$y = 0.0159$		

TABLE 9b (CONTINUED)

$p^2D - d(2)[1]$	0.3000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$p^2D - d(2)[2]$	1.1667	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$p^2D - d(2)[3]$	1.8667	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$p^2F - d(2)[2]$	0.1333	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$p^2F - d(2)[3]$	0.9333	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$p^2F - d(2)[4]$	3.6000	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$d^{(2S+1)}L - p(J_p)[K]$	$\sum_{J,J'}^s$			
$d^2S - p(2)[1]$	0.4000	$x = 0.6667$	$y = 0.3333$	
$d^2P - p(2)[1]$	0.9000	$x = 0.5556$	$y = 0.2222$	$z = 0.1111$
$d^2P - p(2)[2]$	0.3000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$d^2D - p(2)[1]$	0.7000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$d^2D - p(2)[2]$	1.1667	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$d^2D - p(2)[3]$	0.1333	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$d^2F - p(2)[2]$	1.8667	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$d^2F - p(2)[3]$	0.9333	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$d^2G - p(2)[3]$	3.6000	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$d^{(2S+1)}L - f(J_p)[K]$	$\sum_{J,J'}^s$			
$d^2S - f(2)[1]$	0.4000	$x = 0.6667$	$y = 0.3333$	
$d^2P - f(2)[1]$	0.4000	$x = 0.5556$	$y = 0.2222$	$z = 0.1111$
$d^2P - f(2)[2]$	0.8000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$d^2D - f(2)[1]$	0.0571	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$d^2D - f(2)[2]$	0.5714	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$d^2D - f(2)[3]$	1.3714	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$d^2F - f(2)[2]$	0.0571	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$d^2F - f(2)[3]$	0.6000	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$d^2F - f(2)[4]$	2.1429	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$d^2G - f(2)[3]$	0.0286	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$d^2G - f(2)[4]$	0.4286	$x = 0.5432$	$y = 0.4321$	$z = 0.0123$
$d^2G - f(2)[5]$	3.1429	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$
$f^{(2S+1)}L - d(J_p)[K]$	$\sum_{J,J'}^s$			
$f^2P - d(2)[0]$	0.4000	$x = 0.6667$	$y = 0.3333$	
$f^2P - d(2)[1]$	0.4000	$x = 0.5556$	$y = 0.2222$	$z = 0.1111$
$f^2P - d(2)[2]$	0.0571	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$f^2D - d(2)[1]$	0.8000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$f^2D - d(2)[2]$	0.5714	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$f^2D - d(2)[3]$	0.0571	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$f^2F - d(2)[2]$	1.3714	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$f^2F - d(2)[3]$	0.6000	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$f^2F - d(2)[4]$	0.0286	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$f^2G - d(2)[3]$	2.1429	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$f^2G - d(2)[4]$	0.4286	$x = 0.5432$	$y = 0.4321$	$z = 0.0123$
$f^2H - d(2)[4]$	3.1429	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$

TABLE 9a (CONTINUED)

$f^2F - gF[3]$	0.3472	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$f^2F - gG[4]$	1.6369	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$f^2G - gF[3]$	0.0179	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$f^2G - gG[4]$	0.3536	$x = 0.5432$	$y = 0.4321$	$z = 0.0123$
$f^2G - gH[5]$	2.2000	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$
$f^2H - gG[4]$	0.0095	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$
$f^2H - gH[5]$	0.2444	$x = 0.5372$	$y = 0.4463$	$z = 0.0083$
$f^2H - gI[6]$	2.8869	$x = 0.5385$	$y = 0.4545$	$z = 0.0070$
$g^{(2S+1)}L - fL[K]$	$\sum_{J,J'}^s$			
$g^2D - fP[1]$	0.3571	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$g^2D - fD[2]$	0.2381	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$g^2D - fF[3]$	0.0159	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$g^2F - fD[2]$	1.1905	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$g^2F - fF[3]$	0.3472	$x = 0.5510$	$y = 0.4082$	$z = 0.0204$
$g^2F - fG[4]$	0.0179	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$g^2G - fF[3]$	1.6369	$x = 0.5556$	$y = 0.4286$	$z = 0.0159$
$g^2G - fG[4]$	0.3536	$x = 0.5432$	$y = 0.4321$	$z = 0.0123$
$g^2G - fH[5]$	0.0095	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$
$g^2H - fG[4]$	2.2000	$x = 0.5455$	$y = 0.4444$	$z = 0.0101$
$g^2H - fH[5]$	0.2444	$x = 0.5372$	$y = 0.4463$	$z = 0.0083$
$g^2I - fH[5]$	2.8869	$x = 0.5385$	$y = 0.4545$	$z = 0.0070$

TABLE 9b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 1D

$s^{(2S+1)}L - p(J_p)[K]$	$\sum_{J,J'}^s$			
$s^2D - p(2)[1]$	2.0000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$s^2D - p(2)[2]$	3.3333	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$s^2D - p(2)[3]$	4.6667	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$p^{(2S+1)}L - s(J_p)[K]$	$\sum_{J,J'}^s$			
$p^2P - s(2)[2]$	2.0000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$
$p^2D - s(2)[2]$	3.3333	$x = 0.5600$	$y = 0.3600$	$z = 0.0400$
$p^2F - s(2)[2]$	4.6667	$x = 0.5714$	$y = 0.4000$	$z = 0.0286$
$p^{(2S+1)}L - d(J_p)[K]$	$\sum_{J,J'}^s$			
$p^2P - d(2)[0]$	0.4000	$x = 0.6667$	$y = 0.3333$	
$p^2P - d(2)[1]$	0.9000	$x = 0.5556$	$y = 0.2222$	$z = 0.1111$
$p^2P - d(2)[2]$	0.7000	$x = 0.6000$	$y = 0.3333$	$z = 0.0667$

TABLE 9c (CONTINUED)

$p^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, J'}^s$	$p^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, J'}^s$
$p^2P - d(2, \frac{3}{2})$	0.8000	$x = 0.1050$	$0.0667 \quad y = 0.4033$
$p^2P - d(2, \frac{3}{2})$	1.2000	$x = 0.2800$	$0.2333 \quad y = 0.1867$
$p^2D - d(2, \frac{3}{2})$	1.3333	$x = 0.0800$	$0.3430 \quad y = 0.2420$
$p^2D - d(2, \frac{3}{2})$	2.0000	$x = 0.1280$	$0.0450 \quad y = 0.1920$
$p^2F - d(2, \frac{3}{2})$	1.8667	$x = 0.1102$	$0.1473 \quad y = 0.0527$
$p^2F - d(2, \frac{3}{2})$	2.8000	$x = 0.7143$	$0.0980 \quad y = 0.1306$
$d^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, J'}^s$	$d^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, J'}^s$
$d^2S - p(2, \frac{1}{2})$	0.1333	$x = 1.0000$	
$d^2S - p(2, \frac{1}{2})$	0.2667	$x = 0.5000$	$y = 0.5000$
$d^2P - p(2, \frac{1}{2})$	0.4000	$x = 0.1000$	$0.5000 \quad y = 0.4000$
$d^2P - p(2, \frac{1}{2})$	0.8000	$x = 0.1750$	$0.0000 \quad y = 0.4500$
$d^2D - p(2, \frac{1}{2})$	0.6667	$x = 0.1600$	$0.5800 \quad y = 0.1400$
$d^2D - p(2, \frac{1}{2})$	1.3333	$x = 0.0571$	$0.0050 \quad y = 0.4129$
$d^2F - p(2, \frac{1}{2})$	0.9333	$x = 0.1429$	$0.4000 \quad y = 0.4571$
$d^2F - p(2, \frac{1}{2})$	1.8667	$x = 0.2755$	$0.0041 \quad y = 0.5102$
$d^2G - p(2, \frac{1}{2})$	1.2000	$x = 1.0000$	
$d^2G - p(2, \frac{1}{2})$	2.4000	$x = 0.8333$	$0.1429 \quad y = 0.0238$
$d^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, J'}^s$	$d^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, J'}^s$
$d^2S - f(2, \frac{5}{2})$	0.1714	$x = 0.2222$	$y = 0.7778$
$d^2S - f(2, \frac{5}{2})$	0.2286	$x = 1.0000$	
$d^2P - f(2, \frac{5}{2})$	0.5143	$x = 0.1333$	$0.3086 \quad y = 0.2988$
$d^2P - f(2, \frac{5}{2})$	0.6857	$x = 0.6000$	$0.2222 \quad y = 0.1778$
$d^2D - f(2, \frac{5}{2})$	0.8571	$x = 0.0980$	$0.4610 \quad y = 0.1839$
$d^2D - f(2, \frac{5}{2})$	1.1429	$x = 0.0514$	$0.0222 \quad y = 0.1763$
$d^2F - f(2, \frac{5}{2})$	1.2000	$x = 0.0567$	$0.6297 \quad y = 0.1095$
$d^2F - f(2, \frac{5}{2})$	1.8000	$x = 0.0243$	$0.0163 \quad y = 0.1458$
$d^2G - f(2, \frac{5}{2})$	1.5429	$x = 0.7015$	$0.1093 \quad y = 0.0098$
$d^2G - f(2, \frac{5}{2})$	2.0571	$x = 0.0539$	$0.1035 \quad y = 0.0078$
$f^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, J'}^s$	$f^{(2S+1)L} - d^{(J_p, j)}$	$\sum_{J, J'}^s$
$f^2P - d(2, \frac{3}{2})$	0.3429	$x = 0.0200$	$0.1556 \quad y = 0.1244$
$f^2P - d(2, \frac{3}{2})$	0.5429	$x = 0.0920$	$0.1556 \quad y = 0.1244$

TABLE 9b (CONTINUED)

$f^{(2S+1)L} - g^{(J_p, j)}$	$\sum_{J, J'}^s$	$f^{(2S+1)L} - g^{(J_p, j)}$	$\sum_{J, J'}^s$
$f^2P - g(2, 2)$	0.8571	$x = 0.6000$	$0.3333 \quad y = 0.0667$
$f^2D - g(2, 2)$	0.2381	$x = 0.5600$	$0.3600 \quad y = 0.0400$
$f^2D - g(2, 2)$	1.1905	$x = 0.5714$	$0.4000 \quad y = 0.0286$
$f^2F - g(2, 2)$	0.0159	$x = 0.5714$	$0.4000 \quad y = 0.0286$
$f^2F - g(2, 2)$	0.3472	$x = 0.5510$	$0.4082 \quad y = 0.0204$
$f^2F - g(2, 2)$	1.6369	$x = 0.5558$	$0.4286 \quad y = 0.0159$
$f^2G - g(2, 2)$	0.0179	$x = 0.5558$	$0.4286 \quad y = 0.0159$
$f^2G - g(2, 2)$	0.3536	$x = 0.5432$	$0.4321 \quad y = 0.0123$
$f^2G - g(2, 2)$	2.2000	$x = 0.5455$	$0.4444 \quad y = 0.0101$
$f^2H - g(2, 2)$	0.0095	$x = 0.5455$	$0.4444 \quad y = 0.0101$
$f^2H - g(2, 2)$	0.2444	$x = 0.5372$	$0.4463 \quad y = 0.0083$
$f^2H - g(2, 2)$	2.8889	$x = 0.5385$	$0.4545 \quad y = 0.0070$
$g^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, J'}^s$	$g^{(2S+1)L} - f^{(J_p, j)}$	$\sum_{J, J'}^s$
$g^2D - f(2, 1)$	0.8571	$x = 0.6000$	$0.3333 \quad y = 0.0667$
$g^2D - f(2, 1)$	0.2381	$x = 0.5600$	$0.3600 \quad y = 0.0400$
$g^2D - f(2, 1)$	0.0159	$x = 0.5714$	$0.4000 \quad y = 0.0286$
$g^2F - f(2, 1)$	1.1905	$x = 0.5714$	$0.4000 \quad y = 0.0286$
$g^2F - f(2, 1)$	0.3472	$x = 0.5510$	$0.4082 \quad y = 0.0204$
$g^2F - f(2, 1)$	0.0179	$x = 0.5558$	$0.4286 \quad y = 0.0159$
$g^2G - f(2, 1)$	1.6369	$x = 0.5558$	$0.4286 \quad y = 0.0159$
$g^2G - f(2, 1)$	0.3536	$x = 0.5432$	$0.4321 \quad y = 0.0123$
$g^2G - f(2, 1)$	0.0095	$x = 0.5455$	$0.4444 \quad y = 0.0101$
$g^2H - f(2, 1)$	2.2000	$x = 0.5455$	$0.4444 \quad y = 0.0101$
$g^2H - f(2, 1)$	0.2444	$x = 0.5372$	$0.4463 \quad y = 0.0083$
$g^2I - f(2, 1)$	2.8889	$x = 0.5385$	$0.4545 \quad y = 0.0070$

TABLE 9c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $1D$

$s^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, J'}^s$	$s^{(2S+1)L} - p^{(J_p, j)}$	$\sum_{J, J'}^s$
$s^2D - p(2, \frac{1}{2})$	3.3333	$x = 0.2800$	$0.0800 \quad y = 0.3200$
$s^2D - p(2, \frac{1}{2})$	6.6667	$x = 0.4000$	$0.1400 \quad y = 0.1600$
$s^2D - p(2, \frac{1}{2})$		$z = 0.0400$	0.1000
$p^{(2S+1)L} - s^{(J_p, j)}$	$\sum_{J, J'}^s$	$p^{(2S+1)L} - s^{(J_p, j)}$	$\sum_{J, J'}^s$
$p^2P - s(2, \frac{1}{2})$	2.0000	$x = 0.6000$	$0.3333 \quad y = 0.0667$
$p^2D - s(2, \frac{1}{2})$	3.3333	$x = 0.5600$	$0.3600 \quad y = 0.0400$
$p^2F - s(2, \frac{1}{2})$	4.6667	$x = 0.5714$	$0.4000 \quad y = 0.0286$

TABLE 39 (CONTINUED)

TABLE 104

RELATIVE STRENGTHS OF SPECTRAL LINES

149

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: $2D$

s	$(2s+1)L - p$	L'	K	$\sum_{J,J'} s$
s	$1D - p$	P	$\frac{1}{2}$	0.3333 $z = 1.0000$
s	$1D - p$	P	$\frac{3}{2}$	0.6667 $z = 0.0000$ $y = 1.0000$
s	$1D - p$	D	$\frac{3}{2}$	0.6667 $z = 1.0000$ $y = 0.0000$
s	$1D - p$	D	$\frac{5}{2}$	1.0000 $z = 0.0000$ $y = 1.0000$
s	$1D - p$	F	$\frac{5}{2}$	1.0000 $z = 1.0000$ $y = 0.0000$
s	$1D - p$	F	$\frac{7}{2}$	1.3333 $z = 1.0000$
s	$3D - p$	P	$\frac{1}{2}$	1.0000 $z = 0.5000$ 0.3333 $y = 0.1667$
s	$3D - p$	P	$\frac{3}{2}$	2.0000 $z = 0.7000$ 0.1250 $y = 0.1250$ 0.0417 $z = 0.0083$
s	$3D - p$	D	$\frac{3}{2}$	2.0000 $z = 0.0778$ 0.1250 $y = 0.3472$ 0.3750 $z = 0.0750$
s	$3D - p$	D	$\frac{5}{2}$	3.0000 $z = 0.6914$ 0.1543 $y = 0.0346$ $z = 0.0864$ 0.0333
s	$3D - p$	F	$\frac{5}{2}$	3.0000 $z = 0.0494$ 0.0864 $y = 0.0025$ $z = 0.3951$ 0.4667
s	$3D - p$	F	$\frac{7}{2}$	4.0000 $z = 0.7500$ 0.2222 $y = 0.0278$
p	$(2s+1)L - s$	L'	K	$\sum_{J,J'} s$
p	$1P - s$	D	$\frac{3}{2}$	0.4000 $z = 1.0000$ $y = 0.0000$
p	$1P - s$	D	$\frac{5}{2}$	0.8000 $z = 1.0000$
p	$3P - s$	D	$\frac{3}{2}$	1.2000 $z = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
p	$3P - s$	D	$\frac{5}{2}$	1.8000 $z = 0.7778$ 0.1667 $y = 0.0556$
p	$1D - s$	D	$\frac{3}{2}$	0.6667 $z = 1.0000$ $y = 0.0000$
p	$1D - s$	D	$\frac{5}{2}$	1.0000 $z = 0.0000$ $y = 1.0000$
p	$3D - s$	D	$\frac{3}{2}$	2.0000 $z = 0.0778$ 0.1250 $y = 0.3472$ 0.3750 $z = 0.0750$
p	$3D - s$	D	$\frac{5}{2}$	3.0000 $z = 0.6914$ 0.1543 $y = 0.0346$ $z = 0.0864$ 0.0333
p	$1F - s$	D	$\frac{5}{2}$	0.9333 $z = 1.0000$
p	$1F - s$	D	$\frac{7}{2}$	1.4000 $z = 0.0000$ $y = 1.0000$
p	$3F - s$	D	$\frac{5}{2}$	2.8000 $z = 0.4444$ 0.5000 $y = 0.0556$
p	$3F - s$	D	$\frac{7}{2}$	4.2000 $z = 0.7143$ 0.1975 $y = 0.0617$ 0.0247 $z = 0.0018$
p	$(2s+1)L - d$	L'	K	$\sum_{J,J'} s$
p	$1P - d$	S	$\frac{1}{2}$	0.2000 $z = 0.0000$ $y = 1.0000$
p	$1P - d$	P	$\frac{1}{2}$	0.1500 $z = 1.0000$ $y = 0.0000$
p	$1P - d$	P	$\frac{3}{2}$	0.3000 $z = 0.0000$ $y = 1.0000$
p	$1P - d$	D	$\frac{3}{2}$	0.1400 $z = 1.0000$ $y = 0.0000$
p	$1P - d$	D	$\frac{5}{2}$	0.2100 $z = 1.0000$
p	$3P - d$	S	$\frac{1}{2}$	0.6000 $z = 0.5556$ 0.0000 $y = 0.3333$ $z = 0.1111$
p	$3P - d$	P	$\frac{1}{2}$	0.4500 $z = 0.2778$ 0.3333 $y = 0.1667$ $z = 0.2222$
p	$3P - d$	P	$\frac{3}{2}$	0.9000 $z = 0.6250$ 0.0417 $y = 0.0694$ $z = 0.2083$ 0.0556
p	$3P - d$	D	$\frac{3}{2}$	0.4200 $z = 0.1250$ 0.2083 $y = 0.0139$ $z = 0.3750$ 0.2778
p	$3P - d$	D	$\frac{5}{2}$	0.6300 $z = 0.7778$ 0.1667 $y = 0.0556$
p	$1D - d$	P	$\frac{1}{2}$	0.0500 $z = 1.0000$
p	$1D - d$	P	$\frac{3}{2}$	0.1000 $z = 0.0000$ $y = 1.0000$
p	$1D - d$	D	$\frac{3}{2}$	0.2333 $z = 1.0000$ $y = 0.0000$
f	$(2s+1)L - g$	(J_p, i)	$\sum_{J,J'} s$	
f	$2P - g$	$(2, \frac{1}{2})$	0.3810 $z = 0.1000$ 0.7500 $y = 0.1500$	
f	$2P - g$	$(2, \frac{3}{2})$	0.4762 $z = 1.0000$	
f	$2D - g$	$(2, \frac{1}{2})$	0.6349 $z = 0.0893$ 0.6400 $y = 0.1207$ 0.1350 $z = 0.0150$	
f	$2D - g$	$(2, \frac{3}{2})$	0.7937 $z = 0.7857$ 0.1000 $y = 0.1143$	
f	$2F - g$	$(2, \frac{1}{2})$	0.8889 $z = 0.0682$ 0.6803 $y = 0.0886$ 0.1429	
f	$2F - g$	$(2, \frac{3}{2})$	$z = 0.0129$ 0.0071	
f	$2F - g$	$(2, \frac{5}{2})$	1.1111 $z = 0.7639$ 0.0935 $y = 0.1247$ 0.0136 $z = 0.0043$	
f	$2G - g$	$(2, \frac{1}{2})$	1.1429 $z = 0.0389$ 0.7703 $y = 0.0579$ 0.1194	
f	$2G - g$	$(2, \frac{3}{2})$	1.4286 $z = 0.8089$ 0.0713 $y = 0.1037$ 0.0116	
f	$2G - g$	$(2, \frac{5}{2})$	$z = 0.0041$ 0.0004	
f	$2H - g$	$(2, \frac{1}{2})$	1.3968 $z = 0.0313$ 0.0717 $y = 0.0028$ 0.0028 $z = 0.8914$	
f	$2H - g$	$(2, \frac{3}{2})$	1.7460 $z = 0.8909$ 0.0401 $y = 0.0617$ 0.0051	
f	$2H - g$	$(2, \frac{5}{2})$	$z = 0.0019$ 0.0002	
g	$(2s+1)L - f$	(J_p, i)	$\sum_{J,J'} s$	
g	$2D - f$	$(2, \frac{5}{2})$	0.4762 $z = 0.0020$ 0.0257 $y = 0.0294$ 0.2743	
g	$2D - f$	$(2, \frac{7}{2})$	$z = 0.0686$ 0.6000	
g	$2F - f$	$(2, \frac{1}{2})$	0.6349 $z = 0.0128$ 0.0057 $y = 0.1887$ 0.0193 $z = 0.7736$	
g	$2F - f$	$(2, \frac{3}{2})$	0.6667 $z = 0.0009$ 0.0182 $y = 0.0243$ 0.2624	
g	$2F - f$	$(2, \frac{5}{2})$	$z = 0.0820$ 0.6122	
g	$2F - f$	$(2, \frac{7}{2})$	0.8889 $z = 0.0105$ 0.0029 $y = 0.1973$ 0.0009	
g	$2G - f$	$(2, \frac{5}{2})$	$z = 0.7118$ 0.0765	
g	$2G - f$	$(2, \frac{7}{2})$	0.8571 $z = 0.0106$ 0.2079 $y = 0.0728$ 0.7015 $z = 0.0073$	
g	$2G - f$	$(2, \frac{9}{2})$	1.1429 $z = 0.0045$ 0.0021 $y = 0.1602$ 0.0005	
g	$2H - f$	$(2, \frac{5}{2})$	$z = 0.7450$ 0.0877	
g	$2H - f$	$(2, \frac{7}{2})$	1.0476 $z = 0.0455$ 0.8333 $y = 0.1212$	
g	$2H - f$	$(2, \frac{9}{2})$	1.3968 $z = 0.0940$ 0.0031 $y = 0.8264$ 0.0750 $z = 0.0014$	
g	$2I - f$	$(2, \frac{5}{2})$	1.2381 $z = 1.0000$	
g	$2I - f$	$(2, \frac{7}{2})$	1.6508 $z = 0.9423$ 0.0455 $y = 0.0122$	

TABLE 10a (CONTINUED)

$p^1D - dD \left[\frac{5}{2} \right]$	0.3500	$z = 0.0000$	$y = 1.0000$	
$p^1D - dF \left[\frac{5}{2} \right]$	0.4000	$z = 1.0000$	$y = 0.0000$	
$p^1D - dF \left[\frac{7}{2} \right]$	0.5333	$z = 1.0000$		
$p^3D - dP \left[\frac{1}{2} \right]$	0.1500	$z = 0.5000$	0.3333	$y = 0.1667$
$p^3D - dP \left[\frac{3}{2} \right]$	0.3000	$z = 0.7000$	0.1250	$y = 0.1250$
$p^3D - dD \left[\frac{1}{2} \right]$	0.7000	$z = 0.0778$	0.1250	$y = 0.3472$
$p^3D - dD \left[\frac{3}{2} \right]$	0.7000	$z = 0.0778$	0.1250	$y = 0.3472$
$p^3D - dD \left[\frac{5}{2} \right]$	1.0500	$z = 0.6914$	0.1543	$y = 0.0346$
$p^3D - dF \left[\frac{1}{2} \right]$	1.2000	$z = 0.0494$	0.0864	$y = 0.0025$
$p^3D - dF \left[\frac{3}{2} \right]$	1.6000	$z = 0.7500$	0.2222	$y = 0.0278$
$p^1F - dD \left[\frac{1}{2} \right]$	0.0267	$z = 1.0000$		
$p^1F - dD \left[\frac{3}{2} \right]$	0.0400	$z = 0.0000$	$y = 1.0000$	
$p^1F - dF \left[\frac{1}{2} \right]$	0.2000	$z = 1.0000$	$y = 0.0000$	
$p^1F - dF \left[\frac{3}{2} \right]$	0.2667	$z = 0.0000$	$y = 1.0000$	
$p^1F - dG \left[\frac{1}{2} \right]$	0.8000	$z = 1.0000$	$y = 0.0000$	
$p^1F - dG \left[\frac{3}{2} \right]$	1.0000	$z = 1.0000$		
$p^3F - dD \left[\frac{1}{2} \right]$	0.0800	$z = 0.4444$	0.5000	$y = 0.0556$
$p^3F - dD \left[\frac{3}{2} \right]$	0.1200	$z = 0.7143$	0.1975	$y = 0.0617$
$p^3F - dF \left[\frac{1}{2} \right]$	0.8000	$z = 0.0357$	0.0617	$y = 0.3735$
$p^3F - dF \left[\frac{3}{2} \right]$	0.8000	$z = 0.7031$	0.2101	$y = 0.0201$
$p^3F - dG \left[\frac{1}{2} \right]$	2.4000	$z = 0.0260$	0.0469	$y = 0.0007$
$p^3F - dG \left[\frac{3}{2} \right]$	3.0000	$z = 0.7333$	0.2500	$y = 0.0167$

TABLE 10a (CONTINUED)

$d^3D - pF \left[\frac{5}{2} \right]$	0.0857	$x = 0.0494$	0.0864	$y = 0.0025$	$z = 0.3951$	0.4667
$d^3D - pF \left[\frac{7}{2} \right]$	0.1143	$x = 0.7500$	0.2222	$y = 0.0278$		
$d^1F - pD \left[\frac{1}{2} \right]$	0.3733	$x = 1.0000$				
$d^1F - pD \left[\frac{3}{2} \right]$	0.5600	$x = 0.0000$	$y = 1.0000$			
$d^1F - pF \left[\frac{1}{2} \right]$	0.2000	$x = 1.0000$	$y = 0.0000$			
$d^1F - pF \left[\frac{3}{2} \right]$	0.2667	$x = 0.0000$	$y = 1.0000$			
$d^3F - pD \left[\frac{1}{2} \right]$	1.1200	$x = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - pD \left[\frac{3}{2} \right]$	1.6800	$x = 0.7143$	0.1975	$y = 0.0617$	0.0247	$z = 0.0018$
$d^3F - pF \left[\frac{1}{2} \right]$	0.8000	$x = 0.0357$	0.0617	$y = 0.3735$	0.4938	$z = 0.0353$
$d^3F - pF \left[\frac{3}{2} \right]$	0.8000	$x = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$d^1G - pF \left[\frac{1}{2} \right]$	0.7714	$x = 1.0000$				
$d^1G - pF \left[\frac{3}{2} \right]$	1.0286	$x = 0.0000$	$y = 1.0000$			
$d^3G - pF \left[\frac{1}{2} \right]$	2.3143	$x = 0.4167$	0.5556	$y = 0.0278$		
$d^3G - pF \left[\frac{3}{2} \right]$	3.0857	$x = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$

$d^{(2s+1)L} - fL[K]$	$\sum_{J,J'}^s$	
$d^1S - fP \left[\frac{1}{2} \right]$	0.0667	$x = 1.0000$
$d^1S - fP \left[\frac{3}{2} \right]$	0.1333	$x = 1.0000$
$d^3S - fP \left[\frac{1}{2} \right]$	0.2000	$x = 0.6667$
$d^3S - fP \left[\frac{3}{2} \right]$	0.4000	$x = 0.8333$
$d^1P - fP \left[\frac{1}{2} \right]$	0.0667	$x = 1.0000$
$d^1P - fP \left[\frac{3}{2} \right]$	0.1333	$x = 0.0000$
$d^1P - fD \left[\frac{1}{2} \right]$	0.1600	$x = 1.0000$
$d^1P - fD \left[\frac{3}{2} \right]$	0.2400	$x = 1.0000$
$d^3P - fP \left[\frac{1}{2} \right]$	0.2000	$x = 0.2778$
$d^3P - fP \left[\frac{3}{2} \right]$	0.4000	$x = 0.6250$
$d^3P - fD \left[\frac{1}{2} \right]$	0.4800	$x = 0.1250$
$d^3P - fD \left[\frac{3}{2} \right]$	0.7200	$x = 0.7778$
$d^1D - fP \left[\frac{1}{2} \right]$	0.0095	$x = 1.0000$
$d^1D - fP \left[\frac{3}{2} \right]$	0.0190	$x = 0.0000$
$d^1D - fD \left[\frac{1}{2} \right]$	0.1143	$x = 1.0000$
$d^1D - fD \left[\frac{3}{2} \right]$	0.1714	$x = 0.0000$
$d^1D - fF \left[\frac{1}{2} \right]$	0.2939	$x = 1.0000$
$d^1D - fF \left[\frac{3}{2} \right]$	0.3918	$x = 1.0000$
$d^3D - fP \left[\frac{1}{2} \right]$	0.0286	$x = 0.5000$
$d^3D - fP \left[\frac{3}{2} \right]$	0.0571	$x = 0.7000$
$d^3D - fD \left[\frac{1}{2} \right]$	0.3429	$x = 0.0778$
$d^3D - fD \left[\frac{3}{2} \right]$	0.5143	$x = 0.6914$
$d^3D - fF \left[\frac{1}{2} \right]$	0.8816	$x = 0.0494$
$d^3D - fF \left[\frac{3}{2} \right]$	1.1755	$x = 0.7500$
$d^1F - fD \left[\frac{1}{2} \right]$	0.0114	$x = 1.0000$
$d^1F - fD \left[\frac{3}{2} \right]$	0.0171	$x = 0.0000$
$d^1F - fF \left[\frac{1}{2} \right]$	0.1286	$x = 1.0000$
$d^1F - fF \left[\frac{3}{2} \right]$	0.1714	$x = 0.0000$
$d^1F - fG \left[\frac{1}{2} \right]$	0.4762	$x = 1.0000$

TABLE 10a (CONTINUED)

$d^1F - fG \left[\frac{9}{2} \right]$	0.5952	$x = 1.0000$	
$d^3F - fD \left[\frac{3}{2} \right]$	0.0343	$x = 0.4444$	$y = 0.0556$
$d^3F - fD \left[\frac{5}{2} \right]$	0.0514	$x = 0.7143$	$y = 0.0617$
$d^3F - fF \left[\frac{3}{2} \right]$	0.3857	$x = 0.0357$	$y = 0.3735$
$d^3F - fF \left[\frac{7}{2} \right]$	0.5143	$x = 0.7031$	$y = 0.0201$
$d^3F - fG \left[\frac{7}{2} \right]$	1.4286	$x = 0.0260$	$y = 0.0007$
$d^3F - fG \left[\frac{9}{2} \right]$	1.7857	$x = 0.7333$	$y = 0.0167$
$d^1G - fF \left[\frac{5}{2} \right]$	0.0061	$x = 1.0000$	
$d^1G - fF \left[\frac{7}{2} \right]$	0.0082	$x = 0.0000$	$y = 1.0000$
$d^1G - fG \left[\frac{7}{2} \right]$	0.0952	$x = 1.0000$	$y = 0.0000$
$d^1G - fG \left[\frac{9}{2} \right]$	0.1190	$x = 0.0000$	$y = 1.0000$
$d^1G - fH \left[\frac{9}{2} \right]$	0.7143	$x = 1.0000$	$y = 0.0000$
$d^1G - fH \left[\frac{11}{2} \right]$	0.8571	$x = 1.0000$	
$d^3G - fF \left[\frac{5}{2} \right]$	0.0184	$x = 0.4167$	$y = 0.0278$
$d^3G - fF \left[\frac{7}{2} \right]$	0.0245	$x = 0.7130$	$y = 0.0365$
$d^3G - fG \left[\frac{7}{2} \right]$	0.2857	$x = 0.0204$	$y = 0.3760$
$d^3G - fG \left[\frac{9}{2} \right]$	0.3571	$x = 0.7040$	$y = 0.0130$
$d^3G - fH \left[\frac{9}{2} \right]$	2.1429	$x = 0.0160$	$y = 0.0093$
$d^3G - fH \left[\frac{11}{2} \right]$	2.5714	$x = 0.7222$	$y = 0.0111$

$f^{(2S+1)L - d} L'[K]$	$\sum_{J,J'}^s$	$x = 0.0000$	$y = 1.0000$
$f^1P - dS \left[\frac{1}{2} \right]$	0.2000	$x = 0.0000$	$y = 1.0000$
$f^1P - dP \left[\frac{1}{2} \right]$	0.0667	$x = 1.0000$	$y = 0.0000$
$f^1P - dP \left[\frac{3}{2} \right]$	0.1383	$x = 0.0000$	$y = 1.0000$
$f^1P - dD \left[\frac{3}{2} \right]$	0.0114	$x = 1.0000$	$y = 0.0000$
$f^1P - dD \left[\frac{5}{2} \right]$	0.0171	$x = 1.0000$	
$f^3P - dS \left[\frac{1}{2} \right]$	0.6000	$x = 0.5556$	$y = 0.3333$
$f^3P - dP \left[\frac{1}{2} \right]$	0.2000	$x = 0.2778$	$y = 0.1667$
$f^3P - dP \left[\frac{3}{2} \right]$	0.4000	$x = 0.6250$	$y = 0.0694$
$f^3P - dD \left[\frac{3}{2} \right]$	0.0343	$x = 0.1250$	$y = 0.0139$
$f^3P - dD \left[\frac{5}{2} \right]$	0.0514	$x = 0.7778$	$y = 0.0556$
$f^1D - dP \left[\frac{1}{2} \right]$	0.1333	$x = 1.0000$	
$f^1D - dP \left[\frac{3}{2} \right]$	0.2667	$x = 0.0000$	$y = 1.0000$
$f^1D - dD \left[\frac{3}{2} \right]$	0.1143	$x = 1.0000$	$y = 0.0000$
$f^1D - dD \left[\frac{5}{2} \right]$	0.1714	$x = 0.0000$	$y = 1.0000$
$f^1D - dF \left[\frac{5}{2} \right]$	0.0122	$x = 1.0000$	$y = 0.0000$
$f^1D - dF \left[\frac{7}{2} \right]$	0.0163	$x = 1.0000$	
$f^3D - dP \left[\frac{1}{2} \right]$	0.4000	$x = 0.5000$	$y = 0.1667$
$f^3D - dP \left[\frac{3}{2} \right]$	0.8000	$x = 0.7000$	$y = 0.1250$
$f^3D - dD \left[\frac{3}{2} \right]$	0.3429	$x = 0.0778$	$y = 0.3472$
$f^3D - dD \left[\frac{5}{2} \right]$	0.5143	$x = 0.6914$	$y = 0.0346$
$f^3D - dF \left[\frac{5}{2} \right]$	0.0367	$x = 0.0494$	$y = 0.0025$
$f^3D - dF \left[\frac{7}{2} \right]$	0.0490	$x = 0.7500$	$y = 0.0222$
$f^1F - dD \left[\frac{3}{2} \right]$	0.2743	$x = 1.0000$	
$f^1F - dD \left[\frac{5}{2} \right]$	0.4114	$x = 0.0000$	$y = 1.0000$
$f^1F - dF \left[\frac{5}{2} \right]$	0.1286	$x = 1.0000$	$y = 0.0000$

TABLE 10a (CONTINUED)

$f^1F - dF \left[\frac{7}{2} \right]$	0.1714	$x = 0.0000$	$y = 1.0000$
$f^1F - dG \left[\frac{7}{2} \right]$	0.0063	$x = 1.0000$	$y = 0.0000$
$f^1F - dG \left[\frac{9}{2} \right]$	0.0079	$x = 1.0000$	
$f^3F - dD \left[\frac{3}{2} \right]$	0.8229	$x = 0.4444$	$y = 0.0556$
$f^3F - dD \left[\frac{5}{2} \right]$	1.2343	$x = 0.7143$	$y = 0.0617$
$f^3F - dF \left[\frac{5}{2} \right]$	0.3857	$x = 0.0357$	$y = 0.3735$
$f^3F - dF \left[\frac{7}{2} \right]$	0.5143	$x = 0.7031$	$y = 0.0201$
$f^3F - dG \left[\frac{7}{2} \right]$	0.0190	$x = 0.0260$	$y = 0.0007$
$f^3F - dG \left[\frac{9}{2} \right]$	0.0238	$x = 0.7333$	$y = 0.0167$
$f^1G - dF \left[\frac{5}{2} \right]$	0.4592	$x = 1.0000$	
$f^1G - dF \left[\frac{7}{2} \right]$	0.6122	$x = 0.0000$	$y = 1.0000$
$f^1G - dG \left[\frac{7}{2} \right]$	0.0952	$x = 1.0000$	$y = 0.0000$
$f^1G - dG \left[\frac{9}{2} \right]$	0.1190	$x = 0.0000$	$y = 1.0000$
$f^3G - dF \left[\frac{5}{2} \right]$	1.3776	$x = 0.4167$	$y = 0.0278$
$f^3G - dF \left[\frac{7}{2} \right]$	1.8367	$x = 0.7130$	$y = 0.0365$
$f^3G - dG \left[\frac{7}{2} \right]$	0.2857	$x = 0.0204$	$y = 0.3760$
$f^3G - dG \left[\frac{9}{2} \right]$	0.3571	$x = 0.7040$	$y = 0.0130$
$f^1H - dG \left[\frac{5}{2} \right]$	0.6984	$x = 1.0000$	
$f^1H - dG \left[\frac{7}{2} \right]$	0.8730	$x = 0.0000$	$y = 1.0000$
$f^3H - dG \left[\frac{7}{2} \right]$	2.0952	$x = 0.4000$	$y = 0.0167$
$f^3H - dG \left[\frac{9}{2} \right]$	2.6190	$x = 0.7091$	$y = 0.0240$

$f^{(2S+1)L - g} L'[K]$	$\sum_{J,J'}^s$	$x = 0.0000$	$y = 1.0000$
$f^1P - gD \left[\frac{3}{2} \right]$	0.1714	$x = 1.0000$	$y = 0.0000$
$f^1P - gD \left[\frac{5}{2} \right]$	0.2571	$x = 1.0000$	
$f^3P - gD \left[\frac{3}{2} \right]$	0.5143	$x = 0.1250$	$y = 0.0139$
$f^3P - gD \left[\frac{5}{2} \right]$	0.7714	$x = 0.7778$	$y = 0.0556$
$f^1D - gD \left[\frac{3}{2} \right]$	0.0476	$x = 1.0000$	$y = 0.0000$
$f^1D - gD \left[\frac{5}{2} \right]$	0.0714	$x = 0.0000$	$y = 1.0000$
$f^1D - gF \left[\frac{5}{2} \right]$	0.2551	$x = 1.0000$	$y = 0.0000$
$f^1D - gF \left[\frac{7}{2} \right]$	0.3401	$x = 1.0000$	
$f^3D - gD \left[\frac{3}{2} \right]$	0.1429	$x = 0.0778$	$y = 0.3472$
$f^3D - gD \left[\frac{5}{2} \right]$	0.2143	$x = 0.6914$	$y = 0.0346$
$f^3D - gF \left[\frac{5}{2} \right]$	0.7653	$x = 0.0494$	$y = 0.0025$
$f^3D - gF \left[\frac{7}{2} \right]$	1.0204	$x = 0.7500$	$y = 0.0278$
$f^1F - gD \left[\frac{3}{2} \right]$	0.0032	$x = 1.0000$	
$f^1F - gD \left[\frac{5}{2} \right]$	0.0048	$x = 0.0000$	$y = 1.0000$
$f^1F - gF \left[\frac{5}{2} \right]$	0.0744	$x = 1.0000$	$y = 0.0000$
$f^1F - gG \left[\frac{5}{2} \right]$	0.0992	$x = 0.0000$	$y = 1.0000$
$f^1F - gG \left[\frac{7}{2} \right]$	0.3638	$x = 1.0000$	$y = 0.0000$
$f^3F - gG \left[\frac{3}{2} \right]$	0.4547	$x = 1.0000$	
$f^3F - gD \left[\frac{3}{2} \right]$	0.0095	$x = 0.4444$	$y = 0.0556$
$f^3F - gD \left[\frac{5}{2} \right]$	0.0143	$x = 0.7143$	$y = 0.0617$
$f^3F - gF \left[\frac{5}{2} \right]$	0.2232	$x = 0.0357$	$y = 0.3735$
$f^3F - gF \left[\frac{7}{2} \right]$	0.2976	$x = 0.7031$	$y = 0.0201$
$f^3F - gG \left[\frac{7}{2} \right]$	1.0913	$x = 0.0260$	$y = 0.0007$

TABLE 10a (CONTINUED)

$g^3F - f^3D \left[\frac{3}{2} \right]$	0.7143	$x = 0.4444$	$y = 0.0556$
$g^3F - f^3D \left[\frac{1}{2} \right]$	1.0714	$x = 0.7143$	$y = 0.0817$
$g^3F - f^3F \left[\frac{3}{2} \right]$	0.2232	$x = 0.0357$	$y = 0.3785$
$g^3F - f^3F \left[\frac{1}{2} \right]$	0.2976	$x = 0.7031$	$y = 0.0201$
$g^3F - f^3G \left[\frac{3}{2} \right]$	0.0119	$x = 0.0260$	$y = 0.0007$
$g^3F - f^3G \left[\frac{1}{2} \right]$	0.0149	$x = 0.7333$	$y = 0.0167$
$g^1G - f^3F \left[\frac{3}{2} \right]$	0.3508	$x = 1.0000$	
$g^1G - f^3F \left[\frac{1}{2} \right]$	0.4677	$x = 0.0000$	$y = 1.0000$
$g^1G - f^3G \left[\frac{3}{2} \right]$	0.0786	$x = 1.0000$	$y = 0.0000$
$g^1G - f^3G \left[\frac{1}{2} \right]$	0.0982	$x = 0.0000$	$y = 1.0000$
$g^1G - f^3H \left[\frac{3}{2} \right]$	0.0022	$x = 1.0000$	$y = 0.0000$
$g^1G - f^3H \left[\frac{1}{2} \right]$	0.0026	$x = 1.0000$	
$g^3G - f^3F \left[\frac{3}{2} \right]$	1.0523	$x = 0.4167$	$y = 0.0278$
$g^3G - f^3F \left[\frac{1}{2} \right]$	1.4031	$x = 0.7130$	$y = 0.0365$
$g^3G - f^3G \left[\frac{3}{2} \right]$	0.2357	$x = 0.0204$	$y = 0.3760$
$g^3G - f^3G \left[\frac{1}{2} \right]$	0.2946	$x = 0.7040$	$y = 0.0130$
$g^3G - f^3H \left[\frac{3}{2} \right]$	0.0065	$x = 0.0160$	$y = 0.0003$
$g^3G - f^3H \left[\frac{1}{2} \right]$	0.0078	$x = 0.7222$	$y = 0.0111$
$g^1H - f^3G \left[\frac{3}{2} \right]$	0.4889	$x = 1.0000$	
$g^1H - f^3G \left[\frac{1}{2} \right]$	0.6111	$x = 0.0000$	$y = 1.0000$
$g^1H - f^3H \left[\frac{3}{2} \right]$	0.0556	$x = 1.0000$	$y = 0.0000$
$g^1H - f^3H \left[\frac{1}{2} \right]$	0.0667	$x = 0.0000$	$y = 1.0000$
$g^3H - f^3F \left[\frac{3}{2} \right]$	1.4667	$x = 0.4000$	$y = 0.0167$
$g^3H - f^3G \left[\frac{3}{2} \right]$	1.8333	$x = 0.7091$	$y = 0.0240$
$g^3H - f^3H \left[\frac{3}{2} \right]$	0.1667	$x = 0.0131$	$y = 0.3738$
$g^3H - f^3H \left[\frac{1}{2} \right]$	0.2000	$x = 0.7022$	$y = 0.0091$
$g^1I - f^3H \left[\frac{3}{2} \right]$	0.6566	$x = 1.0000$	
$g^1I - f^3H \left[\frac{1}{2} \right]$	0.7879	$x = 0.0000$	$y = 1.0000$
$g^3I - f^3H \left[\frac{3}{2} \right]$	1.9697	$x = 0.3889$	$y = 0.0111$
$g^3I - f^3H \left[\frac{1}{2} \right]$	2.3636	$x = 0.7051$	$y = 0.0170$

TABLE 10b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: $2D$

$s^{(2s+1)L} - p^{(J_p)}[K]$	$\sum_{J,J'} s$
$s^1D - p^{\left(\frac{3}{2}\right)\left[\frac{1}{2}\right]}$	0.3333
$s^1D - p^{\left(\frac{3}{2}\right)\left[\frac{3}{2}\right]}$	0.6667
$s^1D - p^{\left(\frac{3}{2}\right)\left[\frac{5}{2}\right]}$	1.0000
$s^1D - p^{\left(\frac{3}{2}\right)\left[\frac{7}{2}\right]}$	0.6667

TABLE 10a (CONTINUED)

$f^3F - g^3G \left[\frac{3}{2} \right]$	1.3641	$x = 0.7333$	$y = 0.0167$
$f^1G - g^3F \left[\frac{3}{2} \right]$	0.0038	$x = 1.0000$	
$f^1G - g^3F \left[\frac{1}{2} \right]$	0.0051	$x = 0.0000$	$y = 1.0000$
$f^1G - g^3G \left[\frac{3}{2} \right]$	0.0786	$x = 1.0000$	$y = 0.0000$
$f^1G - g^3G \left[\frac{1}{2} \right]$	0.0982	$x = 0.0000$	$y = 1.0000$
$f^1G - g^3H \left[\frac{3}{2} \right]$	0.5000	$x = 1.0000$	$y = 0.0000$
$f^1G - g^3H \left[\frac{1}{2} \right]$	0.6000	$x = 1.0000$	
$f^3G - g^3F \left[\frac{3}{2} \right]$	0.0115	$x = 0.4167$	$y = 0.0278$
$f^3G - g^3F \left[\frac{1}{2} \right]$	0.0153	$x = 0.7130$	$y = 0.0365$
$f^3G - g^3G \left[\frac{3}{2} \right]$	0.2357	$x = 0.0204$	$y = 0.3760$
$f^3G - g^3G \left[\frac{1}{2} \right]$	0.2946	$x = 0.7040$	$y = 0.0130$
$f^3G - g^3H \left[\frac{3}{2} \right]$	1.5000	$x = 0.0160$	$y = 0.0003$
$f^3G - g^3H \left[\frac{1}{2} \right]$	1.8000	$x = 0.7222$	$y = 0.0111$
$f^1H - g^3G \left[\frac{3}{2} \right]$	0.0021	$x = 1.0000$	
$f^1H - g^3G \left[\frac{1}{2} \right]$	0.0026	$x = 0.0000$	$y = 1.0000$
$f^1H - g^3H \left[\frac{3}{2} \right]$	0.0556	$x = 1.0000$	$y = 0.0000$
$f^1H - g^3H \left[\frac{1}{2} \right]$	0.0667	$x = 0.0000$	$y = 1.0000$
$f^1H - g^3I \left[\frac{3}{2} \right]$	0.6667	$x = 1.0000$	$y = 0.0000$
$f^1H - g^3I \left[\frac{1}{2} \right]$	0.7778	$x = 1.0000$	
$f^3H - g^3G \left[\frac{3}{2} \right]$	0.0063	$x = 0.4000$	$y = 0.0167$
$f^3H - g^3G \left[\frac{1}{2} \right]$	0.0079	$x = 0.7091$	$y = 0.0240$
$f^3H - g^3H \left[\frac{3}{2} \right]$	0.1667	$x = 0.0131$	$y = 0.3738$
$f^3H - g^3H \left[\frac{1}{2} \right]$	0.2000	$x = 0.7022$	$y = 0.0091$
$f^3H - g^3I \left[\frac{3}{2} \right]$	2.0000	$x = 0.0108$	$y = 0.0001$
$f^3H - g^3I \left[\frac{1}{2} \right]$	2.3333	$x = 0.7143$	$y = 0.0079$
$\sum_{J,J'} s$			
$g^{(2s+1)L} - f^3L[K]$			
$g^1D - f^3P \left[\frac{1}{2} \right]$	0.1429	$x = 1.0000$	
$g^1D - f^3P \left[\frac{3}{2} \right]$	0.2857	$x = 0.0000$	$y = 1.0000$
$g^1D - f^3D \left[\frac{3}{2} \right]$	0.0476	$x = 1.0000$	$y = 0.0000$
$g^1D - f^3D \left[\frac{1}{2} \right]$	0.0714	$x = 0.0000$	$y = 1.0000$
$g^1D - f^3F \left[\frac{3}{2} \right]$	0.0034	$x = 1.0000$	$y = 0.0000$
$g^1D - f^3F \left[\frac{1}{2} \right]$	0.0045	$x = 1.0000$	
$g^3D - f^3P \left[\frac{3}{2} \right]$	0.4286	$x = 0.5000$	$y = 0.3333$
$g^3D - f^3P \left[\frac{1}{2} \right]$	0.8571	$x = 0.7000$	$y = 0.1250$
$g^3D - f^3D \left[\frac{3}{2} \right]$	0.1429	$x = 0.0778$	$y = 0.3472$
$g^3D - f^3D \left[\frac{1}{2} \right]$	0.2143	$x = 0.6914$	$y = 0.0346$
$g^3D - f^3F \left[\frac{3}{2} \right]$	0.0102	$x = 0.0494$	$y = 0.0025$
$g^3D - f^3F \left[\frac{1}{2} \right]$	0.0136	$x = 0.7500$	$y = 0.0222$
$g^1F - f^3D \left[\frac{3}{2} \right]$	0.2381	$x = 1.0000$	
$g^1F - f^3D \left[\frac{1}{2} \right]$	0.3571	$x = 0.0000$	$y = 1.0000$
$g^1F - f^3F \left[\frac{3}{2} \right]$	0.0744	$x = 1.0000$	$y = 0.0000$
$g^1F - f^3F \left[\frac{1}{2} \right]$	0.0992	$x = 0.0000$	$y = 1.0000$
$g^1F - f^3G \left[\frac{3}{2} \right]$	0.0040	$x = 1.0000$	$y = 0.0000$
$g^1F - f^3G \left[\frac{1}{2} \right]$	0.0050	$x = 1.0000$	

TABLE 10b (CONTINUED)

$s^1D - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	1.0000	$z = 0.0667$	$y = 0.9333$
$s^1D - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	1.3333	$x = 1.0000$	
$s^3D - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	1.0000	$z = 0.5000$	$0.3333 \quad y = 0.1667$
$s^3D - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	2.0000	$z = 0.0000$	$0.5000 \quad y = 0.4500$
$s^3D - p \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	3.0000	$z = 0.0000$	$0.0833 \quad y = 0.4067$
$s^3D - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	3.0000	$z = 0.7778$	$0.2000 \quad y = 0.0000$
$s^3D - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	3.0000	$z = 0.7407$	$0.2074 \quad y = 0.0370$
$s^3D - p \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	4.0000	$z = 0.7500$	$0.2222 \quad y = 0.0278$
$p^{(2S+1)L} - s(J_p)[K]$	$\sum_{J,J'}^s$		
$p^1P - s \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.4000	$z = 1.0000$	$y = 0.0000$
$p^1P - s \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.6000	$z = 1.0000$	
$p^3P - s \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	1.2000	$z = 0.1250$	$0.2083 \quad y = 0.0139$
$p^3P - s \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	1.8000	$z = 0.7778$	$0.1667 \quad y = 0.0556$
$p^1D - s \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.6667	$z = 1.0000$	$y = 0.0000$
$p^1D - s \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	1.0000	$z = 0.0000$	$y = 1.0000$
$p^3D - s \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	2.0000	$z = 0.0778$	$0.1250 \quad y = 0.3472$
$p^3D - s \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	3.0000	$z = 0.6914$	$0.1543 \quad y = 0.0346$
$p^1F - s \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.9333	$z = 1.0000$	
$p^1F - s \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	1.4000	$z = 0.0000$	$y = 1.0000$
$p^3F - s \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	2.8000	$z = 0.4444$	$0.5000 \quad y = 0.0556$
$p^3F - s \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	4.2000	$z = 0.7143$	$0.1975 \quad y = 0.0617$

$p^{(2S+1)L} - d(J_p)[K]$	$\sum_{J,J'}^s$		
$p^1P - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.1700	$z = 0.5294$	$y = 0.4706$
$p^1P - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.1880	$z = 0.5213$	$y = 0.4787$
$p^1P - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0420	$z = 1.0000$	
$p^1P - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.1800	$z = 0.3333$	$y = 0.6667$
$p^1P - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.2520	$z = 0.1667$	$y = 0.8333$
$p^1P - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.4680	$z = 1.0000$	
$p^3P - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.5100	$z = 0.0163$	$0.1765 \quad y = 0.4804$
$p^3P - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.5640	$z = 0.0851$	$0.0955 \quad y = 0.0095$
$p^3P - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.1260	$z = 0.7778$	$0.1667 \quad y = 0.0556$
$p^3P - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.5400	$z = 0.8333$	$0.1111 \quad y = 0.0556$
$p^3P - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.7560	$z = 0.7500$	$0.1389 \quad y = 0.0833$
$p^3P - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.5040	$z = 0.7778$	$0.1667 \quad y = 0.0556$
$p^1D - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0300	$z = 1.0000$	
$p^1D - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.1933	$z = 0.8448$	$y = 0.1552$
$p^1D - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.3900	$z = 0.8205$	$y = 0.1795$
$p^1D - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.0533	$z = 1.0000$	
$p^1D - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.0200	$z = 1.0000$	
$p^1D - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.1400	$z = 0.5000$	$y = 0.5000$
$p^1D - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.3600	$z = 0.2222$	$y = 0.7778$
$p^1D - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.4800	$z = 1.0000$	
$p^3D - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.0900	$z = 0.5000$	$0.3333 \quad y = 0.1667$

TABLE 10b (CONTINUED)

$p^3D - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.5800	$z = 0.0054$	$0.0345 \quad y = 0.4636$
$p^3D - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	1.1700	$z = 0.0228$	$0.0100 \quad y = 0.0011$
$p^3D - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.1600	$z = 0.7500$	$0.2222 \quad y = 0.0278$
$p^3D - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.0600	$z = 0.5000$	$0.3333 \quad y = 0.1667$
$p^3D - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.4200	$z = 0.6222$	$0.2500 \quad y = 0.0278$
$p^3D - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	1.0800	$z = 0.7023$	$0.2353 \quad y = 0.0351$
$p^3D - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	1.4400	$z = 0.7500$	$0.2222 \quad y = 0.0278$
$p^1F - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0187	$z = 1.0000$	
$p^1F - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.1680	$z = 0.9524$	$y = 0.0476$
$p^1F - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.7467	$z = 0.9643$	$y = 0.0357$
$p^1F - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.0080	$z = 1.0000$	
$p^1F - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.0720	$z = 0.5556$	$y = 0.4444$
$p^1F - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.3200	$z = 0.2500$	$y = 0.7500$
$p^1F - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	1.0000	$z = 1.0000$	
$p^3F - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.0560	$z = 0.4444$	$0.5000 \quad y = 0.0556$
$p^3F - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.5040	$z = 0.0000$	$0.0212 \quad y = 0.4233$
$p^3F - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	2.2400	$z = 0.0000$	$0.0159 \quad y = 0.0000$
$p^3F - d \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.0240	$z = 0.4444$	$0.5000 \quad y = 0.0556$
$p^3F - d \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.2160	$z = 0.4960$	$0.2318 \quad y = 0.0840$
$p^3F - d \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.9600	$z = 0.6510$	$0.2552 \quad y = 0.0186$
$p^3F - d \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	3.0000	$z = 0.7333$	$0.2500 \quad y = 0.0167$
$d^{(2S+1)L} - p(J_p)[K]$	$\sum_{J,J'}^s$		
$d^1S - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.0667	$x = 1.0000$	
$d^1S - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.0133	$x = 1.0000$	
$d^1S - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.1200	$x = 1.0000$	
$d^3S - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.2000	$x = 0.6667$	$y = 0.3333$
$d^3S - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.0400	$x = 0.8333$	$y = 0.1667$
$d^3S - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.3600	$x = 0.8333$	$y = 0.1667$
$d^1P - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.1500	$x = 1.0000$	$y = 0.0000$
$d^1P - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.0840	$x = 0.8429$	$y = 0.3571$
$d^1P - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0060	$x = 1.0000$	
$d^1P - p \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.2760	$x = 0.0217$	$y = 0.9783$
$d^1P - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.0840	$x = 1.0000$	
$d^3P - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.4500	$x = 0.2778$	$0.3333 \quad y = 0.1667$
$d^3P - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.2520	$x = 0.5714$	$0.2381 \quad y = 0.0635$
$d^3P - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0180	$x = 0.7778$	$0.1667 \quad y = 0.0556$
$d^3P - p \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.8280	$x = 0.5326$	$0.0181 \quad y = 0.0592$
$d^3P - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.2520	$x = 0.7778$	$0.1667 \quad y = 0.0556$
$d^1D - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.1167	$x = 1.0000$	
$d^1D - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.2333	$x = 0.9000$	$y = 0.1000$
$d^1D - p \left(\frac{5}{2} \right) \left(\frac{3}{2} \right)$	0.0500	$x = 0.5333$	$y = 0.4667$
$d^1D - p \left(\frac{5}{2} \right) \left(\frac{1}{2} \right)$	0.2333	$x = 0.1000$	$y = 0.9000$
$d^1D - p \left(\frac{3}{2} \right) \left(\frac{3}{2} \right)$	0.3286	$x = 0.0058$	$y = 0.9942$
$d^1D - p \left(\frac{3}{2} \right) \left(\frac{1}{2} \right)$	0.0381	$x = 1.0000$	

TABLE 10b (CONTINUED)

$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.3500	$z = 0.5000$	0.3333	$y = 0.1667$		
$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.7000	$z = 0.2800$	0.2000	$y = 0.2000$	$0.2667 \quad z = 0.0533$	
$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1500	$z = 0.5333$	0.2333	$y = 0.0267$	$z = 0.0667$	0.1400
$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.7000	$z = 0.4978$	0.0500	$y = 0.2722$	$0.1500 \quad z = 0.0300$	
$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.9857	$z = 0.6596$	0.1364	$y = 0.0330$	$z = 0.1163$	0.0548
$d^3D - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1143	$z = 0.7500$	0.2222	$y = 0.0278$		
$d^1F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.3360	$z = 1.0000$				
$d^1F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2240	$z = 0.8333$	$y = 0.1667$			
$d^1F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0373	$z = 1.0000$				
$d^1F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.5360	$z = 0.0249$	$y = 0.9751$			
$d^1F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2667	$z = 0.0000$	$y = 1.0000$			
$d^3F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.0080	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.6720	$z = 0.2679$	0.1667	$y = 0.2083$	0.3333	$z = 0.0238$
$d^3F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1120	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.6080	$z = 0.6477$	0.1598	$y = 0.1168$	0.0708	$z = 0.0051$
$d^3F - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.8000	$z = 0.7031$	0.2101	$y = 0.0201$	$z = 0.0469$	0.0198
$d^1G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.7200	$z = 1.0000$				
$d^1G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0514	$z = 1.0000$				
$d^1G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.0266	$z = 0.0000$	$y = 1.0000$			
$d^3G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	2.1600	$z = 0.4167$	0.5556	$y = 0.0278$		
$d^3G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1543	$z = 0.4167$	0.5556	$y = 0.0278$		
$d^3G - p \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	3.0857	$z = 0.7130$	0.2344	$y = 0.0365$	0.0156	$z = 0.0006$
$d^{(2S+1)L} - f \begin{pmatrix} J_p \end{pmatrix} \begin{pmatrix} K \end{pmatrix}$	$\sum_{J,J'}^s$					
$d^1S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0800	$z = 1.0000$				
$d^1S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0667	$z = 1.0000$				
$d^1S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0533	$z = 1.0000$				
$d^3S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2400	$z = 0.8333$	$y = 0.1667$			
$d^3S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2000	$z = 0.6667$	$y = 0.3333$			
$d^3S - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1600	$z = 0.8333$	$y = 0.1667$			
$d^1P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1440	$z = 0.4444$	$y = 0.5556$			
$d^1P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0960	$z = 1.0000$				
$d^1P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0667	$z = 1.0000$	$y = 0.0000$			
$d^1P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1493	$z = 0.6429$	$y = 0.3571$			
$d^1P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1440	$z = 1.0000$				
$d^3P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.4320	$z = 0.1250$	0.0231	$y = 0.0139$	$z = 0.5602$	0.2778
$d^3P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2880	$z = 0.7778$	0.1667	$y = 0.0556$		
$d^3P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2000	$z = 0.2778$	0.3333	$y = 0.1667$	$z = 0.2222$	
$d^3P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.4480	$z = 0.5714$	0.2381	$y = 0.0635$	$z = 0.0476$	0.0794
$d^3P - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.4320	$z = 0.7778$	0.1667	$y = 0.0556$		
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0571	$z = 0.8000$	$y = 0.2000$			
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2449	$z = 0.7200$	$y = 0.2800$			
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0980	$z = 1.0000$				
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0095	$z = 1.0000$				
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0762	$z = 0.9000$	$y = 0.1000$			

TABLE 10b (CONTINUED)

$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2204	$z = 0.5333$	$y = 0.4667$			
$d^1D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2939	$z = 1.0000$				
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1714	$z = 0.0156$	0.0250	$y = 0.4694$	0.4083	$z = 0.0817$
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.7347	$z = 0.0632$	0.0017	$y = 0.0032$	$z = 0.4746$	0.4573
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2939	$z = 0.7500$	0.2222	$y = 0.0278$		
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0286	$z = 0.5000$	0.3333	$y = 0.1667$		
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2286	$z = 0.2800$	0.2000	$y = 0.2000$	0.2667	$z = 0.0533$
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.6612	$z = 0.5333$	0.2333	$y = 0.0267$	$z = 0.0667$	0.1400
$d^3D - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.8816	$z = 0.7500$	0.2222	$y = 0.0278$		
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0046	$z = 1.0000$				
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0840	$z = 0.9184$	$y = 0.0816$			
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.4000	$z = 0.8929$	$y = 0.1071$			
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0714	$z = 1.0000$				
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0069	$z = 1.0000$				
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0617	$z = 0.8333$	$y = 0.1667$			
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2476	$z = 0.4808$	$y = 0.5192$			
$d^1F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.5238	$z = 1.0000$				
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0137	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2520	$z = 0.0036$	0.0123	$y = 0.4312$	0.5160	$z = 0.0369$
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.2000	$z = 0.0149$	0.0030	$y = 0.0004$	$z = 0.4375$	0.5442
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2143	$z = 0.7333$	0.2500	$y = 0.0167$		
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0206	$z = 0.4444$	0.5000	$y = 0.0556$		
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1851	$z = 0.2679$	0.1667	$y = 0.2083$	0.3333	$z = 0.0238$
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.7429	$z = 0.5128$	0.2308	$y = 0.0147$	$z = 0.0769$	0.1648
$d^3F - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.5714	$z = 0.7333$	0.2500	$y = 0.0167$		
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0037	$z = 1.0000$				
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0735	$z = 0.9722$	$y = 0.0278$			
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.6429	$z = 0.9778$	$y = 0.0222$			
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0024	$z = 1.0000$				
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0299	$z = 0.7955$	$y = 0.2045$			
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1905	$z = 0.4500$	$y = 0.5500$			
$d^1G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.8571	$z = 1.0000$				
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0110	$z = 0.4167$	0.5556	$y = 0.0278$		
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.2204	$z = 0.0000$	0.0116	$y = 0.4051$	0.5625	$z = 0.0208$
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	1.9286	$z = 0.0000$	0.0093	$y = 0.0000$	$z = 0.4074$	0.5833
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0073	$z = 0.4167$	0.5556	$y = 0.0278$		
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0898	$z = 0.2593$	0.1515	$y = 0.2121$	0.3636	$z = 0.0135$
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.5714	$z = 0.5000$	0.2292	$y = 0.0093$	$z = 0.0833$	0.1782
$d^3G - f \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	2.5714	$z = 0.7222$	0.2667	$y = 0.0111$		
$f^{(2S+1)L} - d \begin{pmatrix} J_p \end{pmatrix} \begin{pmatrix} K \end{pmatrix}$	$\sum_{J,J'}^s$					
$f^1P - d \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1200	$z = 0.3333$	$y = 0.6667$			
$f^1P - d \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0480	$z = 0.1667$	$y = 0.8333$			
$f^1P - d \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.0034	$z = 1.0000$				
$f^1P - d \begin{pmatrix} 1 \\ 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix}$	0.1467	$z = 0.1818$	$y = 0.8182$			

TABLE 10b (CONTINUED)

$f^1P - d^1\frac{5}{2}\frac{1}{2}$	0.0968	$z = 0.0354$	$y = 0.9646$	
$f^1P - d^1\frac{3}{2}\frac{1}{2}$	0.0137	$z = 1.0000$		
$f^3P - d^1\frac{5}{2}\frac{1}{2}$	0.3600	$z = 0.8533$	$y = 0.1111$	$y = 0.0556$ $z = 0.0000$
$f^3P - d^1\frac{3}{2}\frac{1}{2}$	0.1440	$z = 0.7500$	$y = 0.1389$	$y = 0.0853$ $z = 0.0278$ 0.0000
$f^3P - d^1\frac{5}{2}\frac{3}{2}$	0.0103	$z = 0.7778$	$y = 0.1667$	$y = 0.0556$
$f^3P - d^1\frac{3}{2}\frac{3}{2}$	0.4400	$z = 0.2020$	$y = 0.0606$	$y = 0.4848$ $z = 0.2525$
$f^3P - d^1\frac{5}{2}\frac{1}{2}$	0.2903	$z = 0.5039$	$y = 0.0131$	$y = 0.0560$ $z = 0.3176$ 0.1094
$f^3P - d^1\frac{3}{2}\frac{1}{2}$	0.0411	$z = 0.7778$	$y = 0.1667$	$y = 0.0556$
$f^1D - d^1\frac{5}{2}\frac{1}{2}$	0.0800	$z = 1.0000$		
$f^1D - d^1\frac{3}{2}\frac{1}{2}$	0.1600	$z = 0.5000$	$y = 0.5000$	
$f^1D - d^1\frac{5}{2}\frac{3}{2}$	0.0441	$z = 0.2222$	$y = 0.7778$	
$f^1D - d^1\frac{3}{2}\frac{3}{2}$	0.0016	$z = 1.0000$		
$f^1D - d^1\frac{5}{2}\frac{1}{2}$	0.0533	$z = 1.0000$		
$f^1D - d^1\frac{3}{2}\frac{1}{2}$	0.2210	$z = 0.1552$	$y = 0.8448$	
$f^1D - d^1\frac{5}{2}\frac{3}{2}$	0.1396	$z = 0.0175$	$y = 0.9825$	
$f^1D - d^1\frac{3}{2}\frac{3}{2}$	0.0147	$z = 1.0000$		
$f^3D - d^1\frac{5}{2}\frac{1}{2}$	0.2400	$z = 0.5000$	$y = 0.3333$	$y = 0.1667$
$f^3D - d^1\frac{3}{2}\frac{1}{2}$	0.4800	$z = 0.6222$	$y = 0.2500$	$y = 0.0278$ 0.0833 $z = 0.0167$
$f^3D - d^1\frac{5}{2}\frac{3}{2}$	0.1322	$z = 0.7023$	$y = 0.2553$	$y = 0.0351$ $z = 0.0014$ 0.0259
$f^3D - d^1\frac{3}{2}\frac{3}{2}$	0.0049	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$
$f^3D - d^1\frac{5}{2}\frac{1}{2}$	0.1600	$z = 0.5000$	$y = 0.3333$	$y = 0.1667$
$f^3D - d^1\frac{3}{2}\frac{1}{2}$	0.6629	$z = 0.4345$	$y = 0.0345$	$y = 0.3103$ 0.1839 $z = 0.0368$
$f^3D - d^1\frac{5}{2}\frac{3}{2}$	0.4188	$z = 0.6316$	$y = 0.1228$	$y = 0.0316$ $z = 0.1404$ 0.0737
$f^3D - d^1\frac{3}{2}\frac{3}{2}$	0.0441	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$
$f^1F - d^1\frac{5}{2}\frac{1}{2}$	0.1920	$z = 1.0000$		
$f^1F - d^1\frac{3}{2}\frac{1}{2}$	0.1851	$z = 0.5556$	$y = 0.4444$	
$f^1F - d^1\frac{5}{2}\frac{3}{2}$	0.0229	$z = 0.2500$	$y = 0.7500$	
$f^1F - d^1\frac{3}{2}\frac{3}{2}$	0.0823	$z = 1.0000$		
$f^1F - d^1\frac{5}{2}\frac{1}{2}$	0.8549	$z = 0.0725$	$y = 0.9275$	
$f^1F - d^1\frac{3}{2}\frac{1}{2}$	0.1549	$z = 0.0041$	$y = 0.9959$	
$f^1F - d^1\frac{5}{2}\frac{3}{2}$	0.0079	$z = 1.0000$		
$f^3F - d^1\frac{5}{2}\frac{1}{2}$	0.5760	$z = 0.4444$	$y = 0.5000$	$y = 0.0556$
$f^3F - d^1\frac{3}{2}\frac{1}{2}$	0.5554	$z = 0.4960$	$y = 0.2318$	$y = 0.0840$ 0.1756 $z = 0.0125$
$f^3F - d^1\frac{5}{2}\frac{3}{2}$	0.0986	$z = 0.6510$	$y = 0.2552$	$y = 0.0186$ $z = 0.0156$ 0.0595
$f^3F - d^1\frac{3}{2}\frac{3}{2}$	0.2469	$z = 0.4444$	$y = 0.5000$	$y = 0.0556$
$f^3F - d^1\frac{5}{2}\frac{1}{2}$	1.0646	$z = 0.5823$	$y = 0.1304$	$y = 0.1630$ 0.1159 $z = 0.0083$
$f^3F - d^1\frac{3}{2}\frac{1}{2}$	0.4648	$z = 0.6831$	$y = 0.1967$	$y = 0.0195$ $z = 0.0656$ 0.0351
$f^3F - d^1\frac{5}{2}\frac{3}{2}$	0.0238	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$
$f^1G - d^1\frac{5}{2}\frac{1}{2}$	0.3673	$z = 1.0000$		
$f^1G - d^1\frac{3}{2}\frac{1}{2}$	0.1469	$z = 0.5833$	$y = 0.4167$	
$f^1G - d^1\frac{5}{2}\frac{3}{2}$	0.0918	$z = 1.0000$		
$f^1G - d^1\frac{3}{2}\frac{3}{2}$	0.5605	$z = 0.0170$	$y = 0.9830$	
$f^1G - d^1\frac{5}{2}\frac{1}{2}$	0.1190	$z = 0.0000$	$y = 1.0000$	
$f^3G - d^1\frac{5}{2}\frac{1}{2}$	1.1020	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$
$f^3G - d^1\frac{3}{2}\frac{1}{2}$	0.4408	$z = 0.4278$	$y = 0.2101$	$y = 0.1191$ 0.2344 $z = 0.0087$
$f^3G - d^1\frac{5}{2}\frac{3}{2}$	0.2755	$z = 0.4167$	$y = 0.5556$	$y = 0.0278$

TABLE 10b (CONTINUED)

$f^3G - d^1\frac{5}{2}\frac{1}{2}$	1.6816	$z = 0.6700$	$y = 0.2071$	$y = 0.0725$ 0.0485 $z = 0.0018$
$f^3G - d^1\frac{3}{2}\frac{1}{2}$	0.3571	$z = 0.7040$	$y = 0.2407$	$y = 0.0130$ $z = 0.0293$ 0.0130
$f^1H - d^1\frac{5}{2}\frac{1}{2}$	0.6286	$z = 1.0000$		
$f^1H - d^1\frac{3}{2}\frac{1}{2}$	0.0698	$z = 1.0000$		
$f^1H - d^1\frac{5}{2}\frac{3}{2}$	0.8730	$z = 0.0000$	$y = 1.0000$	
$f^1H - d^1\frac{3}{2}\frac{3}{2}$	1.8857	$z = 0.4000$	$y = 0.5833$	$y = 0.0167$
$f^3H - d^1\frac{5}{2}\frac{1}{2}$	0.2095	$z = 0.4000$	$y = 0.5833$	$y = 0.0167$
$f^3H - d^1\frac{3}{2}\frac{1}{2}$	2.8190	$z = 0.7091$	$y = 0.2560$	$y = 0.0240$ 0.0107 $z = 0.0002$
$\sum_{J,J'} g$				
$f^{(2S+1)L - g(J_P)[K]}$	0.1714	$z = 1.0000$		
$f^1P - g^1\frac{3}{2}\frac{1}{2}$	0.1714	$z = 1.0000$	$y = 0.0000$	
$f^1P - g^1\frac{1}{2}\frac{1}{2}$	0.0857	$z = 1.0000$		
$f^1P - g^1\frac{3}{2}\frac{3}{2}$	0.5143	$z = 0.7778$	$y = 0.1667$	$y = 0.0556$
$f^3P - g^1\frac{3}{2}\frac{1}{2}$	0.5143	$z = 0.1250$	$y = 0.2083$	$y = 0.0139$ $z = 0.3750$ 0.2778
$f^3P - g^1\frac{1}{2}\frac{1}{2}$	0.2571	$z = 0.7778$	$y = 0.1667$	$y = 0.0556$
$f^3P - g^1\frac{3}{2}\frac{3}{2}$	0.1327	$z = 0.6410$	$y = 0.3590$	
$f^1D - g^1\frac{3}{2}\frac{1}{2}$	0.1531	$z = 1.0000$		
$f^1D - g^1\frac{1}{2}\frac{1}{2}$	0.0476	$z = 1.0000$	$y = 0.0000$	
$f^1D - g^1\frac{3}{2}\frac{3}{2}$	0.1939	$z = 0.8772$	$y = 0.1228$	
$f^1D - g^1\frac{1}{2}\frac{3}{2}$	0.1871	$z = 1.0000$		
$f^3D - g^1\frac{3}{2}\frac{1}{2}$	0.3980	$z = 0.1026$	$y = 0.0000$	$y = 0.0051$ $z = 0.4615$ 0.4308
$f^3D - g^1\frac{1}{2}\frac{1}{2}$	0.4592	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$
$f^3D - g^1\frac{3}{2}\frac{3}{2}$	0.1429	$z = 0.0778$	$y = 0.1250$	$y = 0.3472$ 0.3750 $z = 0.0750$
$f^3D - g^1\frac{1}{2}\frac{3}{2}$	0.5816	$z = 0.2495$	$y = 0.1706$	$y = 0.0125$ $z = 0.2359$ 0.3316
$f^3D - g^1\frac{3}{2}\frac{1}{2}$	0.5612	$z = 0.7500$	$y = 0.2222$	$y = 0.0278$
$f^1F - g^1\frac{3}{2}\frac{1}{2}$	0.0280	$z = 0.8865$	$y = 0.1185$	
$f^1F - g^1\frac{1}{2}\frac{1}{2}$	0.2447	$z = 0.8176$	$y = 0.1824$	
$f^1F - g^1\frac{3}{2}\frac{3}{2}$	0.1273	$z = 1.0000$		
$f^1F - g^1\frac{1}{2}\frac{3}{2}$	0.0032	$z = 1.0000$		
$f^1F - g^1\frac{3}{2}\frac{1}{2}$	0.0512	$z = 0.9690$	$y = 0.0310$	
$f^1F - g^1\frac{1}{2}\frac{1}{2}$	0.2183	$z = 0.7500$	$y = 0.2500$	
$f^1F - g^1\frac{3}{2}\frac{3}{2}$	0.3274	$z = 1.0000$		
$f^3F - g^1\frac{3}{2}\frac{1}{2}$	0.0839	$z = 0.0114$	$y = 0.0071$	$y = 0.4344$ 0.5108 $z = 0.0365$
$f^3F - g^1\frac{1}{2}\frac{1}{2}$	0.7341	$z = 0.0450$	$y = 0.0000$	$y = 0.0013$ $z = 0.4324$ 0.5212
$f^3F - g^1\frac{3}{2}\frac{3}{2}$	0.3819	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$
$f^3F - g^1\frac{1}{2}\frac{3}{2}$	0.0095	$z = 0.4444$	$y = 0.5000$	$y = 0.0556$
$f^3F - g^1\frac{3}{2}\frac{1}{2}$	0.1536	$z = 0.1121$	$y = 0.1042$	$y = 0.3112$ 0.4410 $z = 0.0315$
$f^3F - g^1\frac{1}{2}\frac{1}{2}$	0.6548	$z = 0.3125$	$y = 0.1736$	$y = 0.0089$ $z = 0.1875$ 0.3175
$f^3F - g^1\frac{3}{2}\frac{3}{2}$	0.9821	$z = 0.7333$	$y = 0.2500$	$y = 0.0167$
$f^1G - g^1\frac{3}{2}\frac{1}{2}$	0.0013	$z = 1.0000$		
$f^1G - g^1\frac{1}{2}\frac{1}{2}$	0.0455	$z = 0.9496$	$y = 0.0504$	
$f^1G - g^1\frac{3}{2}\frac{3}{2}$	0.3875	$z = 0.9290$	$y = 0.0710$	
$f^3G - g^1\frac{3}{2}\frac{1}{2}$	0.0800	$z = 1.0000$		
$f^3G - g^1\frac{1}{2}\frac{1}{2}$	0.0026	$z = 1.0000$		

TABLE 10b (CONTINUED)

$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0006	$z = 1.0000$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.1429	$z = 1.0000$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2440	$z = 0.1220 \quad y = 0.8780$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0754	$z = 0.0132 \quad y = 0.9868$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0044	$z = 1.0000$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2857	$z = 0.4444 \quad 0.5000 \quad y = 0.0556$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.5825	$z = 0.6888 \quad 0.2593 \quad y = 0.0066 \quad 0.0423 \quad z = 0.0030$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0833	$z = 0.7143 \quad 0.2540 \quad y = 0.0204 \quad z = 0.0000 \quad 0.0113$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0018	$z = 0.7333 \quad 0.2500 \quad y = 0.0167$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.4286	$z = 0.4444 \quad 0.5000 \quad y = 0.0556$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.7321	$z = 0.5270 \quad 0.1087 \quad y = 0.1991 \quad 0.1542 \quad z = 0.0110$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2262	$z = 0.6634 \quad 0.1853 \quad y = 0.0190 \quad z = 0.0822 \quad 0.0501$
$g^3 F - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0131	$z = 0.7333 \quad 0.2500 \quad y = 0.0167$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2105	$z = 1.0000$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.1759	$z = 0.3351 \quad y = 0.6649$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0137	$z = 0.1391 \quad y = 0.8609$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.1403	$z = 1.0000$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.3704	$z = 0.0530 \quad y = 0.9470$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0867	$z = 0.0030 \quad y = 0.9970$
$g^1 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0026	$z = 1.0000$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.6314	$z = 0.4167 \quad 0.5556 \quad y = 0.0278$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.5276	$z = 0.5946 \quad 0.2553 \quad y = 0.0397 \quad 0.1064 \quad z = 0.0039$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0411	$z = 0.6817 \quad 0.2694 \quad y = 0.0126 \quad z = 0.0052 \quad 0.0310$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.4209	$z = 0.4167 \quad 0.5556 \quad y = 0.0278$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	1.1112	$z = 0.6222 \quad 0.1824 \quad y = 0.1069 \quad 0.0852 \quad z = 0.0032$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2601	$z = 0.6903 \quad 0.2308 \quad y = 0.0128 \quad z = 0.0420 \quad 0.0240$
$g^3 G - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0078	$z = 0.7222 \quad 0.2667 \quad y = 0.0111$
$g^1 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.3667	$z = 1.0000$
$g^1 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.1222	$z = 0.4000 \quad y = 0.6000$
$g^1 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.1222	$z = 1.0000$
$g^1 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.5444	$z = 0.0122 \quad y = 0.9878$
$g^1 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0667	$z = 0.0000 \quad y = 1.0000$
$g^3 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	1.1000	$z = 0.4000 \quad 0.5833 \quad y = 0.0167$
$g^3 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.3667	$z = 0.5253 \quad 0.2400 \quad y = 0.0711 \quad 0.1600 \quad z = 0.0036$
$g^3 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.3667	$z = 0.4000 \quad 0.5833 \quad y = 0.0167$
$g^3 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	1.6333	$z = 0.6793 \quad 0.2359 \quad y = 0.0491 \quad 0.0348 \quad z = 0.0008$
$g^3 H - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2000	$z = 0.7022 \quad 0.2596 \quad y = 0.0091 \quad z = 0.0201 \quad 0.0091$
$g^1 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.5778	$z = 1.0000$
$g^1 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.0788	$z = 1.0000$
$g^1 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.7879	$z = 0.0000 \quad y = 1.0000$
$g^3 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	1.7333	$z = 0.3889 \quad 0.6000 \quad y = 0.0111$
$g^3 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	0.2364	$z = 0.3889 \quad 0.6000 \quad y = 0.0111$
$g^3 I - f \left(\frac{3}{2} \right) \left[\frac{9}{2} \right]$	2.3636	$z = 0.7051 \quad 0.2701 \quad y = 0.0170 \quad 0.0077 \quad z = 0.0001$

TABLE 10b (CONTINUED)

$f^1 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0382	$z = 0.9265 \quad y = 0.0735$
$f^1 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.2107	$z = 0.6644 \quad y = 0.3356$
$f^1 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.5200	$z = 1.0000$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0038	$z = 0.4167 \quad 0.5556 \quad y = 0.0278$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.1365	$z = 0.0026 \quad 0.0060 \quad y = 0.4102 \quad 0.5605 \quad z = 0.0208$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	1.1625	$z = 0.0103 \quad 0.0012 \quad y = 0.0002 \quad z = 0.4133 \quad 0.5750$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.2400	$z = 0.7222 \quad 0.2667 \quad y = 0.0111$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0077	$z = 0.4167 \quad 0.5556 \quad y = 0.0278$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.1145	$z = 0.1342 \quad 0.0993 \quad y = 0.2900 \quad 0.4596 \quad z = 0.0170$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.6321	$z = 0.3471 \quad 0.1796 \quad y = 0.0064 \quad z = 0.1647 \quad 0.5021$
$f^3 G - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	1.5000	$z = 0.7222 \quad 0.2667 \quad y = 0.0111$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0012	$z = 1.0000$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0407	$z = 0.9818 \quad y = 0.0182$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.5867	$z = 0.9848 \quad y = 0.0152$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0010	$z = 1.0000$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0175	$z = 0.8909 \quad y = 0.1091$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.1467	$z = 0.6061 \quad y = 0.3939$
$f^1 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.7778	$z = 1.0000$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0035	$z = 0.4000 \quad 0.5833 \quad y = 0.0167$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.1222	$z = 0.0000 \quad 0.0073 \quad y = 0.3927 \quad 0.5867 \quad z = 0.0133$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	1.7600	$z = 0.0000 \quad 0.0061 \quad y = 0.0000 \quad z = 0.3939 \quad 0.6000$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0029	$z = 0.4000 \quad 0.5833 \quad y = 0.0167$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.0524	$z = 0.1492 \quad 0.0982 \quad y = 0.2766 \quad 0.4655 \quad z = 0.0106$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	0.4400	$z = 0.3683 \quad 0.1849 \quad y = 0.0048 \quad z = 0.1519 \quad 0.2501$
$f^3 H - g \left(\frac{3}{2} \right) \left[\frac{7}{2} \right]$	2.3533	$z = 0.7143 \quad 0.2778 \quad y = 0.0079$
$\sum_{j,j'} s$		
$g^{(2s+1)} L - f \left(\frac{3}{2} \right) \left[\frac{K}{2} \right]$	0.1905	$z = 0.1000 \quad y = 0.9006$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0308	$z = 0.0667 \quad y = 0.9333$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0011	$z = 1.0000$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.1429	$z = 1.0000$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.1429	$z = 0.2000 \quad y = 0.8000$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0442	$z = 0.0308 \quad y = 0.9692$
$g^1 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0034	$z = 1.0000$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.5714	$z = 0.7778 \quad 0.2000 \quad y = 0.0222 \quad 0.0000 \quad z = 0.0000$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0918	$z = 0.7407 \quad 0.2074 \quad y = 0.0370 \quad z = 0.0148 \quad 0.0000$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0034	$z = 0.7500 \quad 0.2222 \quad y = 0.0278$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.4286	$z = 0.5000 \quad 0.3333 \quad y = 0.1667$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.4286	$z = 0.3889 \quad 0.0250 \quad y = 0.3361 \quad 0.2083 \quad z = 0.0417$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.1327	$z = 0.6078 \quad 0.1123 \quad y = 0.0304 \quad z = 0.1597 \quad 0.0897$
$g^3 D - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0102	$z = 0.7500 \quad 0.2222 \quad y = 0.0278$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0952	$z = 1.0000$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.1875	$z = 0.2381 \quad y = 0.7619$
$g^1 F - f \left(\frac{3}{2} \right) \left[\frac{3}{2} \right]$	0.0278	$z = 0.1071 \quad y = 0.8929$

TABLE 10c (CONTINUED)

$s(2s+1)L - p(J_p, j)$	$\sum_{J_p, j} s$	0.7000	$x = 0.4800$	$y = 0.4000$	$z = 0.1200$
$p^1D - d(\frac{5}{2}, \frac{5}{2})$	0.6667	$x = 0.7000$	$y = 0.4800$	$y = 0.4000$	$z = 0.1200$
$p^3D - d(\frac{3}{2}, \frac{3}{2})$	1.3333	$x = 0.7000$	$y = 0.0178$	$y = 0.1341$	$y = 0.0044$
	1.0000	$z = 0.0022$	$z = 0.5186$		
$p^3D - d(\frac{3}{2}, \frac{5}{2})$	1.3000	$x = 0.0923$	$y = 0.4595$	$y = 0.1938$	$y = 0.0144$
	1.3000	$z = 0.0923$	$z = 0.2042$	$z = 0.0054$	$z = 0.2696$
$p^3D - d(\frac{5}{2}, \frac{3}{2})$	1.3000	$x = 0.1646$	$y = 0.0931$		$z = 0.1685$
$p^3D - d(\frac{5}{2}, \frac{5}{2})$	1.7000	$x = 0.5647$	$y = 0.0329$	$y = 0.0165$	$y = 0.2635$
	0.0933	$z = 0.0502$	$z = 0.0082$	$z = 0.0118$	$z = 0.0275$
$p^1F - d(\frac{3}{2}, \frac{3}{2})$	0.8400	$x = 0.8000$	$y = 0.2000$		$z = 0.0095$
$p^1F - d(\frac{3}{2}, \frac{5}{2})$	0.8400	$x = 0.8571$	$y = 0.1333$	$z = 0.1333$	$z = 0.0095$
$p^1F - d(\frac{5}{2}, \frac{3}{2})$	0.5600	$x = 0.6429$	$y = 0.3000$	$z = 0.3000$	$z = 0.0571$
$p^3F - d(\frac{1}{2}, \frac{3}{2})$	1.4000	$x = 0.0000$	$y = 0.0178$	$y = 0.0160$	$y = 0.0711$
	1.4000	$z = 0.7529$			$z = 0.1422$
$p^3F - d(\frac{3}{2}, \frac{3}{2})$	1.4000	$x = 0.0000$	$y = 0.1067$	$y = 0.0467$	$y = 0.0000$
	1.4000	$z = 0.8857$	$z = 0.1493$		$z = 0.0076$
$p^3F - d(\frac{5}{2}, \frac{3}{2})$	1.4000	$x = 0.1607$	$y = 0.1780$	$y = 0.0128$	$y = 0.0536$
	2.8000	$z = 0.5250$	$z = 0.0245$		$z = 0.0415$
$p^3F - d(\frac{5}{2}, \frac{5}{2})$	2.8000	$x = 0.7857$	$y = 0.0107$	$y = 0.0091$	$y = 0.1807$
	2.8000	$z = 0.0179$	$z = 0.0010$	$z = 0.0023$	$z = 0.0050$
$d(2s+1)L - p(J_p, j)$	$\sum_{J_p, j} s$				
$d^1S - p(\frac{3}{2}, \frac{1}{2})$	0.0667	$x = 1.0000$			
$d^1S - p(\frac{3}{2}, \frac{3}{2})$	0.0133	$x = 1.0000$			
$d^1S - p(\frac{5}{2}, \frac{3}{2})$	0.1200	$x = 1.0000$			
$d^3S - p(\frac{3}{2}, \frac{1}{2})$	0.0400	$x = 0.1667$	$y = 0.8333$		
$d^3S - p(\frac{3}{2}, \frac{3}{2})$	0.2000	$x = 0.1333$	$y = 0.5333$	$z = 0.3333$	
$d^3S - p(\frac{5}{2}, \frac{3}{2})$	0.1600	$x = 1.0000$			
$d^3S - p(\frac{5}{2}, \frac{5}{2})$	0.2000	$x = 0.7000$	$y = 0.3000$		
$d^1P - p(\frac{3}{2}, \frac{1}{2})$	0.1800	$x = 0.1667$	$y = 0.8333$		
$d^1P - p(\frac{3}{2}, \frac{3}{2})$	0.0600	$x = 0.5000$	$y = 0.5000$	$z = 0.0000$	
$d^1P - p(\frac{5}{2}, \frac{3}{2})$	0.0200	$x = 1.0000$			
$d^1P - p(\frac{5}{2}, \frac{5}{2})$	0.3400	$x = 0.2059$	$y = 0.7941$		
$d^3P - p(\frac{3}{2}, \frac{1}{2})$	0.1400	$x = 0.1429$	$y = 0.0000$	$y = 0.1429$	$z = 0.0000$
$d^3P - p(\frac{3}{2}, \frac{3}{2})$	0.5800	$x = 0.0241$	$y = 0.0259$	$y = 0.0345$	$y = 0.2155$
	0.4600	$z = 0.2086$	$z = 0.2586$		$z = 0.2328$
$d^3P - p(\frac{5}{2}, \frac{3}{2})$	0.6200	$x = 0.1014$	$y = 0.5435$	$y = 0.3551$	
	0.6200	$z = 0.2409$	$z = 0.0565$	$z = 0.1290$	$z = 0.4704$
$d^1D - p(\frac{3}{2}, \frac{1}{2})$	0.2333	$x = 0.5000$	$y = 0.5000$		
$d^1D - p(\frac{3}{2}, \frac{3}{2})$	0.1667	$x = 0.1600$	$y = 0.7000$	$z = 0.1400$	
$d^1D - p(\frac{5}{2}, \frac{3}{2})$	0.1000	$x = 0.2222$	$y = 0.7778$		
$d^1D - p(\frac{5}{2}, \frac{5}{2})$	0.5000	$x = 0.0356$	$y = 0.5444$	$z = 0.4200$	
$d^3D - p(\frac{3}{2}, \frac{1}{2})$	0.3000	$x = 0.0667$	$y = 0.0000$	$y = 0.0000$	$z = 0.1556$

TABLE 10c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: $2D$

$s(2s+1)L - p(J_p, j)$	$\sum_{J_p, j} s$				
$s^1D - p(\frac{3}{2}, \frac{1}{2})$	0.6667	$z = 0.5000$	$y = 0.5000$		
$s^1D - p(\frac{3}{2}, \frac{3}{2})$	1.3333	$z = 0.7000$	$y = 0.2500$	$z = 0.0500$	
$s^1D - p(\frac{5}{2}, \frac{3}{2})$	1.0000	$z = 0.7778$	$y = 0.2222$		
$s^1D - p(\frac{5}{2}, \frac{5}{2})$	2.0000	$z = 0.3111$	$y = 0.3889$	$z = 0.3000$	
$s^3D - p(\frac{1}{2}, \frac{1}{2})$	2.0000	$z = 0.0000$	$y = 0.2500$	$y = 0.2500$	$z = 0.4167$
$s^3D - p(\frac{3}{2}, \frac{3}{2})$	4.0000	$z = 0.0000$	$y = 0.1250$	$y = 0.0000$	$z = 0.0250$
		$z = 0.3500$	$z = 0.2083$		$z = 0.0833$
$s^3D - p(\frac{5}{2}, \frac{3}{2})$	3.0000	$z = 0.3457$	$y = 0.0494$	$y = 0.4321$	$z = 0.1728$
$s^3D - p(\frac{5}{2}, \frac{5}{2})$	6.0000	$z = 0.5000$	$y = 0.0691$	$y = 0.0000$	$z = 0.2160$
		$z = 0.0617$	$z = 0.0667$		$z = 0.0000$
$p(2s+1)L - s(J_p, j)$	$\sum_{J_p, j} s$				
$p^1P - s(\frac{3}{2}, \frac{1}{2})$	0.4000	$z = 1.0000$	$y = 0.0000$		
$p^1P - s(\frac{3}{2}, \frac{3}{2})$	0.6000	$z = 1.0000$			
$p^3P - s(\frac{1}{2}, \frac{1}{2})$	1.2000	$z = 0.1250$	$y = 0.2083$	$y = 0.0139$	$z = 0.3750$
$p^3P - s(\frac{3}{2}, \frac{1}{2})$	1.8000	$z = 0.7778$	$y = 0.1667$	$y = 0.0556$	
$p^1D - s(\frac{3}{2}, \frac{1}{2})$	0.6667	$z = 1.0000$	$y = 0.0000$		
$p^1D - s(\frac{3}{2}, \frac{3}{2})$	1.0000	$z = 0.0000$	$y = 1.0000$		
$p^3D - s(\frac{1}{2}, \frac{1}{2})$	2.0000	$z = 0.0778$	$y = 0.1250$	$y = 0.3472$	$z = 0.0750$
$p^3D - s(\frac{3}{2}, \frac{1}{2})$	3.0000	$z = 0.6914$	$y = 0.1543$	$y = 0.0346$	$z = 0.0864$
$p^1F - s(\frac{3}{2}, \frac{1}{2})$	0.9333	$z = 1.0000$			
$p^1F - s(\frac{3}{2}, \frac{3}{2})$	1.4000	$z = 0.0000$	$y = 1.0000$		
$p^3F - s(\frac{1}{2}, \frac{1}{2})$	2.8000	$z = 0.4444$	$y = 0.5000$	$y = 0.0556$	
$p^3F - s(\frac{3}{2}, \frac{1}{2})$	4.2000	$z = 0.7143$	$y = 0.1975$	$y = 0.0617$	$z = 0.0018$
$p(2s+1)L - d(J_p, j)$	$\sum_{J_p, j} s$				
$p^1P - d(\frac{3}{2}, \frac{3}{2})$	0.3400	$z = 0.2882$	$y = 0.4765$	$z = 0.2353$	
$p^1P - d(\frac{5}{2}, \frac{3}{2})$	0.0600	$z = 0.7000$	$y = 0.3000$		
$p^1P - d(\frac{5}{2}, \frac{5}{2})$	0.0600	$z = 0.7000$	$y = 0.3000$		
$p^1P - d(\frac{7}{2}, \frac{3}{2})$	0.5400	$z = 0.3111$	$y = 0.4667$	$z = 0.2222$	
$p^3P - d(\frac{3}{2}, \frac{3}{2})$	0.3000	$z = 0.0280$	$y = 0.0800$	$y = 0.0900$	$z = 0.4033$
		$z = 0.0376$	$z = 0.3000$		
$p^3P - d(\frac{5}{2}, \frac{3}{2})$	0.9000	$z = 0.0996$	$y = 0.3733$	$y = 0.0311$	$z = 0.1600$
		$z = 0.0027$			
$p^3P - d(\frac{5}{2}, \frac{5}{2})$	0.9000	$z = 0.0996$	$y = 0.0233$	$y = 0.3811$	$z = 0.0100$
		$z = 0.4860$			
$p^3P - d(\frac{7}{2}, \frac{3}{2})$	0.9000	$z = 0.3360$	$y = 0.0933$	$y = 0.2800$	$z = 0.1400$
		$z = 0.0840$	$z = 0.0667$		
$p^1D - d(\frac{3}{2}, \frac{3}{2})$	0.3667	$z = 0.4073$	$y = 0.4455$	$z = 0.1473$	
$p^1D - d(\frac{5}{2}, \frac{3}{2})$	0.3000	$z = 0.7467$	$y = 0.2333$	$z = 0.0200$	
$p^1D - d(\frac{5}{2}, \frac{5}{2})$	0.3000	$z = 0.7467$	$y = 0.2333$	$z = 0.0200$	

TABLE 10c (CONTINUED)

$d^3D - p \left(\frac{3}{2}, \frac{3}{2} \right)$	0.9000	$z = 0.0889$	0.1944	0.0130	$y = 0.2000$	0.3500	0.1296
		$z = 0.0111$	0.0130				
$d^3D - p \left(\frac{5}{2}, \frac{3}{2} \right)$	0.7000	$z = 0.1693$	0.4630	$y = 0.1354$	$z = 0.1323$	0.1000	
$d^3D - p \left(\frac{7}{2}, \frac{3}{2} \right)$	1.1000	$z = 0.0779$	0.0431	0.0045	$y = 0.4862$	0.0008	0.0955
		$z = 0.2601$	0.0318				
$d^1F - p \left(\frac{3}{2}, \frac{3}{2} \right)$	0.1867	$z = 1.0000$					
$d^1F - p \left(\frac{5}{2}, \frac{3}{2} \right)$	0.3733	$z = 0.5000$	$y = 0.5000$				
$d^1F - p \left(\frac{7}{2}, \frac{3}{2} \right)$	0.2800	$z = 0.5556$	$y = 0.4444$				
$d^1F - p \left(\frac{9}{2}, \frac{3}{2} \right)$	0.5600	$z = 0.0000$	$y = 0.2222$	$z = 0.7778$			
$d^3F - p \left(\frac{3}{2}, \frac{3}{2} \right)$	0.5600	$z = 0.0000$	0.5000	$y = 0.5000$			
$d^3F - p \left(\frac{5}{2}, \frac{3}{2} \right)$	1.1200	$z = 0.1607$	0.5000	0.2000	$y = 0.1250$	0.0000	
		$z = 0.0143$					
$d^3F - p \left(\frac{7}{2}, \frac{3}{2} \right)$	0.8400	$z = 0.1786$	0.3086	$y = 0.3858$	0.0988	$z = 0.0282$	
$d^3F - p \left(\frac{9}{2}, \frac{3}{2} \right)$	1.6800	$z = 0.3348$	0.0189	0.0220	$y = 0.5402$	0.0282	0.0333
		$z = 0.0223$	0.0002				
$d^1G - p \left(\frac{3}{2}, \frac{3}{2} \right)$	0.7200	$z = 1.0000$					
$d^1G - p \left(\frac{5}{2}, \frac{3}{2} \right)$	0.8000	$z = 1.0000$					
$d^1G - p \left(\frac{7}{2}, \frac{3}{2} \right)$	0.4800	$z = 0.0000$	$y = 1.0000$				
$d^3G - p \left(\frac{3}{2}, \frac{3}{2} \right)$	0.9600	$z = 1.0000$					
$d^3G - p \left(\frac{5}{2}, \frac{3}{2} \right)$	1.2000	$z = 0.7500$	0.2000	$y = 0.0500$			
$d^3G - p \left(\frac{7}{2}, \frac{3}{2} \right)$	0.8400	$z = 0.8929$	0.0476	$y = 0.0595$			
$d^3G - p \left(\frac{9}{2}, \frac{3}{2} \right)$	2.4000	$z = 0.9167$	0.0156	0.0190	$y = 0.0469$	0.0010	
		$z = 0.0007$					
$d^{(2S+1)L} - f(J_p, i)$	$\sum_{J_p'}^s$						
$d^1S - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.0800	$z = 1.0000$					
$d^1S - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.0057	$z = 1.0000$					
$d^1S - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.1143	$z = 1.0000$					
$d^3S - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.0571	$z = 0.3000$	$y = 0.7000$				
$d^3S - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.1829	$z = 1.0000$					
$d^3S - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.2000	$z = 0.1524$	$y = 0.5143$	$z = 0.3333$			
$d^3S - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.1600	$z = 0.6429$	$y = 0.3571$				
$d^1P - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.2171	$z = 0.6316$	$y = 0.3684$				
$d^1P - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.0229	$z = 1.0000$					
$d^1P - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.0400	$z = 0.8571$	$y = 0.1429$	$z = 0.0000$			
$d^1P - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.3200	$z = 0.6429$	$y = 0.3571$				
$d^3P - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.1943	$z = 0.0941$	0.0221	0.6176	$y = 0.1838$	0.0515	
		$z = 0.0809$					
$d^3P - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.5257	$z = 0.3913$	0.5435	$y = 0.0652$			
$d^3P - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.5771	$z = 0.1069$	0.1617	0.0066	$y = 0.2475$	0.2426	
		$z = 0.1191$	0.1155				
$d^3P - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.5029	$z = 0.5455$	0.0000	0.1515	$y = 0.2727$	0.0000	
		$z = 0.0803$					
$d^1D - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.2857	$z = 0.6171$	$y = 0.3429$	$z = 0.0400$			
$d^1D - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.1143	$z = 0.8571$	$y = 0.1429$				

TABLE 10c (CONTINUED)

$d^1D - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.1429	$z = 0.8229$	$y = 0.1714$	$z = 0.0057$			
$d^1D - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.4571	$z = 0.6429$	$y = 0.3214$	$z = 0.0357$			
$d^3D - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.4000	$z = 0.0262$	0.0145	0.6750	$y = 0.0549$	0.0343	0.1750
		$z = 0.0094$	0.0107				
$d^3D - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.8000	$z = 0.2624$	0.5102	0.1000	$y = 0.0408$	0.0850	
		$z = 0.0016$					
$d^3D - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.8857	$z = 0.0948$	0.2710	0.0519	$y = 0.1770$	0.2258	0.0373
		$z = 0.0637$	0.0677	0.0108			
$d^3D - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.9143	$z = 0.6314$	0.0000	0.0643	$y = 0.2411$	0.0000	0.0357
		$z = 0.0276$	0.0000				
$d^1F - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.2400	$z = 0.6378$	$y = 0.3214$	$z = 0.0408$			
$d^1F - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.3200	$z = 0.8610$	$y = 0.1339$	$z = 0.0051$			
$d^1F - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.3600	$z = 0.8503$	$y = 0.1429$	$z = 0.0068$			
$d^1F - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.4800	$z = 0.7015$	$y = 0.2679$	$z = 0.0306$			
$d^3F - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.7200	$z = 0.0106$	0.0319	0.1575	$y = 0.0013$	0.0081	0.0095
		$z = 0.0064$	0.7748				
$d^3F - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.9600	$z = 0.1637$	0.5979	0.1088	$y = 0.0143$	0.0930	0.0181
		$z = 0.0005$	0.0035				
$d^3F - f \left(\frac{7}{2}, \frac{5}{2} \right)$	1.0800	$z = 0.0693$	0.4167	0.0766	$y = 0.1276$	0.1944	0.0378
		$z = 0.0333$	0.0370	0.0073			
$d^3F - f \left(\frac{9}{2}, \frac{5}{2} \right)$	1.4400	$z = 0.7483$	0.0000	0.0306	$y = 0.1871$	0.0000	0.0153
		$z = 0.0170$	0.0000	0.0017			
$d^1G - f \left(\frac{3}{2}, \frac{5}{2} \right)$	0.0343	$z = 0.8929$	$y = 0.1071$				
$d^1G - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.6857	$z = 0.9167$	$y = 0.0804$	$z = 0.0030$			
$d^1G - f \left(\frac{7}{2}, \frac{5}{2} \right)$	0.7571	$z = 0.9136$	$y = 0.0831$	$z = 0.0033$			
$d^1G - f \left(\frac{9}{2}, \frac{5}{2} \right)$	0.3429	$z = 0.7857$	$y = 0.1964$	$z = 0.0179$			
$d^3G - f \left(\frac{3}{2}, \frac{5}{2} \right)$	1.2000	$z = 0.0000$	0.0038	0.0047	$y = 0.0319$	0.0921	
		$z = 0.8675$					
$d^3G - f \left(\frac{5}{2}, \frac{5}{2} \right)$	0.9600	$z = 0.0000$	0.0717	0.0143	$y = 0.0000$	0.0027	0.0005
		$z = 0.8185$	0.0922				
$d^3G - f \left(\frac{7}{2}, \frac{5}{2} \right)$	1.1143	$z = 0.0806$	0.1346	0.0222	$y = 0.0134$	0.0150	0.0028
		$z = 0.6581$	0.0733				
$d^3G - f \left(\frac{9}{2}, \frac{5}{2} \right)$	2.1257	$z = 0.8737$	0.0000	0.0101	$y = 0.1056$	0.0000	0.0038
		$z = 0.0064$	0.0000	0.0004			
$f^{(2S+1)L} - d(J_p, i)$	$\sum_{J_p'}^s$						
$f^1P - d \left(\frac{3}{2}, \frac{7}{2} \right)$	0.1600	$z = 0.0500$	$y = 0.4500$	$z = 0.5000$			
$f^1P - d \left(\frac{5}{2}, \frac{7}{2} \right)$	0.0114	$z = 0.3000$	$y = 0.7000$				
$f^1P - d \left(\frac{7}{2}, \frac{7}{2} \right)$	0.0114	$z = 0.3000$	$y = 0.7000$				
$f^1P - d \left(\frac{9}{2}, \frac{7}{2} \right)$	0.2457	$z = 0.0558$	$y = 0.4558$	$z = 0.4884$			
$f^3P - d \left(\frac{3}{2}, \frac{7}{2} \right)$	0.1143	$z = 0.0060$	0.0350	0.0000	$y = 0.1050$	0.3150	
		$z = 0.1890$	0.3500				
$f^3P - d \left(\frac{5}{2}, \frac{7}{2} \right)$	0.4000	$z = 0.0183$	0.0043	0.0000	$y = 0.2414$	0.0100	
		$z = 0.7260$					
$f^3P - d \left(\frac{7}{2}, \frac{7}{2} \right)$	0.4000	$z = 0.0183$	0.1543	0.3333	$y = 0.0914$	0.3600	
		$z = 0.0427$					

TABLE 10c (CONTINUED)

$f^3P - d(\frac{5}{2}, \frac{5}{2})$	0.3714	$z = 0.0665$	0.1005	0.0256	$y = 0.3015$	0.1969
		$z = 0.2371$	0.0718			
$f^1D - d(\frac{3}{2}, \frac{3}{2})$	0.2286	$z = 0.0200$	$y = 0.3500$	$z = 0.6300$		
$f^1D - d(\frac{3}{2}, \frac{3}{2})$	0.0571	$z = 0.1200$	$y = 0.6000$	$z = 0.2800$		
$f^1D - d(\frac{3}{2}, \frac{3}{2})$	0.0571	$z = 0.1200$	$y = 0.6000$	$z = 0.2800$		
$f^1D - d(\frac{3}{2}, \frac{3}{2})$	0.3714	$z = 0.0277$	$y = 0.3692$	$z = 0.6031$		
$f^3D - d(\frac{5}{2}, \frac{5}{2})$	0.2286	$z = 0.0267$	0.0583	0.3150	$y = 0.1087$	0.1050 0.3500
		$z = 0.0033$	0.0350			
$f^3D - d(\frac{3}{2}, \frac{5}{2})$	0.6286	$z = 0.0058$	0.0008	0.0055	$y = 0.1383$	0.0495 0.0127
		$z = 0.4438$	0.3436			
$f^3D - d(\frac{5}{2}, \frac{3}{2})$	0.6286	$z = 0.0058$	0.0655	0.0873	$y = 0.0786$	0.3273 0.2036
		$z = 0.0842$	0.1527			
$f^3D - d(\frac{5}{2}, \frac{5}{2})$	0.6571	$z = 0.0447$	0.0417	0.0006	$y = 0.3339$	0.0763 0.0313
		$z = 0.3779$	0.0104	0.0812		
$f^1F - d(\frac{3}{2}, \frac{3}{2})$	0.2400	$z = 0.2000$	$y = 0.8000$			
$f^1F - d(\frac{3}{2}, \frac{3}{2})$	0.1600	$z = 0.0357$	$y = 0.4500$	$z = 0.5143$		
$f^1F - d(\frac{3}{2}, \frac{3}{2})$	0.1600	$z = 0.0357$	$y = 0.4500$	$z = 0.5143$		
$f^1F - d(\frac{3}{2}, \frac{3}{2})$	0.4400	$z = 0.0065$	$y = 0.2455$	$z = 0.7481$		
$f^3F - d(\frac{3}{2}, \frac{3}{2})$	0.4000	$z = 0.0357$	0.0400	0.5760	$y = 0.0100$	0.3200
		$z = 0.0183$				
$f^3F - d(\frac{3}{2}, \frac{5}{2})$	0.8000	$z = 0.0558$	0.0752	0.0019	$y = 0.3281$	0.4610 0.0720
		$z = 0.0013$	0.0047			
$f^3F - d(\frac{5}{2}, \frac{3}{2})$	0.8000	$z = 0.0357$	0.2700	0.1543	$y = 0.1071$	0.3086 0.0720
		$z = 0.0214$	0.0309			
$f^3F - d(\frac{5}{2}, \frac{5}{2})$	1.0000	$z = 0.0175$	0.0193	0.0005	$y = 0.2893$	0.0490 0.0137
		$z = 0.5433$	0.0017	0.0658		
$f^1G - d(\frac{3}{2}, \frac{3}{2})$	0.1714	$z = 1.0000$				
$f^1G - d(\frac{3}{2}, \frac{5}{2})$	0.3429	$z = 0.2500$	$y = 0.7500$			
$f^1G - d(\frac{3}{2}, \frac{3}{2})$	0.3429	$z = 0.2500$	$y = 0.7500$			
$f^1G - d(\frac{3}{2}, \frac{5}{2})$	0.4286	$z = 0.0000$	$y = 0.1000$	$z = 0.9000$		
$f^3G - d(\frac{3}{2}, \frac{3}{2})$	0.6514	$z = 0.0132$	0.7895	$y = 0.1974$		
$f^3G - d(\frac{3}{2}, \frac{5}{2})$	0.8914	$z = 0.2115$	0.6094	0.1099	$y = 0.0589$	0.0060
		$z = 0.0043$				
$f^3G - d(\frac{5}{2}, \frac{3}{2})$	0.8914	$z = 0.0940$	0.5192	0.1099	$y = 0.1731$	0.0962
		$z = 0.0076$				
$f^3G - d(\frac{5}{2}, \frac{5}{2})$	1.4229	$z = 0.1767$	0.0377	0.0025	$y = 0.7363$	0.0002 0.0387
		$z = 0.0074$	0.0006			
$f^1H - d(\frac{3}{2}, \frac{3}{2})$	0.6286	$z = 1.0000$				
$f^1H - d(\frac{3}{2}, \frac{5}{2})$	0.6286	$z = 1.0000$				
$f^1H - d(\frac{3}{2}, \frac{3}{2})$	0.3143	$z = 0.0000$	$y = 1.0000$			
$f^3H - d(\frac{3}{2}, \frac{3}{2})$	1.0057	$z = 1.0000$				
$f^3H - d(\frac{3}{2}, \frac{5}{2})$	0.8800	$z = 0.8571$	0.1071	$y = 0.0357$		
$f^3H - d(\frac{5}{2}, \frac{3}{2})$	0.8800	$z = 0.8571$	0.1071	$y = 0.0357$		
$f^3H - d(\frac{5}{2}, \frac{5}{2})$	1.9486	$z = 0.9531$	0.0000	0.0143	$y = 0.0323$	0.0000
		$z = 0.0003$				

TABLE 10c (CONTINUED)

$f(2S+1)L - g(J_p, j)$	$\sum_{j,j'} s$					
$f^1P - g(\frac{3}{2}, \frac{7}{2})$	0.1714	$z = 1.0000$				
$f^1P - g(\frac{3}{2}, \frac{7}{2})$	0.0190	$z = 1.0000$	$y = 0.0000$			
$f^1P - g(\frac{5}{2}, \frac{7}{2})$	0.2381	$z = 1.0000$				
$f^3P - g(\frac{3}{2}, \frac{7}{2})$	0.1333	$z = 0.1429$	0.6429	$y = 0.2143$		
$f^3P - g(\frac{3}{2}, \frac{7}{2})$	0.3810	$z = 1.0000$				
$f^3P - g(\frac{5}{2}, \frac{7}{2})$	0.4381	$z = 0.0580$	0.2663	0.3261	$y = 0.0888$	0.2446
		$z = 0.0163$				
$f^3P - g(\frac{5}{2}, \frac{9}{2})$	0.3333	$z = 0.5238$	0.3571	$y = 0.1190$		
$f^1D - g(\frac{3}{2}, \frac{7}{2})$	0.2460	$z = 0.8065$	$y = 0.1935$			
$f^1D - g(\frac{3}{2}, \frac{9}{2})$	0.0397	$z = 1.0000$				
$f^1D - g(\frac{5}{2}, \frac{7}{2})$	0.0714	$z = 0.9259$	$y = 0.0741$	$z = 0.0000$		
$f^1D - g(\frac{5}{2}, \frac{9}{2})$	0.3571	$z = 0.8148$	$y = 0.1852$			
$f^3D - g(\frac{3}{2}, \frac{7}{2})$	0.2619	$z = 0.0649$	0.1818	0.6545	$y = 0.0909$	0.0000
		$z = 0.0078$				
$f^3D - g(\frac{3}{2}, \frac{9}{2})$	0.5952	$z = 0.5500$	0.4000	$y = 0.0500$		
$f^3D - g(\frac{5}{2}, \frac{7}{2})$	0.6905	$z = 0.0677$	0.3091	0.2086	$y = 0.0923$	0.1996 0.0776
		$z = 0.0193$	0.0259			
$f^3D - g(\frac{5}{2}, \frac{9}{2})$	0.5952	$z = 0.6286$	0.0815	0.1000	$y = 0.1630$	0.0185
		$z = 0.0085$				
$f^1F - g(\frac{3}{2}, \frac{7}{2})$	0.2611	$z = 0.7662$	$y = 0.2216$	$z = 0.0122$		
$f^1F - g(\frac{3}{2}, \frac{9}{2})$	0.1389	$z = 0.9167$	$y = 0.0833$			
$f^1F - g(\frac{5}{2}, \frac{7}{2})$	0.1833	$z = 0.8929$	$y = 0.1052$	$z = 0.0019$		
$f^1F - g(\frac{5}{2}, \frac{9}{2})$	0.4167	$z = 0.7857$	$y = 0.2037$	$z = 0.0106$		
$f^3F - g(\frac{3}{2}, \frac{7}{2})$	0.4500	$z = 0.0189$	0.0689	0.7778	$y = 0.0310$	0.0039 0.0952
		$z = 0.0030$	0.0013			
$f^3F - g(\frac{3}{2}, \frac{9}{2})$	0.7500	$z = 0.3621$	0.5093	0.0476	$y = 0.0340$	0.0463
		$z = 0.0007$				
$f^3F - g(\frac{5}{2}, \frac{7}{2})$	0.8833	$z = 0.0659$	0.3861	0.1822	$y = 0.0834$	0.1748 0.0640
		$z = 0.0158$	0.0225	0.0054		
$f^3F - g(\frac{5}{2}, \frac{9}{2})$	0.9167	$z = 0.7222$	0.0298	0.0564	$y = 0.1607$	0.0077 0.0128
		$z = 0.0099$	0.0004			
$f^1G - g(\frac{3}{2}, \frac{7}{2})$	0.1929	$z = 0.7605$	$y = 0.2241$	$z = 0.0154$		
$f^1G - g(\frac{3}{2}, \frac{9}{2})$	0.3214	$z = 0.9126$	$y = 0.0856$	$z = 0.0019$		
$f^1G - g(\frac{5}{2}, \frac{7}{2})$	0.3786	$z = 0.9040$	$y = 0.0334$	$z = 0.0026$		
$f^1G - g(\frac{5}{2}, \frac{9}{2})$	0.3929	$z = 0.8089$	$y = 0.1800$	$z = 0.0111$		
$f^3G - g(\frac{3}{2}, \frac{7}{2})$	0.7214	$z = 0.0068$	0.0109	0.0994	$y = 0.0005$	0.0019 0.0029
		$z = 0.0229$	0.8548			
$f^3G - g(\frac{3}{2}, \frac{9}{2})$	0.8214	$z = 0.2110$	0.6428	0.0664	$y = 0.0119$	0.0603 0.0060
		$z = 0.0003$	0.0013			
$f^3G - g(\frac{5}{2}, \frac{7}{2})$	0.9929	$z = 0.0485$	0.5079	0.1590	$y = 0.0678$	0.1442 0.0440
		$z = 0.0104$	0.0144	0.0038		
$f^3G - g(\frac{5}{2}, \frac{9}{2})$	1.3214	$z = 0.8162$	0.0120	0.0265	$y = 0.1283$	0.0027 0.0069
		$z = 0.0069$	0.0002	0.0004		
$f^1H - g(\frac{3}{2}, \frac{7}{2})$	0.0175	$z = 0.9333$	$y = 0.0667$			

TABLE 10c (CONTINUED)

$f^1H - g(\frac{3}{2}, \frac{9}{2})$	0.6111	$x = 0.9455$	$y = 0.0533$	$z = 0.0012$
$f^1H - g(\frac{5}{2}, \frac{7}{2})$	0.8810	$x = 0.9428$	$y = 0.0558$	$z = 0.0014$
$f^1H - g(\frac{5}{2}, \frac{9}{2})$	0.2619	$x = 0.8579$	$y = 0.1348$	$z = 0.0073$
$f^3H - g(\frac{3}{2}, \frac{7}{2})$	1.1000	$x = 0.0000$	$y = 0.0013$	$z = 0.0178$
		$z = 0.9180$		
$f^3H - g(\frac{3}{2}, \frac{9}{2})$	0.7857	$x = 0.0000$	$y = 0.0498$	$z = 0.0000$
		$z = 0.8824$	0.0608	
$f^3H - g(\frac{5}{2}, \frac{7}{2})$	0.9952	$x = 0.0470$	$y = 0.0951$	$z = 0.0048$
		$z = 0.7109$	0.1133	
$f^3H - g(\frac{5}{2}, \frac{9}{2})$	1.8333	$x = 0.9091$	$y = 0.0041$	$z = 0.0730$
		$z = 0.0028$	0.0000	0.0019
$g^{(2s+1)L} - f(J_p, j)$	$\sum_{J', j'}$			
$g^1D - f(\frac{3}{2}, \frac{5}{2})$	0.2143	$x = 0.0095$	$y = 0.1905$	$z = 0.8000$
$g^1D - f(\frac{3}{2}, \frac{7}{2})$	0.0079	$x = 0.1429$	$y = 0.8571$	
$g^1D - f(\frac{5}{2}, \frac{5}{2})$	0.0238	$x = 0.0571$	$y = 0.4286$	$z = 0.5143$
$g^1D - f(\frac{5}{2}, \frac{7}{2})$	0.8095	$x = 0.0110$	$y = 0.1978$	$z = 0.7912$
$g^3D - f(\frac{3}{2}, \frac{5}{2})$	0.1667	$x = 0.0007$	$y = 0.0082$	$z = 0.0255$
		$z = 0.1168$	0.6857	
$g^3D - f(\frac{3}{2}, \frac{7}{2})$	0.5000	$x = 0.0049$	$y = 0.0015$	$z = 0.1277$
		$z = 0.8568$		
$g^3D - f(\frac{5}{2}, \frac{5}{2})$	0.5476	$x = 0.0018$	$y = 0.0203$	$z = 0.0207$
		$z = 0.0355$	0.1826	0.2795
$g^3D - f(\frac{5}{2}, \frac{7}{2})$	0.4524	$x = 0.0148$	$y = 0.0273$	$z = 0.1538$
		$z = 0.3344$	0.2763	
$g^1F - f(\frac{3}{2}, \frac{5}{2})$	0.2500	$x = 0.0051$	$y = 0.1786$	$z = 0.8163$
$g^1F - f(\frac{3}{2}, \frac{7}{2})$	0.0611	$x = 0.0376$	$y = 0.4058$	$z = 0.5566$
$g^1F - f(\frac{5}{2}, \frac{5}{2})$	0.0833	$x = 0.0306$	$y = 0.5571$	$z = 0.6122$
$g^1F - f(\frac{5}{2}, \frac{7}{2})$	0.3833	$x = 0.0073$	$y = 0.1941$	$z = 0.7986$
$g^3F - f(\frac{3}{2}, \frac{5}{2})$	0.2833	$x = 0.0081$	$y = 0.0525$	$z = 0.0675$
		$z = 0.0015$	0.0060	0.5042
$g^3F - f(\frac{3}{2}, \frac{7}{2})$	0.6500	$x = 0.0020$	$y = 0.0000$	$z = 0.0881$
		$z = 0.5692$	0.3151	0.0154
$g^3F - f(\frac{5}{2}, \frac{5}{2})$	0.7167	$x = 0.0009$	$y = 0.0145$	$z = 0.0215$
		$z = 0.0598$	0.2907	0.1898
$g^3F - f(\frac{5}{2}, \frac{7}{2})$	0.6833	$x = 0.0131$	$y = 0.0168$	$z = 0.1973$
		$z = 0.5082$	0.0903	0.0009
$g^1G - f(\frac{3}{2}, \frac{5}{2})$	0.2357	$x = 0.1071$	$y = 0.8929$	
$g^1G - f(\frac{3}{2}, \frac{7}{2})$	0.1643	$x = 0.0116$	$y = 0.2767$	$z = 0.7117$
$g^1G - f(\frac{5}{2}, \frac{5}{2})$	0.1929	$x = 0.0106$	$y = 0.2619$	$z = 0.7275$
$g^1G - f(\frac{5}{2}, \frac{7}{2})$	0.4071	$x = 0.0020$	$y = 0.1365$	$z = 0.8615$
$g^3G - f(\frac{3}{2}, \frac{5}{2})$	0.4500	$x = 0.0222$	$y = 0.0935$	$z = 0.0112$
		$z = 0.0045$		0.1559
$g^3G - f(\frac{3}{2}, \frac{7}{2})$	0.7500	$x = 0.0373$	$y = 0.0360$	$z = 0.4056$
		$z = 0.0003$	0.0018	0.4742
				0.0401

TABLE 10c (CONTINUED)

$g^3G - f(\frac{5}{2}, \frac{5}{2})$	0.8357	$x = 0.0117$	$y = 0.1481$	$z = 0.0703$
		$z = 0.0060$	0.0108	0.4113
$g^3G - f(\frac{5}{2}, \frac{7}{2})$	0.9643	$x = 0.0058$	$y = 0.0083$	$z = 0.1761$
		$z = 0.6595$	0.0356	0.0012
$g^1H - f(\frac{3}{2}, \frac{5}{2})$	0.1571	$x = 1.0000$		
$g^1H - f(\frac{3}{2}, \frac{7}{2})$	0.3317	$x = 0.1474$	$y = 0.8526$	
$g^1H - f(\frac{5}{2}, \frac{5}{2})$	0.3667	$x = 0.1429$	$y = 0.8571$	
$g^1H - f(\frac{5}{2}, \frac{7}{2})$	0.3667	$x = 0.0000$	$y = 0.0571$	$z = 0.9429$
$g^3H - f(\frac{3}{2}, \frac{5}{2})$	0.6810	$x = 0.0308$	$y = 0.8654$	$z = 0.1038$
$g^3H - f(\frac{3}{2}, \frac{7}{2})$	0.7857	$x = 0.2451$	$y = 0.8453$	$z = 0.0332$
		$z = 0.0017$		0.0080
$g^3H - f(\frac{5}{2}, \frac{5}{2})$	0.8905	$x = 0.0579$	$y = 0.5765$	$z = 0.0961$
		$z = 0.0029$		0.0706
$g^3H - f(\frac{5}{2}, \frac{7}{2})$	1.3095	$x = 0.1072$	$y = 0.0356$	$z = 0.8093$
		$z = 0.0031$	0.0004	0.0143
$g^1I - f(\frac{3}{2}, \frac{5}{2})$	0.5778	$x = 1.0000$		
$g^1I - f(\frac{3}{2}, \frac{7}{2})$	0.6190	$x = 1.0000$		
$g^1I - f(\frac{5}{2}, \frac{5}{2})$	0.2476	$x = 0.0000$	$y = 1.0000$	
$g^3I - f(\frac{3}{2}, \frac{5}{2})$	0.9905	$x = 1.0000$		
$g^3I - f(\frac{3}{2}, \frac{7}{2})$	0.7429	$x = 0.9074$	$y = 0.0667$	$z = 0.0259$
$g^3I - f(\frac{5}{2}, \frac{5}{2})$	0.8667	$x = 0.8333$	$y = 0.1429$	$z = 0.0238$
$g^3I - f(\frac{5}{2}, \frac{7}{2})$	1.7333	$x = 0.9615$	$y = 0.0048$	$z = 0.0231$
		$z = 0.0002$		0.0001

TABLE 11a

TRANSITIONS BETWEEN LS AND LK STATES. PARENT TERM: 3D

$^s(2s+1)L - pL[K]$	$\sum_{J, j'}$			
$^s^2D - pP[0]$	0.2222	$x = 1.0000$		
$^s^2D - pP[1]$	0.6667	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$
$^s^2D - pP[2]$	1.1111	$x = 0.0000$	$y = 0.1000$	$z = 0.9000$
$^s^2D - pD[1]$	0.6667	$x = 0.1000$	$y = 0.0000$	$z = 0.9000$
$^s^2D - pD[2]$	1.1111	$x = 0.3733$	$y = 0.5400$	$z = 0.0267$
$^s^2D - pD[3]$	1.5556	$x = 0.0000$	$y = 0.0667$	$z = 0.9333$
$^s^2D - pF[3]$	1.1111	$x = 0.0667$	$y = 0.0000$	$z = 0.9333$
$^s^2D - pF[4]$	2.0000	$x = 1.0000$		
$^s^4D - pP[0]$	0.4444	$x = 0.5000$	$y = 0.5000$	
$^s^4D - pP[1]$	1.3333	$x = 0.5250$	$y = 0.0833$	$z = 0.2667$
$^s^4D - pP[2]$	2.2222	$x = 0.7200$	$y = 0.0630$	$z = 0.1620$
		$z = 0.0180$	0.0050	

TABLE 11a (CONTINUED)

$s^4D - p^4D [1]$	1.3333	$x = 0.1750$	$y = 0.2000$	$z = 0.2500$	$z = 0.1250$
$s^4D - p^4D [2]$	2.2222	$x = 0.1333$	$y = 0.1050$	$y = 0.4033$	$z = 0.1200$
		$z = 0.1633$	0.0750		
$s^4D - p^4D [3]$	3.1111	$x = 0.7347$	$y = 0.0823$	$z = 0.0272$	$z = 0.1224$
$s^4D - p^4D [2]$	2.2222	$x = 0.0038$	$y = 0.0120$	$y = 0.0975$	$z = 0.1680$
		$z = 0.2987$	0.4200		
$s^4D - p^4D [3]$	3.1111	$x = 0.0918$	$y = 0.0871$	$y = 0.0034$	$z = 0.5510$
$s^4D - p^4D [4]$	4.0000	$x = 0.8333$	$y = 0.1429$	$y = 0.0238$	
$p^{(2s+1)L} - s^4L[K]$	$\sum_{J,J'} s$				
$p^2P - s^4D [1]$	0.4000	$x = 0.1667$	$y = 0.0000$	$y = 0.0000$	$z = 0.8333$
$p^2P - s^4D [2]$	0.6667	$x = 0.4000$	$y = 0.5000$	$y = 0.1000$	
$p^2P - s^4D [3]$	0.9333	$x = 1.0000$			
$p^4P - s^4D [1]$	0.8000	$x = 0.0250$	$y = 0.0833$	$y = 0.2667$	$z = 0.4167$
$p^4P - s^4D [2]$	1.3333	$x = 0.2100$	$y = 0.1600$	$y = 0.0150$	$z = 0.4900$
$p^4P - s^4D [3]$	1.8667	$x = 0.8571$	$y = 0.1000$	$y = 0.0429$	
$p^2D - s^4D [1]$	0.6667	$x = 0.1000$	$y = 0.0000$	$y = 0.9000$	
$p^2D - s^4D [2]$	1.1111	$x = 0.3733$	$y = 0.5400$	$y = 0.0600$	$z = 0.0267$
$p^2D - s^4D [3]$	1.5556	$x = 0.0000$	$y = 0.0667$	$y = 0.9333$	
$p^4D - s^4D [1]$	1.3333	$x = 0.1750$	$y = 0.2500$	$y = 0.2000$	$z = 0.1250$
$p^4D - s^4D [2]$	2.2222	$x = 0.1333$	$y = 0.1050$	$y = 0.4033$	$z = 0.1200$
		$z = 0.1633$	0.0750		
$p^4D - s^4D [3]$	3.1111	$x = 0.7347$	$y = 0.0823$	$y = 0.0272$	$z = 0.1224$
$p^2F - s^4D [1]$	0.9333	$x = 1.0000$			
$p^2F - s^4D [2]$	1.5556	$x = 0.3810$	$y = 0.6000$	$y = 0.9524$	$z = 0.0000$
$p^2F - s^4D [3]$	2.1778	$x = 0.0000$	$y = 0.0476$	$y = 0.9524$	$z = 0.0000$
$p^4F - s^4D [1]$	1.8667	$x = 0.4000$	$y = 0.5000$	$y = 0.1000$	
$p^4F - s^4D [2]$	3.1111	$x = 0.5714$	$y = 0.2400$	$y = 0.1219$	$z = 0.0600$
$p^4F - s^4D [3]$	4.3556	$x = 0.7653$	$y = 0.1166$	$y = 0.0875$	$z = 0.0249$
		$z = 0.0044$	0.0014		
$p^{(2s+1)L} - d^4L[K]$	$\sum_{J,J'} s$				
$p^2P - d^4S [1]$	0.4000	$x = 0.0000$	$y = 0.3333$	$y = 0.6667$	$z = 0.0000$
$p^2P - d^4P [0]$	0.1000	$x = 0.3333$	$y = 0.6667$		
$p^2P - d^4P [1]$	0.3000	$x = 0.2778$	$y = 0.4444$	$y = 0.2222$	$z = 0.0556$
$p^2P - d^4P [2]$	0.5000	$x = 0.0000$	$y = 0.1667$	$y = 0.8333$	
$p^2P - d^4D [1]$	0.1400	$x = 0.1667$	$y = 0.0000$	$y = 0.0000$	$z = 0.8333$
$p^2P - d^4D [2]$	0.2333	$x = 0.4000$	$y = 0.5000$	$y = 0.1000$	
$p^2P - d^4D [3]$	0.3267	$x = 1.0000$			
$p^4P - d^4S [1]$	0.8000	$x = 0.5000$	$y = 0.0000$	$y = 0.3333$	$z = 0.0000$
$p^4P - d^4P [0]$	0.2000	$x = 0.8333$	$y = 0.1667$		
$p^4P - d^4P [1]$	0.6000	$x = 0.3750$	$y = 0.1389$	$y = 0.1111$	$z = 0.0278$
$p^4P - d^4P [2]$	1.0000	$x = 0.6300$	$y = 0.0133$	$y = 0.0450$	$z = 0.2700$
$p^4P - d^4D [1]$	0.2800	$x = 0.0250$	$y = 0.0833$	$y = 0.2667$	$z = 0.4167$
$p^4P - d^4D [2]$	0.4667	$x = 0.2100$	$y = 0.1600$	$y = 0.0150$	$z = 0.4900$

TABLE 11a (CONTINUED)

$p^4P - d^4D [3]$	0.6533	$x = 0.8571$	$y = 0.1000$	$y = 0.0429$	
$p^2D - d^4P [0]$	0.0333	$x = 1.0000$			
$p^2D - d^4P [1]$	0.1000	$x = 0.3000$	$y = 0.6667$	$y = 0.0333$	
$p^2D - d^4P [2]$	0.1667	$x = 0.0000$	$y = 0.1000$	$y = 0.9000$	$z = 0.0000$
$p^2D - d^4D [1]$	0.2333	$x = 0.1000$	$y = 0.0000$	$y = 0.9000$	
$p^2D - d^4D [2]$	0.3389	$x = 0.3733$	$y = 0.5400$	$y = 0.0600$	$z = 0.0267$
$p^2D - d^4D [3]$	0.5444	$x = 0.0000$	$y = 0.0667$	$y = 0.9333$	
$p^2D - d^4F [2]$	0.4444	$x = 0.0667$	$y = 0.0000$	$y = 0.0000$	$z = 0.9333$
$p^2D - d^4F [3]$	0.6222	$x = 0.4286$	$y = 0.5333$	$y = 0.0381$	
$p^2D - d^4F [4]$	0.8000	$x = 1.0000$			
$p^4D - d^4P [0]$	0.0667	$x = 0.5000$	$y = 0.5000$		$z = 0.5000$
$p^4D - d^4P [1]$	0.2000	$x = 0.5250$	$y = 0.0833$	$y = 0.2667$	$z = 0.0417$
$p^4D - d^4P [2]$	0.3333	$x = 0.7200$	$y = 0.0630$	$y = 0.1620$	$z = 0.0320$
		$z = 0.0180$	0.0050		
$p^4D - d^4D [1]$	0.4667	$x = 0.1750$	$y = 0.2500$	$y = 0.2000$	$z = 0.1250$
$p^4D - d^4D [2]$	0.7778	$x = 0.1333$	$y = 0.1050$	$y = 0.4033$	$z = 0.1200$
		$z = 0.1633$	0.0750		
$p^4D - d^4D [3]$	1.0889	$x = 0.7347$	$y = 0.0823$	$y = 0.0272$	$z = 0.1224$
$p^4D - d^4F [2]$	0.8889	$x = 0.0038$	$y = 0.0120$	$y = 0.0975$	$z = 0.1680$
		$z = 0.2987$	0.4200		
$p^4D - d^4F [3]$	1.2444	$x = 0.0918$	$y = 0.0871$	$y = 0.0034$	$z = 0.5510$
$p^4D - d^4F [4]$	1.6000	$x = 0.8333$	$y = 0.1429$	$y = 0.0238$	
$p^2F - d^4D [1]$	0.0267	$x = 1.0000$			
$p^2F - d^4D [2]$	0.0444	$x = 0.3810$	$y = 0.6000$	$y = 0.0190$	
$p^2F - d^4D [3]$	0.0622	$x = 0.0000$	$y = 0.0476$	$y = 0.9524$	$z = 0.0000$
$p^2F - d^4F [2]$	0.2222	$x = 0.0476$	$y = 0.0000$	$y = 0.9524$	
$p^2F - d^4F [3]$	0.3111	$x = 0.4133$	$y = 0.5442$	$y = 0.0272$	$z = 0.0153$
$p^2F - d^4F [4]$	0.4000	$x = 0.0000$	$y = 0.0357$	$y = 0.9643$	
$p^2F - d^4G [3]$	0.9333	$x = 0.0357$	$y = 0.0000$	$y = 0.0000$	$z = 0.9643$
$p^2F - d^4G [4]$	1.2000	$x = 0.4444$	$y = 0.5357$	$y = 0.0198$	
$p^2F - d^4G [5]$	1.4667	$x = 1.0000$			
$p^4F - d^4D [1]$	0.0533	$x = 0.4000$	$y = 0.5000$	$y = 0.1000$	
$p^4F - d^4D [2]$	0.0889	$x = 0.5714$	$y = 0.2400$	$y = 0.1219$	$z = 0.0600$
$p^4F - d^4D [3]$	0.1244	$x = 0.7653$	$y = 0.1166$	$y = 0.0875$	$z = 0.0249$
		$z = 0.0044$	0.0014		
$p^4F - d^4F [2]$	0.4444	$x = 0.0714$	$y = 0.1200$	$y = 0.2752$	$z = 0.4800$
$p^4F - d^4F [3]$	0.6222	$x = 0.0670$	$y = 0.0638$	$y = 0.4898$	$z = 0.2457$
		$z = 0.0861$	0.0476		
$p^4F - d^4F [4]$	0.8000	$x = 0.7639$	$y = 0.1270$	$y = 0.0174$	$z = 0.0694$
$p^4F - d^4G [3]$	1.8667	$x = 0.0011$	$y = 0.0033$	$y = 0.0486$	$z = 0.0886$
		$z = 0.3075$	0.5510		
$p^4F - d^4G [4]$	2.4000	$x = 0.5509$	$y = 0.0529$	$y = 0.0012$	$z = 0.5602$
$p^4F - d^4G [5]$	2.9333	$x = 0.8182$	$y = 0.1667$	$y = 0.0152$	
$d^{(2s+1)L} - p^4L[K]$	$\sum_{J,J'} s$				
$d^2S - p^4P [0]$	0.0444	$x = 1.0000$			

TABLE 11a (CONTINUED)

$d^2S - p P [1]$	0.1333	$x = 0.3333$	$y = 0.8667$	
$d^2S - p P [2]$	0.2222	$x = 1.0000$		
$d^4S - p P [0]$	0.0889	$x = 1.0000$		
$d^4S - p P [1]$	0.2667	$x = 0.8333$	$y = 0.1667$	
$d^4S - p P [2]$	0.4444	$x = 0.9000$	$y = 0.1000$	
$d^2P - p P [0]$	0.1000	$x = 0.3333$	$y = 0.6667$	
$d^2P - p P [1]$	0.3000	$x = 0.2778$	$y = 0.4444$	$z = 0.0556$
$d^2P - p P [2]$	0.5000	$x = 0.0000$	$y = 0.1667$	$z = 0.8333$
$d^2P - p D [1]$	0.0600	$x = 0.1667$	$y = 0.0000$	$z = 0.8333$
$d^2P - p D [2]$	0.1000	$x = 0.4000$	$y = 0.5000$	$z = 0.1000$
$d^2P - p D [3]$	0.1400	$x = 1.0000$		
$d^4P - p P [0]$	0.2000	$x = 0.8333$	$y = 0.1667$	
$d^4P - p P [1]$	0.6000	$x = 0.3750$	$y = 0.1389$	$z = 0.1111$
$d^4P - p P [2]$	1.0000	$x = 0.6300$	$y = 0.0133$	$z = 0.0450$
$d^4P - p D [1]$	0.1200	$x = 0.0250$	$y = 0.0833$	$z = 0.2667$
$d^4P - p D [2]$	0.2000	$x = 0.2100$	$y = 0.1600$	$z = 0.0150$
$d^4P - p D [3]$	0.2800	$x = 0.8571$	$y = 0.1000$	$z = 0.0429$
$d^2D - p P [0]$	0.0778	$x = 1.0000$		
$d^2D - p P [1]$	0.2333	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$
$d^2D - p P [2]$	0.3889	$x = 0.0000$	$y = 0.1000$	$z = 0.9000$
$d^2D - p D [1]$	0.2333	$x = 0.1000$	$y = 0.0000$	$z = 0.9000$
$d^2D - p D [2]$	0.3889	$x = 0.3733$	$y = 0.5400$	$z = 0.0600$
$d^2D - p D [3]$	0.5444	$x = 0.0000$	$y = 0.0667$	$z = 0.9333$
$d^2D - p F [2]$	0.0317	$x = 0.0667$	$y = 0.0000$	$z = 0.9333$
$d^2D - p F [3]$	0.0444	$x = 0.4286$	$y = 0.5333$	$z = 0.0381$
$d^2D - p F [4]$	0.0571	$x = 1.0000$		
$d^4D - p P [0]$	0.1556	$x = 0.5000$	$y = 0.5000$	
$d^4D - p P [1]$	0.4667	$x = 0.5250$	$y = 0.0833$	$z = 0.2667$
$d^4D - p P [2]$	0.7778	$x = 0.7200$	$y = 0.0630$	$z = 0.1620$
		$z = 0.0180$	0.0050	
$d^4D - p D [1]$	0.4667	$x = 0.1750$	$y = 0.2500$	$z = 0.1250$
$d^4D - p D [2]$	0.7778	$x = 0.1333$	$y = 0.1050$	$z = 0.4033$
		$z = 0.1633$	0.0750	
$d^4D - p D [3]$	1.0889	$x = 0.7347$	$y = 0.0823$	$z = 0.1294$
$d^4D - p F [2]$	0.0635	$x = 0.0038$	$y = 0.0120$	$z = 0.0975$
		$z = 0.2967$	0.4200	
$d^4D - p F [3]$	0.0889	$x = 0.0918$	$y = 0.0871$	$z = 0.0034$
$d^4D - p F [4]$	0.1143	$x = 0.8333$	$y = 0.1429$	$z = 0.5510$
$d^2F - p D [1]$	0.3733	$x = 1.0000$		$z = 0.0238$
$d^2F - p D [2]$	0.6222	$x = 0.3810$	$y = 0.6000$	$z = 0.0190$
$d^2F - p D [3]$	0.8711	$x = 0.0000$	$y = 0.0476$	$z = 0.9524$
$d^2F - p F [2]$	0.2222	$x = 0.0476$	$y = 0.0000$	$z = 0.9524$
$d^2F - p F [3]$	0.3111	$x = 0.4133$	$y = 0.5442$	$z = 0.0272$
$d^2F - p F [4]$	0.4000	$x = 0.0000$	$y = 0.0357$	$z = 0.9643$
$d^4F - p D [1]$	0.7467	$x = 0.4000$	$y = 0.5000$	$z = 0.1000$
$d^4F - p D [2]$	1.2444	$x = 0.5714$	$y = 0.2400$	$z = 0.1219$
		$z = 0.0600$	$z = 0.0067$	

TABLE 11a (CONTINUED)

$d^4F - p D [3]$	1.7422	$x = 0.7653$	$y = 0.1166$	$z = 0.0875$
		$z = 0.0044$	0.0014	
$d^4F - p F [2]$	0.4444	$x = 0.0714$	$y = 0.1200$	$z = 0.2752$
$d^4F - p F [3]$	0.6222	$x = 0.0670$	$y = 0.0638$	$z = 0.4898$
		$z = 0.0861$	0.0476	
$d^4F - p F [4]$	0.8000	$x = 0.7639$	$y = 0.1270$	$z = 0.0694$
$d^2G - p F [2]$	0.8571	$x = 1.0000$		$z = 0.0223$
$d^2G - p F [3]$	1.2000	$x = 0.4167$	$y = 0.5714$	$z = 0.0119$
$d^2G - p F [4]$	1.5429	$x = 0.0000$	$y = 0.0278$	$z = 0.9722$
$d^4G - p F [2]$	1.7143	$x = 0.3571$	$y = 0.6000$	$z = 0.0429$
$d^4G - p F [3]$	2.4000	$x = 0.5729$	$y = 0.3189$	$z = 0.0680$
$d^4G - p F [4]$	3.0857	$x = 0.7778$	$y = 0.1485$	$z = 0.0540$
		$z = 0.0015$	0.0005	
$d^{(2s+1)L} - f L' [K]$	$\sum_{J,J'}^s$			
$d^2S - f P [0]$	0.0444	$x = 1.0000$		
$d^2S - f P [1]$	0.1333	$x = 0.3333$	$y = 0.6667$	
$d^2S - f P [2]$	0.2222	$x = 1.0000$		
$d^4S - f P [0]$	0.0889	$x = 1.0000$		
$d^4S - f P [1]$	0.2667	$x = 0.8333$	$y = 0.1667$	
$d^4S - f P [2]$	0.4444	$x = 0.9000$	$y = 0.1000$	
$d^2P - f P [0]$	0.0444	$x = 0.3333$	$y = 0.6667$	
$d^2P - f P [1]$	0.1333	$x = 0.2778$	$y = 0.4444$	$z = 0.2222$
$d^2P - f P [2]$	0.2222	$x = 0.0000$	$y = 0.1667$	$z = 0.8333$
$d^2P - f D [1]$	0.1600	$x = 0.1667$	$y = 0.0000$	$z = 0.8333$
$d^2P - f D [2]$	0.2667	$x = 0.4000$	$y = 0.5000$	$z = 0.1000$
$d^2P - f D [3]$	0.3733	$x = 1.0000$		
$d^4P - f P [0]$	0.0889	$x = 0.8333$	$y = 0.1667$	
$d^4P - f P [1]$	0.2667	$x = 0.3750$	$y = 0.1389$	$z = 0.1111$
$d^4P - f P [2]$	0.4444	$x = 0.6300$	$y = 0.0133$	$z = 0.0450$
$d^4P - f D [1]$	0.3200	$x = 0.0250$	$y = 0.0833$	$z = 0.2667$
$d^4P - f D [2]$	0.5333	$x = 0.2100$	$y = 0.1600$	$z = 0.0150$
$d^4P - f D [3]$	0.7467	$x = 0.8571$	$y = 0.1000$	$z = 0.0429$
$d^2D - f P [0]$	0.0063	$x = 1.0000$		
$d^2D - f P [1]$	0.0190	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$
$d^2D - f P [2]$	0.0317	$x = 0.0000$	$y = 0.1000$	$z = 0.9000$
$d^2D - f D [1]$	0.1143	$x = 0.1000$	$y = 0.0000$	$z = 0.9000$
$d^2D - f D [2]$	0.1905	$x = 0.3733$	$y = 0.5400$	$z = 0.0600$
$d^2D - f D [3]$	0.2667	$x = 0.0000$	$y = 0.0667$	$z = 0.9333$
$d^2D - f F [2]$	0.3265	$x = 0.0667$	$y = 0.0000$	$z = 0.9333$
$d^2D - f F [3]$	0.4571	$x = 0.4286$	$y = 0.5333$	$z = 0.0381$
$d^2D - f F [4]$	0.5878	$x = 1.0000$		
$d^4D - f P [0]$	0.0127	$x = 0.5000$	$y = 0.5000$	
$d^4D - f P [1]$	0.0381	$x = 0.5250$	$y = 0.0833$	$z = 0.2667$
$d^4D - f P [2]$	0.0635	$x = 0.7200$	$y = 0.0630$	$z = 0.1620$
		$z = 0.0180$	0.0050	

TABLE 11a (CONTINUED)

$d^4G - fH [4]$	1.7143	$x = 0.0004$	$y = 0.0012$	$z = 0.0287$	0.0543
$d^4G - fH [5]$	2.0952	$x = 0.0322$	$y = 0.0005$	$z = 0.5587$	0.3733
$d^4G - fH [6]$	2.4762	$x = 0.8077$	$y = 0.0105$		
$f^{(2s+1)L} - dL[K]$	$\sum_{J,J'} s$				
$f^2P - dS [1]$	0.4000	$x = 0.0000$	$y = 0.3333$	$z = 0.6667$	0.0000
$f^2P - dP [0]$	0.0444	$x = 0.3333$	$y = 0.6667$		
$f^2P - dP [1]$	0.1333	$x = 0.2778$	$y = 0.2222$	$z = 0.0556$	
$f^2P - dP [2]$	0.2222	$x = 0.0000$	$y = 0.1667$	$z = 0.8333$	
$f^2P - dD [1]$	0.0114	$x = 0.1667$	$y = 0.0000$	$z = 0.8333$	
$f^2P - dD [2]$	0.0190	$x = 0.4000$	$y = 0.5000$	$z = 0.1000$	
$f^2P - dD [3]$	0.0267	$x = 1.0000$			
$f^4P - dS [1]$	0.8000	$x = 0.5000$	$y = 0.3333$	0.0000	$z = 0.1667$
$f^4P - dP [0]$	0.0889	$x = 0.8333$	$y = 0.1667$		
$f^4P - dP [1]$	0.2667	$x = 0.3750$	$y = 0.1111$	0.0278	$z = 0.3472$
$f^4P - dP [2]$	0.4444	$x = 0.6300$	$y = 0.0450$	$z = 0.2700$	0.0417
$f^4P - dD [1]$	0.0229	$x = 0.0250$	$y = 0.0833$	$z = 0.2687$	0.4167
$f^4P - dD [2]$	0.0381	$x = 0.2100$	$y = 0.0150$	$z = 0.4900$	0.1250
$f^4P - dD [3]$	0.0533	$x = 0.8571$	$y = 0.1000$	$z = 0.0429$	
$f^2D - dP [0]$	0.0889	$x = 1.0000$			
$f^2D - dP [1]$	0.2667	$x = 0.3000$	$y = 0.6667$	$z = 0.0333$	
$f^2D - dP [2]$	0.4444	$x = 0.0000$	$y = 0.9000$	$z = 0.0000$	
$f^2D - dD [1]$	0.1143	$x = 0.1000$	$y = 0.9000$		
$f^2D - dD [2]$	0.1905	$x = 0.3733$	$y = 0.5400$	$z = 0.0600$	0.0267
$f^2D - dD [3]$	0.2667	$x = 0.0000$	$y = 0.9333$		
$f^2D - dF [2]$	0.0136	$x = 0.0667$	$y = 0.0000$	$z = 0.9333$	
$f^2D - dF [3]$	0.0190	$x = 0.4286$	$y = 0.5333$	$z = 0.0381$	
$f^2D - dF [4]$	0.0245	$x = 1.0000$			
$f^4D - dP [0]$	0.1778	$x = 0.5000$	$y = 0.5000$		
$f^4D - dP [1]$	0.5333	$x = 0.5250$	$y = 0.2687$	0.0833	$z = 0.0417$
$f^4D - dP [2]$	0.8889	$x = 0.7200$	$y = 0.1620$	0.0320	
$f^4D - dD [1]$	$z = 0.0180$	0.0050			
$f^4D - dD [2]$	0.2286	$x = 0.1750$	$y = 0.2000$	0.2500	$z = 0.1250$
$f^4D - dD [3]$	0.3810	$x = 0.1333$	$y = 0.4033$	0.1200	
$f^4D - dD [4]$	$z = 0.1633$	0.0750			
$f^4D - dD [5]$	0.5333	$x = 0.7347$	$y = 0.0272$	$z = 0.1224$	0.0333
$f^4D - dF [2]$	0.0272	$x = 0.0038$	$y = 0.0975$	0.1680	
$f^4D - dF [3]$	$z = 0.2987$	0.4200			
$f^4D - dF [4]$	0.0381	$x = 0.0918$	$y = 0.0034$	$z = 0.5510$	0.2667
$f^4D - dF [5]$	0.0490	$x = 0.8333$	$y = 0.0238$		
$f^2F - dD [1]$	0.2743	$x = 1.0000$			
$f^2F - dD [2]$	0.4571	$x = 0.3810$	$y = 0.0190$		
$f^2F - dD [3]$	0.6400	$x = 0.0000$	$y = 0.9524$	$z = 0.0000$	
$f^2F - dF [2]$	0.1429	$x = 0.0476$	$y = 0.9524$		

TABLE 11a (CONTINUED)

$d^4D - fD [1]$	0.2286	$x = 0.1750$	$y = 0.2000$	0.2500	$z = 0.1250$
$d^4D - fD [2]$	0.3810	$x = 0.1333$	$y = 0.4033$	0.1200	
$d^4D - fD [3]$	$z = 0.1633$	0.0750			
$d^4D - fF [2]$	0.5333	$x = 0.7347$	$y = 0.0272$	$z = 0.1224$	0.0333
$d^4D - fF [3]$	0.6531	$x = 0.0038$	$y = 0.0975$	0.1680	
$d^4D - fF [4]$	$z = 0.2987$	0.4200			
$d^4D - fF [5]$	0.9143	$x = 0.0918$	$y = 0.0034$	$z = 0.5510$	0.2667
$d^2F - fD [1]$	1.1755	$x = 0.8333$	$y = 0.0238$		
$d^2F - fD [2]$	0.0114	$x = 1.0000$			
$d^2F - fD [3]$	0.0190	$x = 0.3810$	$y = 0.0190$		
$d^2F - fD [4]$	0.0267	$x = 0.0000$	$y = 0.9524$	$z = 0.0000$	
$d^2F - fD [5]$	0.1429	$x = 0.0476$	$y = 0.9524$		
$d^2F - fF [2]$	0.2000	$x = 0.4133$	$y = 0.0272$	$z = 0.0153$	
$d^2F - fF [3]$	0.2571	$x = 0.0000$	$y = 0.9643$		
$d^2F - fF [4]$	0.5556	$x = 0.0357$	$y = 0.0000$	$z = 0.9643$	
$d^2F - fF [5]$	0.7143	$x = 0.4444$	$y = 0.0198$		
$d^2F - fG [1]$	0.8730	$x = 1.0000$			
$d^2F - fG [2]$	0.0229	$x = 0.4000$	$y = 0.1000$		
$d^2F - fG [3]$	0.0381	$x = 0.5714$	$y = 0.1219$	0.0800	$z = 0.0087$
$d^2F - fG [4]$	0.0533	$x = 0.7653$	$y = 0.0875$	0.0249	
$d^2F - fG [5]$	$z = 0.0044$	0.0014			
$d^4F - fF [2]$	0.2857	$x = 0.0714$	$y = 0.2752$	0.4800	$z = 0.0533$
$d^4F - fF [3]$	0.4000	$x = 0.0670$	$y = 0.4898$	0.2457	
$d^4F - fF [4]$	$z = 0.0861$	0.0476			
$d^4F - fF [5]$	0.5143	$x = 0.7639$	$y = 0.0174$	$z = 0.0694$	0.0223
$d^4F - fG [3]$	1.1111	$x = 0.0011$	$y = 0.0486$	0.0886	
$d^4F - fG [4]$	$z = 0.3075$	0.5510			
$d^4F - fG [5]$	1.4286	$x = 0.0509$	$y = 0.0012$	$z = 0.5602$	0.3348
$d^2G - fF [2]$	1.7460	$x = 0.8182$	$y = 0.0152$		
$d^2G - fF [3]$	0.0068	$x = 1.0000$			
$d^2G - fF [4]$	0.0095	$x = 0.4167$	$y = 0.0119$		
$d^2G - fF [5]$	0.0122	$x = 0.0000$	$y = 0.9722$	$z = 0.0000$	
$d^2G - fG [3]$	0.1111	$x = 0.0278$	$y = 0.9722$		
$d^2G - fG [4]$	0.1429	$x = 0.4346$	$y = 0.0154$	$z = 0.0099$	
$d^2G - fG [5]$	0.1746	$x = 0.0000$	$y = 0.9778$		
$d^2G - fH [4]$	0.8571	$x = 0.0222$	$y = 0.0000$	$z = 0.9778$	
$d^2G - fH [5]$	1.0476	$x = 0.4545$	$y = 0.0121$		
$d^2G - fH [6]$	1.2381	$x = 1.0000$			
$d^4G - fF [2]$	0.0136	$x = 0.3571$	$y = 0.0429$		
$d^4G - fF [3]$	0.0190	$x = 0.5729$	$y = 0.0680$	0.0383	$z = 0.0019$
$d^4G - fF [4]$	0.0245	$x = 0.7778$	$y = 0.0540$	0.0176	
$d^4G - fF [5]$	$z = 0.0015$	0.0005			
$d^4G - fG [3]$	0.2222	$x = 0.0382$	$y = 0.2902$	0.5740	$z = 0.0287$
$d^4G - fG [4]$	0.2857	$x = 0.0400$	$y = 0.5188$	0.3160	
$d^4G - fG [5]$	$z = 0.0523$	0.0312			
$d^4G - fG [6]$	0.3492	$x = 0.7736$	$y = 0.0119$	$z = 0.0446$	0.0156

TABLE 11a (CONTINUED)

$f^4P - gD [3]$	0.8000	$x = 0.8571$	0.1000	$y = 0.0429$
$f^2D - gD [1]$	0.0476	$x = 0.1000$	0.0000	$y = 0.9000$
$f^2D - gD [2]$	0.0794	$x = 0.3733$	0.5400	$y = 0.0600$
$f^2D - gD [3]$	0.1111	$x = 0.0000$	0.0667	$y = 0.9333$
$f^2D - gF [2]$	0.2834	$x = 0.0667$	0.0000	$y = 0.0000$
$f^2D - gF [3]$	0.3968	$x = 0.4286$	0.5333	$y = 0.0381$
$f^2D - gF [4]$	0.5102	$x = 1.0000$		
$f^2D - gD [1]$	0.0952	$x = 0.1750$	0.2500	$y = 0.2000$
$f^4D - gD [2]$	0.1587	$x = 0.1333$	0.1050	$y = 0.4033$
	$z = 0.1633$	0.0750		
$f^4D - gD [3]$	0.2222	$x = 0.7347$	0.0823	$y = 0.0272$
$f^4D - gF [2]$	0.5669	$x = 0.0038$	0.0120	$y = 0.0975$
	$z = 0.2987$	0.4200		
$f^4D - gF [3]$	0.7937	$x = 0.0918$	0.0871	$y = 0.0034$
$f^4D - gF [4]$	1.0204	$x = 0.8333$	0.1429	$y = 0.0238$
$f^2F - gD [1]$	0.0032	$x = 1.0000$		
$f^2F - gD [2]$	0.0053	$x = 0.3810$	0.6000	$y = 0.0190$
$f^2F - gD [3]$	0.0074	$x = 0.0000$	0.0476	$y = 0.9524$
$f^2F - gF [2]$	0.0827	$x = 0.0476$	0.0000	$y = 0.9524$
$f^2F - gF [3]$	0.1157	$x = 0.4133$	0.5442	$y = 0.0272$
$f^2F - gF [4]$	0.1488	$x = 0.0000$	0.0357	$y = 0.9643$
$f^2F - gG [3]$	0.4244	$x = 0.0357$	0.0000	$y = 0.0000$
$f^2F - gG [4]$	0.5456	$x = 0.4444$	0.5357	$y = 0.0198$
$f^2F - gG [5]$	0.6669	$x = 1.0000$		
$f^4F - gD [1]$	0.0063	$x = 0.4000$	0.5000	$y = 0.1000$
$f^4F - gD [2]$	0.0108	$x = 0.5714$	0.2400	$y = 0.1219$
$f^4F - gD [3]$	0.0148	$x = 0.7653$	0.1166	$y = 0.0875$
	$z = 0.0044$	0.0014		
$f^4F - gF [2]$	0.1653	$x = 0.0714$	0.1200	$y = 0.2752$
$f^4F - gF [3]$	0.2315	$x = 0.0670$	0.0638	$y = 0.4898$
	$z = 0.0861$	0.0476		
$f^4F - gF [4]$	0.2976	$x = 0.7639$	0.1270	$y = 0.0174$
$f^4F - gG [3]$	0.8488	$x = 0.0011$	0.0033	$y = 0.0486$
	$z = 0.3075$	0.5510		
$f^4F - gG [4]$	1.0913	$x = 0.0509$	0.0529	$y = 0.0012$
$f^4F - gG [5]$	1.3338	$x = 0.8182$	0.1667	$y = 0.0152$
$f^2G - gF [2]$	0.0043	$x = 1.0000$		
$f^2G - gF [3]$	0.0060	$x = 0.4167$	0.5714	$y = 0.0119$
$f^2G - gF [4]$	0.0077	$x = 0.0000$	0.0278	$y = 0.9722$
$f^2G - gG [3]$	0.0917	$x = 0.0278$	0.0000	$y = 0.9722$
$f^2G - gG [4]$	0.1179	$x = 0.4346$	0.5401	$y = 0.0154$
$f^2G - gG [5]$	0.1440	$x = 0.0000$	0.0222	$y = 0.9778$
$f^2G - gH [4]$	0.6000	$x = 0.0222$	0.0000	$y = 0.0000$
$f^2G - gH [5]$	0.7333	$x = 0.4545$	0.5333	$y = 0.0121$
$f^2G - gH [6]$	0.8667	$x = 1.0000$		
$f^4G - gF [2]$	0.0085	$x = 0.8571$	0.6000	$y = 0.0429$

TABLE 11a (CONTINUED)

$f^2F - dF [3]$	0.2000	$x = 0.4133$	0.5442	$y = 0.0272$	$z = 0.0153$
$f^2F - dF [4]$	0.2571	$x = 0.0000$	0.0357	$y = 0.9643$	
$f^2F - dG [3]$	0.0074	$x = 0.0357$	0.0000	$y = 0.0000$	$z = 0.9643$
$f^2F - dG [4]$	0.0095	$x = 0.4444$	0.5357	$y = 0.0198$	
$f^2F - dG [5]$	0.0116	$x = 1.0000$			
$f^4F - dD [1]$	0.5486	$x = 0.4000$	0.5000	$y = 0.1000$	
$f^4F - dD [2]$	0.9143	$x = 0.5714$	0.2400	$y = 0.1219$	$z = 0.0067$
$f^4F - dD [3]$	1.2800	$x = 0.7653$	0.1166	$y = 0.0875$	$z = 0.0249$
	$z = 0.0044$	0.0014			
$f^4F - dF [2]$	0.2857	$x = 0.0714$	0.1200	$y = 0.2752$	$z = 0.0533$
$f^4F - dF [3]$	0.4000	$x = 0.0670$	0.0638	$y = 0.4898$	$z = 0.2457$
	$z = 0.0861$	0.0476			
$f^4F - dF [4]$	0.5143	$x = 0.7639$	0.1270	$y = 0.0174$	$z = 0.0694$
$f^4F - dG [3]$	0.0148	$x = 0.0011$	0.0033	$y = 0.0486$	$z = 0.0886$
	$z = 0.3075$	0.5510			
$f^4F - dG [4]$	0.0190	$x = 0.0509$	0.0529	$y = 0.0012$	$z = 0.5602$
$f^4F - dG [5]$	0.0233	$x = 0.8182$	0.1667	$y = 0.0152$	$z = 0.3348$
$f^2G - dF [2]$	0.5102	$x = 1.0000$			
$f^2G - dF [3]$	0.7143	$x = 0.4167$	0.5714	$y = 0.0119$	
$f^2G - dF [4]$	0.9184	$x = 0.0000$	0.0278	$y = 0.9722$	$z = 0.0000$
$f^2G - dG [3]$	0.1111	$x = 0.0278$	0.0000	$y = 0.9722$	
$f^2G - dG [4]$	0.1429	$x = 0.4346$	0.5401	$y = 0.0154$	$z = 0.0099$
$f^2G - dG [5]$	0.1746	$x = 0.0000$	0.0222	$y = 0.9778$	
$f^4G - dF [2]$	1.0204	$x = 0.3571$	0.6000	$y = 0.0429$	
$f^4G - dF [3]$	1.4286	$x = 0.5729$	0.3189	$y = 0.0680$	$z = 0.0019$
$f^4G - dF [4]$	1.8367	$x = 0.7778$	0.1485	$y = 0.0540$	$z = 0.0176$
	$z = 0.0015$	0.0005			
$f^4G - dG [3]$	0.2222	$x = 0.0382$	0.0689	$y = 0.2902$	$z = 0.0287$
$f^4G - dG [4]$	0.2857	$x = 0.0400$	0.0416	$y = 0.5188$	$z = 0.3160$
	$z = 0.0523$	0.0312			
$f^4G - dG [5]$	0.3492	$x = 0.7736$	0.1544	$y = 0.0119$	$z = 0.0446$
$f^2H - dG [3]$	0.8148	$x = 1.0000$			
$f^2H - dG [4]$	1.0476	$x = 0.4364$	0.5556	$y = 0.0081$	
$f^2H - dG [5]$	1.2804	$x = 0.0000$	0.0182	$y = 0.9818$	$z = 0.0000$
$f^4H - dG [3]$	1.6296	$x = 0.3333$	0.6429	$y = 0.0238$	
$f^4H - dG [4]$	2.0952	$x = 0.5673$	0.3630	$y = 0.0431$	$z = 0.0007$
$f^4H - dG [5]$	2.5608	$x = 0.7810$	0.1688	$y = 0.0365$	$z = 0.0128$
	$z = 0.0007$	0.0002			
$f^{(2S+1)L - gL'[K]}$	$\sum_{J', J''}^S$				
$f^2P - gD [1]$	0.1714	$x = 0.1667$	0.0000	$y = 0.0000$	$z = 0.8333$
$f^2P - gD [2]$	0.2857	$x = 0.4000$	0.5000	$y = 0.1000$	
$f^2P - gD [3]$	0.4000	$x = 1.0000$			
$f^4P - gD [1]$	0.3429	$x = 0.0250$	0.0833	$y = 0.2667$	$z = 0.2083$
$f^4P - gD [2]$	0.5714	$x = 0.2100$	0.1600	$y = 0.0150$	$z = 0.4000$

TABLE IIa (CONTINUED)

$f^4G - g^4F [3]$	0.0119	$z = 0.5729$	$x = 0.3189$	$y = 0.0680$	$z = 0.0383$	$z = 0.0019$
$f^4G - g^4F [4]$	0.0153	$z = -0.7778$	$x = 0.1485$	$y = 0.0540$	$z = 0.0176$	
		$z = 0.0015$	0.0005			
$f^4G - g^4G [3]$	0.1833	$z = 0.0382$	$x = 0.0689$	$y = 0.2902$	$z = 0.5740$	$z = 0.0287$
$f^4G - g^4G [4]$	0.2357	$z = 0.0400$	$x = 0.0416$	$y = 0.5188$	$z = 0.3160$	
		$z = 0.0523$	0.0313			
$f^4G - g^4G [5]$	0.2881	$z = 0.7736$	$x = 0.1544$	$y = 0.0119$	$z = 0.0446$	$z = 0.0156$
$f^4G - g^4H [4]$	1.2000	$z = 0.0004$	$x = 0.0012$	$y = 0.0287$	$z = 0.0543$	
		$z = 0.3042$	0.6111			
$f^4G - g^4H [5]$	1.4667	$z = 0.0322$	$x = 0.0353$	$y = 0.0005$	$z = 0.5587$	$z = 0.3733$
$f^4G - g^4H [6]$	1.7333	$z = 0.8077$	$x = 0.1818$	$y = 0.0105$		
$f^2H - g^4G [3]$	0.0025	$z = 1.0000$				
$f^2H - g^4G [4]$	0.0032	$z = 0.4364$	$x = 0.5556$	$y = 0.0081$		
$f^2H - g^4G [5]$	0.0039	$z = 0.0000$	$x = 0.0182$	$y = 0.9818$	$z = 0.0000$	
$f^2H - g^4H [4]$	0.0667	$z = 0.0182$	$x = 0.0000$	$y = 0.9818$		
$f^2H - g^4H [5]$	0.0815	$z = 0.4477$	$x = 0.5355$	$y = 0.0099$	$z = 0.0069$	
$f^2H - g^4H [6]$	0.0963	$z = 0.0000$	$x = 0.0152$	$y = 0.9848$		
$f^2H - g^4I [5]$	0.8148	$z = 0.0152$	$x = 0.0000$	$y = 0.0000$	$z = 0.9848$	
$f^2H - g^4I [6]$	0.9630	$z = 0.4615$	$x = 0.5303$	$y = 0.0082$		
$f^2H - g^4I [7]$	1.1111	$z = 1.0000$				
$f^4H - g^4G [3]$	0.0049	$z = 0.3333$	$x = 0.6429$	$y = 0.0238$		
$f^4H - g^4G [4]$	0.0063	$z = 0.5673$	$x = 0.3630$	$y = 0.0431$	$z = 0.0259$	$z = 0.0007$
$f^4H - g^4G [5]$	0.0078	$z = 0.7810$	$x = 0.1688$	$y = 0.0365$	$z = 0.0128$	
		$z = 0.0007$	0.0002			
$f^4H - g^4H [4]$	0.1333	$z = 0.0236$	$x = 0.0444$	$y = 0.2919$	$z = 0.6222$	$z = 0.0178$
$f^4H - g^4H [5]$	0.1630	$z = 0.0265$	$x = 0.0290$	$y = 0.5295$	$z = 0.3583$	
		$z = 0.0349$	0.0218			
$f^4H - g^4H [6]$	0.1926	$z = 0.7766$	$x = 0.1723$	$y = 0.0086$	$z = 0.0311$	$z = 0.0114$
$f^4H - g^4I [5]$	1.6296	$z = 0.0002$	$x = 0.0006$	$y = 0.0189$	$z = 0.0366$	
		$z = 0.2991$	0.6446			
$f^4H - g^4I [6]$	1.9259	$z = 0.0222$	$x = 0.0251$	$y = 0.0002$	$z = 0.5547$	$z = 0.3977$
$f^4H - g^4I [7]$	2.2222	$z = 0.8000$	$x = 0.1923$	$y = 0.0077$		
$g^{(2s+1)L} - f^4L'[K]$	$\sum_{J,J'}^s$					
$g^2D - f^4P [0]$	0.0952	$z = 1.0000$				
$g^2D - f^4P [1]$	0.2857	$z = 0.3000$	$x = 0.6667$	$y = 0.0333$		
$g^2D - f^4P [2]$	0.4762	$z = 0.0000$	$x = 0.1000$	$y = 0.9000$	$z = 0.0000$	
$g^2D - f^4D [1]$	0.0476	$z = 0.1000$	$x = 0.0000$	$y = 0.9000$		
$g^2D - f^4D [2]$	0.0794	$z = 0.3733$	$x = 0.5400$	$y = 0.0600$	$z = 0.0267$	
$g^2D - f^4D [3]$	0.1111	$z = 0.0000$	$x = 0.0667$	$y = 0.9333$		
$g^2D - f^4F [2]$	0.0038	$z = 0.0667$	$x = 0.0000$	$y = 0.0000$	$z = 0.9333$	
$g^2D - f^4F [3]$	0.0053	$z = 0.4286$	$x = 0.5333$	$y = 0.0381$		
$g^2D - f^4F [4]$	0.0068	$z = 1.0000$				
$g^4D - f^4P [0]$	0.1905	$z = 0.5000$	$y = 0.5000$			
$g^4D - f^4P [1]$	0.5714	$z = 0.5250$	$x = 0.0833$	$y = 0.2667$	$z = 0.0833$	$z = 0.0417$

TABLE IIa (CONTINUED)

$g^4D - f^4P [2]$	0.9524	$z = 0.7200$	$x = 0.0630$	$y = 0.1620$	$z = 0.0320$	
		$z = 0.0180$	0.0050			
$g^4D - f^4D [1]$	0.0952	$z = 0.1750$	$x = 0.2500$	$y = 0.2000$	$z = 0.2500$	$z = 0.1250$
$g^4D - f^4D [2]$	0.1587	$z = 0.1333$	$x = 0.1050$	$y = 0.4033$	$z = 0.1200$	
		$z = 0.1633$	0.0750			
$g^4D - f^4D [3]$	0.2222	$z = 0.7347$	$x = 0.0823$	$y = 0.0272$	$z = 0.1224$	$z = 0.0333$
$g^4D - f^4F [2]$	0.0076	$z = 0.0038$	$x = 0.0120$	$y = 0.0975$	$z = 0.1680$	
		$z = 0.2987$	0.4200			
$g^4D - f^4F [3]$	0.0106	$z = 0.0918$	$x = 0.0871$	$y = 0.0034$	$z = 0.5510$	$z = 0.2667$
$g^4D - f^4F [4]$	0.0136	$z = 0.8333$	$x = 0.1429$	$y = 0.0238$		
$g^2F - f^4D [1]$	0.2381	$z = 1.0000$				
$g^2F - f^4D [2]$	0.3968	$z = 0.3810$	$x = 0.6000$	$y = 0.0190$		
$g^2F - f^4D [3]$	0.5556	$z = 0.0000$	$x = 0.0476$	$y = 0.9524$	$z = 0.0000$	
$g^2F - f^4F [2]$	0.0827	$z = 0.0476$	$x = 0.0000$	$y = 0.9524$		
$g^2F - f^4F [3]$	0.1157	$z = 0.4133$	$x = 0.5442$	$y = 0.0272$	$z = 0.0153$	
$g^2F - f^4F [4]$	0.1488	$z = 0.0000$	$x = 0.0357$	$y = 0.9643$		
$g^2F - f^4G [3]$	0.0046	$z = 0.0357$	$x = 0.0000$	$y = 0.0000$	$z = 0.9643$	
$g^2F - f^4G [4]$	0.0060	$z = 0.4444$	$x = 0.5357$	$y = 0.0198$		
$g^2F - f^4G [5]$	0.0073	$z = 1.0000$				
$g^4F - f^4D [1]$	0.4762	$z = 0.4000$	$x = 0.5000$	$y = 0.1000$		
$g^4F - f^4D [2]$	0.7937	$z = 0.5714$	$x = 0.2400$	$y = 0.1219$	$z = 0.0800$	$z = 0.0067$
$g^4F - f^4D [3]$	1.1111	$z = 0.7653$	$x = 0.1166$	$y = 0.0875$	$z = 0.0249$	
		$z = 0.0044$	0.0014			
$g^4F - f^4F [2]$	0.1653	$z = 0.0714$	$x = 0.1200$	$y = 0.2752$	$z = 0.4800$	$z = 0.0533$
$g^4F - f^4F [3]$	0.2315	$z = 0.0670$	$x = 0.0638$	$y = 0.4898$	$z = 0.2457$	
		$z = 0.0861$	0.0476			
$g^4F - f^4F [4]$	0.2976	$z = 0.7639$	$x = 0.1270$	$y = 0.0174$	$z = 0.0694$	$z = 0.0223$
$g^4F - f^4G [3]$	0.0093	$z = 0.0011$	$x = 0.0033$	$y = 0.0486$	$z = 0.0886$	
		$z = 0.3075$	0.5510			
$g^4F - f^4G [4]$	0.0119	$z = 0.0509$	$x = 0.0529$	$y = 0.0012$	$z = 0.5602$	$z = 0.3348$
$g^4F - f^4G [5]$	0.0146	$z = 0.8182$	$x = 0.1667$	$y = 0.0152$		
$g^2G - f^4F [2]$	0.3897	$z = 1.0000$				
$g^2G - f^4F [3]$	0.5456	$z = 0.4167$	$x = 0.5714$	$y = 0.0119$		
$g^2G - f^4F [4]$	0.7015	$z = 0.0000$	$x = 0.0278$	$y = 0.9722$	$z = 0.0000$	
$g^2G - f^4G [3]$	0.0917	$z = 0.0278$	$x = 0.0000$	$y = 0.9722$		
$g^2G - f^4G [4]$	0.1179	$z = 0.4346$	$x = 0.5401$	$y = 0.0154$	$z = 0.0099$	
$g^2G - f^4G [5]$	0.1440	$z = 0.0000$	$x = 0.0222$	$y = 0.9778$		
$g^2G - f^4H [4]$	0.0026	$z = 0.0222$	$x = 0.0000$	$y = 0.0000$	$z = 0.9778$	
$g^2G - f^4H [5]$	0.0032	$z = 0.4545$	$x = 0.5333$	$y = 0.0121$		
$g^2G - f^4H [6]$	0.0038	$z = 1.0000$				
$g^4G - f^4F [2]$	0.7795	$z = 0.3571$	$x = 0.6000$	$y = 0.0429$		
$g^4G - f^4F [3]$	1.0913	$z = 0.5729$	$x = 0.3189$	$y = 0.0680$	$z = 0.0383$	$z = 0.0019$
$g^4G - f^4F [4]$	1.4031	$z = 0.7778$	$x = 0.1485$	$y = 0.0540$	$z = 0.0176$	
		$z = 0.0015$	0.0005			
$g^4G - f^4G [3]$	0.1833	$z = 0.0382$	$x = 0.0689$	$y = 0.2902$	$z = 0.5740$	$z = 0.0287$

TABLE 11b (CONTINUED)

$s^2D - p(3)[4]$	2.0000	$x = 1.0000$
$s^4D - p(1)[0]$	0.4444	$x = 0.5000$ $y = 0.5000$
$s^4D - p(1)[1]$	1.3333	$x = 0.0000$ 0.0833 $y = 0.4167$ 0.3333 $z = 0.1667$
$s^4D - p(1)[2]$	2.2222	$x = 0.0000$ 0.0000 $y = 0.0000$ 0.0500
		$z = 0.4500$ 0.5000
$s^4D - p(2)[1]$	1.3333	$x = 0.7000$ 0.2500 $y = 0.0500$ 0.0000 $z = 0.0000$
$s^4D - p(2)[2]$	2.2222	$x = 0.0000$ 0.0467 $y = 0.6533$ 0.2700
		$z = 0.0300$ 0.0000
$s^4D - p(2)[3]$	3.1111	$x = 0.0000$ 0.0333 $y = 0.0000$ $z = 0.6667$ 0.3000
$s^4D - p(3)[2]$	2.2222	$x = 0.8571$ 0.1333 $y = 0.0095$ 0.0000
		$z = 0.0000$ 0.0000
$s^4D - p(3)[3]$	3.1111	$x = 0.8285$ 0.1361 $y = 0.0306$ $z = 0.0068$ 0.0000
$s^4D - p(3)[4]$	4.0000	$x = 0.8333$ 0.1429 $y = 0.0238$
$p^{(2S+1)L - s}(J_p)[K]$	$\sum_{J_p'} s$	
$p^2P - s(1)[1]$	0.4000	$x = 0.1667$ 0.0000 $y = 0.0000$ $z = 0.8333$
$p^2P - s(2)[2]$	0.6667	$x = 0.4000$ 0.5000 $y = 0.1000$
$p^2P - s(3)[3]$	0.9333	$x = 1.0000$
$p^4P - s(1)[1]$	0.8000	$x = 0.0250$ 0.0833 $y = 0.2667$ 0.4167 $z = 0.2083$
$p^4P - s(2)[2]$	1.3333	$x = 0.2100$ 0.1600 $y = 0.0150$ $z = 0.4900$ 0.1250
$p^4P - s(3)[3]$	1.8667	$x = 0.8571$ 0.1000 $y = 0.0429$
$p^2D - s(1)[1]$	0.6667	$x = 0.1000$ 0.0000 $y = 0.9000$
$p^2D - s(2)[2]$	1.1111	$x = 0.3733$ 0.5400 $y = 0.0600$ $z = 0.0267$
$p^2D - s(3)[3]$	1.5556	$x = 0.0000$ 0.0667 $y = 0.9333$
$p^4D - s(1)[1]$	1.3333	$x = 0.1750$ 0.2500 $y = 0.2000$ 0.2500 $z = 0.1250$
$p^4D - s(2)[2]$	2.2222	$x = 0.1333$ 0.1050 $y = 0.4033$ 0.1200
		$z = 0.1633$ 0.0750
$p^4D - s(3)[3]$	3.1111	$x = 0.7347$ 0.0823 $y = 0.0272$ $z = 0.1224$ 0.0333
$p^2F - s(1)[1]$	0.9333	$x = 1.0000$
$p^2F - s(2)[2]$	1.5556	$x = 0.3810$ 0.6000 $y = 0.0190$
$p^2F - s(3)[3]$	2.1778	$x = 0.0000$ 0.0476 $y = 0.9524$ $z = 0.0000$
$p^4F - s(1)[1]$	1.8667	$x = 0.4000$ 0.5000 $y = 0.1000$
$p^4F - s(2)[2]$	3.1111	$x = 0.5714$ 0.2400 $y = 0.1219$ 0.0600 $z = 0.0067$
$p^4F - s(3)[3]$	4.3556	$x = 0.7653$ 0.1166 $y = 0.0875$ 0.0249
		$z = 0.0044$ 0.0014

$p^{(2S+1)L - d}(J_p)[K]$	$\sum_{J_p'} s$	
$p^2P - d(1)[1]$	0.2640	$x = 0.0404$ 0.6313 $y = 0.0126$ $z = 0.3157$
$p^2P - d(1)[2]$	0.1267	$x = 0.2579$ 0.6579 $y = 0.0842$
$p^2P - d(1)[3]$	0.0093	$x = 1.0000$
$p^2P - d(2)[0]$	0.1000	$x = 0.3333$ $y = 0.6667$
$p^2P - d(2)[1]$	0.2400	$x = 0.1667$ 0.4167 $y = 0.2083$ $z = 0.2083$
$p^2P - d(2)[2]$	0.2333	$x = 0.1000$ 0.5000 $y = 0.4000$
$p^2P - d(2)[3]$	0.0933	$x = 1.0000$
$p^2P - d(3)[1]$	0.3360	$x = 0.1667$ 0.0000 $y = 0.8333$ $z = 0.0000$

TABLE 11a (CONTINUED)

$g^4G - fG[4]$	0.2337	$x = 0.0400$ 0.0416 $y = 0.5188$ 0.3160
		$z = 0.0523$ 0.0313
$g^4G - fG[5]$	0.2881	$x = 0.7736$ 0.1544 $y = 0.0119$ $z = 0.0446$ 0.0156
$g^4G - fH[4]$	0.0052	$x = 0.0004$ 0.0012 $y = 0.0287$ 0.0543
		$z = 0.3042$ 0.6111
$g^4G - fH[5]$	0.0063	$x = 0.0322$ 0.0353 $y = 0.0005$ $z = 0.5587$ 0.3753
$g^4G - fH[6]$	0.0075	$x = 0.8077$ 0.1818 $y = 0.0105$
$g^2H - fG[3]$	0.5704	$x = 1.0000$
$g^2H - fG[4]$	0.7333	$x = 0.4364$ 0.5556 $y = 0.0081$
$g^2H - fG[5]$	0.8963	$x = 0.0000$ 0.0182 $y = 0.9818$ $z = 0.0000$
$g^2H - fH[4]$	0.0667	$x = 0.0182$ 0.0000 $y = 0.9818$
$g^2H - fH[5]$	0.0815	$x = 0.4477$ 0.5355 $y = 0.0099$ $z = 0.0069$
$g^2H - fH[6]$	0.0963	$x = 0.0000$ 0.0152 $y = 0.9848$
$g^4H - fG[3]$	1.1407	$x = 0.3333$ 0.6429 $y = 0.0238$
$g^4H - fG[4]$	1.4667	$x = 0.5673$ 0.3630 $y = 0.0431$ 0.0259 $z = 0.0007$
$g^4H - fG[5]$	1.7926	$x = 0.7810$ 0.1688 $y = 0.0365$ 0.0128
		$z = 0.0007$ 0.0002
$g^4H - fH[4]$	0.1333	$x = 0.0236$ 0.0444 $y = 0.2919$ 0.6222 $z = 0.0178$
$g^4H - fH[5]$	0.1630	$x = 0.0265$ 0.0290 $y = 0.5295$ 0.3583
		$z = 0.0349$ 0.0218
$g^4H - fH[6]$	0.1926	$x = 0.7766$ 0.1723 $y = 0.0086$ $z = 0.0311$ 0.0114
$g^2I - fH[4]$	0.7879	$x = 1.0000$
$g^2I - fH[5]$	0.9630	$x = 0.4487$ 0.5455 $y = 0.0058$
$g^2I - fH[6]$	1.1380	$x = 0.0000$ 0.0128 $y = 0.9872$ $z = 0.0000$
$g^4I - fH[4]$	1.5758	$x = 0.3182$ 0.6667 $y = 0.0152$
$g^4I - fH[5]$	1.9259	$x = 0.5609$ 0.3905 $y = 0.0297$ 0.0186 $z = 0.0003$
$g^4I - fH[6]$	2.2761	$x = 0.7811$ 0.1825 $y = 0.0263$ 0.0097
		$z = 0.0003$ 0.0001

TABLE 11b

TRANSITIONS BETWEEN LS AND JK STATES. PARENT TERM: 3D

$s^{(2S+1)L - p}(J_p)[K]$	$\sum_{J_p'} s$	
$s^2D - p(1)[0]$	0.2222	$x = 1.0000$
$s^2D - p(1)[1]$	0.6667	$x = 0.0000$ 0.1667 $y = 0.8333$
$s^2D - p(1)[2]$	1.1111	$x = 0.0000$ 0.1000 $y = 0.0000$ $z = 0.9000$
$s^2D - p(2)[1]$	0.6667	$x = 0.4000$ 0.5000 $y = 0.1000$
$s^2D - p(2)[2]$	1.1111	$x = 0.3733$ 0.5400 $y = 0.0267$ $z = 0.0600$
$s^2D - p(2)[3]$	1.5556	$x = 0.3810$ 0.6000 $y = 0.0190$
$s^2D - p(3)[2]$	1.1111	$x = 0.0667$ 0.0000 $y = 0.9333$ $z = 0.0000$
$s^2D - p(3)[3]$	1.5556	$x = 0.0476$ 0.0000 $y = 0.9524$ $z = 0.0000$

TABLE 11b (CONTINUED)

$p^2P - d(3)[2]$	0.3753	$x = 0.1000$	$y = 0.9000$
$p^2P - d(3)[3]$	0.2240	$x = 1.0000$	
$p^4P - d(1)[1]$	0.5280	$x = 0.0004$	$0.0202 \ y = 0.1114$
$p^4P - d(1)[2]$	0.2533	$x = 0.0111$	$0.0637 \ y = 0.0008$
$p^4P - d(1)[3]$	0.0187	$x = 0.8571$	$0.1000 \ y = 0.0429$
$p^4P - d(2)[0]$	0.2000	$x = 0.8333$	$y = 0.1667$
$p^4P - d(2)[1]$	0.4800	$x = 0.0562$	$0.0833 \ y = 0.7042$
$p^4P - d(2)[2]$	0.4667	$x = 0.2100$	$0.0100 \ y = 0.0150$
$p^4P - d(2)[3]$	0.1867	$x = 0.8571$	$0.1000 \ y = 0.0429$
$p^4P - d(3)[1]$	0.6720	$x = 0.9000$	$0.0833 \ y = 0.0167$
$p^4P - d(3)[2]$	0.7467	$x = 0.8400$	$0.0900 \ y = 0.0600$
$p^4P - d(3)[3]$	0.4480	$x = 0.8571$	$0.1000 \ y = 0.0429$
$p^2D - d(1)[1]$	0.1267	$x = 0.0053$	$0.2368 \ y = 0.7579$
$p^2D - d(1)[2]$	0.4000	$x = 0.0233$	$0.2400 \ y = 0.0017$
$p^2D - d(1)[3]$	0.1400	$x = 0.3810$	$0.6000 \ y = 0.0190$
$p^2D - d(2)[0]$	0.0333	$x = 1.0000$	
$p^2D - d(2)[1]$	0.1444	$x = 0.1923$	$0.0385 \ y = 0.7692$
$p^2D - d(2)[2]$	0.3333	$x = 0.2689$	$0.2800 \ y = 0.0700$
$p^2D - d(2)[3]$	0.4667	$x = 0.2857$	$0.5556 \ y = 0.1587$
$p^2D - d(3)[1]$	0.1333	$x = 1.0000$	
$p^2D - d(3)[2]$	0.0622	$x = 0.4000$	$0.5000 \ y = 0.1000$
$p^2D - d(3)[3]$	0.2667	$x = 0.2844$	$0.1400 \ y = 0.5600$
$p^2D - d(3)[4]$	0.5600	$x = 0.1429$	$0.0444 \ y = 0.8127$
$p^2D - d(3)[5]$	0.6667	$x = 1.0000$	
$p^4D - d(1)[1]$	0.2533	$x = 0.0092$	$0.0526 \ y = 0.4447$
$p^4D - d(1)[2]$	0.8000	$x = 0.0000$	$0.0029 \ y = 0.0408$
$p^4D - d(1)[3]$		$z = 0.4800$	0.4688
$p^4D - d(1)[4]$	0.2800	$x = 0.0000$	$0.0333 \ y = 0.0000$
$p^4D - d(1)[5]$	0.0667	$x = 0.5000$	$y = 0.5000$
$p^4D - d(2)[1]$	0.2889	$x = 0.3365$	$0.3077 \ y = 0.0962$
$p^4D - d(2)[2]$	0.6667	$x = 0.0127$	$0.0225 \ y = 0.5467$
$p^4D - d(2)[3]$		$z = 0.0156$	0.0875
$p^4D - d(2)[4]$	0.9333	$x = 0.0612$	$0.0057 \ y = 0.0023$
$p^4D - d(2)[5]$	0.2667	$x = 0.8333$	$0.1429 \ y = 0.0238$
$p^4D - d(3)[1]$	0.1244	$x = 0.7000$	$0.2500 \ y = 0.0500$
$p^4D - d(3)[2]$	0.5333	$x = 0.6349$	$0.1800 \ y = 0.1073$
$p^4D - d(3)[3]$		$z = 0.0078$	0.0000
$p^4D - d(3)[4]$	1.1200	$x = 0.7653$	$0.1637 \ y = 0.0283$
$p^4D - d(3)[5]$	1.3333	$x = 0.8333$	$0.1429 \ y = 0.0238$
$p^2F - d(1)[1]$	0.0093	$x = 1.0000$	
$p^2F - d(1)[2]$	0.1400	$x = 0.0000$	$0.0667 \ y = 0.9333$
$p^2F - d(1)[3]$	0.7840	$x = 0.0000$	$0.0476 \ y = 0.0000$
$p^2F - d(2)[1]$	0.0156	$x = 1.0000$	
$p^2F - d(2)[2]$	0.1000	$x = 0.1693$	$0.0667 \ y = 0.7640$
$p^2F - d(2)[3]$	0.3733	$x = 0.3061$	$0.2744 \ y = 0.0113$
$p^2F - d(2)[4]$	1.0667	$x = 0.4167$	$0.5714 \ y = 0.0119$
$p^2F - d(3)[1]$	0.0018	$x = 1.0000$	

TABLE 11b (CONTINUED)

$p^2F - d(3)[2]$	0.0267	$x = 0.3968$	$0.4000 \ y = 0.2032$
$p^2F - d(3)[3]$	0.1493	$x = 0.3189$	$0.2177 \ y = 0.4252$
$p^2F - d(3)[4]$	0.5333	$x = 0.1667$	$0.0893 \ y = 0.7440$
$p^2F - d(3)[5]$	1.4667	$x = 1.0000$	
$p^4F - d(1)[1]$	0.0187	$x = 0.4000$	$0.5000 \ y = 0.1000$
$p^4F - d(1)[2]$	0.2800	$x = 0.0000$	$0.0267 \ y = 0.3733$
$p^4F - d(1)[3]$	1.5680	$x = 0.0000$	$0.0000 \ y = 0.0000$
$p^4F - d(1)[4]$		$z = 0.3810$	0.6000
$p^4F - d(2)[1]$	0.0311	$x = 0.4000$	$0.5000 \ y = 0.1000$
$p^4F - d(2)[2]$	0.2000	$x = 0.2540$	$0.2400 \ y = 0.1431$
$p^4F - d(2)[3]$	0.7467	$x = 0.0000$	$0.0170 \ y = 0.4592$
$p^4F - d(2)[4]$		$z = 0.0408$	0.1556
$p^4F - d(2)[5]$	2.1333	$x = 0.0000$	$0.0179 \ y = 0.0000$
$p^4F - d(3)[1]$	0.0036	$x = 0.4000$	$0.5000 \ y = 0.1000$
$p^4F - d(3)[2]$	0.0533	$x = 0.5952$	$0.3600 \ y = 0.0003$
$p^4F - d(3)[3]$	0.2987	$x = 0.4650$	$0.1594 \ y = 0.2126$
$p^4F - d(3)[4]$		$z = 0.0010$	0.0048
$p^4F - d(3)[5]$	1.0667	$x = 0.6875$	$0.1786 \ y = 0.0156$
$p^4F - d(3)[6]$	2.9333	$x = 0.8182$	$0.1667 \ y = 0.0152$
$d(2s+1)L - p(J_p)(K)$	$\sum_{J_p} g$		
$d^2S - p(1)[0]$	0.0444	$x = 1.0000$	
$d^2S - p(1)[1]$	0.0333	$x = 0.3333$	$y = 0.6667$
$d^2S - p(1)[2]$	0.0022	$x = 1.0000$	
$d^2S - p(2)[1]$	0.1000	$x = 0.3333$	$y = 0.6667$
$d^2S - p(2)[2]$	0.0333	$x = 1.0000$	
$d^2S - p(3)[2]$	0.1867	$x = 1.0000$	
$d^4S - p(1)[0]$	0.0889	$x = 1.0000$	
$d^4S - p(1)[1]$	0.0667	$x = 0.8333$	$y = 0.1667$
$d^4S - p(1)[2]$	0.0044	$x = 0.9000$	$y = 0.1000$
$d^4S - p(2)[1]$	0.2000	$x = 0.8333$	$y = 0.1667$
$d^4S - p(2)[2]$	0.0667	$x = 0.9000$	$y = 0.1000$
$d^4S - p(3)[2]$	0.3733	$x = 0.9000$	$y = 0.1000$
$d^2P - p(1)[0]$	0.1000	$x = 0.3333$	$y = 0.6667$
$d^2P - p(1)[1]$	0.1200	$x = 0.4444$	$0.2778 \ y = 0.1389$
$d^2P - p(1)[2]$	0.0200	$x = 0.3000$	$0.1667 \ y = 0.5333$
$d^2P - p(2)[1]$	0.2400	$x = 0.1667$	$0.4167 \ y = 0.2083$
$d^2P - p(2)[2]$	0.1444	$x = 0.1923$	$0.0385 \ y = 0.7692$
$d^2P - p(2)[3]$	0.0156	$x = 1.0000$	
$d^2P - p(3)[2]$	0.4356	$x = 0.0143$	$0.2857 \ y = 0.7000$
$d^2P - p(3)[3]$	0.1244	$x = 1.0000$	
$d^4P - p(1)[0]$	0.2000	$x = 0.8333$	$y = 0.1667$
$d^4P - p(1)[1]$	0.2400	$x = 0.3375$	$0.2222 \ y = 0.3361$
$d^4P - p(1)[2]$	0.0400	$x = 0.6300$	$0.1633 \ y = 0.0450$
$d^4P - p(2)[1]$	0.4800	$x = 0.3062$	$0.0833 \ y = 0.0375$
$d^4P - p(2)[2]$		$z = 0.0688$	

TABLE 11b (CONTINUED)

$d^4P - p(2)[2]$	0.2889	$z = 0.7915$	0.1300	$y = 0.0565$	$z = 0.0123$	0.0096
$d^4P - p(2)[3]$	0.0311	$z = 0.8571$	0.1000	$y = 0.0429$		
$d^4P - p(3)[2]$	0.8711	$z = 0.4800$	0.0014	$y = 0.0343$	$z = 0.4129$	0.0714
$d^4P - p(3)[3]$	0.2489	$z = 0.8571$	0.1000	$y = 0.0429$		
$d^2D - p(1)[0]$	0.0778	$z = 1.0000$				
$d^2D - p(1)[1]$	0.2333	$z = 0.3000$	0.1667	$y = 0.5333$		
$d^2D - p(1)[2]$	0.0889	$z = 0.4050$	0.2800	$y = 0.1575$	$z = 0.1575$	
$d^2D - p(2)[1]$	0.2333	$z = 0.1000$	0.5000	$y = 0.4000$		
$d^2D - p(2)[2]$	0.3333	$z = 0.2689$	0.2800	$y = 0.3811$	$z = 0.0700$	
$d^2D - p(2)[3]$	0.1000	$z = 0.1693$	0.0667	$y = 0.7640$		
$d^2D - p(3)[2]$	0.3873	$z = 0.0560$	0.3374	$y = 0.5998$	$z = 0.0069$	
$d^2D - p(3)[3]$	0.4889	$z = 0.0043$	0.1091	$y = 0.8866$		
$d^2D - p(3)[4]$	0.0571	$z = 1.0000$				
$d^4D - p(1)[0]$	0.1556	$z = 0.5000$	$y = 0.5000$			
$d^4D - p(1)[1]$	0.4667	$z = 0.5250$	0.3333	$y = 0.0167$	0.0833	$z = 0.0417$
$d^4D - p(1)[2]$	0.1778	$z = 0.2571$	0.1406	$y = 0.3616$	0.2187	
	$z = 0.0000$	0.0219				
$d^4D - p(2)[1]$	0.4667	$z = 0.1750$	0.0000	$y = 0.4500$	0.2500	$z = 0.1250$
$d^4D - p(2)[2]$	0.6667	$z = 0.4571$	0.1469	$y = 0.1334$	0.0350	
	$z = 0.1400$	0.0875				
$d^4D - p(2)[3]$	0.2000	$z = 0.7347$	0.1670	$y = 0.0272$	$z = 0.0378$	0.0333
$d^4D - p(3)[2]$	0.7746	$z = 0.4047$	0.0109	$y = 0.3778$	0.0861	
	$z = 0.0861$	0.0344				
$d^4D - p(3)[3]$	0.9778	$z = 0.6763$	0.0654	$y = 0.0250$	$z = 0.1787$	0.0545
$d^4D - p(3)[4]$	0.1143	$z = 0.8333$	0.1429	$y = 0.0238$		
$d^2F - p(1)[1]$	0.2800	$z = 1.0000$				
$d^2F - p(1)[2]$	0.2800	$z = 0.2857$	0.2000	$y = 0.5143$		
$d^2F - p(2)[1]$	0.0933	$z = 1.0000$				
$d^2F - p(2)[2]$	0.4667	$z = 0.2857$	0.5556	$y = 0.1587$		
$d^2F - p(2)[3]$	0.3733	$z = 0.3061$	0.2744	$y = 0.4082$	$z = 0.0113$	
$d^2F - p(3)[2]$	0.0978	$z = 0.3508$	0.5939	$y = 0.0554$		
$d^2F - p(3)[3]$	0.8089	$z = 0.0177$	0.1340	$y = 0.8477$	$z = 0.0007$	
$d^2F - p(3)[4]$	0.4000	$z = 0.0000$	0.0357	$y = 0.9643$		
$d^4F - p(1)[1]$	0.5600	$z = 0.4000$	0.5000	$y = 0.1000$		
$d^4F - p(1)[2]$	0.5600	$z = 0.4286$	0.3200	$y = 0.0514$	0.1800	$z = 0.0200$
$d^4F - p(2)[1]$	0.1867	$z = 0.4000$	0.5000	$y = 0.1000$		
$d^4F - p(2)[2]$	0.9333	$z = 0.4286$	0.1422	$y = 0.2292$	0.1800	$z = 0.0200$
$d^4F - p(2)[3]$	0.7467	$z = 0.4464$	0.1531	$y = 0.2041$	0.1200	
	$z = 0.0479$	0.0286				
$d^4F - p(3)[2]$	0.1956	$z = 0.5260$	0.2048	$y = 0.1601$	0.0982	$z = 0.0109$
$d^4F - p(3)[3]$	1.6178	$z = 0.6439$	0.0795	$y = 0.1884$	0.0659	
	$z = 0.0157$	0.0066				
$d^4F - p(3)[4]$	0.8000	$z = 0.7639$	0.1270	$y = 0.0174$	$z = 0.0694$	0.0223
$d^2G - p(1)[2]$	0.7200	$z = 1.0000$				
$d^2G - p(2)[2]$	0.1333	$z = 1.0000$				
$d^2G - p(2)[3]$	1.0667	$z = 0.4167$	0.5714	$y = 0.0119$		

TABLE 11b (CONTINUED)

$d^2G - p(3)[2]$	0.0038	$z = 1.0000$				
$d^2G - p(3)[3]$	0.1333	$z = 0.4167$	0.5714	$y = 0.0119$		
$d^2G - p(3)[4]$	1.5429	$z = 0.0000$	0.0278	$y = 0.9722$	$z = 0.0000$	
$d^4G - p(1)[2]$	1.4400	$z = 0.3571$	0.6000	$y = 0.0429$		
$d^4G - p(2)[2]$	0.2667	$z = 0.3571$	0.6000	$y = 0.0429$		
$d^4G - p(2)[3]$	2.1333	$z = 0.5729$	0.3189	$y = 0.0680$	0.0383	$z = 0.0019$
$d^4G - p(3)[2]$	0.0076	$z = 0.3571$	0.6000	$y = 0.0429$		
$d^4G - p(3)[3]$	0.2667	$z = 0.5729$	0.3189	$y = 0.0680$	0.0383	$z = 0.0019$
$d^4G - p(3)[4]$	3.0857	$z = 0.7778$	0.1485	$y = 0.0540$	0.0176	
	$z = 0.0015$	0.0005				
$d^{(2s+1)L} - f(J_p)[K]$	$\sum_{J_p'} s$					
$d^2S - f(1)[2]$	0.0600	$z = 1.0000$				
$d^2S - f(2)[1]$	0.0444	$z = 0.3333$	$y = 0.6667$			
$d^2S - f(2)[2]$	0.0889	$z = 1.0000$				
$d^2S - f(3)[0]$	0.0444	$z = 1.0000$				
$d^2S - f(3)[1]$	0.0889	$z = 0.3333$	$y = 0.6667$			
$d^2S - f(3)[2]$	0.0533	$z = 1.0000$				
$d^4S - f(1)[2]$	0.1600	$z = 0.9000$	$y = 0.1000$			
$d^4S - f(2)[1]$	0.0889	$z = 0.8333$	$y = 0.1667$			
$d^4S - f(2)[2]$	0.1778	$z = 0.9000$	$y = 0.1000$			
$d^4S - f(3)[0]$	0.0889	$z = 1.0000$				
$d^4S - f(3)[1]$	0.1778	$z = 0.8333$	$y = 0.1667$			
$d^4S - f(3)[2]$	0.1067	$z = 0.9000$	$y = 0.1000$			
$d^2P - f(1)[2]$	0.1867	$z = 0.2286$	0.6429	$y = 0.1286$		
$d^2P - f(1)[3]$	0.0533	$z = 1.0000$				
$d^2P - f(2)[1]$	0.1511	$z = 0.0033$	0.1307	$y = 0.0654$	$z = 0.8007$	
$d^2P - f(2)[2]$	0.0889	$z = 0.0000$	0.1667	$y = 0.8333$		
$d^2P - f(2)[3]$	0.1600	$z = 1.0000$				
$d^2P - f(3)[0]$	0.0444	$z = 0.3333$	$y = 0.6667$			
$d^2P - f(3)[1]$	0.1422	$z = 0.4444$	0.2778	$y = 0.1389$	$z = 0.1389$	
$d^2P - f(3)[2]$	0.2133	$z = 0.3000$	0.1667	$y = 0.5333$		
$d^2P - f(3)[3]$	0.1600	$z = 1.0000$				
$d^4P - f(1)[2]$	0.3733	$z = 0.0300$	0.0514	$y = 0.0021$	$z = 0.7557$	0.1607
$d^4P - f(1)[3]$	0.1067	$z = 0.8571$	0.1000	$y = 0.0429$		
$d^4P - f(2)[1]$	0.3022	$z = 0.0397$	0.0016	$y = 0.0641$	0.4003	$z = 0.4943$
$d^4P - f(2)[2]$	0.1778	$z = 0.6300$	0.0133	$y = 0.0450$	$z = 0.2700$	0.0417
$d^4P - f(2)[3]$	0.3200	$z = 0.8571$	0.1000	$y = 0.0429$		
$d^4P - f(3)[0]$	0.0889	$z = 0.8333$	$y = 0.1667$			
$d^4P - f(3)[1]$	0.2844	$z = 0.3375$	0.2222	$y = 0.3361$	0.0694	$z = 0.0347$
$d^4P - f(3)[2]$	0.4267	$z = 0.6300$	0.1633	$y = 0.0450$	$z = 0.1200$	0.0417
$d^4P - f(3)[3]$	0.3200	$z = 0.8571$	0.1000	$y = 0.0429$		
$d^2D - f(1)[2]$	0.1660	$z = 0.0560$	0.3374	$y = 0.0069$	$z = 0.5998$	
$d^2D - f(1)[3]$	0.2095	$z = 0.3508$	0.5939	$y = 0.0554$		
$d^2D - f(1)[4]$	0.0245	$z = 1.0000$				

TABLE IIB (CONTINUED)

$d^2D - f(2)[1]$	0.0825	$z = 0.0231$	0.0513	$y = 0.9256$	
$d^2D - f(2)[2]$	0.2086	$z = 0.0626$	0.0061	$y = 0.0548$	$z = 0.8765$
$d^2D - f(2)[3]$	0.1714	$z = 0.1429$	0.4000	$y = 0.4571$	
$d^2D - f(2)[4]$	0.2041	$z = 1.0000$			
$d^2D - f(3)[0]$	0.0063	$z = 1.0000$			
$d^2D - f(3)[1]$	0.0508	$z = 0.3000$	0.1667	$y = 0.5333$	
$d^2D - f(3)[2]$	0.1741	$z = 0.4050$	0.2800	$y = 0.1575$	$z = 0.1575$
$d^2D - f(3)[3]$	0.3429	$z = 0.2857$	0.2000	$y = 0.5143$	
$d^2D - f(3)[4]$	0.3592	$z = 1.0000$			
$d^4D - f(1)[2]$	0.3320	$z = 0.0003$	0.0061	$y = 0.1032$	0.0000
	$z = 0.4686$	0.4217			
$d^4D - f(1)[3]$	0.4190	$z = 0.0083$	0.0209	$y = 0.0003$	$z = 0.6735$
$d^4D - f(1)[4]$	0.0490	$z = 0.8333$	0.1429	$y = 0.0238$	
$d^4D - f(2)[1]$	0.1651	$z = 0.0404$	0.1603	$y = 0.3282$	0.3141 $z = 0.1571$
$d^4D - f(2)[2]$	0.4172	$z = 0.0224$	0.0020	$y = 0.1616$	0.1948
	$z = 0.2465$	0.3728			
$d^4D - f(2)[3]$	0.3429	$z = 0.2755$	0.0041	$y = 0.0102$	$z = 0.5102$
$d^4D - f(2)[4]$	0.4082	$z = 0.8333$	0.1429	$y = 0.0238$	
$d^4D - f(3)[0]$	0.0127	$z = 0.5000$	$y = 0.5000$		
$d^4D - f(3)[1]$	0.1016	$z = 0.5250$	0.3333	$y = 0.0167$	0.0833 $z = 0.0417$
$d^4D - f(3)[2]$	0.3483	$z = 0.2571$	0.1406	$y = 0.3616$	0.2187
	$z = 0.0000$	0.0219			
$d^4D - f(3)[3]$	0.6857	$z = 0.5510$	0.1653	$y = 0.0204$	$z = 0.1633$
$d^4D - f(3)[4]$	0.7184	$z = 0.8333$	0.1429	$y = 0.0238$	
$d^2F - f(1)[2]$	0.0419	$z = 0.0043$	0.1091	$y = 0.8868$	
$d^2F - f(1)[3]$	0.3467	$z = 0.0177$	0.1340	$y = 0.0007$	$z = 0.8477$
$d^2F - f(1)[4]$	0.1714	$z = 0.4167$	0.5714	$y = 0.0119$	
$d^2F - f(2)[1]$	0.0076	$z = 1.0000$			
$d^2F - f(2)[2]$	0.0857	$z = 0.0476$	0.0000	$y = 0.9524$	
$d^2F - f(2)[3]$	0.2844	$z = 0.1347$	0.0689	$y = 0.0215$	$z = 0.7749$
$d^2F - f(2)[4]$	0.3810	$z = 0.3403$	0.5357	$y = 0.1240$	
$d^2F - f(2)[5]$	0.1746	$z = 1.0000$			
$d^2F - f(3)[1]$	0.0038	$z = 1.0000$			
$d^2F - f(3)[2]$	0.0343	$z = 0.2857$	0.2000	$y = 0.5143$	
$d^2F - f(3)[3]$	0.1511	$z = 0.3842$	0.2917	$y = 0.1621$	$z = 0.1621$
$d^2F - f(3)[4]$	0.4190	$z = 0.2778$	0.2143	$y = 0.5079$	
$d^2F - f(3)[5]$	0.6984	$z = 1.0000$			
$d^4F - f(1)[2]$	0.0838	$z = 0.0065$	0.0109	$y = 0.3867$	0.5345 $z = 0.0594$
$d^4F - f(1)[3]$	0.6933	$z = 0.0000$	0.0010	$y = 0.0265$	0.0002
	$z = 0.3980$	0.5744			
$d^4F - f(1)[4]$	0.3429	$z = 0.0006$	0.0179	$y = 0.0000$	$z = 0.6250$
$d^4F - f(2)[1]$	0.0152	$z = 0.4000$	0.5000	$y = 0.1000$	
$d^4F - f(2)[2]$	0.1714	$z = 0.0714$	0.1200	$y = 0.2752$	0.4800 $z = 0.0533$
$d^4F - f(2)[3]$	0.5689	$z = 0.0047$	0.0036	$y = 0.2233$	0.2084
	$z = 0.1743$	0.3857			
$d^4F - f(2)[4]$	0.7619	$z = 0.0509$	0.0008	$y = 0.0012$	$z = 0.6123$
					0.3348

TABLE IIB (CONTINUED)

$d^4F - f(2)[5]$	0.3492	$z = 0.8182$	0.1667	$y = 0.0152$	
$d^4F - f(3)[1]$	0.0076	$z = 0.4000$	0.5000	$y = 0.1000$	
$d^4F - f(3)[2]$	0.0686	$z = 0.4286$	0.3200	$y = 0.0514$	0.1800 $z = 0.0200$
$d^4F - f(3)[3]$	0.3022	$z = 0.2188$	0.1080	$y = 0.3611$	0.2625
	$z = 0.0041$	0.0454			
$d^4F - f(3)[4]$	0.8381	$z = 0.5093$	0.1601	$y = 0.0116$	$z = 0.1852$
$d^4F - f(3)[5]$	1.3968	$z = 0.8182$	0.1667	$y = 0.0152$	0.1359
$d^2G - f(1)[2]$	0.0016	$z = 1.0000$			
$d^2G - f(1)[3]$	0.0571	$z = 0.0000$	0.0357	$y = 0.9643$	
$d^2G - f(1)[4]$	0.6612	$z = 0.0000$	0.0278	$y = 0.0000$	$z = 0.9722$
$d^2G - f(2)[2]$	0.0041	$z = 1.0000$			
$d^2G - f(2)[3]$	0.0508	$z = 0.0694$	0.0134	$y = 0.9172$	
$d^2G - f(2)[4]$	0.2721	$z = 0.1901$	0.1304	$y = 0.0043$	$z = 0.6752$
$d^2G - f(2)[5]$	0.8750	$z = 0.4364$	0.5556	$y = 0.0081$	
$d^2G - f(3)[2]$	0.0011	$z = 1.0000$			
$d^2G - f(3)[3]$	0.0127	$z = 0.2778$	0.2143	$y = 0.5079$	
$d^2G - f(3)[4]$	0.0789	$z = 0.3725$	0.2997	$y = 0.1639$	$z = 0.1639$
$d^2G - f(3)[5]$	0.3492	$z = 0.2727$	0.2222	$y = 0.5051$	
$d^2G - f(3)[6]$	1.2381	$z = 1.0000$			
$d^4G - f(1)[2]$	0.0033	$z = 0.3571$	0.6000	$y = 0.0429$	
$d^4G - f(1)[3]$	0.1143	$z = 0.0000$	0.0128	$y = 0.3444$	0.6122 $z = 0.0306$
$d^4G - f(1)[4]$	1.3224	$z = 0.0000$	0.0000	$y = 0.0000$	0.0099
	$z = 0.3472$	0.6429			
$d^4G - f(2)[2]$	0.0082	$z = 0.3571$	0.6000	$y = 0.0429$	
$d^4G - f(2)[3]$	0.1016	$z = 0.0955$	0.1196	$y = 0.2425$	0.5166 $z = 0.0258$
$d^4G - f(2)[4]$	0.5442	$z = 0.0000$	0.0059	$y = 0.2614$	0.2318
	$z = 0.1933$	0.3616			
$d^4G - f(2)[5]$	1.7460	$z = 0.0000$	0.0111	$y = 0.0000$	$z = 0.6000$
$d^4G - f(3)[2]$	0.0022	$z = 0.3571$	0.6000	$y = 0.0429$	
$d^4G - f(3)[3]$	0.0254	$z = 0.3819$	0.3061	$y = 0.0709$	0.2296 $z = 0.0115$
$d^4G - f(3)[4]$	0.1578	$z = 0.1975$	0.0913	$y = 0.3583$	0.2826
	$z = 0.0094$	0.0610			
$d^4G - f(3)[5]$	0.6984	$z = 0.4835$	0.1552	$y = 0.0074$	$z = 0.1983$
$d^4G - f(3)[6]$	2.4762	$z = 0.8077$	0.1818	$y = 0.0105$	0.1556
$f^{(2S+1)L} - d(J_p)[K]$	$\sum_{J_p}^s$				
$f^2P - d(1)[1]$	0.1440	$z = 0.1667$	0.0000	$y = 0.8333$	$z = 0.0000$
$f^2P - d(1)[2]$	0.0267	$z = 0.1000$	0.0000	$y = 0.9000$	
$f^2P - d(1)[3]$	0.0008	$z = 1.0000$			
$f^2P - d(2)[0]$	0.0444	$z = 0.3333$	$y = 0.6667$		
$f^2P - d(2)[1]$	0.1511	$z = 0.0033$	0.1307	$y = 0.8007$	$z = 0.0654$
$f^2P - d(2)[2]$	0.0825	$z = 0.0231$	0.0513	$y = 0.9256$	
$f^2P - d(2)[3]$	0.0076	$z = 1.0000$			
$f^2P - d(3)[1]$	0.2497	$z = 0.0579$	0.6923	$y = 0.2215$	$z = 0.0283$
$f^2P - d(3)[2]$	0.1321	$z = 0.0231$	0.3205	$y = 0.6564$	
$f^2P - d(3)[3]$	0.0183	$z = 1.0000$			

TABLE 11b (CONTINUED)

$f^4P - d(1)[1]$	0.2880	$x = 0.9000$	0.0833	$y = 0.0167$	0.0000	$z = 0.0000$
$f^4P - d(1)[2]$	0.0533	$x = 0.8400$	0.0900	$y = 0.0800$	$z = 0.0100$	0.0000
$f^4P - d(1)[3]$	0.0015	$x = 0.8571$	0.1000	$y = 0.0429$		
$f^4P - d(2)[0]$	0.0889	$x = 0.8333$	$y = 0.1667$			
$f^4P - d(2)[1]$	0.3022	$x = 0.8353$	0.0016	$y = 0.3141$	0.0327	$z = 0.0163$
$f^4P - d(2)[2]$	0.1651	$x = 0.7754$	0.0433	$y = 0.0554$	$z = 0.1131$	0.0128
$f^4P - d(2)[3]$	0.0152	$x = 0.8571$	0.1000	$y = 0.0429$		
$f^4P - d(3)[1]$	0.4993	$x = 0.0989$	0.0289	$y = 0.4059$	0.0141	$z = 0.4521$
$f^4P - d(3)[2]$	0.2641	$x = 0.4362$	0.0003	$y = 0.0312$	$z = 0.4523$	0.0801
$f^4P - d(3)[3]$	0.0366	$x = 0.8571$	0.1000	$y = 0.0429$		
$f^2D - d(1)[1]$	0.1600	$x = 0.4000$	0.5000	$y = 0.1000$		
$f^2D - d(1)[2]$	0.1143	$x = 0.2844$	0.1400	$y = 0.5600$	$z = 0.0156$	
$f^2D - d(1)[3]$	0.0114	$x = 0.1429$	0.0444	$y = 0.8127$		
$f^2D - d(2)[0]$	0.0889	$x = 1.0000$				
$f^2D - d(2)[1]$	0.0889	$x = 0.0000$	0.1667	$y = 0.8333$		
$f^2D - d(2)[2]$	0.2086	$x = 0.0626$	0.0061	$y = 0.8765$	$z = 0.0548$	
$f^2D - d(2)[3]$	0.0857	$x = 0.0476$	0.0000	$y = 0.9524$		
$f^2D - d(3)[1]$	0.0041	$x = 1.0000$				
$f^2D - d(3)[2]$	0.1321	$x = 0.2077$	0.6282	$y = 0.1641$		
$f^2D - d(3)[3]$	0.3256	$x = 0.0812$	0.3993	$y = 0.5054$	$z = 0.0140$	
$f^2D - d(3)[4]$	0.1886	$x = 0.0180$	0.1455	$y = 0.8416$		
$f^2D - d(3)[5]$	0.0204	$x = 1.0000$				
$f^4D - d(1)[1]$	0.3200	$x = 0.7000$	0.2500	$y = 0.0500$	0.0000	$z = 0.0000$
$f^4D - d(1)[2]$	0.2286	$x = 0.6349$	0.1800	$y = 0.1073$	0.0700	
	$z = 0.0078$	0.0000				
$f^4D - d(1)[3]$	0.0229	$x = 0.7653$	0.1637	$y = 0.0283$	$z = 0.0204$	0.0222
$f^4D - d(2)[0]$	0.1778	$x = 0.5000$	$y = 0.5000$			
$f^4D - d(2)[1]$	0.1778	$x = 0.0000$	0.0833	$y = 0.4167$	0.3333	$z = 0.1667$
$f^4D - d(2)[2]$	0.4172	$x = 0.8050$	0.1252	$y = 0.0089$	0.0030	
	$z = 0.0274$	0.0304				
$f^4D - d(2)[3]$	0.1714	$x = 0.8265$	0.1361	$y = 0.0306$	$z = 0.0068$	0.0000
$f^4D - d(2)[4]$	0.0082	$x = 0.8333$	0.1429	$y = 0.0238$		
$f^4D - d(3)[1]$	0.2641	$x = 0.3635$	0.0256	$y = 0.3705$	0.1603	$z = 0.0801$
$f^4D - d(3)[2]$	0.6512	$x = 0.3223$	0.0045	$y = 0.4177$	0.0944	
	$z = 0.1123$	0.0487				
$f^4D - d(3)[3]$	0.3771	$x = 0.6262$	0.0534	$y = 0.0252$	$z = 0.2245$	0.0727
$f^4D - d(3)[4]$	0.0408	$x = 0.8333$	0.1429	$y = 0.0238$		
$f^2F - d(1)[1]$	0.0960	$x = 1.0000$				
$f^2F - d(1)[2]$	0.2400	$x = 0.3968$	0.4000	$y = 0.2032$		
$f^2F - d(1)[3]$	0.0640	$x = 0.3189$	0.2177	$y = 0.4252$	$z = 0.0383$	
$f^2F - d(2)[1]$	0.1600	$x = 1.0000$				
$f^2F - d(2)[2]$	0.1714	$x = 0.1429$	0.4000	$y = 0.4571$		
$f^2F - d(2)[3]$	0.2844	$x = 0.1347$	0.0689	$y = 0.7749$	$z = 0.0215$	
$f^2F - d(2)[4]$	0.0508	$x = 0.0694$	0.0134	$y = 0.9172$		
$f^2F - d(3)[1]$	0.0183	$x = 1.0000$				
$f^2F - d(3)[2]$	0.1886	$x = 0.3247$	0.5818	$y = 0.0935$		

TABLE 11b (CONTINUED)

$f^2F - d(3)[3]$	0.4990	$x = 0.0485$	0.2120	$y = 0.7362$	$z = 0.0033$	
$f^2F - d(3)[4]$	0.2159	$x = 0.0033$	0.0630	$y = 0.9337$		
$f^2F - d(3)[5]$	0.0116	$x = 1.0000$				
$f^4F - d(1)[1]$	0.1920	$x = 0.4000$	0.5000	$y = 0.1000$		
$f^4F - d(1)[2]$	0.4800	$x = 0.5952$	0.3600	$y = 0.0003$	0.0400	$z = 0.0044$
$f^4F - d(1)[3]$	0.1280	$x = 0.4650$	0.1594	$y = 0.2126$	0.1572	
	$z = 0.0010$	0.0048				
$f^4F - d(2)[1]$	0.3200	$x = 0.4000$	0.5000	$y = 0.1000$		
$f^4F - d(2)[2]$	0.8429	$x = 0.2143$	0.0400	$y = 0.3457$	0.3600	$z = 0.0400$
$f^4F - d(2)[3]$	0.5689	$x = 0.7266$	0.1758	$y = 0.0260$	0.0211	
	$z = 0.0264$	0.0241				
$f^4F - d(2)[4]$	0.1016	$x = 0.7957$	0.1749	$y = 0.0181$	$z = 0.0029$	0.0084
$f^4F - d(3)[1]$	0.0366	$x = 0.4000$	0.5000	$y = 0.1000$		
$f^4F - d(3)[2]$	0.3771	$x = 0.4870$	0.1782	$y = 0.1894$	0.1309	$z = 0.0145$
$f^4F - d(3)[3]$	0.9979	$x = 0.5346$	0.0545	$y = 0.2671$	0.0995	
	$z = 0.0295$	0.0147				
$f^4F - d(3)[4]$	0.4317	$x = 0.7249$	0.1124	$y = 0.0165$	$z = 0.1068$	0.0394
$f^4F - d(3)[5]$	0.0233	$x = 0.8182$	0.1667	$y = 0.0152$		
$f^2G - d(1)[2]$	0.2857	$x = 1.0000$				
$f^2G - d(1)[3]$	0.2286	$x = 0.3750$	0.3571	$y = 0.2679$		
$f^2G - d(2)[2]$	0.2041	$x = 1.0000$				
$f^2G - d(2)[3]$	0.3810	$x = 0.3403$	0.5357	$y = 0.1240$		
$f^2G - d(2)[4]$	0.2721	$x = 0.1901$	0.1304	$y = 0.6752$	$z = 0.0043$	
$f^2G - d(3)[2]$	0.0204	$x = 1.0000$				
$f^2G - d(3)[3]$	0.2159	$x = 0.3954$	0.5672	$y = 0.0373$		
$f^2G - d(3)[4]$	0.7891	$x = 0.0131$	0.0851	$y = 0.9014$	$z = 0.0003$	
$f^2G - d(3)[5]$	0.1746	$x = 0.0000$	0.0222	$y = 0.9778$		
$f^4G - d(1)[2]$	0.5714	$x = 0.3571$	0.6000	$y = 0.0429$		
$f^4G - d(1)[3]$	0.4571	$x = 0.5156$	0.3686	$y = 0.0153$	0.0957	$z = 0.0048$
$f^4G - d(2)[2]$	0.4082	$x = 0.3571$	0.6000	$y = 0.0429$		
$f^4G - d(2)[3]$	0.7619	$x = 0.4679$	0.2315	$y = 0.1499$	0.1435	$z = 0.0072$
$f^4G - d(2)[4]$	0.5442	$x = 0.6300$	0.1797	$y = 0.0913$	0.0741	
	$z = 0.0148$	0.0100				
$f^4G - d(3)[2]$	0.0408	$x = 0.3571$	0.6000	$y = 0.0429$		
$f^4G - d(3)[3]$	0.4317	$x = 0.5437$	0.2917	$y = 0.0937$	0.0675	$z = 0.0034$
$f^4G - d(3)[4]$	1.5782	$x = 0.6952$	0.1184	$y = 0.1253$	0.0522	
	$z = 0.0061$	0.0028				
$f^4G - d(3)[5]$	0.3492	$x = 0.7736$	0.1544	$y = 0.0119$	$z = 0.0446$	0.0156
$f^2H - d(1)[3]$	0.6286	$x = 1.0000$				
$f^2H - d(2)[3]$	0.1746	$x = 1.0000$				
$f^2H - d(2)[4]$	0.8730	$x = 0.4364$	0.5556	$y = 0.0081$		
$f^2H - d(3)[3]$	0.0116	$x = 1.0000$				
$f^2H - d(3)[4]$	0.1746	$x = 0.4364$	0.5556	$y = 0.0081$		
$f^2H - d(3)[5]$	1.2804	$x = 0.0000$	0.0182	$y = 0.9818$	$z = 0.0000$	
$f^4H - d(1)[3]$	1.2571	$x = 0.3333$	0.6429	$y = 0.0238$		
$f^4H - d(2)[3]$	0.3492	$x = 0.3333$	0.6429	$y = 0.0238$		

TABLE 11b (CONTINUED)

$f^2F - g(2)[5]$	0.2546	$z = 1.0000$
$f^2F - g(3)[1]$	0.0032	$z = 1.0000$
$f^2F - g(3)[2]$	0.0397	$z = 0.1429$ 0.0444 $y = 0.8127$
$f^2F - g(3)[3]$	0.1630	$z = 0.3189$ 0.2177 $y = 0.0383$ $z = 0.4252$
$f^2F - g(3)[4]$	0.3492	$z = 0.3750$ 0.3571 $y = 0.2679$
$f^2F - g(3)[5]$	0.3783	$z = 1.0000$
$f^4F - g(1)[3]$	0.2599	$z = 0.0002$ 0.0022 $y = 0.0752$ 0.0053
	$z = 0.3895$ 0.5277	
$f^4F - g(1)[4]$	0.4722	$z = 0.0060$ 0.0097 $y = 0.0001$ $z = 0.6296$ 0.3545
$f^4F - g(1)[5]$	0.0679	$z = 0.8182$ 0.1667 $y = 0.0152$
$f^4F - g(2)[2]$	0.0966	$z = 0.0088$ 0.0528 $y = 0.3466$ 0.5326 $z = 0.0592$
$f^4F - g(2)[3]$	0.5093	$z = 0.0068$ 0.0000 $y = 0.0379$ 0.0742
	$z = 0.3201$ 0.5610	
$f^4F - g(2)[4]$	0.2183	$z = 0.3056$ 0.0198 $y = 0.0069$ $z = 0.4444$ 0.2232
$f^4F - g(2)[5]$	0.5093	$z = 0.8182$ 0.1667 $y = 0.0152$
$f^4F - g(3)[1]$	0.0063	$z = 0.4000$ 0.5000 $y = 0.1000$
$f^4F - g(3)[2]$	0.0794	$z = 0.2143$ 0.2178 $y = 0.1679$ 0.3600 $z = 0.0400$
$f^4F - g(3)[3]$	0.3259	$z = 0.0744$ 0.0574 $y = 0.3593$ 0.2861
	$z = 0.0514$ 0.1714	
$f^4F - g(3)[4]$	0.6984	$z = 0.3056$ 0.1240 $y = 0.0069$ $z = 0.3403$ 0.2232
$f^4F - g(3)[5]$	0.7566	$z = 0.8182$ 0.1667 $y = 0.0152$
$f^2G - g(1)[3]$	0.0202	$z = 0.0033$ 0.0630 $y = 0.9337$
$f^2G - g(1)[4]$	0.3107	$z = 0.0131$ 0.0851 $y = 0.0003$ $z = 0.9014$
$f^2G - g(1)[5]$	0.1833	$z = 0.4364$ 0.5556 $y = 0.0081$
$f^2G - g(2)[2]$	0.0024	$z = 1.0000$
$f^2G - g(2)[3]$	0.0541	$z = 0.0200$ 0.0009 $y = 0.9792$
$f^2G - g(2)[4]$	0.2923	$z = 0.0679$ 0.0213 $y = 0.0075$ $z = 0.9033$
$f^2G - g(2)[5]$	0.3157	$z = 0.3754$ 0.5269 $y = 0.0978$
$f^2G - g(2)[6]$	0.1928	$z = 1.0000$
$f^2G - g(3)[2]$	0.0019	$z = 1.0000$
$f^2G - g(3)[3]$	0.0233	$z = 0.1667$ 0.0893 $y = 0.7440$
$f^2G - g(3)[4]$	0.1224	$z = 0.3319$ 0.2546 $y = 0.0570$ $z = 0.3565$
$f^2G - g(3)[5]$	0.3783	$z = 0.3564$ 0.3333 $y = 0.3103$
$f^2G - g(3)[6]$	0.6741	$z = 1.0000$
$f^4G - g(1)[3]$	0.0405	$z = 0.0045$ 0.0036 $y = 0.3538$ 0.6077 $z = 0.0304$
$f^4G - g(1)[4]$	0.6214	$z = 0.0000$ 0.0004 $y = 0.0180$ 0.0001
	$z = 0.3560$ 0.6235	
$f^4G - g(1)[5]$	0.3667	$z = 0.0000$ 0.0111 $y = 0.0000$ $z = 0.6000$ 0.3889
$f^4G - g(2)[2]$	0.0047	$z = 0.3571$ 0.6000 $y = 0.0429$
$f^4G - g(2)[3]$	0.1082	$z = 0.0275$ 0.0577 $y = 0.3009$ 0.5847 $z = 0.0292$
$f^4G - g(2)[4]$	0.5847	$z = 0.0018$ 0.0008 $y = 0.1002$ 0.1159
	$z = 0.2457$ 0.5356	
$f^4G - g(2)[5]$	0.6315	$z = 0.0416$ 0.0000 $y = 0.0006$ $z = 0.5889$ 0.3688
$f^4G - g(2)[6]$	0.3852	$z = 0.8077$ 0.1818 $y = 0.0105$
$f^4G - g(3)[2]$	0.0038	$z = 0.3571$ 0.6000 $y = 0.0429$
$f^4G - g(3)[3]$	0.0466	$z = 0.2292$ 0.2156 $y = 0.1535$ 0.3827 $z = 0.0191$

TABLE 11b (CONTINUED)

$f^4H - d(2)[4]$	1.7460	$z = 0.5673$ 0.3630 $y = 0.0431$ 0.0259 $z = 0.0007$
$f^4H - d(3)[3]$	0.0233	$z = 0.8333$ 0.6429 $y = 0.0238$
$f^4H - d(3)[4]$	0.3492	$z = 0.5673$ 0.3630 $y = 0.0431$ 0.0259 $z = 0.0007$
$f^4H - d(3)[5]$	2.5608	$z = 0.7810$ 0.1688 $y = 0.0365$ 0.0128
	$z = 0.0007$ 0.0002	
$f^{(2S+1)L - g(J_p)(K)}$	$\sum_{J_p}^s$	
$f^2P - g(1)[3]$	0.1714	$z = 1.0000$
$f^2P - g(2)[2]$	0.1270	$z = 0.4000$ 0.5000 $y = 0.1000$
$f^2P - g(2)[3]$	0.1587	$z = 1.0000$
$f^2P - g(3)[1]$	0.1714	$z = 0.1667$ 0.0000 $y = 0.0000$ $z = 0.8333$
$f^2P - g(3)[2]$	0.1587	$z = 0.4000$ 0.5000 $y = 0.1000$
$f^2P - g(3)[3]$	0.0698	$z = 1.0000$
$f^4P - g(1)[3]$	0.3429	$z = 0.8571$ 0.1000 $y = 0.0429$
$f^4P - g(2)[2]$	0.2540	$z = 0.2100$ 0.1600 $y = 0.0150$ $z = 0.4900$ 0.1250
$f^4P - g(2)[3]$	0.3175	$z = 0.8571$ 0.1000 $y = 0.0429$
$f^4P - g(3)[1]$	0.3429	$z = 0.0250$ 0.0833 $y = 0.2667$ 0.4187 $z = 0.2083$
$f^4P - g(3)[2]$	0.3175	$z = 0.2100$ 0.1600 $y = 0.0150$ $z = 0.4900$ 0.1250
$f^4P - g(3)[3]$	0.1397	$z = 0.8571$ 0.1000 $y = 0.0429$
$f^2D - g(1)[3]$	0.1964	$z = 0.3247$ 0.5818 $y = 0.0935$
$f^2D - g(1)[4]$	0.0893	$z = 1.0000$
$f^2D - g(2)[2]$	0.1927	$z = 0.0008$ 0.0988 $y = 0.0110$ $z = 0.8894$
$f^2D - g(2)[3]$	0.0496	$z = 0.0476$ 0.0000 $y = 0.9524$
$f^2D - g(2)[4]$	0.2338	$z = 1.0000$
$f^2D - g(3)[1]$	0.0478	$z = 0.1000$ 0.0000 $y = 0.9000$
$f^2D - g(3)[2]$	0.1701	$z = 0.2844$ 0.1400 $y = 0.0156$ $z = 0.5600$
$f^2D - g(3)[3]$	0.2619	$z = 0.3968$ 0.4000 $y = 0.2032$
$f^2D - g(3)[4]$	0.1871	$z = 1.0000$
$f^4D - g(1)[3]$	0.3929	$z = 0.0250$ 0.0134 $y = 0.0009$ $z = 0.6698$ 0.2909
$f^4D - g(1)[4]$	0.1786	$z = 0.8333$ 0.1429 $y = 0.0238$
$f^4D - g(2)[2]$	0.3855	$z = 0.0101$ 0.0016 $y = 0.0001$ 0.0494
	$z = 0.4447$ 0.4941	
$f^4D - g(2)[3]$	0.0992	$z = 0.8265$ 0.1361 $y = 0.0306$ $z = 0.0068$ 0.0000
$f^4D - g(2)[4]$	0.4677	$z = 0.8333$ 0.1429 $y = 0.0238$
$f^4D - g(3)[1]$	0.0952	$z = 0.1750$ 0.2500 $z = 0.1250$
$f^4D - g(3)[2]$	0.3401	$z = 0.0571$ 0.0672 $y = 0.3506$ 0.2800
	$z = 0.0700$ 0.1750	
$f^4D - g(3)[3]$	0.5238	$z = 0.2755$ 0.1311 $y = 0.0102$ $z = 0.3832$ 0.2000
$f^4D - g(3)[4]$	0.3741	$z = 0.8333$ 0.1429 $y = 0.0238$
$f^2F - g(1)[3]$	0.1299	$z = 0.0485$ 0.2120 $y = 0.0033$ $z = 0.7362$
$f^2F - g(1)[4]$	0.2861	$z = 0.3954$ 0.5672 $y = 0.0373$
$f^2F - g(1)[5]$	0.0340	$z = 1.0000$
$f^2F - g(2)[2]$	0.0483	$z = 0.0059$ 0.0292 $y = 0.9049$
$f^2F - g(2)[3]$	0.2546	$z = 0.0186$ 0.0012 $y = 0.0139$ $z = 0.9663$
$f^2F - g(2)[4]$	0.1091	$z = 0.1667$ 0.3571 $y = 0.4762$

TABLE 11b (CONTINUED)

$g^4D - f(1)[2]$	0.4082	$z = 0.8571$	0.1333	$y = 0.0095$	0.0000
$g^4D - f(1)[3]$	0.0357	$z = 0.8265$	0.1361	$y = 0.0306$	$z = 0.0068$
$g^4D - f(1)[4]$	0.0006	$z = 0.8333$	0.1429	$y = 0.0238$	
$g^4D - f(2)[1]$	0.2540	$z = 0.7000$	0.2500	$y = 0.0500$	$z = 0.0000$
$g^4D - f(2)[2]$	0.3855	$z = 0.7003$	0.0565	$y = 0.1883$	0.0494
$g^4D - f(2)[3]$	0.0966	$z = 0.0055$	0.0000		
$g^4D - f(2)[4]$	0.0047	$z = 0.7863$	0.1021	$y = 0.0291$	$z = 0.0679$
$g^4D - f(3)[0]$	0.1905	$z = 0.8333$	0.1429	$y = 0.0238$	
$g^4D - f(3)[1]$	0.4127	$z = 0.5000$	$y = 0.5000$		
$g^4D - f(3)[2]$	0.3250	$z = 0.3365$	0.0192	$y = 0.3846$	0.1731
$g^4D - f(3)[3]$	0.1005	$z = 0.3365$	0.0192	$y = 0.3846$	0.1731
$g^4D - f(3)[4]$	0.0083	$z = 0.2680$	0.0017	$y = 0.4386$	0.0977
$g^4D - f(3)[5]$	0.1786	$z = 0.1329$	0.0610		
$g^4D - f(3)[6]$	0.1250	$z = 0.5849$	0.0448	$y = 0.0217$	$z = 0.2610$
$g^4D - f(3)[7]$	0.0075	$z = 0.8333$	0.1429	$y = 0.0238$	
$g^4D - f(3)[8]$	0.1587	$z = 0.4286$	0.5333	$y = 0.0381$	
$g^4D - f(3)[9]$	0.0496	$z = 0.1633$	0.0680	$y = 0.7653$	$z = 0.0034$
$g^4D - f(3)[10]$	0.2546	$z = 0.0789$	0.0188	$y = 0.9023$	
$g^4D - f(3)[11]$	0.0015	$z = 1.0000$			
$g^4D - f(3)[12]$	0.0794	$z = 1.0000$			
$g^4D - f(3)[13]$	0.2513	$z = 0.3033$	0.5684	$y = 0.1283$	
$g^4D - f(3)[14]$	0.2963	$z = 0.0772$	0.2721	$y = 0.6431$	$z = 0.0077$
$g^4D - f(3)[15]$	0.0931	$z = 0.0104$	0.0893	$y = 0.9003$	
$g^4D - f(3)[16]$	0.0058	$z = 1.0000$			
$g^4D - f(3)[17]$	0.3571	$z = 0.6429$	0.3333	$y = 0.0238$	0.0000
$g^4D - f(3)[18]$	0.2500	$z = 0.7292$	0.1837	$y = 0.0425$	0.0425
$g^4D - f(3)[19]$	0.0151	$z = 0.0021$	0.0000		
$g^4D - f(3)[20]$	0.3175	$z = 0.7880$	0.1765	$y = 0.0179$	$z = 0.0058$
$g^4D - f(3)[21]$	0.0992	$z = 0.4000$	0.5000	$y = 0.1000$	
$g^4D - f(3)[22]$	0.5093	$z = 0.0714$	0.1200	$y = 0.2752$	0.4800
$g^4D - f(3)[23]$	0.1082	$z = 0.8185$	0.1484	$y = 0.0193$	0.0037
$g^4D - f(3)[24]$	0.0029	$z = 0.0031$	0.0069		
$g^4D - f(3)[25]$	0.1587	$z = 0.8136$	0.1576	$y = 0.0185$	$z = 0.0098$
$g^4D - f(3)[26]$	0.5026	$z = 0.8182$	0.1667	$y = 0.0152$	
$g^4D - f(3)[27]$	0.5926	$z = 0.4000$	0.5000	$y = 0.1000$	
$g^4D - f(3)[28]$	0.1862	$z = 0.4549$	0.1579	$y = 0.2118$	0.1579
$g^4D - f(3)[29]$	0.0116	$z = 0.4501$	0.0386	$y = 0.3215$	0.1229
$g^4D - f(3)[30]$	0.0935	$z = 0.0430$	0.0238		
$g^4D - f(3)[31]$	0.2488	$z = 0.6875$	0.1004	$y = 0.0156$	$z = 0.1406$
$g^4D - f(3)[32]$	0.0116	$z = 0.8182$	0.1667	$y = 0.0152$	
$g^4D - f(3)[33]$	0.0935	$z = 1.0000$			
$g^4D - f(3)[34]$	0.2488	$z = 0.4298$	0.4699	$y = 0.1003$	

TABLE 11b (CONTINUED)

$f^4G - g(3)[4]$	0.2449	$z = 0.0848$	0.0525	$y = 0.3585$	0.2946
$f^4G - g(3)[5]$	0.7566	$z = 0.0458$	0.1637		
$f^4G - g(3)[6]$	1.3481	$z = 0.3223$	0.1217	$y = 0.0050$	$z = 0.3177$
$f^4G - g(3)[7]$	0.0005	$z = 0.8077$	0.1818	$y = 0.0105$	
$f^4G - g(3)[8]$	0.0306	$z = 1.0000$			
$f^4G - g(3)[9]$	0.0306	$z = 0.0000$	0.0222	$y = 0.9778$	
$f^4G - g(3)[10]$	0.5975	$z = 0.0000$	0.0182	$y = 0.0000$	$z = 0.9818$
$f^4G - g(3)[11]$	0.0015	$z = 1.0000$			
$f^4G - g(3)[12]$	0.0313	$z = 0.0368$	0.0042	$y = 0.9590$	
$f^4G - g(3)[13]$	0.2444	$z = 0.1194$	0.0689	$y = 0.0018$	$z = 0.8099$
$f^4G - g(3)[14]$	0.7704	$z = 0.4487$	0.5455	$y = 0.0058$	
$f^4G - g(3)[15]$	0.0005	$z = 1.0000$			
$f^4G - g(3)[16]$	0.0079	$z = 0.1818$	0.1200	$y = 0.6982$	
$f^4G - g(3)[17]$	0.0582	$z = 0.3375$	0.2750	$y = 0.0716$	$z = 0.3159$
$f^4G - g(3)[18]$	0.2889	$z = 0.3419$	0.3182	$y = 0.3399$	
$f^4G - g(3)[19]$	1.1111	$z = 1.0000$			
$f^4G - g(3)[20]$	0.0010	$z = 0.3333$	0.6429	$y = 0.0238$	
$f^4G - g(3)[21]$	0.0811	$z = 0.0000$	0.0074	$y = 0.3259$	0.6481
$f^4G - g(3)[22]$	1.1951	$z = 0.0000$	0.0000	$y = 0.0000$	0.0061
$f^4G - g(3)[23]$	0.0029	$z = 0.3273$	0.6667		
$f^4G - g(3)[24]$	0.0627	$z = 0.3333$	0.6429	$y = 0.0238$	
$f^4G - g(3)[25]$	0.4889	$z = 0.0479$	0.0689	$y = 0.2706$	0.5956
$f^4G - g(3)[26]$	0.15407	$z = 0.0000$	0.0076	$y = 0.0000$	$z = 0.5833$
$f^4G - g(3)[27]$	0.0011	$z = 0.3333$	0.6429	$y = 0.0238$	0.4091
$f^4G - g(3)[28]$	0.0159	$z = 0.2364$	0.2178	$y = 0.1459$	0.3889
$f^4G - g(3)[29]$	0.1164	$z = 0.0918$	0.0497	$y = 0.3562$	0.3012
$f^4G - g(3)[30]$	0.5778	$z = 0.0435$	0.1576		
$f^4G - g(3)[31]$	2.2222	$z = 0.3328$	0.1209	$y = 0.0037$	$z = 0.3039$
$f^4G - g(3)[32]$	0.2222	$z = 0.8000$	0.1923	$y = 0.0077$	
$f^4G - g(3)[33]$	0.2041	$z = 0.0667$	0.0000	$y = 0.3333$	$z = 0.0000$
$f^4G - g(3)[34]$	0.0179	$z = 0.0476$	0.0000	$y = 0.9524$	
$f^4G - g(3)[35]$	0.0003	$z = 1.0000$			
$f^4G - g(3)[36]$	0.1270	$z = 0.4000$	0.5000	$y = 0.1000$	
$f^4G - g(3)[37]$	0.1927	$z = 0.0008$	0.0988	$y = 0.8894$	$z = 0.0110$
$f^4G - g(3)[38]$	0.0483	$z = 0.0059$	0.0292	$y = 0.9649$	
$f^4G - g(3)[39]$	0.0024	$z = 1.0000$			
$f^4G - g(3)[40]$	0.0952	$z = 1.0000$			
$f^4G - g(3)[41]$	0.2063	$z = 0.1923$	0.6154	$y = 0.1923$	
$f^4G - g(3)[42]$	0.1625	$z = 0.0992$	0.4395	$y = 0.4395$	$z = 0.0217$
$f^4G - g(3)[43]$	0.0503	$z = 0.0226$	0.1754	$y = 0.8020$	
$f^4G - g(3)[44]$	0.0042	$z = 1.0000$			

$$g^{(2S+1)L - f(j_p)[K]} \sum_{j,j'}^S$$

TABLE 11b (CONTINUED)

$g^2G - f(1)[4]$	0.0577	$z = 0.2248$	0.1442	$y = 0.6183$	$z = 0.0126$
$g^2G - f(2)[2]$	0.2338	$z = 1.0000$			
$g^2G - f(2)[3]$	0.1091	$z = 0.1667$	0.3571	$y = 0.4762$	
$g^2G - f(2)[4]$	0.2923	$z = 0.0679$	0.0213	$y = 0.9033$	$z = 0.0075$
$g^2G - f(2)[5]$	0.0313	$z = 0.0368$	0.0042	$y = 0.9590$	
$g^2G - f(3)[2]$	0.0624	$z = 1.0000$			
$g^2G - f(3)[3]$	0.2794	$z = 0.3750$	0.5580	$y = 0.0670$	
$g^2G - f(3)[4]$	0.4720	$z = 0.0391$	0.1453	$y = 0.8139$	$z = 0.0017$
$g^2G - f(3)[5]$	0.1159	$z = 0.0025$	0.0411	$y = 0.9564$	
$g^2G - f(3)[6]$	0.0038	$z = 1.0000$			
$g^4G - f(1)[2]$	0.1871	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^4G - f(1)[3]$	0.4976	$z = 0.5910$	0.3878	$y = 0.0001$	0.0201
$g^4G - f(1)[4]$	0.1153	$z = 0.5887$	0.1757	$y = 0.1252$	0.1083
		$z = 0.0007$	0.0014		
$g^4G - f(2)[2]$	0.4677	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^4G - f(2)[3]$	0.2183	$z = 0.2292$	0.0816	$y = 0.2874$	0.3827
$g^4G - f(2)[4]$	0.5847	$z = 0.7836$	0.1874	$y = 0.0052$	0.0092
		$z = 0.0068$	0.0077		
$g^4G - f(2)[5]$	0.0627	$z = 0.7997$	0.1850	$y = 0.0123$	$z = 0.0001$
$g^4G - f(3)[2]$	0.1247	$z = 0.3571$	0.6000	$y = 0.0429$	
$g^4G - f(3)[3]$	0.5587	$z = 0.5156$	0.2682	$y = 0.1158$	0.0957
$g^4G - f(3)[4]$	0.9440	$z = 0.6087$	0.0936	$y = 0.1915$	0.0865
		$z = 0.0127$	0.0069		
$g^4G - f(3)[5]$	0.2317	$z = 0.7462$	0.1428	$y = 0.0115$	$z = 0.0708$
$g^4G - f(3)[6]$	0.0075	$z = 0.8077$	0.1818	$y = 0.0105$	
$g^2H - f(1)[3]$	0.2750	$z = 1.0000$			
$g^2H - f(1)[4]$	0.2139	$z = 0.4156$	0.4286	$y = 0.1558$	
$g^2H - f(2)[3]$	0.2546	$z = 1.0000$			
$g^2H - f(2)[4]$	0.3157	$z = 0.3754$	0.5269	$y = 0.0978$	
$g^2H - f(2)[5]$	0.2444	$z = 0.1194$	0.0689	$y = 0.8099$	$z = 0.0018$
$g^2H - f(3)[3]$	0.0407	$z = 1.0000$			
$g^2H - f(3)[4]$	0.2704	$z = 0.4209$	0.5525	$y = 0.0266$	
$g^2H - f(3)[5]$	0.7333	$z = 0.0099$	0.0588	$y = 0.9311$	$z = 0.0002$
$g^2H - f(3)[6]$	0.0963	$z = 0.0000$	0.0152	$y = 0.9848$	
$g^4H - f(1)[3]$	0.5500	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(1)[4]$	0.4278	$z = 0.5403$	0.3968	$y = 0.0058$	0.0556
$g^4H - f(2)[3]$	0.5093	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(2)[4]$	0.6315	$z = 0.4880$	0.2903	$y = 0.1056$	0.1129
$g^4H - f(2)[5]$	0.4889	$z = 0.7071$	0.1934	$y = 0.0450$	0.0450
		$z = 0.0055$	0.0040		
$g^4H - f(3)[3]$	0.0815	$z = 0.3333$	0.6429	$y = 0.0238$	
$g^4H - f(3)[4]$	0.5407	$z = 0.5472$	0.3425	$y = 0.0610$	0.0479
$g^4H - f(3)[5]$	1.4667	$z = 0.7218$	0.1450	$y = 0.0885$	0.0405
		$z = 0.0029$	0.0013		
$g^4H - f(3)[6]$	0.1926	$z = 0.7766$	0.1723	$y = 0.0086$	$z = 0.0311$
$g^2I - f(1)[4]$	0.5778	$z = 1.0000$			

TABLE 11b (CONTINUED)

$g^2I - f(2)[4]$	0.1926	$z = 1.0000$			
$g^2I - f(2)[5]$	0.7704	$z = 0.4487$	0.5455	$y = 0.0058$	
$g^2I - f(3)[4]$	0.0175	$z = 1.0000$			
$g^2I - f(3)[5]$	0.1926	$z = 0.4487$	0.5455	$y = 0.0058$	
$g^2I - f(3)[6]$	1.1380	$z = 0.0000$	0.0128	$y = 0.9872$	$z = 0.0000$
$g^4I - f(1)[4]$	1.1556	$z = 0.3182$	0.6667	$y = 0.0152$	
$g^4I - f(2)[4]$	0.3852	$z = 0.3182$	0.6667	$y = 0.0152$	
$g^4I - f(2)[5]$	1.5407	$z = 0.5609$	0.3905	$y = 0.0297$	0.0186
$g^4I - f(3)[4]$	0.0350	$z = 0.3182$	0.6667	$y = 0.0152$	
$g^4I - f(3)[5]$	0.3852	$z = 0.5609$	0.3905	$y = 0.0297$	0.0186
$g^4I - f(3)[6]$	2.2761	$z = 0.7811$	0.1825	$y = 0.0263$	0.0097
		$z = 0.0003$	0.0001		

TABLE 11c

TRANSITIONS BETWEEN LS AND JJ STATES. PARENT TERM: 3D

$s^{(2S+1)L} - p(J_p, \tau)$	$\sum_{J,J'} s$	$s^{2D} - p(1, \frac{1}{2})$	$s^{2D} - p(1, \frac{1}{2})$	$s^{2D} - p(2, \frac{1}{2})$	$s^{2D} - p(2, \frac{1}{2})$	$s^{2D} - p(3, \frac{1}{2})$	$s^{2D} - p(3, \frac{1}{2})$	$s^{4D} - p(1, \frac{1}{2})$	$s^{4D} - p(1, \frac{1}{2})$	$s^{4D} - p(2, \frac{1}{2})$	$s^{4D} - p(2, \frac{1}{2})$	$s^{4D} - p(3, \frac{1}{2})$	$s^{4D} - p(3, \frac{1}{2})$	$p^{(2S+1)L} - s(J_p, \tau)$	$\sum_{J,J'} s$	$p^{2P} - s(1, \frac{1}{2})$	$p^{2P} - s(2, \frac{1}{2})$	$p^{2P} - s(3, \frac{1}{2})$	$p^{4P} - s(1, \frac{1}{2})$
$s^{2D} - p(1, \frac{1}{2})$	0.6667	$z = 0.0000$	0.4444	$y = 0.5556$										$s^{2D} - p(1, \frac{1}{2})$	0.6667	$z = 0.0000$	0.4444	$y = 0.5556$	
$s^{2D} - p(1, \frac{1}{2})$	1.3333	$z = 0.0000$	0.2222	$y = 0.0000$	0.0278	$z = 0.7500$								$s^{2D} - p(1, \frac{1}{2})$	1.3333	$z = 0.0000$	0.2222	$y = 0.0000$	0.0278
$s^{2D} - p(2, \frac{1}{2})$	1.1111	$z = 0.1867$	0.1200	$y = 0.2133$	$z = 0.4800$									$s^{2D} - p(2, \frac{1}{2})$	1.1111	$z = 0.1867$	0.1200	$y = 0.2133$	$z = 0.4800$
$s^{2D} - p(2, \frac{1}{2})$	2.2222	$z = 0.2667$	0.2100	$y = 0.1067$	0.2400									$s^{2D} - p(2, \frac{1}{2})$	2.2222	$z = 0.2667$	0.2100	$y = 0.1067$	0.2400
		$z = 0.0267$	0.1500											$s^{2D} - p(3, \frac{1}{2})$	1.5556	$z = 0.7619$	0.0000	$y = 0.2381$	
$s^{2D} - p(3, \frac{1}{2})$	3.1111	$z = 0.2857$	0.0000	$y = 0.3810$	0.0000	$z = 0.3333$								$s^{2D} - p(3, \frac{1}{2})$	3.1111	$z = 0.2857$	0.0000	$y = 0.3810$	0.0000
$s^{4D} - p(1, \frac{1}{2})$	1.3333	$z = 0.0000$	0.2222	$y = 0.2778$	0.0556	$z = 0.4444$								$s^{4D} - p(1, \frac{1}{2})$	1.3333	$z = 0.0000$	0.2222	$y = 0.2778$	0.0556
$s^{4D} - p(1, \frac{1}{2})$	2.6667	$z = 0.0000$	0.0000	0.0139	$y = 0.0000$	0.1111	0.2222							$s^{4D} - p(2, \frac{1}{2})$	2.6667	$z = 0.0000$	0.0000	0.0139	$y = 0.0000$
		$z = 0.3750$	0.2778											$s^{4D} - p(2, \frac{1}{2})$	2.2222	$z = 0.0000$	0.3733	$y = 0.3267$	0.0600
$s^{4D} - p(2, \frac{1}{2})$	4.4444	$z = 0.0000$	0.1867	0.1200	0.0000									$s^{4D} - p(3, \frac{1}{2})$	4.4444	$z = 0.0000$	0.0467	0.0750	$z = 0.4867$
		$y = 0.0000$	0.0467	0.0750	$z = 0.4867$	0.1050	0.0000							$s^{4D} - p(3, \frac{1}{2})$	3.1111	$z = 0.3673$	0.0340	$y = 0.4898$	$z = 0.1088$
$s^{4D} - p(3, \frac{1}{2})$	6.2222	$z = 0.5857$	0.0408	0.0000	0.0000									$s^{4D} - p(3, \frac{1}{2})$	6.2222	$z = 0.5857$	0.0408	0.0000	0.0000
		$y = 0.2449$	0.0544	0.0000	$z = 0.0765$	0.0476								$p^{(2S+1)L} - s(J_p, \tau)$					
$p^{(2S+1)L} - s(J_p, \tau)$														$p^{2P} - s(1, \frac{1}{2})$	0.4000	$z = 0.1667$	0.0000	$y = 0.0000$	$z = 0.8333$
$p^{2P} - s(1, \frac{1}{2})$	0.9667	$z = 0.4000$	0.5000	$y = 0.1000$										$p^{2P} - s(2, \frac{1}{2})$	0.8333	$z = 0.4000$	0.5000	$y = 0.1000$	
$p^{2P} - s(2, \frac{1}{2})$	0.8000	$z = 0.0250$	0.0833	$y = 0.2667$	0.4167	$z = 0.2083$								$p^{2P} - s(3, \frac{1}{2})$	0.8000	$z = 0.0250$	0.0833	$y = 0.2667$	0.4167
$p^{4P} - s(1, \frac{1}{2})$														$p^{4P} - s(1, \frac{1}{2})$					

TABLE 11c (CONTINUED)

$p^4D - d(1, \frac{3}{2})$	0.4333	$z = 0.0000$	0.0086	0.0308	$y = 0.0452$	0.0745	0.1923
$z = 0.0332$	0.6154						
$p^4D - d(1, \frac{5}{2})$	0.9000	$z = 0.0000$	0.0249	0.0960	$y = 0.0000$	0.0010	
$z = 0.2074$	0.5040	0.1667					
$p^4D - d(2, \frac{3}{2})$	0.8333	$z = 0.0274$	0.1347	0.2704	0.0040		
$y = 0.0081$	0.0896	0.1440	$z = 0.0046$	0.3012	0.0160		
$p^4D - d(2, \frac{5}{2})$	1.3889	$z = 0.1600$	0.4635	0.0134	0.0504		
$y = 0.0293$	0.1854	0.0090	0.0576				
$z = 0.0027$	0.0270	0.0016					
$p^4D - d(3, \frac{3}{2})$	1.4000	$z = 0.0952$	0.1469	0.0047	0.0000		
$y = 0.2721$	0.1666	0.0027	$z = 0.1829$	0.1288			
$p^4D - d(3, \frac{5}{2})$	1.7111	$z = 0.5714$	0.0045	0.0131	0.0000		
$y = 0.2968$	0.0043	0.0233	0.0000				
$z = 0.0668$	0.0017	0.0182					
$p^2F - d(1, \frac{3}{2})$	0.0933	$z = 0.0000$	0.1600	$y = 0.8400$			
$p^2F - d(1, \frac{5}{2})$	0.8400	$z = 0.0000$	0.1067	$y = 0.0000$	0.0044	$z = 0.8889$	
$p^2F - d(2, \frac{3}{2})$	0.4667	$z = 0.0980$	0.0567	$y = 0.0290$	0.0000	$z = 0.8163$	
$p^2F - d(2, \frac{5}{2})$	1.0889	$z = 0.4082$	0.3499	$y = 0.0746$	0.1399		
$z = 0.0070$	0.0204						
$p^2F - d(3, \frac{3}{2})$	1.3067	$z = 0.8163$	0.0175	$y = 0.1458$	0.0066		
$z = 0.0130$	0.0008						
$p^2F - d(3, \frac{5}{2})$	0.8711	$z = 0.5612$	0.0350	$y = 0.2915$	0.0336		
$z = 0.0656$	0.0131						
$p^4F - d(1, \frac{3}{2})$	1.0267	$z = 0.0000$	0.0116	0.0091	$y = 0.0611$	0.1229	
$z = 0.7953$							
$p^4F - d(1, \frac{5}{2})$	0.8400	$z = 0.0000$	0.0000	0.0036	$y = 0.0000$	0.0853	0.0320
$z = 0.7111$	0.1680						
$p^4F - d(2, \frac{3}{2})$	1.4000	$z = 0.0000$	0.0290	0.0427	0.0067		
$y = 0.0980$	0.1916	0.0240	$z = 0.5573$	0.0508			
$p^4F - d(2, \frac{5}{2})$	1.7111	$z = 0.0000$	0.1425	0.0028	0.0204		
$y = 0.0000$	0.0134	0.0004	0.0036				
$z = 0.7792$	0.0071	0.0305					
$p^4F - d(3, \frac{3}{2})$	1.3067	$z = 0.1871$	0.1944	0.0222	0.0002		
$y = 0.0680$	0.0607	0.0104	$z = 0.4252$	0.0315	0.0003		
$p^4F - d(3, \frac{5}{2})$	3.0489	$z = 0.7872$	0.0000	0.0061	0.0004		
$y = 0.1749$	0.0000	0.0059	0.0007				
$z = 0.0219$	0.0000	0.0023	0.0006				

$$d^{(2s+1)L} - p(J_p, j) \sum_{J_p'}^s$$

$d^2S - p(1, \frac{1}{2})$	0.0667	$z = 0.1111$	$y = 0.8889$
$d^2S - p(1, \frac{3}{2})$	0.0133	$z = 0.4444$	$y = 0.5556$
$d^2S - p(2, \frac{1}{2})$	0.0667	$z = 1.0000$	
$d^2S - p(2, \frac{3}{2})$	0.0667	$z = 0.0000$	$y = 1.0000$
$d^2S - p(3, \frac{3}{2})$	0.1867	$z = 1.0000$	
$d^4S - p(1, \frac{1}{2})$	0.0133	$z = 0.4444$	$y = 0.5556$

TABLE 11c (CONTINUED)

$p^4P - s(2, \frac{1}{2})$	1.3333	$z = 0.2100$	0.1600	$y = 0.0150$	$z = 0.4900$	0.1250	
$p^4P - s(3, \frac{1}{2})$	1.8667	$z = 0.8571$	0.1000	$y = 0.0429$			
$p^2D - s(1, \frac{1}{2})$	0.6667	$z = 0.1000$	0.0000	$y = 0.9000$			
$p^2D - s(2, \frac{1}{2})$	1.1111	$z = 0.3733$	0.5400	$y = 0.0600$	$z = 0.0267$		
$p^2D - s(3, \frac{1}{2})$	1.5556	$z = 0.0000$	0.0667	$y = 0.9333$			
$p^4D - s(1, \frac{1}{2})$	1.3333	$z = 0.1750$	0.2500	$y = 0.2000$	0.2500	$z = 0.1250$	
$p^4D - s(2, \frac{1}{2})$	2.2222	$z = 0.1333$	0.1050	$y = 0.4033$	0.1200		
$z = 0.1633$	0.0750						
$p^4D - s(3, \frac{1}{2})$	3.1111	$z = 0.7347$	0.0823	$y = 0.0272$	$z = 0.1224$	0.0333	
$p^2F - s(1, \frac{1}{2})$	0.9333	$z = 1.0000$					
$p^2F - s(2, \frac{1}{2})$	1.5556	$z = 0.3810$	0.6000	$y = 0.0190$			
$p^2F - s(3, \frac{1}{2})$	2.1778	$z = 0.0000$	0.0476	$y = 0.9524$	$z = 0.0000$		
$p^4F - s(1, \frac{1}{2})$	1.8667	$z = 0.4000$	0.5000	$y = 0.1000$			
$p^4F - s(2, \frac{1}{2})$	3.1111	$z = 0.5714$	0.2400	$y = 0.1219$	0.0600	$z = 0.0067$	
$p^4F - s(3, \frac{1}{2})$	4.3556	$z = 0.7653$	0.1166	$y = 0.0875$	0.0249		
$z = 0.0044$	0.0014						
$p^{(2s+1)L} - d(J_p, j) \sum_{J_p'}^s$							
$p^2P - d(1, \frac{3}{2})$	0.3400	$z = 0.0576$	0.3922	$y = 0.0502$	0.4902	$z = 0.0098$	
$p^2P - d(1, \frac{5}{2})$	0.0600	$z = 0.3733$	0.5556	$y = 0.0711$			
$p^2P - d(2, \frac{3}{2})$	0.3667	$z = 0.3182$	0.0727	$y = 0.3636$	0.0182	$z = 0.2273$	
$p^2P - d(2, \frac{5}{2})$	0.3000	$z = 0.0000$	0.4667	$y = 0.0000$	0.5333	$z = 0.0000$	
$p^2P - d(3, \frac{3}{2})$	0.0933	$z = 0.6400$	0.0000	$y = 0.3600$			
$p^2P - d(3, \frac{5}{2})$	0.8400	$z = 0.2400$	0.0000	$y = 0.4267$	0.0000	$z = 0.3333$	
$p^4P - d(1, \frac{3}{2})$	0.1400	$z = 0.0120$	0.2777	0.5952	$y = 0.0023$	0.0762	
$z = 0.0366$	0.0000						
$p^4P - d(1, \frac{5}{2})$	0.6600	$z = 0.0242$	0.2868	0.6313	$y = 0.0029$	0.0546	
$z = 0.0001$							
$p^4P - d(2, \frac{3}{2})$	0.4533	$z = 0.0369$	0.0345	0.0308	$y = 0.1117$	0.3255	0.0077
$z = 0.0591$	0.3938						
$p^4P - d(2, \frac{5}{2})$	0.9000	$z = 0.1600$	0.3360	0.0778	$y = 0.0640$	0.2240	0.0889
$z = 0.0093$	0.0400						
$p^4P - d(3, \frac{3}{2})$	1.0267	$z = 0.0935$	0.0116	0.0000	$y = 0.3603$	0.0065	
$z = 0.5280$							
$p^4P - d(3, \frac{5}{2})$	0.8400	$z = 0.3429$	0.0480	0.0000	$y = 0.3291$	0.0853	0.0000
$z = 0.1280$	0.0667						
$p^2D - d(1, \frac{3}{2})$	0.3667	$z = 0.0153$	0.4189	$y = 0.0029$	0.0818	$z = 0.4811$	
$p^2D - d(1, \frac{5}{2})$	0.3000	$z = 0.1778$	0.6720	$y = 0.0213$	0.1280	$z = 0.0009$	
$p^2D - d(2, \frac{3}{2})$	0.5000	$z = 0.4267$	0.1753	$y = 0.2847$	0.0107		
$z = 0.0960$	0.0067						
$p^2D - d(2, \frac{5}{2})$	0.6111	$z = 0.0873$	0.4887	$y = 0.0349$	0.3258		
$z = 0.0051$	0.0582						
$p^2D - d(3, \frac{3}{2})$	0.4667	$z = 0.6857$	0.0142	$y = 0.2601$	0.0080	$z = 0.0320$	
$p^2D - d(3, \frac{5}{2})$	1.0889	$z = 0.3918$	0.0206	$y = 0.3762$	0.0366		
$z = 0.1463$	0.0286						

TABLE III (CONTINUED)

$d^4S - p(1, \frac{3}{2})$	0.1467	$x = 0.0273$	$y = 0.3414$	$z = 0.6313$
$d^4S - p(2, \frac{1}{2})$	0.0667	$x = 0.2000$	$y = 0.8000$	
$d^4S - p(2, \frac{3}{2})$	0.2000	$x = 0.2333$	$y = 0.6000$	$z = 0.1667$
$d^4S - p(3, \frac{1}{2})$	0.1867	$x = 1.0000$		
$d^4S - p(3, \frac{3}{2})$	0.1867	$x = 0.8000$	$y = 0.2000$	
$d^2P - p(1, \frac{1}{2})$	0.1800	$x = 0.1975$	$y = 0.4938$	$z = 0.0617$
$d^2P - p(1, \frac{3}{2})$	0.0600	$x = 0.1000$	$y = 0.1481$	$z = 0.4741$
$d^2P - p(2, \frac{1}{2})$	0.1889	$x = 0.1882$	$y = 0.0558$	$z = 0.7529$
$d^2P - p(2, \frac{3}{2})$	0.2111	$x = 0.0368$	$y = 0.2105$	$z = 0.0421$
$d^2P - p(3, \frac{1}{2})$	0.0311	$x = 1.0000$		
$d^2P - p(3, \frac{3}{2})$	0.5289	$x = 0.1882$	$y = 0.2353$	$z = 0.5765$
$d^4P - p(1, \frac{1}{2})$	0.0600	$x = 0.1000$	$y = 0.0370$	$z = 0.0296$
$d^4P - p(1, \frac{3}{2})$	0.4200	$x = 0.0600$	$y = 0.2034$	$z = 0.0132$
$d^4P - p(2, \frac{1}{2})$		$z = 0.0114$	0.0106	
$d^4P - p(2, \frac{3}{2})$	0.2111	$x = 0.1768$	$y = 0.0084$	$z = 0.1547$
$d^4P - p(3, \frac{1}{2})$	0.5889	$x = 0.0453$	$y = 0.0106$	$z = 0.1509$
$d^4P - p(3, \frac{3}{2})$		$z = 0.2219$	0.0679	
$d^4P - p(3, \frac{1}{2})$	0.5289	$x = 0.1008$	$y = 0.5765$	$z = 0.3227$
$d^4P - p(3, \frac{3}{2})$	0.5911	$x = 0.2707$	$y = 0.1347$	$z = 0.1053$
		$z = 0.0505$		
$d^2D - p(1, \frac{1}{2})$	0.2333	$x = 0.2000$	$y = 0.4444$	$z = 0.3556$
$d^2D - p(1, \frac{3}{2})$	0.1667	$x = 0.2160$	$y = 0.3982$	$z = 0.2240$
$d^2D - p(2, \frac{1}{2})$	0.2778	$x = 0.5333$	$y = 0.0000$	$z = 0.4667$
$d^2D - p(2, \frac{3}{2})$	0.3889	$x = 0.0435$	$y = 0.0771$	$z = 0.0460$
		$z = 0.0533$	0.3000	
$d^2D - p(3, \frac{1}{2})$	0.1556	$x = 0.2177$	$y = 0.0857$	$z = 0.6966$
$d^2D - p(3, \frac{3}{2})$	0.7778	$x = 0.0327$	$y = 0.0549$	$z = 0.4458$
$d^4D - p(1, \frac{1}{2})$	0.1667	$x = 0.0200$	$y = 0.1556$	$z = 0.1244$
$d^4D - p(1, \frac{3}{2})$	0.6333	$x = 0.0722$	$y = 0.4211$	$z = 0.3275$
$d^4D - p(2, \frac{1}{2})$		$z = 0.0000$	0.0164	
$d^4D - p(2, \frac{3}{2})$	0.3889	$x = 0.0980$	$y = 0.0010$	$z = 0.0011$
$d^4D - p(2, \frac{3}{2})$	0.9444	$x = 0.1556$	$y = 0.1291$	$z = 0.0494$
		$z = 0.1200$	0.3000	
$d^4D - p(3, \frac{1}{2})$	0.7778	$x = 0.2881$	$y = 0.1898$	$z = 0.0000$
$d^4D - p(3, \frac{3}{2})$	1.0889	$x = 0.1679$	$y = 0.4204$	$z = 0.1259$
		$z = 0.0875$	0.0816	0.0000
		$z = 0.4898$	0.0272	0.0612
		$z = 1.0000$		
$d^2F - p(1, \frac{1}{2})$	0.1867	$x = 0.2143$	$y = 0.4000$	$z = 0.3857$
$d^2F - p(1, \frac{3}{2})$	0.3733	$x = 0.8571$	$y = 0.0687$	$z = 0.0762$
$d^2F - p(2, \frac{1}{2})$	0.3111	$x = 0.1837$	$y = 0.2456$	$z = 0.0306$
$d^2F - p(2, \frac{3}{2})$	0.6222	$x = 0.5248$	$y = 0.0622$	$z = 0.3936$
$d^2F - p(3, \frac{1}{2})$	0.4356	$x = 0.0000$	$y = 0.0073$	$z = 0.1968$
$d^2F - p(3, \frac{3}{2})$	0.8711	$x = 0.0000$	$y = 0.0067$	$z = 0.6297$
		$z = 0.1000$	0.5000	0.4000
$d^4F - p(1, \frac{1}{2})$	0.3733	$x = 0.3214$	$y = 0.4900$	$z = 0.1250$
$d^4F - p(1, \frac{3}{2})$	0.7467	$x = 0.0386$	$y = 0.0100$	$z = 0.0150$

TABLE III (CONTINUED)

$d^4F - p(2, \frac{1}{2})$	0.6222	$x = 0.0000$	$y = 0.3733$	$z = 0.2400$
$d^4F - p(2, \frac{3}{2})$	1.2444	$x = 0.2679$	$y = 0.4133$	$z = 0.0033$
		$y = 0.1224$	0.0572	0.0300
$d^4F - p(3, \frac{1}{2})$	0.8711	$x = 0.1913$	$y = 0.2624$	$z = 0.3499$
		$z = 0.0439$	0.0122	
$d^4F - p(3, \frac{3}{2})$	1.7422	$x = 0.3508$	$y = 0.0583$	$z = 0.0090$
		$y = 0.5102$	0.0016	0.0230
$d^2G - p(1, \frac{3}{2})$	0.7200	$x = 1.0000$		
$d^2G - p(2, \frac{1}{2})$	0.2667	$x = 1.0000$		
$d^2G - p(2, \frac{3}{2})$	0.9333	$x = 0.4762$	$y = 0.5102$	$z = 0.0136$
$d^2G - p(3, \frac{1}{2})$	0.9333	$x = 0.9524$	$y = 0.0204$	$z = 0.0272$
$d^2G - p(3, \frac{3}{2})$	0.7467	$x = 0.0000$	$y = 0.0255$	$z = 0.8929$
$d^4G - p(1, \frac{1}{2})$	0.7200	$x = 1.0000$		
$d^4G - p(1, \frac{3}{2})$	0.7200	$x = 0.7143$	$y = 0.2000$	$z = 0.0857$
$d^4G - p(2, \frac{1}{2})$	0.9333	$x = 0.8163$	$y = 0.0857$	$z = 0.0980$
$d^4G - p(2, \frac{3}{2})$	1.4667	$x = 0.8333$	$y = 0.0093$	$z = 0.0545$
		$z = 0.0028$		
$d^4G - p(3, \frac{1}{2})$	0.7467	$x = 0.8185$	$y = 0.0729$	$z = 0.0972$
$d^4G - p(3, \frac{3}{2})$	2.6133	$x = 0.9184$	$y = 0.0000$	$z = 0.0128$
		$y = 0.0638$	0.0000	0.0015
		$z = 0.0018$	0.0000	
$d^{(2S+1)L - f(J_p, j)}$	$\sum_{J_p, j} g$			
$d^2S - f(1, \frac{1}{2})$	0.0800	$x = 1.0000$		
$d^2S - f(2, \frac{1}{2})$	0.0825	$x = 0.6410$	$y = 0.3590$	
$d^2S - f(2, \frac{3}{2})$	0.0508	$x = 1.0000$		
$d^2S - f(3, \frac{1}{2})$	0.0089	$x = 0.7619$	$y = 0.2381$	
$d^2S - f(3, \frac{3}{2})$	0.1778	$x = 0.4286$	$y = 0.5714$	
$d^4S - f(1, \frac{1}{2})$	0.0229	$x = 0.3000$	$y = 0.7000$	
$d^4S - f(1, \frac{3}{2})$	0.1371	$x = 1.0000$		
$d^4S - f(2, \frac{1}{2})$	0.0889	$x = 0.2571$	$y = 0.5762$	$z = 0.1667$
$d^4S - f(2, \frac{3}{2})$	0.1778	$x = 0.7714$	$y = 0.2286$	
$d^4S - f(3, \frac{1}{2})$	0.2311	$x = 0.1187$	$y = 0.4234$	$z = 0.4579$
$d^4S - f(3, \frac{3}{2})$	0.1422	$x = 0.4821$	$y = 0.4286$	$z = 0.0893$
$d^2P - f(1, \frac{1}{2})$	0.2171	$x = 0.3368$	$y = 0.5526$	$z = 0.1105$
$d^2P - f(1, \frac{3}{2})$	0.0229	$x = 1.0000$		
$d^2P - f(2, \frac{1}{2})$	0.2349	$x = 0.5838$	$y = 0.0015$	$z = 0.2886$
$d^2P - f(2, \frac{3}{2})$	0.1651	$x = 0.1385$	$y = 0.8205$	$z = 0.0410$
$d^2P - f(3, \frac{1}{2})$	0.0622	$x = 0.6612$	$y = 0.0726$	$z = 0.2322$
$d^2P - f(3, \frac{3}{2})$	0.4978	$x = 0.3673$	$y = 0.1020$	$z = 0.3265$
$d^4P - f(1, \frac{1}{2})$	0.0914	$x = 0.0857$	$y = 0.0025$	$z = 0.6363$
		$z = 0.0088$		
$d^4P - f(1, \frac{3}{2})$	0.3886	$x = 0.2269$	$y = 0.7529$	$z = 0.0202$
$d^4P - f(2, \frac{1}{2})$	0.2794	$x = 0.1052$	$y = 0.0245$	$z = 0.1824$
		$z = 0.0552$	0.0018	
$d^4P - f(2, \frac{3}{2})$	0.5206	$x = 0.4704$	$y = 0.1405$	$z = 0.2033$
		$z = 0.0088$		

TABLE 11c (CONTINUED)

$d^4P - f(3, \frac{5}{2})$	0.6578	$z = 0.0894$	0.1126	0.0034	$y = 0.2150$	0.2389	0.0011
		$z = 0.1334$	0.2061				
$d^4P - f(3, \frac{7}{2})$	0.4622	$z = 0.4662$	0.0198	0.0549	$y = 0.3052$	0.0176	0.0733
		$z = 0.0593$	0.0037				
$d^2D - f(1, \frac{5}{2})$	0.2857	$z = 0.1469$	0.5973	$y = 0.0557$	0.1960	$z = 0.0040$	
$d^2D - f(1, \frac{7}{2})$	0.1143	$z = 0.4898$	0.4667	$y = 0.0435$			
$d^2D - f(2, \frac{5}{2})$	0.3492	$z = 0.6545$	0.0187	$y = 0.2618$	0.0146		
		$z = 0.0382$	0.0121				
$d^2D - f(2, \frac{7}{2})$	0.3175	$z = 0.0000$	0.7714	$y = 0.0000$	0.2286	$z = 0.0000$	
$d^2D - f(3, \frac{5}{2})$	0.2222	$z = 0.6717$	0.0793	$y = 0.2040$	0.0279		
		$z = 0.0157$	0.0014				
$d^2D - f(3, \frac{7}{2})$	0.7111	$z = 0.4329$	0.1102	$y = 0.2834$	0.0980		
		$z = 0.0551$	0.0204				
$d^4D - f(1, \frac{5}{2})$	0.2286	$z = 0.0087$	0.0759	0.0000	$y = 0.0008$	0.0089	
		$z = 0.0015$	0.2917	0.6125			
$d^4D - f(1, \frac{7}{2})$	0.5714	$z = 0.0714$	0.5055	0.3733	$y = 0.0047$	0.0449	
		$z = 0.0001$					
$d^4D - f(2, \frac{5}{2})$	0.5079	$z = 0.0383$	0.0164	0.2604	0.1823		
		$y = 0.0739$	0.0079	0.2438	0.1021		
		$z = 0.0164$	0.0065	0.0521			
$d^4D - f(2, \frac{7}{2})$	0.8254	$z = 0.3885$	0.2725	0.0475	0.1077		
		$y = 0.0807$	0.0785	0.0141	$z = 0.0054$	0.0051	
$d^4D - f(3, \frac{5}{2})$	0.9778	$z = 0.0875$	0.1970	0.0501	0.0010		
		$y = 0.1640$	0.2300	0.0618	0.0003		
		$z = 0.0691$	0.1018	0.0374			
$d^4D - f(3, \frac{7}{2})$	0.8889	$z = 0.5773$	0.0247	0.0220	0.0122		
		$y = 0.2639$	0.0162	0.0196	0.0163		
		$z = 0.0405$	0.0031	0.0041			
$d^2F - f(1, \frac{5}{2})$	0.2400	$z = 0.0146$	0.2654	$y = 0.0013$	0.0190	$z = 0.6997$	
$d^2F - f(1, \frac{7}{2})$	0.3200	$z = 0.2232$	0.6997	$y = 0.0146$	0.0622	$z = 0.0003$	
$d^2F - f(2, \frac{5}{2})$	0.4000	$z = 0.6047$	0.1866	$y = 0.1815$	0.0012		
		$z = 0.0233$	0.0027				
$d^2F - f(2, \frac{7}{2})$	0.5333	$z = 0.1169$	0.6560	$y = 0.0243$	0.1889		
		$z = 0.0016$	0.0122				
$d^2F - f(3, \frac{5}{2})$	0.5600	$z = 0.7424$	0.0666	$y = 0.1580$	0.0202		
		$z = 0.0112$	0.0016				
$d^2F - f(3, \frac{7}{2})$	0.7467	$z = 0.5345$	0.1031	$y = 0.2443$	0.0675		
		$z = 0.0375$	0.0131				
$d^4F - f(1, \frac{5}{2})$	0.4800	$z = 0.0000$	0.0019	0.0019	$y = 0.0219$	0.0054	0.0933
		$z = 0.1244$	0.7511				
$d^4F - f(1, \frac{7}{2})$	0.6400	$z = 0.0000$	0.0219	0.0470	$y = 0.0000$	0.0005	
		$z = 0.3348$	0.5292	0.0667			
$d^4F - f(2, \frac{5}{2})$	0.8000	$z = 0.0173$	0.0246	0.2008	0.0786		
		$y = 0.0025$	0.0087	0.0329	0.0095		
		$z = 0.0063$	0.4210	0.1976			
$d^4F - f(2, \frac{7}{2})$	1.0667	$z = 0.2679$	0.4872	0.0164	0.0661		

TABLE 11c (CONTINUED)

	$y = 0.0283$	0.1012	0.0047	0.0196			
	$z = 0.0014$	0.0068	0.0003				
$d^4F - f(3, \frac{5}{2})$	1.1200	$z = 0.0729$	0.3167	0.0876	0.0056		
		$y = 0.1300$	0.2036	0.0650	0.0047		
		$z = 0.0380$	0.0533	0.0206	0.0019		
$d^4F - f(3, \frac{7}{2})$	1.4933	$z = 0.7106$	0.0223	0.0103	0.0059		
		$y = 0.2025$	0.0102	0.0087	0.0052		
		$z = 0.0223$	0.0016	0.0013	0.0011		
$d^2G - f(1, \frac{5}{2})$	0.0843	$z = 0.0000$	0.0816	$y = 0.9184$			
$d^2G - f(1, \frac{7}{2})$	0.6857	$z = 0.0000$	0.0612	$y = 0.0000$	0.0013	$z = 0.9375$	
$d^2G - f(2, \frac{5}{2})$	0.3619	$z = 0.0511$	0.0318	$y = 0.0074$	0.0000	$z = 0.9097$	
$d^2G - f(2, \frac{7}{2})$	0.8381	$z = 0.4545$	0.4051	$y = 0.0481$	0.0842		
		$z = 0.0024$	0.0057				
$d^2G - f(3, \frac{5}{2})$	1.1467	$z = 0.8543$	0.0403	$y = 0.0916$	0.0086		
		$z = 0.0047$	0.0006				
$d^2G - f(3, \frac{7}{2})$	0.5333	$z = 0.8633$	0.0831	$y = 0.1890$	0.0380		
		$z = 0.0208$	0.0058				
$d^4G - f(1, \frac{5}{2})$	0.8914	$z = 0.0000$	0.0022	$y = 0.0252$	0.0733		
		$z = 0.8971$					
$d^4G - f(1, \frac{7}{2})$	0.5486	$z = 0.0000$	0.0000	0.0011	$y = 0.0000$	0.0547	0.0087
		$z = 0.8371$	0.0984				
$d^4G - f(2, \frac{5}{2})$	1.1810	$z = 0.0000$	0.0063	0.0127	0.0036		
		$y = 0.0430$	0.1268	0.0356	$z = 0.6350$	0.1371	
$d^4G - f(2, \frac{7}{2})$	1.2190	$z = 0.0000$	0.0909	0.0008	0.0089		
		$y = 0.0000$	0.0045	0.0001	0.0006		
		$z = 0.8594$	0.0041	0.0307			
$d^4G - f(3, \frac{5}{2})$	1.0133	$z = 0.0952$	0.1537	0.0422	0.0035		
		$y = 0.0176$	0.0228	0.0079	0.0008		
		$z = 0.5493$	0.1009	0.0062			
$d^4G - f(3, \frac{7}{2})$	2.3467	$z = 0.8523$	0.0137	0.0034	0.0016		
		$y = 0.1138$	0.0039	0.0015	0.0010		
		$z = 0.0079$	0.0004	0.0002	0.0002		
$f^{(2S+1)}L - d(J_p, j)$	$\sum_{j,j'} s$						
$f^2P - d(1, \frac{3}{2})$	0.1600	$z = 0.0100$	0.0000	$y = 0.2400$	0.0000	$z = 0.7500$	
$f^2P - d(1, \frac{5}{2})$	0.0114	$z = 0.1600$	0.0000	$y = 0.8400$			
$f^2P - d(2, \frac{3}{2})$	0.1651	$z = 0.0577$	0.0718	$y = 0.3590$	0.2872	$z = 0.2244$	
$f^2P - d(2, \frac{5}{2})$	0.1206	$z = 0.0000$	0.0187	$y = 0.1462$	0.0164	$z = 0.8187$	
$f^2P - d(3, \frac{3}{2})$	0.0178	$z = 0.2743$	0.2381	$y = 0.4876$			
$f^2P - d(3, \frac{5}{2})$	0.3822	$z = 0.0431$	0.1181	$y = 0.2419$	0.4522	$z = 0.1447$	
$f^4P - d(1, \frac{3}{2})$	0.0457	$z = 0.0480$	0.1680	0.0000	$y = 0.2520$	0.5250	
		$z = 0.0070$	0.0000				
$f^4P - d(1, \frac{5}{2})$	0.2971	$z = 0.0044$	0.0012	0.0000	$y = 0.1436$	0.0065	
		$z = 0.8443$					
$f^4P - d(2, \frac{3}{2})$	0.1778	$z = 0.0073$	0.0519	0.0333	$y = 0.1058$	0.3227	0.1333
		$z = 0.1440$	0.2017				

TABLE 11c (CONTINUED)

$f^4P - d(2, \frac{5}{2})$	0.3937	$z = 0.0299$	0.0279	0.0029	$y = 0.2790$	0.1136	0.0025
		$z = 0.4459$	0.0984				
$f^4P - d(3, \frac{3}{2})$	0.4622	$z = 0.0170$	0.1524	0.4579	$y = 0.0732$	0.2710	
		$z = 0.0285$					
$f^4P - d(3, \frac{5}{2})$	0.3378	$z = 0.0696$	0.1559	0.1044	$y = 0.2455$	0.2294	0.0209
		$z = 0.1315$	0.0428				
$f^2D - d(1, \frac{3}{2})$	0.2286	$z = 0.0853$	0.1120	$y = 0.4480$	0.3500	$z = 0.0047$	
$f^2D - d(1, \frac{5}{2})$	0.0571	$z = 0.0286$	0.0213	$y = 0.3901$	0.1120	$z = 0.4480$	
$f^2D - d(2, \frac{3}{2})$	0.2540	$z = 0.0257$	0.0090	$y = 0.3703$	0.0580		
		$z = 0.5040$	0.0350				
$f^2D - d(2, \frac{5}{2})$	0.2222	$z = 0.0073$	0.0411	$y = 0.0029$	0.2750		
		$z = 0.2469$	0.4267				
$f^2D - d(3, \frac{3}{2})$	0.0889	$z = 0.1102$	0.0823	$y = 0.4761$	0.1463	$z = 0.1851$	
$f^2D - d(3, \frac{5}{2})$	0.5778	$z = 0.0226$	0.0427	$y = 0.2472$	0.2401		
		$z = 0.3038$	0.1436				
$f^4D - d(1, \frac{3}{2})$	0.1143	$z = 0.0476$	0.0160	0.7000	$y = 0.0030$	0.2240	0.0000
		$z = 0.0093$	0.0000				
$f^4D - d(1, \frac{5}{2})$	0.4571	$z = 0.0383$	0.0611	0.0140	$y = 0.3070$	0.5760	
		$z = 0.0010$	0.0027	0.0000			
$f^4D - d(2, \frac{3}{2})$	0.3175	$z = 0.0353$	0.0846	0.0448	0.4480		
		$y = 0.1190$	0.1152	0.0280	$z = 0.0059$	0.0072	0.1120
$f^4D - d(2, \frac{5}{2})$	0.6349	$z = 0.0107$	0.0007	0.0144	0.0107		
		$y = 0.2058$	0.0003	0.0963	0.0093		
		$z = 0.4777$	0.0247	0.1493			
$f^4D - d(3, \frac{3}{2})$	0.7111	$z = 0.0057$	0.0630	0.1260	0.0714		
		$y = 0.0656$	0.2720	0.2240	$z = 0.0684$	0.1058	
$f^4D - d(3, \frac{5}{2})$	0.6222	$z = 0.0481$	0.0735	0.0176	0.0034		
		$y = 0.3081$	0.1587	0.0001	0.0680		
		$z = 0.2755$	0.0381	0.0109			
$f^2F - d(1, \frac{3}{2})$	0.2400	$z = 0.2381$	0.6400	$y = 0.1219$			
$f^2F - d(1, \frac{5}{2})$	0.1600	$z = 0.1276$	0.2090	$y = 0.4082$	0.2400	$z = 0.0153$	
$f^2F - d(2, \frac{3}{2})$	0.3111	$z = 0.2286$	0.0000	$y = 0.7714$	0.0000	$z = 0.0000$	
$f^2F - d(2, \frac{5}{2})$	0.3556	$z = 0.0099$	0.0191	$y = 0.0388$	0.2755		
		$z = 0.0138$	0.6429				
$f^2F - d(3, \frac{3}{2})$	0.2489	$z = 0.0340$	0.0262	$y = 0.3887$	0.1134		
		$z = 0.3936$	0.0441				
$f^2F - d(3, \frac{5}{2})$	0.6844	$z = 0.0057$	0.0127	$y = 0.1885$	0.1391		
		$z = 0.4830$	0.1710				
$f^4F - d(1, \frac{3}{2})$	0.2400	$z = 0.0000$	0.3920	0.4000	$y = 0.0747$	0.1280	
		$z = 0.0053$					
$f^4F - d(1, \frac{5}{2})$	0.5600	$z = 0.1063$	0.5466	0.2777	$y = 0.0486$	0.0042	0.0137
		$z = 0.0002$	0.0026				
$f^4F - d(2, \frac{3}{2})$	0.4889	$z = 0.0541$	0.0534	0.1767	0.1964		
		$y = 0.0158$	0.1298	0.3142	$z = 0.0090$	0.0505	
$f^4F - d(2, \frac{5}{2})$	0.8444	$z = 0.0957$	0.0294	0.0794	0.0022		
		$y = 0.4604$	0.1745	0.0655	0.0758		

TABLE 11c (CONTINUED)

$f^4F - d(3, \frac{3}{2})$	0.8711	$z = 0.0003$	0.0135	0.0032			
		$z = 0.0356$	0.2314	0.1959	0.0403		
		$y = 0.0980$	0.2343	0.0762	$z = 0.0202$	0.0454	0.0227
$f^4F - d(3, \frac{5}{2})$	0.9956	$z = 0.0191$	0.0325	0.0070	0.0004		
		$y = 0.2836$	0.1141	0.0001	0.0180		
		$z = 0.4573$	0.0342	0.0155	0.0184		
$f^2G - d(1, \frac{3}{2})$	0.1714	$z = 1.0000$					
$f^2G - d(1, \frac{5}{2})$	0.3429	$z = 0.2500$	0.5714	$y = 0.1786$			
$f^2G - d(2, \frac{3}{2})$	0.3288	$z = 0.8366$	0.1261	$y = 0.0373$			
$f^2G - d(2, \frac{5}{2})$	0.5333	$z = 0.0970$	0.1324	$y = 0.0796$	0.6888	$z = 0.0022$	
$f^2G - d(3, \frac{3}{2})$	0.5333	$z = 0.2528$	0.0605	$y = 0.6402$	0.0612	$z = 0.0053$	
$f^2G - d(3, \frac{5}{2})$	0.6667	$z = 0.0000$	0.0019	$y = 0.0854$	0.0645		
		$z = 0.6829$	0.1653				
$f^4G - d(1, \frac{3}{2})$	0.4457	$z = 0.1758$	0.6923	$y = 0.1319$			
$f^4G - d(1, \frac{5}{2})$	0.5829	$z = 0.4044$	0.5048	0.0588	$y = 0.0120$	0.0162	
		$z = 0.0038$					
$f^4G - d(2, \frac{3}{2})$	0.7048	$z = 0.0165$	0.4236	0.2432	$y = 0.1255$	0.1787	
		$z = 0.0124$					
$f^4G - d(2, \frac{5}{2})$	1.0095	$z = 0.3596$	0.4385	0.0234	0.0728		
		$y = 0.0492$	0.0655	0.0009	$z = 0.0080$	0.0022	
$f^4G - d(3, \frac{3}{2})$	0.9067	$z = 0.1008$	0.4194	0.1361	0.0108		
		$y = 0.1525$	0.1344	0.0278	$z = 0.0118$	0.0064	
$f^4G - d(3, \frac{5}{2})$	1.4933	$z = 0.1809$	0.0759	0.0006	0.0038		
		$y = 0.6763$	0.0277	0.0115	0.0098		
		$z = 0.0104$	0.0030	0.0000			
$f^2H - d(1, \frac{5}{2})$	0.6286	$z = 1.0000$					
$f^2H - d(2, \frac{3}{2})$	0.2794	$z = 1.0000$					
$f^2H - d(2, \frac{5}{2})$	0.7683	$z = 0.4959$	0.4949	$y = 0.0092$			
$f^2H - d(3, \frac{3}{2})$	0.9778	$z = 0.9351$	0.0476	$y = 0.0173$			
$f^2H - d(3, \frac{5}{2})$	0.4889	$z = 0.0000$	0.0159	$y = 0.8571$	0.1270	$z = 0.0000$	
$f^4H - d(1, \frac{3}{2})$	0.7543	$z = 1.0000$					
$f^4H - d(1, \frac{5}{2})$	0.5029	$z = 0.8333$	0.1071	$y = 0.0595$			
$f^4H - d(1, \frac{7}{2})$	0.9778	$z = 0.7619$	0.1837	$y = 0.0544$			
$f^4H - d(2, \frac{3}{2})$	1.1175	$z = 0.8864$	0.0046	0.0402	$y = 0.0673$	0.0003	
$f^4H - d(2, \frac{5}{2})$		$z = 0.0012$					
$f^4H - d(3, \frac{3}{2})$	0.7822	$z = 0.7597$	0.1587	0.0115	$y = 0.0577$	0.0113	
		$z = 0.0010$					
$f^4H - d(3, \frac{5}{2})$	2.1511	$z = 0.9298$	0.0167	0.0048	0.0028		
		$y = 0.0435$	0.0013	0.0003	$z = 0.0008$	0.0000	
$f(2s+1)L - g(J_P, J)$	$\sum_{J, J'}^s$						
$f^2P - g(1, \frac{7}{2})$	0.1714	$z = 1.0000$					
$f^2P - g(2, \frac{7}{2})$	0.1799	$z = 0.5765$	0.3529	$y = 0.0706$			
$f^2P - g(2, \frac{9}{2})$	0.1058	$z = 1.0000$					
$f^2P - g(3, \frac{7}{2})$	0.0296	$z = 0.5714$	0.3571	$y = 0.0714$	0.0000	$z = 0.0000$	

TABLE 11c (CONTINUED)

$f^2P - g(3, \frac{9}{2})$	0.3704	$x = 0.3143$	$z = 0.5714$	$y = 0.1143$
$f^4P - g(1, \frac{7}{2})$	0.0571	$x = 0.1429$	$z = 0.6000$	$y = 0.2571$
$f^4P - g(1, \frac{9}{2})$	0.2857	$x = 1.0000$		
$f^4P - g(2, \frac{7}{2})$	0.2011	$x = 0.1128$	$z = 0.3558$	$y = 0.1579$
	$z = 0.0189$			$y = 0.1525$
$f^4P - g(2, \frac{9}{2})$	0.3704	$x = 0.8735$	$z = 0.2286$	$y = 0.0980$
$f^4P - g(3, \frac{7}{2})$	0.5037	$x = 0.0396$	$z = 0.1517$	$y = 0.1681$
	$z = 0.0202$	$z = 0.0567$		$y = 0.0650$
$f^4P - g(3, \frac{9}{2})$	0.2963	$x = 0.8367$	$z = 0.3143$	$y = 0.0893$
	$z = 0.0107$			$y = 0.1347$
$f^2D - g(1, \frac{7}{2})$	0.2460	$x = 0.4608$	$z = 0.4645$	$y = 0.0747$
$f^2D - g(1, \frac{9}{2})$	0.0397	$x = 1.0000$		
$f^2D - g(2, \frac{7}{2})$	0.2778	$x = 0.7256$	$z = 0.0457$	$y = 0.1525$
$f^2D - g(2, \frac{9}{2})$	0.1984	$x = 0.1746$	$z = 0.8000$	$y = 0.0254$
$f^2D - g(3, \frac{7}{2})$	0.1111	$x = 0.6236$	$z = 0.2286$	$y = 0.1161$
	$z = 0.0032$	$z = 0.0000$		$y = 0.0286$
$f^2D - g(3, \frac{9}{2})$	0.5556	$x = 0.3991$	$z = 0.3143$	$y = 0.1596$
$f^4D - g(1, \frac{7}{2})$	0.1349	$x = 0.0245$	$z = 0.0384$	$y = 0.8471$
	$z = 0.0027$	$y = 0.0484$	$z = 0.0389$	
$f^4D - g(1, \frac{9}{2})$	0.4365	$x = 0.3333$	$z = 0.6494$	$y = 0.0173$
$f^4D - g(2, \frac{7}{2})$	0.3571	$x = 0.0728$	$z = 0.1612$	$y = 0.0356$
	$y = 0.0945$	$z = 0.0339$	$z = 0.0533$	$z = 0.0137$
$f^4D - g(2, \frac{9}{2})$	0.5952	$x = 0.6111$	$z = 0.0166$	$y = 0.2667$
	$z = 0.0034$	$y = 0.0998$	$z = 0.0024$	
$f^4D - g(3, \frac{7}{2})$	0.7778	$x = 0.0534$	$z = 0.1995$	$y = 0.1653$
	$y = 0.0748$	$z = 0.1907$	$z = 0.1469$	$z = 0.0306$
	$z = 0.0204$	$z = 0.0468$	$z = 0.0306$	
$f^4D - g(3, \frac{9}{2})$	0.5556	$x = 0.4864$	$z = 0.1782$	$y = 0.0000$
	$y = 0.1710$	$z = 0.0713$	$z = 0.0000$	$z = 0.0714$
$f^2F - g(1, \frac{7}{2})$	0.2611	$x = 0.1986$	$z = 0.6513$	$y = 0.0429$
$f^2F - g(1, \frac{9}{2})$	0.1389	$x = 0.5432$	$z = 0.4286$	$y = 0.0282$
$f^2F - g(2, \frac{7}{2})$	0.3426	$x = 0.7963$	$z = 0.0061$	$y = 0.1655$
	$z = 0.0112$	$z = 0.0041$		$z = 0.0168$
$f^2F - g(2, \frac{9}{2})$	0.3241	$x = 0.0000$	$z = 0.8730$	$y = 0.0000$
$f^2F - g(3, \frac{7}{2})$	0.2652	$x = 0.6803$	$z = 0.1620$	$y = 0.1215$
	$z = 0.0053$	$z = 0.0008$		$z = 0.0302$
$f^2F - g(3, \frac{9}{2})$	0.6481	$x = 0.4864$	$z = 0.2281$	$y = 0.1710$
	$z = 0.0160$	$z = 0.0073$		$z = 0.0912$
$f^4F - g(1, \frac{7}{2})$	0.2722	$x = 0.0058$	$z = 0.0298$	$y = 0.0003$
	$z = 0.0021$	$z = 0.4511$	$z = 0.5038$	$z = 0.0021$
$f^4F - g(1, \frac{9}{2})$	0.5278	$x = 0.1053$	$z = 0.5837$	$y = 0.0043$
	$z = 0.0001$	$z = 0.0303$		$z = 0.0303$
$f^4F - g(2, \frac{7}{2})$	0.5463	$x = 0.0282$	$z = 0.0740$	$y = 0.1968$
	$y = 0.0420$	$z = 0.0010$	$z = 0.1027$	$z = 0.4463$
	$z = 0.0054$	$z = 0.0001$	$z = 0.0093$	$z = 0.0941$
$f^4F - g(2, \frac{9}{2})$	0.7870	$x = 0.5098$	$z = 0.1797$	$y = 0.1324$
		$z = 0.0605$		$z = 0.0605$

TABLE 11c (CONTINUED)

$f^4F - g(3, \frac{7}{2})$	0.9593	$x = 0.0654$	$z = 0.0293$	$y = 0.0193$
		$z = 0.0598$	$z = 0.2697$	$z = 0.1781$
$f^4F - g(3, \frac{9}{2})$	0.9074	$x = 0.0751$	$z = 0.1738$	$y = 0.1103$
		$z = 0.0169$	$z = 0.0336$	$z = 0.0206$
		$z = 0.6190$	$z = 0.1158$	$z = 0.0020$
		$z = 0.0407$	$z = 0.0008$	$z = 0.0093$
		$z = 0.0143$	$z = 0.0038$	$z = 0.0001$
$f^2G - g(1, \frac{7}{2})$	0.1929	$x = 0.0117$	$z = 0.1742$	$y = 0.0006$
$f^2G - g(1, \frac{9}{2})$	0.3214	$x = 0.2489$	$z = 0.7042$	$y = 0.0102$
$f^2G - g(2, \frac{7}{2})$	0.3611	$x = 0.6838$	$z = 0.1892$	$y = 0.1176$
		$z = 0.0081$	$z = 0.0011$	$z = 0.0002$
$f^2G - g(2, \frac{9}{2})$	0.4960	$x = 0.1294$	$z = 0.7301$	$y = 0.0166$
		$z = 0.0007$	$z = 0.0041$	$z = 0.1192$
$f^2G - g(3, \frac{7}{2})$	0.5889	$x = 0.7631$	$z = 0.1098$	$y = 0.1022$
		$z = 0.0044$	$z = 0.0009$	$z = 0.0196$
$f^2G - g(3, \frac{9}{2})$	0.6111	$x = 0.5883$	$z = 0.1720$	$y = 0.1601$
		$z = 0.0135$	$z = 0.0057$	$z = 0.0605$
$f^4G - g(1, \frac{7}{2})$	0.4929	$x = 0.0000$	$z = 0.0007$	$y = 0.0003$
		$z = 0.0000$	$z = 0.0003$	$z = 0.0126$
		$z = 0.1864$	$z = 0.7498$	$z = 0.0004$
$f^4G - g(1, \frac{9}{2})$	0.5357	$x = 0.0000$	$z = 0.0169$	$y = 0.0265$
		$z = 0.4107$	$z = 0.5100$	$z = 0.0000$
$f^4G - g(2, \frac{7}{2})$	0.7817	$x = 0.0112$	$z = 0.0058$	$y = 0.1161$
		$z = 0.0010$	$z = 0.0017$	$z = 0.0726$
		$z = 0.0259$	$z = 0.4071$	$z = 0.0097$
$f^4G - g(2, \frac{9}{2})$	0.9325	$x = 0.3336$	$z = 0.4522$	$y = 0.0626$
		$z = 0.0231$	$z = 0.0580$	$z = 0.0498$
		$z = 0.0007$	$z = 0.0023$	$z = 0.0102$
$f^4G - g(3, \frac{7}{2})$	1.0111	$x = 0.0513$	$z = 0.3812$	$y = 0.1827$
		$z = 0.0687$	$z = 0.1510$	$z = 0.0288$
		$z = 0.0119$	$z = 0.0210$	$z = 0.0131$
$f^4G - g(3, \frac{9}{2})$	1.3889	$x = 0.7467$	$z = 0.0721$	$y = 0.0112$
		$z = 0.0022$	$z = 0.0086$	$z = 0.0019$
		$z = 0.1358$	$z = 0.0196$	$z = 0.0008$
		$z = 0.0090$	$z = 0.0017$	$z = 0.0003$
$f^2H - g(1, \frac{7}{2})$	0.0175	$x = 0.0000$	$z = 0.0494$	$y = 0.9506$
$f^2H - g(1, \frac{9}{2})$	0.6111	$x = 0.0000$	$z = 0.0395$	$y = 0.0000$
$f^2H - g(2, \frac{7}{2})$	0.8201	$x = 0.0304$	$z = 0.0203$	$y = 0.0000$
$f^2H - g(2, \frac{9}{2})$	0.7275	$x = 0.4752$	$z = 0.4332$	$y = 0.0027$
		$z = 0.0010$	$z = 0.0022$	$z = 0.0329$
$f^2H - g(3, \frac{7}{2})$	1.0593	$x = 0.8702$	$z = 0.0579$	$y = 0.0618$
		$z = 0.0020$	$z = 0.0003$	$z = 0.0077$
$f^2H - g(3, \frac{9}{2})$	0.4074	$x = 0.7071$	$z = 0.1203$	$y = 0.1286$
		$z = 0.0085$	$z = 0.0028$	$z = 0.0327$
$f^4H - g(1, \frac{7}{2})$	0.8206	$x = 0.0000$	$z = 0.0007$	$y = 0.0008$
		$z = 0.0000$	$z = 0.0000$	$z = 0.0135$
$f^4H - g(1, \frac{9}{2})$	0.4365	$x = 0.0000$	$z = 0.0000$	$y = 0.0005$
		$z = 0.0000$	$z = 0.0000$	$z = 0.0369$
		$z = 0.8960$	$z = 0.0634$	$z = 0.0033$

TABLE 11c (CONTINUED)

$f^4H - g(2, \frac{7}{2})$	1.0767	$x = 0.0000$	0.0021	0.0048	0.0016
		$y = 0.0235$	0.0834	0.0310	$z = 0.6538$
$f^4H - g(2, \frac{9}{2})$	1.0185	$x = 0.0000$	0.0611	0.0029	0.0040
		$y = 0.0000$	0.0019	0.0001	0.0001
		$z = 0.8824$	0.0229	0.0244	
$f^4H - g(3, \frac{7}{2})$	0.8963	$x = 0.0556$	0.1098	0.0411	0.0054
		$y = 0.0064$	0.0097	0.0042	0.0006
		$z = 0.5936$	0.1572	0.0164	
$f^4H - g(3, \frac{9}{2})$	2.0370	$x = 0.8727$	0.0348	0.0010	0.0019
		$y = 0.0783$	0.0063	0.0003	0.0007
		$z = 0.0035$	0.0004	0.0000	0.0001
$\sum_{J,J'} (2S+1)L - f(J_p, i)$					
$g^2D - f(1, \frac{5}{2})$	0.2143	$x = 0.0023$	0.0000	$y = 0.1088$	0.0000
$g^2D - f(1, \frac{7}{2})$	0.0079	$x = 0.0816$	0.0000	$y = 0.9184$	$z = 0.8889$
$g^2D - f(2, \frac{3}{2})$	0.2249	$x = 0.0118$	0.0121	$y = 0.1694$	0.1291
		$z = 0.3953$	0.2824		
$g^2D - f(2, \frac{7}{2})$	0.1455	$x = 0.0000$	0.0055	$y = 0.0594$	0.0187
$g^2D - f(3, \frac{3}{2})$	0.0370	$x = 0.0466$	0.0612	$y = 0.2799$	0.2449
		$z = 0.2449$	0.1224		
$g^2D - f(3, \frac{7}{2})$	0.4815	$x = 0.0074$	0.0209	$y = 0.0957$	0.2119
		$z = 0.2119$	0.4521		
$g^4D - f(1, \frac{5}{2})$	0.0714	$x = 0.0117$	0.0933	0.0000	$y = 0.1312$
		$z = 0.0019$	0.0000	0.0000	0.7619
$g^4D - f(1, \frac{7}{2})$	0.3730	$x = 0.0013$	0.0005	0.0000	$y = 0.0769$
		$z = 0.9157$			0.0056
$g^4D - f(2, \frac{5}{2})$	0.2513	$x = 0.0009$	0.0104	0.0108	0.0000
		$y = 0.0256$	0.1494	0.1155	0.0000
		$z = 0.0863$	0.3485	0.2526	
$g^4D - f(2, \frac{7}{2})$	0.4894	$x = 0.0076$	0.0095	0.0016	0.0000
		$y = 0.1422$	0.0918	0.0056	$z = 0.5130$
$g^4D - f(3, \frac{5}{2})$	0.6296	$x = 0.0016$	0.0177	0.0576	0.0810
		$y = 0.0158$	0.1061	0.2305	0.2593
		$z = 0.0222$	0.0929	0.1152	
$g^4D - f(3, \frac{7}{2})$	0.4074	$x = 0.0148$	0.0400	0.0387	0.0111
		$y = 0.1204$	0.1969	0.1113	0.0083
		$z = 0.1848$	0.1988	0.0751	
$g^2F - f(1, \frac{5}{2})$	0.2500	$x = 0.0466$	0.0468	$y = 0.5248$	0.3810
$g^2F - f(1, \frac{7}{2})$	0.0611	$x = 0.0097$	0.0053	$y = 0.2544$	0.0596
$g^2F - f(2, \frac{3}{2})$	0.2870	$x = 0.0070$	0.0024	$y = 0.2006$	0.0339
		$z = 0.6771$	0.0790		
$g^2F - f(2, \frac{7}{2})$	0.2315	$x = 0.0022$	0.0126	$y = 0.0005$	0.1635
		$z = 0.2335$	0.5878		
$g^2F - f(3, \frac{5}{2})$	0.1296	$x = 0.0267$	0.0267	$y = 0.2688$	0.1599
		$z = 0.3780$	0.1399		

TABLE 11c (CONTINUED)

$g^2F - f(3, \frac{7}{2})$	0.5963	$x = 0.0056$	0.0120	$y = 0.1205$	0.1545
		$z = 0.3652$	0.3422		
$g^4F - f(1, \frac{5}{2})$	0.1500	$x = 0.0278$	0.0729	0.7937	$y = 0.0065$
		$z = 0.0020$	0.0000		0.0972
$g^4F - f(1, \frac{7}{2})$	0.4722	$x = 0.0252$	0.0261	0.0096	$y = 0.3778$
		$z = 0.0002$	0.0009	0.0000	0.5603
$g^4F - f(2, \frac{3}{2})$	0.3796	$x = 0.0110$	0.0640	0.0013	0.1911
		$y = 0.0753$	0.2160	0.0030	0.4181
		$z = 0.0022$	0.0001	0.0179	
$g^4F - f(2, \frac{7}{2})$	0.6574	$x = 0.0036$	0.0011	0.0025	0.0031
		$y = 0.1276$	0.0040	0.0437	0.0103
		$z = 0.5936$	0.0010	0.2095	
$g^4F - f(3, \frac{5}{2})$	0.8037	$x = 0.0008$	0.0129	0.0336	0.0282
		$y = 0.0188$	0.1301	0.2015	0.1129
		$z = 0.0455$	0.1829	0.1763	0.0564
$g^4F - f(3, \frac{7}{2})$	0.6481	$x = 0.0136$	0.0274	0.0137	0.0004
		$y = 0.1745$	0.1616	0.0267	0.0070
		$z = 0.3596$	0.1613	0.0017	0.0525
$g^2G - f(1, \frac{5}{2})$	0.2357	$x = 0.2593$	0.6803	$y = 0.0805$	
$g^2G - f(1, \frac{7}{2})$	0.1643	$x = 0.0789$	0.1157	$y = 0.4980$	0.3050
$g^2G - f(2, \frac{3}{2})$	0.8214	$x = 0.1270$	0.0000	$y = 0.8730$	0.0000
$g^2G - f(2, \frac{7}{2})$	0.3452	$x = 0.0033$	0.0067	$y = 0.0263$	0.1686
		$z = 0.0048$	0.7902		
$g^2G - f(3, \frac{5}{2})$	0.3000	$x = 0.0099$	0.0094	$y = 0.2199$	0.0950
		$z = 0.5321$	0.1336		
$g^2G - f(3, \frac{7}{2})$	0.6333	$x = 0.0017$	0.0043	$y = 0.1000$	0.0928
		$z = 0.5199$	0.2813		
$g^4G - f(1, \frac{5}{2})$	0.2786	$x = 0.0050$	0.4975	0.4029	$y = 0.0442$
		$z = 0.0010$			0.0493
$g^4G - f(1, \frac{7}{2})$	0.5214	$x = 0.1302$	0.6002	0.2324	$y = 0.0277$
		$z = 0.0002$	0.0007		0.0004
$g^4G - f(2, \frac{5}{2})$	0.5357	$x = 0.0339$	0.1071	0.1443	0.4490
		$y = 0.0156$	0.0428	0.1924	$z = 0.0015$
$g^4G - f(2, \frac{7}{2})$	0.7976	$x = 0.0629$	0.0079	0.0567	0.0006
		$y = 0.5526$	0.1281	0.1348	0.0503
		$z = 0.0000$	0.0042	0.0019	
$g^4G - f(3, \frac{5}{2})$	0.9000	$x = 0.0117$	0.1204	0.1529	0.0611
		$y = 0.0633$	0.2913	0.2151	0.0534
		$z = 0.0054$	0.0152	0.0102	
$g^4G - f(3, \frac{7}{2})$	0.9667	$x = 0.0063$	0.0133	0.0051	0.0001
		$y = 0.1681$	0.1092	0.0090	0.0039
		$z = 0.5382$	0.1183	0.0008	0.0276
$g^2H - f(1, \frac{5}{2})$	0.1571	$x = 1.0000$			
$g^2H - f(1, \frac{7}{2})$	0.8317	$x = 0.2679$	0.6316	$y = 0.1005$	
$g^2H - f(2, \frac{3}{2})$	0.3201	$x = 0.8264$	0.1515	$y = 0.0220$	
$g^2H - f(2, \frac{7}{2})$	0.4947	$x = 0.0590$	0.0822	$y = 0.1050$	0.7529
		$z = 0.0009$			$z = 0.0009$

TABLE 11c (CONTINUED)

$g^2I - f(1, \frac{7}{2})$	0.5778	$x = 1.0000$	
$g^2I - f(2, \frac{5}{2})$	0.2751	$x = 1.0000$	
$g^2I - f(2, \frac{7}{2})$	0.6878	$x = 0.5026$	$0.4909 \quad y = 0.0065$
$g^2I - f(3, \frac{5}{2})$	0.9630	$x = 0.9231$	$0.0649 \quad y = 0.0120$
$g^2I - f(3, \frac{7}{2})$	0.3852	$x = 0.0000$	$0.0108 \quad y = 0.8333 \quad 0.1558 \quad z = 0.0000$
$g^4I - f(1, \frac{5}{2})$	0.7429	$x = 1.0000$	
$g^4I - f(1, \frac{7}{2})$	0.4127	$x = 0.8909$	$0.0667 \quad y = 0.0424$
$g^4I - f(2, \frac{5}{2})$	0.9630	$x = 0.7273$	$0.2381 \quad y = 0.0346$
$g^4I - f(2, \frac{7}{2})$	0.9630	$x = 0.8974$	$0.0248 \quad 0.0286 \quad y = 0.0475 \quad 0.0012$
		$z = 0.0006$	
$g^4I - f(3, \frac{5}{2})$	0.7704	$x = 0.7212$	$0.2066 \quad 0.0238 \quad y = 0.0381 \quad 0.0098$
		$z = 0.0004$	
$g^4I - f(3, \frac{7}{2})$	1.9259	$x = 0.9231$	$0.0394 \quad 0.0012 \quad 0.0026$
		$y = 0.0311$	$0.0021 \quad 0.0001 \quad z = 0.0004 \quad 0.0000$

TABLE 11c (CONTINUED)

$g^2H - f(3, \frac{5}{2})$	0.5704	$x = 0.1316$	$0.0450 \quad y = 0.7126 \quad 0.1088 \quad z = 0.0020$
$g^2H - f(3, \frac{7}{2})$	0.5704	$x = 0.0000$	$0.0007 \quad y = 0.0475 \quad 0.0432$
		$z = 0.6841$	0.2245
$g^4H - f(1, \frac{5}{2})$	0.4714	$x = 0.2222$	$0.7143 \quad y = 0.0635$
$g^4H - f(1, \frac{7}{2})$	0.5063	$x = 0.4564$	$0.4904 \quad 0.0833 \quad y = 0.0049 \quad 0.0137$
		$z = 0.0013$	
$g^4H - f(2, \frac{5}{2})$	0.7275	$x = 0.0378$	$0.4000 \quad 0.3857 \quad y = 0.0582 \quad 0.1143$
		$z = 0.0040$	
$g^4H - f(2, \frac{7}{2})$	0.9021	$x = 0.3832$	$0.4159 \quad 0.0688 \quad 0.0518$
		$y = 0.0244$	$0.0514 \quad 0.0003 \quad z = 0.0030 \quad 0.0012$
$g^4H - f(3, \frac{5}{2})$	0.8963	$x = 0.0620$	$0.4465 \quad 0.2338 \quad 0.0417$
		$y = 0.0824$	$0.0966 \quad 0.0297 \quad z = 0.0043 \quad 0.0030$
$g^4H - f(3, \frac{7}{2})$	1.3852	$x = 0.1080$	$0.0643 \quad 0.0042 \quad 0.0009$
		$y = 0.7254$	$0.0783 \quad 0.0020 \quad 0.0108$
		$z = 0.0043$	$0.0018 \quad 0.0001$

V. Escalante: Instituto de Astronomía, UNAM, Apartado Postal 70-264, 04510 México, D.F., México.
A. Góngora-T.: Instituto de Física, UNAM, Apartado Postal 20-364, 01000 México, D.F., México.