

Table 1. Level designations and energies (in cm^{-1}) relative to the ground state and lifetimes (τ in s) for the 321 levels arising from the $1snl$ ($n \leq 6, l \leq (n-1)$) and $2lnl'$ ($n \leq 6, l \leq (n-1)$) configurations of helium-like ions with $Z = 10 - 36$.

Z	Key	jj -coupling	LS -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
10	1	$1s^2(J=0)$	$1s^2^1S_0$	0	0	0			100. (1)
10	2	$1s_{1/2} 2s_{1/2}(J=1)$	$1s2s^3S_1$	7299940	7299610	7299372	9.240E-05	9.461E-05	100. (2)
10	3	$1s_{1/2} 2p_{1/2}(J=0)$	$1s2p^3P_0$	7378200	7377936	7377654	9.775E-09	9.770E-09	100. (3)
10	4	$1s_{1/2} 2p_{1/2}(J=1)$	$1s2p^3P_1$	7378500	7378235	7377956	1.821E-10	1.830E-10	100. (4)
10	5	$1s_{1/2} 2p_{3/2}(J=2)$	$1s2p^3P_2$	7380050	7379794	7379514	8.912E-09	8.908E-09	100. (5)
10	6	$1s_{1/2} 2s_{1/2}(J=0)$	$1s2s^1S_0$	7382680	7382472	7382183	3.498E-02	3.537E-02	100. (6)
10	7	$1s_{1/2} 2p_{3/2}(J=1)$	$1s2p^1P_1$	7436560	7436136	7436031	1.131E-13	1.130E-13	100. (7)
10	8	$1s_{1/2} 3s_{1/2}(J=1)$	$1s3s^3S_1$	8623000	8622596	8622444	1.735E-11	1.741E-11	100. (8)
10	9	$1s_{1/2} 3p_{1/2}(J=0)$	$1s3p^3P_0$	8644400	8643930	8643848	6.824E-12	6.825E-12	100. (9)
10	10	$1s_{1/2} 3p_{1/2}(J=1)$	$1s3p^3P_1$	8644500	8644029	8643948	6.751E-12	6.753E-12	100. (10)
10	11	$1s_{1/2} 3s_{1/2}(J=0)$	$1s3s^1S_0$	8644880	8644202	8644338	1.909E-11	1.913E-11	100. (11)
10	12	$1s_{1/2} 3p_{3/2}(J=2)$	$1s3p^3P_2$	8644960	8644489	8644408	6.848E-12	6.849E-12	100. (12)
10	13	$1s_{1/2} 3d_{3/2}(J=1)$	$1s3d^3D_1$	8657000	8655981	8655938	2.285E-12	2.282E-12	100. (13)
10	14	$1s_{1/2} 3d_{3/2}(J=2)$	$1s3d^3D_2$	8657120	8656002	8655961	2.290E-12	2.286E-12	95.1 (14)
10	15	$1s_{1/2} 3d_{5/2}(J=3)$	$1s3d^3D_3$	8657190	8656157	8656115	2.288E-12	2.285E-12	100. (15)
10	16	$1s_{1/2} 3d_{5/2}(J=2)$	$1s3d^1D_2$	8662400	8656657	8656654	2.393E-12	2.389E-12	95.1 (16)
10	17	$1s_{1/2} 3p_{3/2}(J=1)$	$1s3p^1P_1$	8660530	8659932	8659981	3.835E-13	3.821E-13	100. (17)
10	18	$1s_{1/2} 4s_{1/2}(J=1)$	$1s4s^3S_1$	9075200	9074693	9074662	2.561E-11	2.584E-11	100. (18)
10	19	$1s_{1/2} 4p_{1/2}(J=0)$	$1s4p^3P_0$	9084000	9083466	9083441	1.150E-11	1.154E-11	100. (19)
10	20	$1s_{1/2} 4s_{1/2}(J=0)$	$1s4s^1S_0$	9084060	9083485	9083530	2.785E-11	2.801E-11	100. (20)
10	21	$1s_{1/2} 4p_{1/2}(J=1)$	$1s4p^3P_1$	9084040	9083509	9083485	1.141E-11	1.145E-11	100. (21)
10	22	$1s_{1/2} 4p_{3/2}(J=2)$	$1s4p^3P_2$	9084230	9083703	9083678	1.154E-11	1.157E-11	100. (22)
10	23	$1s_{1/2} 4d_{3/2}(J=1)$	$1s4d^3D_1$	9090300	9088429	9088418	5.285E-12	5.282E-12	100. (23)
10	24	$1s_{1/2} 4d_{3/2}(J=2)$	$1s4d^3D_2$	9090340	9088441	9088430	5.294E-12	5.292E-12	97.0 (24)
10	25	$1s_{1/2} 4d_{5/2}(J=3)$	$1s4d^3D_3$	9090390	9088503	9088492	5.290E-12	5.290E-12	100. (25)
10	26	$1s_{1/2} 4f_{5/2}(J=3)$	$1s4f^3F_3$	9089800	9088764	9088767	1.105E-11	1.104E-11	53.3 (26) 46.7 (30)
10	27	$1s_{1/2} 4f_{5/2}(J=2)$	$1s4f^3F_2$		9088778	9088778	1.105E-11	1.103E-11	100. (27)
10	28	$1s_{1/2} 4d_{5/2}(J=2)$	$1s4d^1D_2$		9088791	9088788	5.624E-12	5.611E-12	97.0 (28)
10	29	$1s_{1/2} 4f_{7/2}(J=4)$	$1s4f^3F_4$	9089800	9088817	9088817	1.105E-11	1.104E-11	100. (29)
10	30	$1s_{1/2} 4f_{7/2}(J=3)$	$1s4f^1F_3$	9094400	9088824	9088828	1.106E-11	1.104E-11	53.3 (30) 46.7 (26)
10	31	$1s_{1/2} 4p_{3/2}(J=1)$	$1s4p^1P_1$	9090630	9090054	9090078	9.076E-13	9.031E-13	100. (31)
10	32	$1s_{1/2} 5s_{1/2}(J=1)$	$1s5s^3S_1$	9282200	9281662	9281655	4.025E-11	4.100E-11	100. (32)
10	33	$1s_{1/2} 5s_{1/2}(J=0)$	$1s5s^1S_0$	9286650	9286081	9286113	4.392E-11	4.421E-11	100. (33)
10	34	$1s_{1/2} 5p_{1/2}(J=0)$	$1s5p^3P_0$	9286640	9286096	9286088	1.941E-11	1.960E-11	100. (34)
10	35	$1s_{1/2} 5p_{1/2}(J=1)$	$1s5p^3P_1$	9286660	9286119	9286111	1.928E-11	1.947E-11	100. (35)
10	36	$1s_{1/2} 5p_{3/2}(J=2)$	$1s5p^3P_2$	9286760	9286218	9286210	1.946E-11	1.965E-11	100. (36)
10	37	$1s_{1/2} 5d_{3/2}(J=1)$	$1s5d^3D_1$	9288500	9288609	9288606	1.012E-11	1.014E-11	100. (37)
10	38	$1s_{1/2} 5d_{3/2}(J=2)$	$1s5d^3D_2$	9288500	9288616	9288613	1.014E-11	1.016E-11	97.4 (38)
10	39	$1s_{1/2} 5d_{5/2}(J=3)$	$1s5d^3D_3$	9288500	9288648	9288644	1.013E-11	1.015E-11	100. (39)
10	40	$1s_{1/2} 5f_{5/2}(J=3)$	$1s5f^3F_3$	9289800	9288794	9288797	2.138E-11	2.134E-11	54.8 (40) 45.2 (45)
10	41	$1s_{1/2} 5f_{5/2}(J=2)$	$1s5f^3F_2$		9288801	9288802	2.135E-11	2.133E-11	100. (41)
10	42	$1s_{1/2} 5d_{5/2}(J=2)$	$1s5d^1D_2$		9288810	9288811	1.087E-11	1.084E-11	97.4 (42)
10	43	$1s_{1/2} 5f_{7/2}(J=4)$	$1s5f^3F_4$	9289800	9288820	9288822	2.136E-11	2.134E-11	100. (43)
10	44	$1s_{1/2} 5g_{7/2}(J=4)$	$1s5g^3G_4$		9288824	9288829	3.584E-11	3.579E-11	53.7 (44) 46.3 (48)
10	45	$1s_{1/2} 5f_{7/2}(J=3)$	$1s5f^1F_3$	9294400	9288825	9288828	2.140E-11	2.136E-11	54.8 (45) 45.2 (40)
10	46	$1s_{1/2} 5g_{7/2}(J=3)$	$1s5g^3G_3$		9288828	9288833	3.585E-11	3.579E-11	100. (46)
10	47	$1s_{1/2} 5g_{9/2}(J=5)$	$1s5g^3G_5$		9288840	9288845	3.585E-11	3.580E-11	100. (47)
10	48	$1s_{1/2} 5g_{9/2}(J=4)$	$1s5g^1G_4$		9288843	9288848	3.585E-11	3.580E-11	53.7 (48) 46.3 (44)
10	49	$1s_{1/2} 5p_{3/2}(J=1)$	$1s5p^1P_1$	9290000	9289428	9289451	1.769E-12	1.749E-12	100. (49)
10	50	$1s_{1/2} 6s_{1/2}(J=1)$	$1s6s^3S_1$		9393367	9393352	6.149E-11	6.313E-11	100. (50)
10	51	$1s_{1/2} 6s_{1/2}(J=0)$	$1s6s^1S_0$		9395898	9395926	6.601E-11	6.740E-11	100. (51)
10	52	$1s_{1/2} 6p_{1/2}(J=0)$	$1s6p^3P_0$	9395000	9395913	9395897	3.099E-11	3.148E-11	100. (52)
10	53	$1s_{1/2} 6p_{1/2}(J=1)$	$1s6p^3P_1$	9395000	9395927	9395910	3.081E-11	3.129E-11	100. (53)
10	54	$1s_{1/2} 6p_{3/2}(J=2)$	$1s6p^3P_2$	9395000	9395984	9395968	3.107E-11	3.158E-11	100. (54)
10	55	$1s_{1/2} 6d_{3/2}(J=1)$	$1s6d^3D_1$	9400000	9397354	9397343	1.727E-11	1.727E-11	100. (55)
10	56	$1s_{1/2} 6d_{3/2}(J=2)$	$1s6d^3D_2$	9400000	9397358	9397347	1.732E-11	1.731E-11	97.6 (56)
10	57	$1s_{1/2} 6d_{5/2}(J=3)$	$1s6d^3D_3$	9400000	9397377	9397365	1.730E-11	1.730E-11	100. (57)
10	58	$1s_{1/2} 6f_{5/2}(J=3)$	$1s6f^3F_3$	9398400	9397459	9397457	3.656E-11	3.649E-11	56.0 (58) 44.0 (64)
10	59	$1s_{1/2} 6f_{5/2}(J=2)$	$1s6f^3F_2$		9397463	9397460	3.649E-11	3.647E-11	100. (59)
10	60	$1s_{1/2} 6g_{7/2}(J=4)$	$1s6g^3G_4$		9397473	9397476	6.151E-11	6.143E-11	53.2 (60) 46.8 (68)
10	61	$1s_{1/2} 6f_{7/2}(J=4)$	$1s6f^3F_4$	9398400	9397474	9397471	3.651E-11	3.650E-11	100. (61)
10	62	$1s_{1/2} 6d_{5/2}(J=2)$	$1s6d^1D_2$		9397475	9397466	1.853E-11	1.863E-11	97.6 (62)
10	63	$1s_{1/2} 6g_{7/2}(J=3)$	$1s6g^3G_3$		9397476	9397478	6.152E-11	6.143E-11	100. (63)
10	64	$1s_{1/2} 6f_{7/2}(J=3)$	$1s6f^1F_3$	9403000	9397477	9397475	3.660E-11	3.652E-11	56.0 (64) 44.0 (58)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
10	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		9397481	9397486	9.272E-11	9.259E-11	53.7 (65) 46.3 (70)
10	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		9397482	9397485	6.154E-11	6.144E-11	100. (66)
10	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		9397483	9397487	9.272E-11	9.259E-11	100. (67)
10	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		9397484	9397487	6.153E-11	6.144E-11	53.2 (68) 46.8 (60)
10	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		9397487	9397492	9.273E-11	9.260E-11	100. (69)
10	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		9397489	9397493	9.273E-11	9.260E-11	53.7 (70) 46.3 (65)
10	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	9396200	9397829	9397844	3.057E-12	2.952E-12	100. (71)
10	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		15401023		4.271E-13		76.8 (72)
10	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	15423400	15422137		1.756E-13		100. (73)
10	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	15421100	15423176		1.756E-13		100. (74)
10	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	15428000	15425420		1.757E-13		100. (75)
10	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	15494000	15490535		8.600E-14		100. (76)
10	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	15494300	15491698		8.599E-14		100. (77)
10	78	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$	15494300	15493709		8.604E-14		100. (78)
10	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	15530500	15529203		8.503E-14		100. (79)
10	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	15539300	15539493		1.614E-13		100. (80)
10	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	15652180	15650563		1.124E-13		76.4 (81)
10	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		16804306		4.155E-13		69.1 (82) 30.9 (106)
10	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		16813747		2.391E-13		47.7 (83) 47.6 (110) 4.78 (116)
10	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		16829126		6.009E-13		73.2 (84)
10	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		16835872		2.526E-13		53.9 (85) 44.2 (92) 1.93 (113)
10	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		16836525		1.458E-13		73.1 (86)
10	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		16836577		2.775E-13		51.4 (87) 45.4 (93) 3.14 (112)
10	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		16837799		3.331E-13		64.3 (88) 29.3 (94) 6.30 (111)
10	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		16838171		1.513E-13		80.1 (89)
10	90	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		16840048		1.547E-13		78.1 (90)
10	91	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		16840565		1.286E-13		89.4 (91)
10	92	$2p_{1/2}3s_{1/2}(J=0)$	$2s3s^3P_0$		16841489		2.120E-13		40.5 (85) 40.1 (92) 19.4 (113)
10	93	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		16842096		1.970E-13		48.4 (93) 32.7 (87) 18.9 (112)
10	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		16843439		1.747E-13		63.9 (94) 19.0 (88) 17.1 (111)
10	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		16862997		1.600E-13		87.5 (95)
10	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		16864654		1.610E-13		100. (96)
10	97	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		16866424		1.612E-13		100. (97)
10	98	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		16866615		1.549E-13		87.8 (98)
10	99	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		16868034		1.260E-13		100. (99)
10	100	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		16868749		1.264E-13		100. (100)
10	101	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		16869383		1.527E-13		51.9 (101) 30.9 (102) 17.2 (114)
10	102	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		16871130		1.575E-13		48.0 (101) 31.6 (102) 20.4 (114)
10	103	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		16875264		5.510E-13		81.2 (103)
10	104	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		16875653		5.207E-13		80.0 (104)
10	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		16876172		4.969E-13		78.3 (105)
10	106	$2s_{1/2}3s_{1/2}(J=1)$	$2p3p^3S_1$		16879749		1.797E-13		68.3 (106) 31.7 (82)
10	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		16885283		1.412E-13		100. (107)
10	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		16885885		1.411E-13		100. (108)
10	109	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		16886651		1.409E-13		100. (109)
10	110	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		16889448		2.125E-13		51.8 (110) 39.5 (83) 7.62 (116)
10	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		16902736		1.720E-13		77.3 (111)
10	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		16903314		1.711E-13		78.3 (112)
10	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		16903674		1.707E-13		78.9 (113)
10	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		16905783		2.777E-13		61.9 (114) 38.1 (102)
10	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		16913579		1.358E-13		100. (115)
10	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		16924199		1.539E-13		88.3 (116)
10	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		16932534		1.563E-13		73.7 (117)
10	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		17290448		5.255E-13		68.6 (118) 31.4 (144)
10	119	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		17295198		2.903E-13		47.9 (119) 45.0 (147) 5.97 (168)
10	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		17298987		6.421E-13		71.6 (120) 28.4 (169)
10	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		17301795		2.887E-13		51.4 (121) 45.4 (127) 3.14 (162)
10	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		17302403		3.331E-13		53.0 (122) 42.2 (129) 4.79 (161)
10	123	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		17303309		4.216E-13		64.2 (123) 27.4 (130) 8.46 (159)
10	124	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		17304891		1.768E-13		71.4 (124) 20.1 (139) 8.51 (128)
10	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		17306097		1.899E-13		74.2 (125)
10	126	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		17307668		2.081E-13		67.0 (126) 31.7 (141) 1.24 (163)
10	127	$2p_{1/2}4s_{1/2}(J=0)$	$2s4p^3P_0$		17308452		2.212E-13		45.1 (121) 35.6 (127) 19.3 (162)
10	128	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		17308568		1.458E-13		90.5 (128)
10	129	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		17309012		2.022E-13		52.9 (129) 27.8 (122) 19.2 (161)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
10	130	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		17310263		1.739E-13		66.9 (130) 18.9 (159) 14.2 (123)
10	131	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		17314857		1.705E-13		82.3 (131)
10	132	$2s_{1/2}4d_{3/2}(J=2)$	$2p4p^1D_2$		17316046		2.549E-13		49.8 (132) 39.8 (160) 6.67 (138)
10	133	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		17316190		1.766E-13		87.6 (133)
10	134	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		17316603		1.422E-13		100. (134)
10	135	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		17317267		1.448E-13		98.2 (135)
10	136	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		17317844		1.857E-13		85.1 (136)
10	137	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		17318511		1.569E-13		89.5 (137)
10	138	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		17318766		1.531E-13		89.4 (138)
10	139	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		17320601		4.419E-13		71.0 (139) 23.8 (124) 3.91 (165)
10	140	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^3D_2$		17320974		3.777E-13		65.1 (140) 26.9 (125) 4.38 (164)
10	141	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		17321395		3.453E-13		61.8 (141) 32.5 (126) 5.72 (163)
10	142	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		17323983		1.531E-13		89.7 (142)
10	143	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		17324760		1.532E-13		97.0 (143)
10	144	$2s_{1/2}4s_{1/2}(J=1)$	$2p4p^3S_1$		17325373		1.928E-13		66.5 (144) 31.9 (118) 1.52 (135)
10	145	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		17325439		1.556E-13		95.9 (145)
10	146	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		17325622		1.538E-13		58.6 (146) 35.3 (155) 6.03 (149)
10	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		17325743		2.138E-13		48.8 (147) 33.6 (119) 10.1 (142)
10	148	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		17325936		1.535E-13		62.4 (148) 23.8 (156) 13.8 (158)
10	149	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		17325962		1.557E-13		71.9 (149) 17.1 (146) 5.17 (155)
10	150	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		17325966		1.545E-13		94.4 (150)
10	151	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		17327803		1.029E-12		88.8 (151)
10	152	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		17327951		8.174E-13		84.9 (152)
10	153	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^1F_3$		17328064		3.613E-12		97.3 (153)
10	154	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		17328151		8.168E-13		84.9 (154)
10	155	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		17328944		1.537E-13		60.9 (155) 21.0 (146) 18.2 (149)
10	156	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		17329207		1.537E-13		50.3 (156) 36.0 (148) 13.7 (158)
10	157	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		17330455		1.536E-13		100. (157)
10	158	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		17330940		1.534E-13		73.8 (158)
10	159	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		17331995		1.771E-13		71.9 (159) 20.2 (123) 5.27 (130)
10	160	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		17332071		2.665E-13		53.3 (160) 40.8 (132) 5.86 (166)
10	161	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		17332537		1.758E-13		75.2 (161)
10	162	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		17332855		1.749E-13		77.5 (162)
10	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		17333273		1.581E-13		88.6 (163)
10	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		17333484		1.574E-13		50.3 (164) 35.7 (166) 5.53 (150)
10	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		17334716		1.570E-13		95.5 (165)
10	166	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		17335007		1.545E-13		53.8 (166) 42.0 (164) 2.21 (132)
10	167	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^1F_3$		17335274		1.496E-13		98.8 (167)
10	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		17340332		1.657E-13		85.4 (168)
10	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		17343906		1.763E-13		73.2 (169)
10	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		17508891		6.940E-13		69.4 (170) 30.6 (207)
10	171	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		17511845		3.250E-13		47.3 (171) 41.8 (203) 6.26 (236)
10	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		17512865		7.371E-13		69.8 (172) 30.2 (237)
10	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		17514522		3.019E-13		53.7 (173) 43.5 (178) 2.82 (228)
10	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		17515134		4.096E-13		55.1 (174) 36.5 (180) 5.55 (225)
10	175	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		17515769		5.910E-13		70.0 (175) 18.8 (182) 11.2 (222)
10	176	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		17516641		1.940E-13		69.6 (176) 21.0 (191) 9.42 (181)
10	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		17517584		2.178E-13		66.0 (177) 28.0 (192) 2.97 (217)
10	178	$2p_{1/2}5s_{1/2}(J=0)$	$2s5p^3P_0$		17518962		2.381E-13		44.1 (173) 39.0 (178) 16.9 (228)
10	179	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		17519037		2.906E-13		52.6 (179) 44.8 (193) 2.55 (229)
10	180	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		17519513		2.067E-13		54.7 (180) 26.0 (174) 16.8 (225)
10	181	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		17519642		1.571E-13		83.9 (181)
10	182	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		17520827		1.633E-13		71.7 (182) 18.5 (222) 6.63 (175)
10	183	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		17521545		1.766E-13		76.9 (183)
10	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^1D_2$		17522191		3.369E-13		42.6 (184) 41.2 (217) 9.49 (192)
10	185	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		17522668		1.901E-13		77.7 (185)
10	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		17522670		1.503E-13		100. (186)
10	187	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		17523343		1.702E-13		80.0 (187)
10	188	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		17524281		2.413E-13		67.5 (188) 32.5 (213)
10	189	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		17524509		2.176E-13		57.5 (189) 21.7 (192) 11.0 (184)
10	190	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^1D_2$		17524580		1.636E-13		77.9 (190)
10	191	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		17524967		3.321E-13		59.0 (191) 26.3 (176) 8.61 (187)
10	192	$2p_{3/2}5p_{1/2}(J=2)$	$2s5d^3D_2$		17525505		2.218E-13		35.6 (192) 34.6 (189) 26.5 (177)
10	193	$2p_{3/2}5p_{3/2}(J=3)$	$2s5d^3D_3$		17525719		2.480E-13		43.5 (179) 42.8 (193) 8.85 (229)
10	194	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		17526337		1.585E-13		76.5 (194)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
10	195	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		17526753		1.550E-13		62.1 (195) 24.7 (215) 12.1 (199)
10	196	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		17526951		1.550E-13		38.2 (196) 37.8 (216) 24.0 (221)
10	197	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		17527266		2.023E-13		67.5 (197) 23.9 (208) 4.27 (190)
10	198	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		17527438		1.572E-13		81.8 (198)
10	199	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		17527468		1.646E-13		46.7 (199) 30.9 (215) 11.8 (229)
10	200	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3D_3$		17527601		2.752E-13		49.1 (200) 46.2 (214) 3.48 (233)
10	201	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		17527655		1.534E-13		64.7 (201) 19.9 (219) 15.4 (205)
10	202	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		17527669		1.534E-13		35.3 (202) 35.2 (220) 29.5 (223)
10	203	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		17527805		2.097E-13		46.7 (203) 30.7 (171) 16.9 (194)
10	204	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		17527979		1.597E-13		63.0 (204) 19.8 (226) 14.3 (231)
10	205	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		17528004		1.539E-13		36.6 (205) 34.7 (227) 28.8 (219)
10	206	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^1F_3$		17528300		2.440E-12		98.3 (206)
10	207	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		17528304		1.958E-13		65.1 (207) 30.6 (170) 4.30 (187)
10	208	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		17528357		3.691E-13		63.1 (208) 17.2 (183) 15.6 (197)
10	209	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		17528382		1.073E-11		59.0 (209) 41.0 (212)
10	210	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		17528387		1.185E-11		100. (210)
10	211	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		17528401		4.676E-12		100. (211)
10	212	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		17528420		5.675E-12		62.2 (212) 36.5 (209) 1.29 (196)
10	213	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		17528753		3.996E-13		67.3 (213) 32.7 (188)
10	214	$2p_{3/2}5d_{5/2}(J=3)$	$2s5f^3F_3$		17528780		2.305E-13		44.1 (200) 36.9 (214) 19.0 (185)
10	215	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		17530113		1.545E-13		39.2 (195) 33.6 (215) 27.2 (199)
10	216	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		17530254		1.543E-13		58.4 (196) 33.6 (216) 7.98 (221)
10	217	$2s_{1/2}5d_{5/2}(J=2)$	$2p5p^1D_2$		17530753		2.412E-13		51.2 (217) 46.6 (184) 2.21 (235)
10	218	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		17530867		1.534E-13		100. (218)
10	219	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		17531062		1.544E-13		35.6 (201) 35.6 (219) 28.8 (205)
10	220	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		17531076		1.544E-13		64.4 (220) 19.6 (202) 16.0 (223)
10	221	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		17531138		1.527E-13		69.4 (221) 29.3 (216) 1.29 (196)
10	222	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		17531229		1.733E-13		66.7 (222) 18.2 (175) 8.43 (197)
10	223	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3H_5$		17531546		1.533E-13		54.7 (223) 45.3 (202)
10	224	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		17531565		1.533E-13		100. (224)
10	225	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		17531664		1.726E-13		74.0 (225)
10	226	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		17531773		1.536E-13		37.2 (226) 35.0 (204) 27.8 (231)
10	227	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		17531791		1.536E-13		65.1 (227) 19.2 (205) 15.7 (219)
10	228	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		17531934		1.716E-13		79.9 (228)
10	229	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		17531967		1.569E-13		77.2 (229)
10	230	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		17532109		1.550E-13		44.9 (230) 33.6 (235) 16.8 (198)
10	231	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		17532582		1.529E-13		50.4 (231) 36.8 (226) 12.8 (233)
10	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		17532592		1.529E-13		100. (232)
10	233	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^1F_3$		17532737		1.527E-13		81.8 (233)
10	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		17533048		1.557E-13		95.5 (234)
10	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		17533258		1.537E-13		52.9 (235) 43.3 (230) 2.09 (192)
10	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		17535338		1.646E-13		82.7 (236)
10	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		17537149		1.763E-13		74.5 (237)
10	238	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		17618214		6.698E-12		68.4 (238) 31.6 (265)
10	239	$2s_{1/2}6s_{1/2}(J=1)$	$2p6p^3S_1$		17620238		4.487E-12		66.4 (272) 33.6 (239)
10	240	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		17625697		6.062E-13		45.8 (240) 40.5 (289) 8.69 (314)
10	241	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		17627954		5.801E-13		55.6 (241) 39.1 (246) 5.32 (296)
10	242	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		17628364		9.120E-13		66.1 (242) 22.4 (248) 9.03 (295)
10	243	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		17628821		1.174E-12		75.1 (243)
10	244	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		17630045		2.454E-13		65.7 (244) 25.6 (257) 8.77 (249)
10	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		17630692		3.025E-13		54.8 (245) 34.9 (260) 5.41 (293)
10	246	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		17631290		1.914E-13		72.2 (246) 17.6 (241) 10.2 (296)
10	247	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		17631811		6.893E-13		65.0 (247) 30.2 (280) 4.87 (297)
10	248	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		17632016		1.847E-13		75.9 (248)
10	249	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		17632427		2.013E-13		64.8 (249) 22.5 (266) 7.14 (239)
10	250	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		17633047		1.709E-13		74.2 (250)
10	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^1D_2$		17633342		5.532E-13		38.7 (251) 32.0 (293) 22.3 (260)
10	252	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		17633803		1.559E-13		67.6 (252) 18.7 (294) 6.27 (290)
10	253	$2s_{1/2}6s_{1/2}(J=0)$	$2p6p^3P_0$		17634170		9.457E-13		58.4 (265) 41.6 (253)
10	254	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^1I_6$		17634292		4.406E-13		48.2 (254) 41.3 (319) 10.5 (308)
10	255	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		17634293		4.316E-13		89.5 (255)
10	256	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		17634370		3.871E-13		68.7 (256) 21.4 (277) 6.90 (292)
10	257	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		17634478		2.824E-13		48.8 (257) 35.5 (266) 7.28 (244)
10	258	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		17635124		1.341E-13		45.8 (258) 38.5 (317) 15.7 (306)
10	259	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		17635129		1.351E-13		84.2 (259)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
10	260	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^3D_2$		17635248		3.434E-13		40.6 (260) 21.3 (270) 17.7 (251)
10	261	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		17635369		1.425E-13		76.4 (261)
10	262	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		17635411		1.438E-13		43.3 (262) 34.6 (321) 22.1 (304)
10	263	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		17635525		3.526E-13		56.6 (263) 41.2 (291) 2.22 (273)
10	264	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		17635557		1.683E-13		52.8 (264) 16.7 (252) 16.7 (290)
10	265	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		17635636		3.767E-12		85.5 (265)
10	266	$2s_{1/2}6d_{3/2}(J=1)$	$2p6p^3P_1$		17635863		2.579E-13		32.3 (257) 22.0 (266) 21.9 (244)
10	267	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		17635981		1.707E-13		69.4 (267) 9.54 (314) 7.81 (289)
10	268	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		17636243		1.694E-13		27.2 (268) 27.0 (297) 20.4 (280)
10	269	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		17636436		1.553E-13		51.0 (269) 20.7 (270) 12.9 (315)
10	270	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^3P_2$		17636693		1.880E-13		37.2 (270) 21.8 (269) 20.2 (260)
10	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		17636694		5.055E-13		70.6 (271) 20.4 (290) 3.18 (250)
10	272	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		17636724		2.235E-12		79.6 (272)
10	273	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		17636735		1.534E-13		43.2 (273) 30.7 (300) 24.6 (305)
10	274	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		17636749		1.717E-13		47.8 (274) 21.0 (301) 15.3 (310)
10	275	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		17636753		1.529E-13		47.7 (275) 29.1 (312) 23.2 (302)
10	276	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		17636759		1.528E-13		52.3 (276) 26.0 (303) 21.7 (307)
10	277	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^3F_3$		17636816		4.641E-13		36.1 (277) 30.1 (279) 11.0 (274)
10	278	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3F_3$		17636851		1.210E-12		29.6 (278) 28.3 (256) 20.4 (274)
10	279	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^1F_3$		17636851		9.330E-13		57.0 (279) 20.3 (277) 6.41 (292)
10	280	$2s_{1/2}6d_{5/2}(J=3)$	$2p6p^3D_3$		17636894		2.518E-13		41.8 (247) 31.2 (280) 13.3 (268)
10	281	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		17637095		1.082E-11		64.3 (281) 35.7 (284)
10	282	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		17637100		6.841E-12		100. (282)
10	283	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		17637100		1.304E-11		100. (283)
10	284	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		17637111		8.090E-12		74.3 (284)
10	285	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		17637171		1.482E-11		100. (285)
10	286	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		17637171		1.601E-11		53.3 (286) 46.7 (287)
10	287	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		17637176		1.483E-11		53.3 (287) 46.7 (286)
10	288	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		17637177		1.604E-11		100. (288)
10	289	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		17637423		2.546E-13		43.9 (289) 39.8 (240) 11.0 (267)
10	290	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^3D_2$		17637848		1.715E-13		40.0 (290) 24.6 (264) 17.8 (250)
10	291	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		17637880		1.920E-13		68.0 (291) 32.0 (263)
10	292	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^3D_3$		17638391		1.607E-13		74.0 (292)
10	293	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		17638855		3.282E-13		51.3 (293) 41.7 (251) 3.22 (245)
10	294	$2s_{1/2}6p_{3/2}(J=2)$	$2p6d^3P_2$		17639333		3.378E-13		38.9 (294) 38.5 (243) 17.4 (290)
10	295	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		17639460		4.009E-13		44.7 (295) 43.1 (242) 10.3 (267)
10	296	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		17639545		4.665E-13		51.2 (296) 48.8 (241)
10	297	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		17640195		2.417E-13		45.1 (297) 29.5 (298) 14.6 (261)
10	298	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		17640257		4.835E-13		48.5 (261) 25.8 (268) 10.3 (298)
10	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		17640315		1.684E-13		40.6 (299) 29.6 (269) 24.8 (315)
10	300	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		17640329		1.630E-13		54.9 (273) 25.1 (300) 20.0 (305)
10	301	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^1F_3$		17640337		1.560E-13		43.6 (274) 29.1 (301) 24.7 (310)
10	302	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		17640350		1.674E-13		48.7 (275) 27.3 (302) 18.0 (312)
10	303	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		17640358		1.526E-13		47.7 (276) 28.7 (303) 23.7 (307)
10	304	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		17640390		4.059E-13		26.8 (304) 26.4 (262) 21.8 (312)
10	305	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^1G_4$		17640538		2.951E-13		51.2 (259) 27.4 (305) 21.4 (300)
10	306	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		17640545		2.941E-13		48.8 (306) 28.0 (258) 23.2 (317)
10	307	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		17640684		2.684E-13		48.6 (255) 28.2 (307) 23.2 (303)
10	308	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		17640688		2.676E-13		51.4 (308) 26.1 (254) 22.4 (319)
10	309	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		17640775		2.334E-13		84.7 (309)
10	310	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		17640806		1.712E-13		53.9 (310) 42.0 (301) 4.02 (278)
10	311	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		17640806		1.797E-13		100. (311)
10	312	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		17640815		2.970E-13		41.2 (302) 30.2 (312) 13.5 (262)
10	313	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		17640870		1.932E-13		89.2 (313)
10	314	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		17640900		3.049E-13		64.5 (314) 18.5 (240) 6.27 (267)
10	315	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		17641064		1.739E-13		56.7 (315) 38.4 (299) 4.82 (260)
10	316	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		17643152		1.360E-11		100. (316)
10	317	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		17643174		1.476E-11		54.9 (317) 45.1 (258)
10	318	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		17643409		6.188E-13		100. (318)
10	319	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		17643410		6.206E-13		53.9 (319) 46.1 (254)
10	320	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		17643715		1.816E-12		100. (320)
10	321	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		17644747		2.159E-12		68.7 (321) 31.3 (262)
11	1	$1s_{1/2}^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
11	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	8935368	8934935		3.424E-05		100. (2)
11	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	9022385	9022046		8.736E-09		100. (3)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
11	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	9022908	9022568		7.018E-11		100. (4)
11	5	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	9025315	9024977		7.589E-09		100. (5)
11	6	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	9028021	9027697		1.395E-02		100. (6)
11	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	9088735	9088251		7.475E-14		100. (7)
11	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	10558946	10558510		1.170E-11		100. (8)
11	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	10582781	10582291		4.466E-12		100. (9)
11	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	10582947	10582459		4.384E-12		100. (10)
11	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	10583431	10582757		1.275E-11		100. (11)
11	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	10583658	10583171		4.486E-12		100. (12)
11	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	10596647	10596094		1.502E-12		100. (13)
11	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	10596667	10596123		1.507E-12		93.0 (14)
11	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	10596925	10596373		1.505E-12		100. (15)
11	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	10597475	10596955		1.566E-12		93.0 (16)
11	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	10601080	10600470		2.542E-13		100. (17)
11	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	11115065	11114545		1.723E-11		100. (18)
11	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	11124873	11124326		7.545E-12		100. (19)
11	20	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	11124944	11124399		7.445E-12		100. (20)
11	21	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	11124986	11124405		1.858E-11		100. (21)
11	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	11125244	11124698		7.572E-12		100. (22)
11	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	11130639	11130011		3.478E-12		100. (23)
11	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	11130639	11130028		3.487E-12		95.5 (24)
11	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	11130639	11130128		3.483E-12		100. (25)
11	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	11131051	11130428		7.248E-12		55.0 (26) 45.0 (30)
11	27	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	11131051	11130447		7.246E-12		100. (27)
11	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	11131017	11130459		3.678E-12		95.5 (28)
11	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	11131051	11130507		7.247E-12		100. (29)
11	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	11131056	11130519		7.255E-12		55.0 (30) 45.0 (26)
11	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	11132393	11131806		6.022E-13		100. (31)
11	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	11369887	11369337		2.708E-11		100. (32)
11	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	11374842	11374281		1.275E-11		100. (33)
11	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	11374868	11374292		2.927E-11		100. (34)
11	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	11374879	11374319		1.261E-11		100. (35)
11	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	11375032	11374472		1.280E-11		100. (36)
11	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	11377767	11377160		6.665E-12		100. (37)
11	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	11377767	11377169		6.685E-12		96.1 (38)
11	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	11377767	11377220		6.676E-12		100. (39)
11	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	11377987	11377388		1.402E-11		56.3 (40) 43.7 (45)
11	41	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	11377987	11377397		1.400E-11		100. (41)
11	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	11377984	11377407		7.108E-12		96.1 (42)
11	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	11377987	11377428		1.401E-11		100. (43)
11	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		11377433		2.351E-11		54.1 (44) 45.9 (48)
11	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	11377991	11377435		1.404E-11		56.3 (45) 43.7 (40)
11	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		11377438		2.351E-11		100. (46)
11	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		11377457		2.351E-11		100. (47)
11	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		11377461		2.352E-11		54.1 (48) 45.9 (44)
11	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	11378646	11378064		1.175E-12		100. (49)
11	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$	11507469	11506929		4.171E-11		100. (50)
11	51	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$	11510320	11509768		4.371E-11		100. (51)
11	52	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$	11510387	11509769		2.050E-11		100. (52)
11	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$	11510387	11509791		2.028E-11		100. (53)
11	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$	11510387	11509880		2.056E-11		100. (54)
11	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$	11512003	11511419		1.140E-11		100. (55)
11	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$	11512003	11511425		1.144E-11		96.4 (56)
11	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$	11512003	11511454		1.143E-11		100. (57)
11	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$	11512130	11511548		2.395E-11		57.2 (58) 42.8 (64)
11	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$	11512130	11511553		2.393E-11		100. (59)
11	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$	11512137	11511567		1.209E-11		96.4 (60)
11	61	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		11511570		4.035E-11		53.9 (61) 46.1 (68)
11	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$	11512130	11511571		2.395E-11		100. (62)
11	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		11511573		4.035E-11		100. (63)
11	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$	11512133	11511575		2.400E-11		57.2 (64) 42.8 (58)
11	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		11511583		6.081E-11		53.8 (65) 46.2 (70)
11	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		11511584		4.036E-11		100. (66)
11	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		11511585		6.081E-11		100. (67)
11	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		11511586		4.036E-11		53.9 (68) 46.1 (61)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
11	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		11511592		6.082E-11		100. (69)
11	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		11511594		6.082E-11		53.8 (70) 46.2 (65)
11	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	11512505	11511944		2.029E-12		100. (71)
11	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	18757400	18755433		2.904E-13		77.1 (72)
11	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	18780000	18777888		1.189E-13		100. (73)
11	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	18781500	18779435		1.189E-13		100. (74)
11	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	18784900	18782801		1.191E-13		100. (75)
11	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	18856100	18854277		5.841E-14		100. (76)
11	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	18857800	18855989		5.839E-14		100. (77)
11	78	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$	18860700	18858946		5.844E-14		100. (78)
11	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	18900900	18898581		5.776E-14		100. (79)
11	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	18909900	18909001		1.097E-13		100. (80)
11	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	19034800	19032470		7.555E-14		77.1 (81)
11	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		20467358		2.829E-13		69.5 (82) 30.5 (106)
11	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		20477617		1.634E-13		48.0 (83) 47.3 (110) 4.65 (116)
11	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		20494587		4.063E-13		73.8 (84)
11	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		20501623		1.701E-13		54.5 (85) 43.7 (92) 1.77 (113)
11	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		20502375		9.861E-14		71.9 (86) 15.7 (103) 12.4 (91)
11	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		20502654		1.917E-13		53.1 (87) 43.6 (93) 3.27 (112)
11	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		20504361		2.385E-13		68.4 (88) 24.3 (94) 7.29 (111)
11	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		20504842		1.031E-13		80.0 (89)
11	90	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		20507608		1.062E-13		77.3 (90)
11	91	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		20507907		8.823E-14		87.5 (91)
11	92	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		20508063		1.473E-13		41.2 (92) 40.1 (85) 18.7 (113)
11	93	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		20508983		1.340E-13		50.4 (93) 31.6 (87) 18.0 (112)
11	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		20511041		1.163E-13		69.4 (94) 15.7 (111) 15.0 (88)
11	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		20531934		1.093E-13		85.6 (95)
11	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		20534424		1.101E-13		100. (96)
11	97	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		20536915		1.061E-13		85.7 (97)
11	98	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		20537105		1.103E-13		100. (98)
11	99	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		20537855		8.619E-14		100. (99)
11	100	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		20538901		8.671E-14		100. (100)
11	101	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		20539565		1.110E-13		40.5 (101) 36.5 (102) 21.1 (114)
11	102	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		20542161		1.035E-13		58.6 (101) 24.2 (102) 17.1 (114)
11	103	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		20545470		3.778E-13		81.3 (103)
11	104	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		20546067		3.475E-13		79.6 (104)
11	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		20546834		3.312E-13		77.4 (105)
11	106	$2s_{1/2}3s_{1/2}(J=1)$	$2p3p^3S_1$		20550891		1.206E-13		68.8 (106) 30.1 (82) 1.07 (100)
11	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		20557326		9.673E-14		100. (107)
11	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		20558265		9.653E-14		100. (108)
11	109	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		20559418		9.635E-14		100. (109)
11	110	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		20562227		1.449E-13		51.8 (110) 39.2 (83) 7.26 (116)
11	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		20576676		1.173E-13		77.8 (111)
11	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		20577478		1.166E-13		79.1 (112)
11	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		20577989		1.163E-13		79.8 (113)
11	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		20580708		1.858E-13		60.9 (114) 39.1 (102)
11	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		20590137		9.273E-14		100. (115)
11	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		20601478		1.055E-13		88.5 (116)
11	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		20610664		1.076E-13		74.1 (117)
11	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		21061125		3.533E-13		69.5 (118) 30.5 (145)
11	119	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		21066073		1.968E-13		48.2 (119) 44.0 (150) 5.70 (168)
11	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		21070306		4.359E-13		72.9 (120)
11	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		21072914		1.923E-13		52.5 (121) 44.8 (127) 2.72 (162)
11	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		21073818		2.318E-13		54.2 (122) 39.9 (129) 4.70 (161)
11	123	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		21075040		3.060E-13		67.8 (123) 23.1 (130) 9.17 (160)
11	124	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		21076429		1.197E-13		70.7 (124) 19.6 (139) 9.72 (128)
11	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		21078172		1.303E-13		72.5 (125)
11	126	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		21080477		1.487E-13		63.4 (126) 35.2 (141) 1.34 (163)
11	127	$2p_{1/2}4s_{1/2}(J=0)$	$2s4p^3P_0$		21080601		1.568E-13		44.1 (121) 37.9 (127) 17.9 (162)
11	128	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		21081407		1.010E-13		88.3 (128)
11	129	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		21081446		1.397E-13		53.6 (129) 27.5 (122) 17.7 (161)
11	130	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		21083347		1.160E-13		71.1 (130) 17.8 (160) 11.1 (123)
11	131	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		21087613		1.165E-13		80.9 (131)
11	132	$2s_{1/2}4d_{3/2}(J=2)$	$2p4p^1D_2$		21089206		1.804E-13		47.3 (132) 40.5 (159) 7.26 (138)
11	133	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		21089531		1.216E-13		85.9 (133)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
11	134	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		21089765		9.782E-14		99.0 (134)
11	135	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		21090742		1.017E-13		92.3 (135)
11	136	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		21092024		1.326E-13		81.7 (136)
11	137	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		21092518		1.087E-13		85.9 (137)
11	138	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		21092887		1.133E-13		80.7 (138)
11	139	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		21094072		2.873E-13		69.3 (139) 24.4 (124) 3.27 (165)
11	140	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^3D_2$		21094708		2.180E-13		57.6 (140) 27.4 (125) 11.5 (138)
11	141	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		21095282		2.181E-13		58.0 (141) 36.4 (126) 5.54 (163)
11	142	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		21098051		1.056E-13		85.2 (142)
11	143	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		21099293		1.085E-13		90.2 (143)
11	144	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		21099771		1.054E-13		45.9 (144) 44.7 (155) 9.39 (149)
11	145	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		21099943		1.288E-13		68.1 (145) 29.3 (118) 2.55 (135)
11	146	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		21100200		1.052E-13		55.4 (146) 28.5 (156) 16.1 (158)
11	147	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		21100231		1.166E-13		86.2 (147)
11	148	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		21100335		1.063E-13		91.0 (148)
11	149	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		21100336		1.077E-13		62.8 (149) 24.3 (144) 7.38 (163)
11	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		21100378		1.452E-13		48.6 (150) 32.9 (119) 12.5 (142)
11	151	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		21102136		5.905E-13		85.9 (151)
11	152	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^1F_3$		21102410		1.415E-12		78.1 (152)
11	153	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^3F_3$		21102434		4.482E-13		58.8 (153) 21.0 (152) 10.6 (133)
11	154	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		21102665		4.828E-13		81.5 (154)
11	155	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		21104460		1.054E-13		52.5 (155) 25.7 (144) 21.8 (149)
11	156	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		21104802		1.054E-13		45.7 (156) 43.8 (146) 10.5 (158)
11	157	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		21106328		1.053E-13		100. (157)
11	158	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		21107026		1.052E-13		74.0 (158)
11	159	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		21107358		1.071E-13		51.2 (159) 43.7 (132) 5.10 (166)
11	160	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		21107390		1.207E-13		71.7 (160) 18.7 (123) 5.23 (130)
11	161	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		21108119		1.198E-13		76.0 (161)
11	162	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		21108565		1.191E-13		79.5 (162)
11	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		21109004		1.083E-13		85.7 (163)
11	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		21109289		1.076E-13		49.9 (164) 34.0 (166) 8.76 (148)
11	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		21110938		1.076E-13		96.1 (165)
11	166	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		21111358		1.060E-13		54.5 (166) 41.7 (164) 2.09 (132)
11	167	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^1F_3$		21111473		1.020E-13		98.6 (167)
11	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		21116871		1.135E-13		85.3 (168)
11	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		21120543		1.219E-13		73.7 (169)
11	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		21328898		4.318E-13		71.1 (170) 28.9 (212)
11	171	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		21331531		2.135E-13		46.8 (171) 39.8 (210) 7.73 (180)
11	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		21333066		4.780E-13		71.9 (172) 26.5 (237) 1.64 (186)
11	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		21334131		1.961E-13		55.6 (173) 42.2 (178) 2.21 (226)
11	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		21335055		2.946E-13		57.1 (174) 32.5 (180) 5.42 (223)
11	175	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		21335826		4.302E-13		73.8 (175)
11	176	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		21336487		1.305E-13		69.3 (176) 20.5 (191) 10.2 (181)
11	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		21337777		1.479E-13		63.3 (177) 28.3 (188) 4.60 (216)
11	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		21339302		1.754E-13		43.4 (178) 41.8 (173) 14.8 (226)
11	179	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		21339859		2.271E-13		52.5 (179) 44.6 (192) 2.92 (229)
11	180	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		21340116		1.466E-13		54.6 (180) 26.2 (174) 14.5 (223)
11	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		21340468		1.106E-13		74.7 (181)
11	182	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		21341896		1.158E-13		53.0 (182) 19.4 (183) 15.2 (190)
11	183	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		21342197		1.135E-13		53.4 (183) 23.6 (182) 12.6 (219)
11	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^1D_2$		21342973		2.546E-13		41.7 (184) 35.1 (216) 15.5 (188)
11	185	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		21343501		1.310E-13		73.1 (185)
11	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		21343508		1.044E-13		96.8 (186)
11	187	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		21344405		1.434E-13		58.9 (187) 28.7 (191) 5.41 (181)
11	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^3D_2$		21345756		2.074E-13		34.9 (188) 27.7 (193) 17.8 (184)
11	189	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		21345814		2.070E-13		54.3 (189) 45.7 (213)
11	190	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		21346040		1.159E-13		67.2 (190) 11.3 (211) 6.17 (183)
11	191	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		21346189		1.696E-13		42.8 (191) 25.8 (176) 21.4 (187)
11	192	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		21347205		1.454E-13		49.5 (192) 31.6 (179) 10.1 (229)
11	193	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		21347266		1.176E-13		62.8 (193) 19.2 (177) 14.7 (188)
11	194	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		21347539		1.083E-13		74.0 (194)
11	195	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		21347854		1.069E-13		64.4 (195) 22.1 (215) 12.3 (199)
11	196	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		21348137		1.068E-13		39.4 (196) 36.1 (217) 24.4 (222)
11	197	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		21348721		2.294E-13		55.0 (197) 37.0 (211) 3.01 (190)
11	198	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		21348732		1.090E-13		75.3 (198)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
11	199	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		21348813		1.175E-13		40.0 (199) 27.2 (215) 15.2 (229)
11	200	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		21348857		1.055E-13		66.2 (200) 19.1 (220) 14.7 (228)
11	201	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		21348883		1.055E-13		36.1 (201) 33.8 (221) 30.1 (224)
11	202	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^3F_3$		21348930		2.792E-13		65.2 (202) 24.9 (214) 4.18 (185)
11	203	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		21349215		1.118E-13		56.6 (203) 22.0 (227) 15.9 (233)
11	204	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		21349248		1.058E-13		39.9 (204) 33.8 (228) 26.4 (220)
11	205	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^1F_3$		21349534		2.040E-12		98.3 (205)
11	206	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		21349609		7.890E-12		66.4 (206) 33.6 (209)
11	207	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		21349616		1.121E-11		100. (207)
11	208	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		21349624		4.063E-12		100. (208)
11	209	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		21349655		5.498E-12		71.4 (209) 28.6 (206)
11	210	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		21349681		1.437E-13		49.2 (210) 30.4 (171) 15.1 (194)
11	211	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		21350155		1.484E-13		35.1 (211) 30.7 (197) 18.3 (182)
11	212	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		21350348		1.263E-13		67.7 (212) 25.4 (170) 6.86 (187)
11	213	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		21350538		2.099E-13		54.1 (213) 45.9 (189)
11	214	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3D_3$		21350994		1.219E-13		64.6 (214) 19.7 (185) 15.7 (202)
11	215	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		21352765		1.056E-13		36.6 (215) 35.0 (195) 28.4 (199)
11	216	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		21352906		1.540E-13		55.2 (216) 39.7 (184) 1.86 (235)
11	217	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		21352948		1.056E-13		61.8 (217) 32.5 (196) 5.70 (222)
11	218	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		21353648		1.048E-13		100. (218)
11	219	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		21353678		1.171E-13		64.8 (219) 15.0 (175) 13.1 (211)
11	220	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		21353882		1.060E-13		36.5 (220) 33.7 (200) 29.7 (228)
11	221	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		21353905		1.060E-13		66.3 (221) 19.0 (201) 14.7 (224)
11	222	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		21354060		1.047E-13		69.8 (222) 28.4 (196) 1.79 (217)
11	223	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		21354217		1.169E-13		74.4 (223)
11	224	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		21354488		1.054E-13		55.2 (224) 44.8 (201)
11	225	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		21354509		1.054E-13		100. (225)
11	226	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		21354575		1.165E-13		82.9 (226)
11	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		21354618		1.057E-13		40.3 (203) 33.8 (227) 25.9 (233)
11	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		21354640		1.057E-13		59.8 (204) 22.0 (228) 18.2 (220)
11	229	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		21354674		1.074E-13		72.0 (229) 14.8 (199) 9.63 (215)
11	230	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		21354864		1.063E-13		43.9 (230) 29.7 (235) 22.7 (198)
11	231	$2p_{3/2}5g_{9/2}(J=3)$	$2p5d^3F_3$		21355530		1.045E-13		56.0 (231) 22.8 (233) 16.8 (227)
11	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		21355582		1.052E-13		100. (232)
11	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		21355648		1.047E-13		36.0 (233) 33.3 (231) 27.9 (227)
11	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		21356019		1.069E-13		96.4 (234)
11	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		21356317		1.057E-13		53.9 (235) 42.8 (230) 1.64 (188)
11	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		21358303		1.127E-13		82.4 (236)
11	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		21359728		1.244E-13		73.8 (237)
11	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		21471507		5.077E-13		71.0 (238) 26.6 (287) 1.25 (268)
11	239	$2p_{1/2}6s_{1/2}(J=1)$	$2s6p^1P_1$		21473035		2.344E-13		43.1 (239) 35.6 (286) 13.5 (248)
11	240	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		21473663		4.657E-13		66.8 (240) 29.5 (318) 3.78 (253)
11	241	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		21474539		2.074E-13		55.7 (241) 42.4 (246) 1.95 (304)
11	242	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		21475378		4.149E-13		61.2 (242) 21.9 (248) 8.66 (239)
11	243	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		21475784		5.555E-13		78.2 (243)
11	244	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		21476156		1.409E-13		68.3 (244) 21.5 (255) 10.2 (249)
11	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		21477059		1.618E-13		54.3 (245) 28.5 (256) 9.61 (291)
11	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		21478161		1.940E-13		48.9 (246) 40.4 (241) 10.7 (304)
11	247	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		21478821		4.413E-13		72.1 (247) 22.9 (284) 5.02 (307)
11	248	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		21478948		1.594E-13		53.5 (248) 24.7 (242) 11.9 (239)
11	249	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		21479171		1.209E-13		52.2 (249) 27.6 (268) 9.47 (238)
11	250	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		21479298		1.208E-13		73.2 (250)
11	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^1D_2$		21480144		3.825E-13		36.5 (251) 32.5 (256) 22.2 (291)
11	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		21480446		1.331E-13		62.5 (252) 18.4 (273) 11.1 (290)
11	253	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		21480646		1.108E-13		93.4 (253)
11	254	$2p_{1/2}6d_{5/2}(J=2)$	$2p6s^3P_2$		21480881		1.075E-13		48.2 (254) 22.8 (294) 13.6 (289)
11	255	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		21481138		2.706E-13		63.7 (255) 20.2 (268) 9.60 (244)
11	256	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^3D_2$		21482037		2.900E-13		35.2 (251) 31.9 (256) 19.7 (245)
11	257	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		21482293		5.387E-13		77.4 (257)
11	258	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		21482398		1.022E-13		70.8 (258) 17.8 (292) 9.98 (266)
11	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		21482552		1.021E-13		41.6 (259) 29.2 (298) 28.2 (293)
11	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		21482730		1.102E-13		68.6 (260) 11.4 (321) 7.96 (301)
11	261	$2p_{3/2}6s_{1/2}(J=2)$	$2p6d^1D_2$		21482811		1.338E-13		35.1 (254) 33.0 (261) 11.7 (270)
11	262	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		21482865		9.563E-14		72.7 (262)
11	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		21482877		8.890E-14		74.3 (263)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
11	264	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		21482878		9.562E-14		39.7 (264) 33.0 (299) 27.3 (303)
11	265	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		21482886		8.891E-14		40.0 (265) 34.3 (295) 25.7 (306)
11	266	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		21483087		1.051E-13		33.6 (266) 33.4 (307) 23.3 (292)
11	267	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		21483239		1.086E-13		62.2 (267) 19.7 (320) 12.8 (309)
11	268	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3P_1$		21483322		1.186E-13		33.8 (268) 29.9 (249) 20.2 (244)
11	269	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		21483356		1.431E-13		33.1 (269) 25.6 (273) 17.6 (308)
11	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		21483411		3.677E-13		72.6 (270)
11	271	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		21483435		1.068E-13		46.1 (271) 28.5 (310) 22.6 (302)
11	272	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		21483448		1.051E-13		45.8 (272) 30.1 (311) 24.1 (315)
11	273	$2p_{1/2}6g_{7/2}(J=3)$	$2s6f^3F_3$		21483454		1.976E-13		48.0 (273) 20.1 (269) 10.7 (308)
11	274	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		21483457		1.050E-13		54.2 (274) 25.0 (312) 20.8 (305)
11	275	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^1F_3$		21483763		3.057E-12		100. (275)
11	276	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		21483792		7.396E-12		62.4 (276) 37.6 (279)
11	277	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		21483794		9.547E-12		100. (277)
11	278	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		21483806		3.626E-12		100. (278)
11	279	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		21483824		4.862E-12		73.1 (279)
11	280	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		21483884		1.479E-11		54.7 (280) 45.3 (282)
11	281	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		21483884		1.224E-11		100. (281)
11	282	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		21483892		1.229E-11		54.9 (282) 45.1 (280)
11	283	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		21483893		1.489E-11		100. (283)
11	284	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		21484182		1.413E-13		63.7 (284) 30.6 (247) 3.23 (266)
11	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		21484380		1.116E-13		73.0 (285)
11	286	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		21484990		1.575E-13		51.4 (286) 34.0 (239) 7.36 (248)
11	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		21485588		1.467E-13		57.2 (287) 27.3 (238) 14.2 (268)
11	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		21485763		1.256E-13		79.4 (288)
11	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^3D_2$		21485777		1.116E-13		34.8 (261) 33.9 (289) 18.9 (250)
11	290	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^3D_3$		21486471		1.085E-13		68.1 (290) 25.8 (252) 4.23 (273)
11	291	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		21486857		1.363E-13		64.4 (291) 25.7 (251) 4.99 (245)
11	292	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^3F_3$		21487555		1.031E-13		42.4 (292) 30.3 (266) 27.2 (258)
11	293	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		21487647		1.026E-13		67.8 (293) 30.4 (259) 1.81 (298)
11	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		21487709		1.190E-13		54.2 (294) 25.4 (289) 13.4 (243)
11	295	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		21487740		7.897E-14		53.7 (295) 46.3 (265)
11	296	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		21487749		7.900E-14		100. (296)
11	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		21487791		9.619E-14		100. (297)
11	298	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		21487946		9.631E-14		67.9 (298) 27.3 (259) 4.86 (293)
11	299	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^3H_5$		21487969		8.877E-14		54.1 (299) 45.9 (264)
11	300	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		21487985		8.882E-14		100. (300)
11	301	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		21488008		1.209E-13		66.7 (301) 15.7 (260) 14.0 (242)
11	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		21488122		1.007E-13		41.4 (302) 33.5 (310) 25.2 (262)
11	303	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		21488135		1.007E-13		74.9 (303)
11	304	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		21488231		1.223E-13		82.9 (304)
11	305	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		21488270		9.734E-14		42.0 (305) 35.4 (312) 22.6 (263)
11	306	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		21488278		9.736E-14		77.4 (306)
11	307	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		21488560		1.061E-13		60.7 (307) 22.8 (266) 14.2 (292)
11	308	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^1F_3$		21488670		1.033E-13		33.7 (313) 29.2 (269) 16.9 (308)
11	309	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		21488687		1.057E-13		39.4 (309) 35.0 (267) 24.3 (320)
11	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		21488716		1.051E-13		52.1 (271) 26.4 (310) 21.5 (302)
11	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		21488736		1.050E-13		54.2 (272) 25.1 (311) 20.7 (315)
11	312	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		21488744		1.051E-13		45.8 (274) 29.4 (312) 24.8 (305)
11	313	$2p_{3/2}6g_{7/2}(J=3)$	$2p6d^1F_3$		21488745		1.022E-13		54.1 (313) 17.0 (269) 12.0 (308)
11	314	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		21489095		1.038E-13		100. (314)
11	315	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		21489103		1.037E-13		55.3 (315) 44.7 (311)
11	316	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		21489295		1.040E-13		100. (316)
11	317	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		21489302		1.042E-13		57.5 (317) 42.5 (308)
11	318	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		21489332		1.629E-13		65.7 (318) 28.0 (240) 6.29 (253)
11	319	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		21489422		1.056E-13		97.0 (319)
11	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		21489632		1.052E-13		53.9 (320) 43.6 (309) 1.44 (256)
11	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		21490132		1.150E-13		78.0 (321)
12	1	$1s^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
12	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	10736136	10735912		1.385E-05		100. (2)
12	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	10831989	10831864		7.883E-09		100. (3)
12	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	10832818	10832696		2.937E-11		100. (4)
12	5	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	10836388	10836270		6.405E-09		100. (5)
12	6	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	10838778	10838637		6.553E-03		100. (6)
12	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	10906612	10906337		5.139E-14		100. (7)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
12	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	12691170	12690910		8.168E-12		100. (8)
12	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	12717465	12717157		3.045E-12		100. (9)
12	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	12717729	12717421		2.953E-12		100. (10)
12	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	12718304	12717809		8.840E-12		100. (11)
12	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	12718786	12718478		3.061E-12		100. (12)
12	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	12733183	12732837		1.028E-12		100. (13)
12	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	12733223	12732874		1.031E-12		90.6 (14)
12	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	12733603	12733257		1.030E-12		100. (15)
12	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	12734298	12733921		1.067E-12		90.6 (16)
12	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	12738006	12737596		1.751E-13		100. (17)
12	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	13361991	13361661		1.201E-11		100. (18)
12	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	13372822	13372459		5.152E-12		100. (19)
12	20	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	13372934	13372573		5.039E-12		100. (20)
12	21	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	13372977	13372594		1.287E-11		100. (21)
12	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	13373378	13373018		5.175E-12		100. (22)
12	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	13379385	13378918		2.381E-12		100. (23)
12	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	13379400	13378942		2.389E-12		93.6 (24)
12	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	13379562	13379095		2.386E-12		100. (25)
12	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	13379893	13379435		4.948E-12		55.9 (26) 44.1 (30)
12	27	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	13379893	13379459		4.947E-12		100. (27)
12	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	13379830	13379468		2.505E-12		93.6 (28)
12	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	13379893	13379549		4.949E-12		100. (29)
12	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	13379898	13379566		4.954E-12		55.9 (30) 44.1 (26)
12	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	13381265	13380865		4.152E-13		100. (31)
12	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	13669618	13669257		1.887E-11		100. (32)
12	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	13675091	13674716		8.721E-12		100. (33)
12	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	13675137	13674750		2.025E-11		100. (34)
12	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	13675149	13674775		8.556E-12		100. (35)
12	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	13675377	13675003		8.757E-12		100. (36)
12	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	13678422	13677987		4.566E-12		100. (37)
12	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	13678430	13678001		4.582E-12		94.4 (38)
12	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	13678513	13678078		4.576E-12		100. (39)
12	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	13678692	13678268		9.571E-12		56.9 (40) 43.1 (45)
12	41	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	13678692	13678280		9.561E-12		100. (41)
12	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	13678680	13678288		4.838E-12		94.4 (42)
12	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	13678692	13678326		9.569E-12		100. (43)
12	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$	13678742	13678332		1.605E-11		54.4 (44) 45.6 (48)
12	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	13678692	13678335		9.584E-12		56.9 (45) 43.1 (40)
12	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$	13678742	13678339		1.605E-11		100. (46)
12	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$	13678742	13678367		1.606E-11		100. (47)
12	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$	13678742	13678372		1.606E-11		54.4 (48) 45.6 (44)
12	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	13679363	13678967		8.101E-13		100. (49)
12	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		13835434		2.925E-11		100. (50)
12	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		13838571		1.408E-11		100. (51)
12	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		13838582		3.008E-11		100. (52)
12	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		13838605		1.383E-11		100. (53)
12	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		13838737		1.413E-11		100. (54)
12	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		13840447		7.829E-12		100. (55)
12	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		13840455		7.854E-12		94.7 (56)
12	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		13840499		7.848E-12		100. (57)
12	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		13840607		1.635E-11		57.6 (58) 42.4 (64)
12	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		13840614		1.634E-11		100. (59)
12	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		13840626		8.216E-12		94.7 (60)
12	61	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		13840641		2.755E-11		54.2 (61) 45.8 (68)
12	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		13840641		1.636E-11		100. (62)
12	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		13840645		2.755E-11		100. (63)
12	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		13840647		1.639E-11		57.7 (64) 42.3 (58)
12	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$	13841054	13840660		4.152E-11		53.8 (65) 46.2 (70)
12	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		13840661		2.756E-11		100. (66)
12	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$	13841054	13840663		4.152E-11		100. (67)
12	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		13840664		2.756E-11		54.2 (68) 45.8 (61)
12	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$	13841054	13840673		4.153E-11		100. (69)
12	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$	13841054	13840675		4.153E-11		53.8 (70) 46.2 (65)
12	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	13841392	13841014		1.399E-12		100. (71)
12	72	$2s^2_{1/2}(J=0)$	$2s^2^1S_0$	22440800	22441211		2.034E-13		77.4 (72)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
12	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	22465200	22465238		8.325E-14		100. (73)
12	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	22467400	22467435		8.329E-14		100. (74)
12	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	22472200	22472260		8.343E-14		100. (75)
12	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	22549700	22549881		4.106E-14		100. (76)
12	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	22552100	22552342		4.103E-14		100. (77)
12	78	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$	22556300	22556528		4.107E-14		100. (78)
12	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	22600500	22600303		4.065E-14		100. (79)
12	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	22609200	22610635		7.769E-14		100. (80)
12	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	22746800	22746680		5.291E-14		77.5 (81)
12	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		24492535		2.018E-13		70.2 (82) 29.8 (106)
12	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		24504049		1.153E-13		48.4 (83) 47.0 (110) 4.54 (116)
12	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		24522457		2.856E-13		74.4 (84)
12	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		24529822		1.179E-13		55.7 (85) 42.8 (90) 1.54 (113)
12	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		24530666		6.902E-14		71.2 (86) 15.1 (103) 13.7 (92)
12	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		24531278		1.369E-13		54.6 (87) 42.1 (93) 3.36 (112)
12	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		24533572		1.763E-13		72.0 (88) 19.7 (94) 8.23 (111)
12	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		24534208		7.266E-14		79.8 (89)
12	90	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		24537160		1.062E-13		42.7 (90) 39.4 (85) 17.9 (113)
12	91	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		24538140		7.569E-14		76.2 (91)
12	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		24538167		6.255E-14		86.1 (92)
12	93	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		24538515		9.431E-14		52.3 (93) 30.6 (87) 17.1 (112)
12	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		24541564		8.028E-14		74.3 (94)
12	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		24563454		7.717E-14		84.2 (95)
12	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		24567009		7.774E-14		100. (96)
12	97	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		24570223		7.500E-14		84.4 (97)
12	98	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		24570304		6.093E-14		100. (98)
12	99	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		24570895		7.796E-14		100. (99)
12	100	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		24571775		6.161E-14		98.9 (100)
12	101	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		24572413		8.269E-14		39.6 (101) 33.3 (102) 23.8 (114)
12	102	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		24576236		7.164E-14		65.1 (102) 19.5 (101) 15.4 (114)
12	103	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		24578323		2.649E-13		81.4 (103)
12	104	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^3D_2$		24579212		2.344E-13		77.9 (104)
12	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		24580288		2.260E-13		76.2 (105)
12	106	$2s_{1/2}3s_{1/2}(J=1)$	$2p3p^3S_1$		24584953		8.432E-14		69.2 (106) 29.1 (82) 1.78 (100)
12	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		24592113		6.851E-14		97.6 (107)
12	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		24593534		6.830E-14		100. (108)
12	109	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		24595222		6.807E-14		100. (109)
12	110	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		24597768		1.022E-13		51.7 (110) 38.9 (83) 6.74 (116)
12	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		24613533		8.262E-14		77.1 (111)
12	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		24614607		8.204E-14		79.9 (112)
12	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		24615311		8.178E-14		80.8 (113)
12	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		24618367		1.281E-13		59.7 (114) 40.3 (101)
12	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		24629823		6.546E-14		100. (115)
12	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		24641700		7.464E-14		88.8 (116)
12	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		24651695		7.607E-14		74.7 (117)
12	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		25204630		2.520E-13		70.7 (118) 29.3 (148)
12	119	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		25210194		1.378E-13		48.4 (119) 42.9 (150) 5.43 (168)
12	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		25214643		3.061E-13		73.8 (120)
12	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		25217247		1.328E-13		53.6 (121) 44.1 (126) 2.33 (162)
12	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		25218534		1.690E-13		55.9 (122) 37.5 (128) 4.67 (161)
12	123	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		25220109		2.310E-13		71.3 (123) 18.8 (130) 9.89 (159)
12	124	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		25221181		8.386E-14		70.2 (124) 19.1 (139) 10.7 (129)
12	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		25223589		9.259E-14		70.2 (125) 26.7 (140) 1.83 (132)
12	126	$2p_{1/2}4s_{1/2}(J=0)$	$2s4p^3P_0$		25226007		1.148E-13		43.4 (121) 40.2 (126) 16.4 (162)
12	127	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		25226826		1.122E-13		58.7 (127) 39.8 (141) 1.50 (163)
12	128	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		25227256		9.955E-14		54.7 (128) 27.0 (122) 16.1 (161)
12	129	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		25227757		7.252E-14		84.5 (129)
12	130	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		25230077		8.002E-14		74.0 (130)
12	131	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		25233642		8.229E-14		79.2 (131)
12	132	$2s_{1/2}4d_{3/2}(J=2)$	$2p4p^1D_2$		25235745		1.343E-13		43.8 (132) 40.5 (158) 8.27 (140)
12	133	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		25236271		8.659E-14		82.7 (133)
12	134	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		25236290		6.959E-14		98.4 (134)
12	135	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		25237663		7.602E-14		85.5 (135)
12	136	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		25239846		9.980E-14		76.7 (136)
12	137	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		25240094		7.787E-14		81.3 (137)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
12	138	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		25240472		1.008E-13		56.7 (138) 21.6 (140) 11.3 (158)
12	139	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		25240979		1.801E-13		64.1 (139) 24.5 (124) 7.07 (135)
12	140	$2p_{3/2}4p_{1/2}(J=2)$	$2s4d^3D_2$		25242141		1.103E-13		39.1 (140) 34.9 (138) 23.7 (125)
12	141	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		25242729		1.402E-13		53.3 (141) 41.2 (127) 5.46 (163)
12	142	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		25245475		7.508E-14		80.7 (142)
12	143	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		25247176		7.459E-14		52.1 (143) 36.9 (155) 11.0 (147)
12	144	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		25247344		8.400E-14		79.7 (144)
12	145	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		25247742		7.450E-14		49.1 (145) 32.4 (156) 18.5 (160)
12	146	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		25248040		7.552E-14		85.7 (146)
12	147	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		25248066		7.704E-14		55.9 (147) 27.5 (155) 11.2 (163)
12	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		25248137		8.968E-14		68.8 (148) 27.3 (118) 3.96 (135)
12	149	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		25248416		1.106E-13		62.6 (149) 35.2 (153) 2.26 (166)
12	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		25248560		1.025E-13		48.3 (150) 32.3 (119) 13.9 (142)
12	151	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		25249879		2.885E-13		77.3 (151)
12	152	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^1F_3$		25250069		2.481E-12		98.9 (152)
12	153	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^3F_3$		25250572		1.462E-13		51.4 (153) 33.0 (149) 15.6 (133)
12	154	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		25250633		2.823E-13		76.5 (154)
12	155	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1G_3$		25253815		7.471E-14		46.4 (143) 29.4 (155) 24.2 (147)
12	156	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		25254238		7.468E-14		49.8 (145) 41.5 (156) 8.72 (160)
12	157	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		25256060		7.462E-14		100. (157)
12	158	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		25256168		1.203E-13		48.0 (158) 47.0 (132) 3.98 (167)
12	159	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		25256466		8.462E-14		70.1 (159) 16.8 (123) 6.96 (144)
12	160	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		25256939		7.457E-14		72.7 (160)
12	161	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		25257392		8.410E-14		76.5 (161)
12	162	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		25257989		8.367E-14		81.4 (162)
12	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		25258494		7.649E-14		81.9 (163)
12	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		25258839		7.584E-14		48.9 (164) 33.0 (167) 13.0 (146)
12	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		25260960		7.611E-14		96.6 (165)
12	166	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^1F_3$		25261480		7.200E-14		96.6 (166)
12	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		25261516		7.501E-14		54.4 (167) 42.2 (164) 1.88 (132)
12	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		25267104		8.001E-14		84.5 (168)
12	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		25270923		8.588E-14		74.8 (169)
12	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		25526419		3.005E-13		72.8 (170)
12	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p^1P_1$		25529321		1.454E-13		45.0 (171) 37.2 (210) 11.2 (180)
12	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		25530942		3.281E-13		72.7 (172)
12	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		25531901		1.339E-13		57.0 (173) 41.3 (178) 1.76 (224)
12	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		25533205		2.265E-13		58.9 (174) 27.2 (180) 7.32 (171)
12	175	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		25534092		3.228E-13		77.0 (175)
12	176	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		25534519		9.111E-14		69.2 (176) 20.0 (187) 10.8 (181)
12	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		25536199		1.042E-13		60.1 (177) 28.2 (188) 6.42 (215)
12	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		25537816		1.310E-13		46.5 (178) 41.0 (173) 12.5 (224)
12	179	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		25538993		1.945E-13		61.4 (179) 35.3 (194) 3.38 (225)
12	180	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		25539004		1.070E-13		54.9 (180) 25.3 (174) 12.0 (220)
12	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		25539557		8.049E-14		65.4 (181) 18.5 (191) 6.25 (187)
12	182	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		25540613		8.442E-14		73.0 (182)
12	183	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		25541971		7.617E-14		68.7 (183) 18.3 (218) 5.28 (211)
12	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^1D_2$		25542016		2.036E-13		39.8 (184) 29.3 (215) 23.2 (188)
12	185	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		25542612		9.326E-14		68.8 (185) 17.9 (201) 8.39 (214)
12	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		25542644		7.518E-14		95.1 (186)
12	187	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		25543643		1.378E-13		48.1 (187) 36.8 (191) 6.48 (176)
12	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^3D_2$		25545225		1.765E-13		35.3 (188) 25.7 (184) 20.2 (177)
12	189	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		25545650		2.059E-13		61.6 (189) 38.4 (212)
12	190	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^1D_2$		25545898		8.511E-14		54.5 (190) 14.4 (211) 13.4 (183)
12	191	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3P_1$		25546170		9.279E-14		34.3 (191) 23.7 (187) 22.9 (176)
12	192	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		25547008		7.652E-14		72.6 (192)
12	193	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		25547137		7.653E-14		57.7 (193) 28.1 (216) 5.18 (194)
12	194	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		25547256		8.477E-14		41.8 (194) 20.0 (202) 14.1 (179)
12	195	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		25547524		7.574E-14		40.0 (195) 33.6 (217) 25.2 (223)
12	196	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		25547806		7.513E-14		62.7 (196) 13.2 (199) 13.1 (177)
12	197	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		25548268		2.563E-13		71.9 (197) 19.4 (211) 3.88 (182)
12	198	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		25548278		7.482E-14		67.5 (198) 18.5 (221) 14.0 (229)
12	199	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		25548303		7.980E-14		56.5 (199) 13.1 (235) 10.8 (196)
12	200	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		25548317		7.481E-14		36.9 (200) 32.5 (222) 30.6 (226)
12	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^3F_3$		25548413		2.311E-13		69.5 (201) 15.0 (214) 5.99 (185)
12	202	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		25548503		9.047E-14		28.6 (202) 20.7 (179) 19.9 (216)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
12	203	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		25548673		8.018E-14		52.2 (203) 23.7 (228) 17.3 (233)
12	204	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		25548714		7.530E-14		43.8 (204) 31.7 (229) 24.5 (221)
12	205	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^1F_3$		25549021		1.821E-12		98.8 (205)
12	206	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		25549080		5.355E-12		69.4 (206) 30.6 (209)
12	207	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		25549092		9.174E-12		100. (207)
12	208	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		25549094		2.993E-12		100. (208)
12	209	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		25549138		4.320E-12		73.1 (209)
12	210	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		25550103		1.013E-13		52.5 (210) 29.5 (171) 12.1 (192)
12	211	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		25550823		8.489E-14		41.2 (211) 22.9 (190) 18.2 (182)
12	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		25551007		1.149E-13		61.8 (212) 38.2 (189)
12	213	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		25551018		8.717E-14		67.3 (213) 21.6 (170) 9.75 (191)
12	214	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3D_3$		25552031		7.955E-14		70.2 (214) 21.2 (185) 7.54 (201)
12	215	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		25553663		1.005E-13		59.5 (215) 32.5 (184) 2.72 (196)
12	216	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		25554208		7.490E-14		38.4 (216) 32.9 (193) 28.7 (202)
12	217	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		25554436		7.488E-14		63.6 (217) 31.7 (195) 4.72 (223)
12	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		25554844		8.149E-14		62.3 (218) 18.4 (211) 12.1 (175)
12	219	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		25555247		7.445E-14		100. (219)
12	220	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		25555470		8.167E-14		73.1 (220)
12	221	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		25555473		7.520E-14		37.1 (221) 32.4 (198) 30.5 (229)
12	222	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		25555508		7.519E-14		67.5 (222) 18.6 (200) 13.8 (226)
12	223	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		25555778		7.439E-14		69.7 (223) 28.1 (195) 2.19 (217)
12	224	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		25555915		8.158E-14		85.7 (224)
12	225	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		25556147		7.583E-14		67.1 (225) 18.5 (202) 11.9 (216)
12	226	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		25556197		7.483E-14		55.5 (226) 44.5 (200)
12	227	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		25556222		7.484E-14		100. (227)
12	228	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		25556230		7.500E-14		44.2 (203) 31.3 (228) 24.5 (233)
12	229	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		25556259		7.501E-14		55.8 (204) 24.1 (229) 20.1 (221)
12	230	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		25556374		7.526E-14		42.4 (230) 28.1 (199) 26.6 (235)
12	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		25557190		7.371E-14		78.6 (231)
12	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		25557335		7.473E-14		100. (232)
12	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		25557394		7.457E-14		50.5 (233) 38.9 (228) 10.7 (231)
12	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		25557741		7.565E-14		97.2 (234)
12	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		25558131		7.491E-14		54.3 (235) 42.9 (230) 1.52 (215)
12	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		25559989		7.920E-14		81.8 (236)
12	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		25561287		8.686E-14		74.8 (237)
12	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		25698402		3.281E-13		72.3 (238)
12	239	$2p_{1/2}6s_{1/2}(J=1)$	$2s6p^1P_1$		25699945		1.437E-13		39.8 (239) 32.5 (286) 19.7 (248)
12	240	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		25700774		3.028E-13		69.4 (240) 25.2 (319) 5.38 (253)
12	241	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		25701268		1.339E-13		59.0 (241) 39.7 (246) 1.28 (297)
12	242	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		25702486		3.187E-13		61.7 (242) 15.9 (248) 13.0 (239)
12	243	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		25702883		3.818E-13		78.5 (243)
12	244	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		25702991		9.559E-14		68.1 (244) 20.2 (254) 10.7 (250)
12	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		25704120		1.097E-13		51.5 (245) 26.9 (251) 12.0 (291)
12	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		25705362		1.527E-13		54.0 (246) 37.7 (241) 8.32 (297)
12	247	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		25706333		3.954E-13		79.6 (247)
12	248	$2s_{1/2}6p_{3/2}(J=1)$	$2p6s^3P_1$		25706432		1.242E-13		50.1 (248) 24.4 (242) 18.4 (239)
12	249	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		25706457		8.545E-14		72.7 (249)
12	250	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		25706576		8.870E-14		42.9 (250) 32.5 (283) 13.1 (238)
12	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		25707583		3.024E-13		41.2 (251) 32.8 (256) 16.9 (291)
12	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		25707872		9.473E-14		58.0 (252) 19.2 (272) 12.8 (290)
12	253	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		25708209		8.197E-14		87.3 (253)
12	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		25708565		2.319E-13		71.1 (254) 13.2 (283) 11.9 (244)
12	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		25708806		7.916E-14		25.6 (255) 24.9 (282) 21.6 (292)
12	256	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		25709723		2.395E-13		46.9 (256) 25.3 (251) 19.4 (245)
12	257	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		25709971		7.430E-14		70.7 (257) 17.8 (293) 9.99 (307)
12	258	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		25710015		6.144E-13		86.7 (258)
12	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		25710190		7.419E-14		41.5 (259) 29.0 (298) 28.3 (294)
12	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		25710395		7.818E-14		66.4 (260) 13.1 (321) 9.98 (295)
12	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		25710576		7.113E-14		71.5 (261) 16.1 (299) 12.4 (310)
12	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		25710599		7.113E-14		39.1 (262) 32.4 (303) 28.5 (300)
12	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		25710660		6.857E-14		72.1 (263) 15.3 (305) 12.6 (312)
12	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		25710673		6.858E-14		38.8 (264) 33.3 (301) 27.9 (306)
12	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		25710780		7.665E-14		36.9 (265) 33.6 (307) 23.0 (293)
12	266	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		25710875		7.803E-14		58.5 (266) 22.2 (320) 14.5 (308)
12	267	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		25710919		3.809E-13		82.7 (267)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
12	268	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$		25710964		9.794E-14		33.6 (268) 23.1 (272) 19.5 (309)
12	269	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g\ ^3F_4$		25711049		7.668E-14		47.9 (269) 27.0 (310) 21.2 (299)
12	270	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$		25711053		7.450E-14		44.5 (270) 30.8 (311) 24.7 (315)
12	271	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$		25711066		7.451E-14		55.5 (271) 24.4 (312) 20.1 (305)
12	272	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^3F_3$		25711073		1.559E-13		53.4 (272) 16.5 (268) 9.56 (309)
12	273	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^1F_3$		25711407		2.882E-12		100. (273)
12	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$		25711432		5.135E-12		71.0 (274) 29.0 (277)
12	275	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		25711436		8.514E-12		100. (275)
12	276	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$		25711443		2.735E-12		100. (276)
12	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		25711472		4.168E-12		77.7 (277)
12	278	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		25711530		1.063E-11		100. (278)
12	279	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		25711531		1.282E-11		55.9 (279) 44.1 (280)
12	280	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		25711543		1.075E-11		56.1 (280) 43.9 (279)
12	281	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		25711544		1.293E-11		100. (281)
12	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		25711575		8.602E-14		60.6 (282) 12.6 (292) 10.6 (289)
12	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3P_1$		25712319		7.810E-14		39.8 (250) 32.3 (283) 18.4 (244)
12	284	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		25713097		8.777E-14		81.1 (284)
12	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		25713599		7.675E-14		74.3 (285)
12	286	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		25713901		1.009E-13		57.6 (286) 27.0 (239) 11.2 (248)
12	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^3S_1$		25714881		8.810E-14		61.7 (287) 18.3 (238) 18.3 (283)
12	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		25715037		8.176E-14		89.2 (288)
12	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		25715148		7.703E-14		43.3 (289) 28.9 (292) 19.4 (249)
12	290	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		25715972		7.601E-14		67.0 (290) 28.4 (252) 2.35 (272)
12	291	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		25716116		8.662E-14		67.1 (291) 16.5 (256) 7.94 (285)
12	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		25717282		7.961E-14		53.6 (255) 31.1 (292) 8.38 (243)
12	293	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		25717311		7.406E-14		42.6 (293) 29.4 (307) 28.0 (257)
12	294	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		25717438		7.392E-14		68.1 (294) 29.2 (259) 2.79 (298)
12	295	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		25717620		8.029E-14		68.2 (295) 19.5 (260) 8.95 (242)
12	296	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		25717748		7.128E-14		100. (296)
12	297	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		25717885		8.081E-14		89.4 (297)
12	298	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		25718012		7.118E-14		67.6 (298) 28.9 (259) 3.51 (294)
12	299	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		25718012		7.315E-14		39.7 (299) 32.4 (310) 27.9 (261)
12	300	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		25718033		7.314E-14		72.0 (300) 17.5 (262) 10.6 (303)
12	301	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		25718127		6.408E-14		53.0 (301) 47.0 (264)
12	302	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		25718140		6.409E-14		100. (302)
12	303	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^3H_5$		25718182		6.819E-14		56.8 (303) 43.2 (262)
12	304	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		25718197		6.821E-14		100. (304)
12	305	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		25718231		7.183E-14		39.4 (305) 33.6 (312) 27.0 (263)
12	306	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		25718244		7.183E-14		72.9 (306)
12	307	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		25718305		7.503E-14		57.3 (265) 25.7 (307) 15.6 (293)
12	308	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		25718452		7.487E-14		39.2 (266) 39.0 (308) 21.8 (320)
12	309	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^1F_3$		25718508		7.461E-14		48.2 (268) 25.9 (309) 21.6 (317)
12	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		25718533		7.469E-14		49.7 (269) 27.6 (310) 22.7 (299)
12	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^1G_4$		25718566		7.467E-14		55.5 (270) 24.3 (311) 20.1 (315)
12	312	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		25718578		7.468E-14		44.5 (271) 29.9 (312) 25.7 (305)
12	313	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		25718635		7.290E-14		78.5 (313)
12	314	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		25718968		7.387E-14		100. (314)
12	315	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		25718980		7.386E-14		55.2 (315) 44.8 (311)
12	316	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		25719181		7.406E-14		100. (316)
12	317	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		25719203		7.412E-14		56.9 (317) 43.1 (309)
12	318	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		25719287		7.469E-14		98.0 (318)
12	319	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		25719522		9.296E-14		71.3 (319) 20.3 (240) 8.37 (253)
12	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		25719554		7.454E-14		54.2 (320) 43.6 (308) 1.13 (291)
12	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		25720038		7.810E-14		77.7 (321)
13	1	$1s^2_{1/2}(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
13	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	12703061	12702832		6.035E-06		100. (2)
13	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	12807847	12807720		7.164E-09		100. (3)
13	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	12809088	12808966		1.321E-11		100. (4)
13	5	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	12814213	12814095		5.320E-09		100. (5)
13	6	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	12815760	12815615		3.503E-03		100. (6)
13	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	12891081	12890805		3.650E-14		100. (7)
13	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	15020463	15020204		5.871E-12		100. (8)
13	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	15049244	15048943		2.146E-12		100. (9)
13	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	15049634	15049333		2.046E-12		100. (10)
13	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	15050257	15049771		6.316E-12		100. (11)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
13	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	15051152	15050851		2.160E-12		100. (12)
13	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	15066988	15066650		7.267E-13		100. (13)
13	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	15067034	15066693		7.297E-13		87.9 (14)
13	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	15067596	15067258		7.285E-13		100. (15)
13	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	15068371	15068005		7.518E-13		87.9 (16)
13	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	15072141	15071742		1.247E-13		100. (17)
13	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	15816791	15816478		8.620E-12		100. (18)
13	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	15828659	15828304		3.637E-12		100. (19)
13	20	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	15828823	15828471		3.512E-12		100. (20)
13	21	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	15828851	15828490		9.186E-12		100. (21)
13	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	15829460	15829111		3.656E-12		100. (22)
13	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	15836000	15835600		1.685E-12		100. (23)
13	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	15836017	15835630		1.691E-12		91.3 (24)
13	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	15836256	15835856		1.689E-12		100. (25)
13	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	15836714	15836236		3.493E-12		56.3 (26) 43.7 (30)
13	27	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	15836714	15836267		3.492E-12		100. (27)
13	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	15836581	15836272		1.763E-12		91.3 (28)
13	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	15836714	15836397		3.494E-12		100. (29)
13	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	15836714	15836420		3.497E-12		56.3 (30) 43.7 (26)
13	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	15838068	15837678		2.957E-13		100. (31)
13	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	16182216	16181869		1.355E-11		100. (32)
13	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	16188215	16187849		6.163E-12		100. (33)
13	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	16188281	16187905		1.445E-11		100. (34)
13	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	16188299	16187936		5.978E-12		100. (35)
13	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	16188626	16188263		6.193E-12		100. (36)
13	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	16191946	16191545		3.232E-12		100. (37)
13	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	16191955	16191562		3.246E-12		92.3 (38)
13	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	16192077	16191676		3.240E-12		100. (39)
13	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	16192318	16191888		6.755E-12		57.2 (40) 42.8 (45)
13	41	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	16192318	16191903		6.748E-12		100. (41)
13	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	16192244	16191910		3.405E-12		92.3 (42)
13	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	16192318	16191970		6.755E-12		100. (43)
13	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$	16192385	16191977		1.133E-11		54.6 (44) 45.4 (48)
13	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	16192318	16191983		6.764E-12		57.2 (45) 42.8 (40)
13	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$	16192385	16191986		1.133E-11		100. (46)
13	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$	16192385	16192026		1.133E-11		100. (47)
13	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$	16192385	16192033		1.134E-11		54.6 (48) 45.4 (44)
13	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	16192975	16192590		5.770E-13		100. (49)
13	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		16379344		2.110E-11		100. (50)
13	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		16382780		9.988E-12		100. (51)
13	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		16382803		2.135E-11		100. (52)
13	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		16382830		9.705E-12		100. (53)
13	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		16383019		1.003E-11		100. (54)
13	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		16384899		5.551E-12		100. (55)
13	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		16384910		5.571E-12		92.8 (56)
13	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		16384975		5.567E-12		100. (57)
13	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		16385096		1.154E-11		57.8 (58) 42.2 (64)
13	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		16385104		1.153E-11		100. (59)
13	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		16385116		5.775E-12		92.8 (60)
13	61	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		16385142		1.944E-11		54.5 (61) 45.5 (68)
13	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		16385143		1.155E-11		100. (62)
13	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		16385148		1.944E-11		100. (63)
13	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		16385150		1.157E-11		57.8 (64) 42.2 (58)
13	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$	16385557	16385170		2.931E-11		53.9 (65) 46.1 (70)
13	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		16385171		1.945E-11		100. (66)
13	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$	16385557	16385173		2.931E-11		100. (67)
13	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		16385175		1.945E-11		54.5 (68) 45.5 (61)
13	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$	16385557	16385189		2.932E-11		100. (69)
13	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$	16385557	16385192		2.932E-11		53.9 (70) 46.1 (65)
13	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	16385868	16385505		9.959E-13		100. (71)
13	72	$2s^2_{1/2}(J=0)$	$2s^2^1S_0$	26458700	26459310		1.478E-13		77.8 (72)
13	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	26484800	26484790		6.011E-14		100. (73)
13	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	26487600	26487812		6.014E-14		100. (74)
13	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	26494500	26494534		6.026E-14		100. (75)
13	76	$2p^2_{1/2}(J=0)$	$2p^2^3P_0$	26577700	26578069		2.971E-14		100. (76)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
13	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2\ ^3P_1$	26581100	26581515		2.967E-14		100. (77)
13	78	$2p_{3/2}^2(J=2)$	$2p^2\ ^3P_2$	26586800	26587249		2.969E-14		100. (78)
13	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2\ ^1D_2$	26635100	26635130		2.940E-14		100. (79)
13	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p\ ^1P_1$	26643400	26644940		5.639E-14		100. (80)
13	81	$2p_{3/2}^2(J=0)$	$2p^2\ ^1S_0$	26793700	26793821		3.809E-14		77.9 (81)
13	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s\ ^3S_1$		28880988		1.486E-13		70.9 (82) 29.1 (106)
13	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p\ ^1P_1$		28893852		8.364E-14		48.8 (83) 46.7 (110) 4.43 (116)
13	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s\ ^1S_0$		28913594		2.075E-13		75.0 (84)
13	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s\ ^3P_0$		28921200		8.401E-14		57.1 (85) 41.6 (90) 1.31 (113)
13	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p\ ^3D_1$		28922148		4.973E-14		70.7 (86) 14.7 (92) 14.6 (103)
13	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p\ ^3P_1$		28923199		1.009E-13		56.1 (87) 40.4 (91) 3.43 (112)
13	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p\ ^3P_2$		28926195		1.335E-13		75.2 (88)
13	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^3D_2$		28927056		5.274E-14		79.5 (89)
13	90	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p\ ^3P_0$		28929540		7.891E-14		44.5 (90) 38.4 (85) 17.0 (113)
13	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s\ ^3P_1$		28931482		6.825E-14		54.1 (91) 29.7 (87) 16.2 (112)
13	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p\ ^1P_1$		28932178		4.561E-14		85.1 (92)
13	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p\ ^3D_3$		28932483		5.571E-14		74.7 (93)
13	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s\ ^3P_2$		28935854		5.723E-14		78.6 (94)
13	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d\ ^3F_2$		28958335		5.601E-14		83.3 (95)
13	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		28963232		5.642E-14		98.9 (96)
13	97	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p\ ^3P_0$		28966159		4.431E-14		100. (97)
13	98	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^1D_2$		28967383		5.452E-14		83.5 (98)
13	99	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p\ ^3P_1$		28968156		4.526E-14		95.5 (99)
13	100	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^1D_2$		28968706		6.330E-14		40.7 (100) 28.3 (102) 25.4 (114)
13	101	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d\ ^3F_4$		28968715		5.664E-14		100. (101)
13	102	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p\ ^3P_2$		28974187		5.229E-14		67.6 (102) 17.1 (100) 15.3 (114)
13	103	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d\ ^3D_1$		28974566		1.869E-13		80.1 (103)
13	104	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^3D_2$		28975874		1.526E-13		73.8 (104)
13	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d\ ^3D_3$		28977316		1.569E-13		74.7 (105)
13	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p\ ^3S_1$		28982675		6.040E-14		69.4 (106) 27.9 (82) 2.79 (99)
13	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d\ ^3D_1$		28990419		4.994E-14		96.3 (107)
13	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d\ ^3D_2$		28992522		4.972E-14		98.5 (108)
13	109	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d\ ^3D_3$		28994929		4.944E-14		98.9 (109)
13	110	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s\ ^1P_1$		28996868		7.402E-14		51.4 (110) 38.6 (83) 6.07 (116)
13	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^3P_2$		29014168		5.971E-14		76.9 (111)
13	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d\ ^3P_1$		29015552		5.926E-14		79.7 (112)
13	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d\ ^3P_0$		29016491		5.907E-14		81.8 (113)
13	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^1D_2$		29019576		9.046E-14		58.4 (114) 41.6 (100)
13	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d\ ^1F_3$		29033366		4.752E-14		100. (115)
13	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d\ ^1P_1$		29045729		5.418E-14		89.2 (116)
13	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p\ ^1S_0$		29056374		5.515E-14		75.4 (117)
13	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s\ ^3S_1$		29722178		1.861E-13		71.9 (118) 28.1 (149)
13	119	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p\ ^1P_1$		29728389		9.893E-14		48.2 (119) 41.6 (150) 5.14 (168)
13	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s\ ^1S_0$		29733015		2.216E-13		73.8 (120)
13	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s\ ^3P_0$		29735566		9.443E-14		54.8 (121) 43.2 (126) 1.97 (162)
13	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p\ ^3P_1$		29737340		1.282E-13		57.9 (122) 34.6 (127) 4.67 (160)
13	123	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		29739296		1.790E-13		74.5 (123)
13	124	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p\ ^3D_1$		29739921		6.041E-14		69.9 (124) 18.6 (139) 11.5 (129)
13	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		29743127		6.761E-14		68.2 (125) 27.3 (137) 2.70 (157)
13	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p\ ^3P_0$		29745464		8.654E-14		42.7 (126) 42.6 (121) 14.7 (162)
13	127	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s\ ^3P_1$		29747260		7.312E-14		55.8 (127) 26.4 (122) 14.4 (160)
13	128	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p\ ^3D_3$		29747511		8.912E-14		52.8 (128) 45.5 (141) 1.69 (163)
13	129	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p\ ^1P_1$		29748392		5.368E-14		80.4 (129)
13	130	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s\ ^3P_2$		29751307		5.688E-14		76.2 (130)
13	131	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		29753734		5.976E-14		77.6 (131)
13	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^1D_2$		29756439		1.048E-13		39.8 (132) 39.7 (157) 13.1 (137)
13	133	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		29756965		5.099E-14		97.6 (133)
13	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		29757187		6.332E-14		79.9 (134)
13	135	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		29758775		6.221E-14		72.5 (135)
13	136	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d\ ^1D_2$		29762014		5.754E-14		75.0 (136)
13	137	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^3D_2$		29762063		1.025E-13		37.1 (137) 26.4 (140) 15.5 (132)
13	138	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d\ ^3F_4$		29762113		8.025E-14		69.3 (138) 30.7 (153)
13	139	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		29762215		1.049E-13		54.3 (139) 24.2 (124) 15.5 (135)
13	140	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p\ ^3P_2$		29764394		6.089E-14		64.0 (140) 18.4 (137) 16.5 (125)
13	141	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		29764590		9.113E-14		46.1 (141) 45.9 (128) 5.44 (163)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
13	142	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		29767032		5.472E-14		77.6 (142)
13	143	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		29768638		5.425E-14		57.2 (143) 31.2 (155) 11.6 (147)
13	144	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3F_4$		29769361		5.419E-14		44.2 (144) 35.1 (156) 20.7 (161)
13	145	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d\ ^3D_2$		29769588		7.969E-14		58.4 (145) 33.2 (152) 3.72 (136)
13	146	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		29769840		5.517E-14		80.8 (146)
13	147	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f\ ^3F_3$		29769916		5.679E-14		49.9 (147) 27.6 (155) 15.2 (163)
13	148	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f\ ^3F_3$		29770475		1.330E-13		61.7 (148) 33.5 (154) 2.56 (166)
13	149	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p\ ^3S_1$		29770815		6.389E-14		69.2 (149) 25.0 (118) 5.79 (135)
13	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s\ ^1P_1$		29771119		7.437E-14		49.1 (150) 31.9 (119) 14.1 (142)
13	151	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f\ ^1F_3$		29771814		2.031E-12		100. (151)
13	152	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f\ ^3F_2$		29772050		1.171E-13		56.2 (152) 22.4 (145) 15.0 (131)
13	153	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f\ ^3F_4$		29772951		1.623E-13		69.1 (153) 30.9 (138)
13	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d\ ^3D_3$		29773577		6.956E-14		59.5 (154) 24.5 (148) 16.0 (134)
13	155	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f\ ^1F_3$		29777879		5.438E-14		41.8 (143) 32.3 (155) 25.9 (147)
13	156	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f\ ^3G_4$		29778389		5.437E-14		54.4 (144) 38.2 (156) 7.40 (161)
13	157	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p\ ^1D_2$		29779367		8.284E-14		50.7 (157) 44.2 (132) 2.95 (167)
13	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d\ ^3P_2$		29780128		6.070E-14		68.4 (158) 14.8 (123) 10.3 (145)
13	159	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f\ ^3G_5$		29780505		5.432E-14		100. (159)
13	160	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d\ ^3P_1$		29781244		6.046E-14		76.6 (160)
13	161	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f\ ^1G_4$		29781553		5.429E-14		71.9 (161) 26.7 (156) 1.44 (144)
13	162	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d\ ^3P_0$		29782008		6.026E-14		83.3 (162)
13	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f\ ^3D_3$		29782664		5.545E-14		77.6 (163)
13	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f\ ^3D_2$		29783050		5.495E-14		46.7 (164) 31.6 (167) 17.7 (146)
13	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f\ ^3D_1$		29785673		5.527E-14		97.1 (165)
13	166	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d\ ^1F_3$		29786105		5.230E-14		95.2 (166)
13	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f\ ^1D_2$		29786373		5.455E-14		54.1 (167) 42.9 (164) 1.65 (157)
13	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d\ ^1P_1$		29791919		5.781E-14		84.4 (168)
13	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p\ ^1S_0$		29795751		6.196E-14		74.9 (169)
13	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s\ ^3S_1$		30102929		2.176E-13		72.7 (170)
13	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p\ ^1P_1$		30106091		1.016E-13		43.2 (171) 35.1 (210) 15.2 (179)
13	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s\ ^1S_0$		30107802		2.321E-13		73.1 (172)
13	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s\ ^3P_0$		30108640		9.449E-14		58.3 (173) 40.3 (178) 1.39 (223)
13	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p\ ^3P_1$		30110401		1.822E-13		61.1 (174) 22.1 (179) 9.76 (171)
13	175	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p\ ^3P_2$		30111385		2.454E-13		79.6 (175)
13	176	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p\ ^3D_1$		30111523		6.545E-14		69.3 (176) 19.4 (187) 11.3 (181)
13	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p\ ^3D_2$		30113637		7.537E-14		57.0 (177) 27.9 (188) 8.36 (215)
13	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p\ ^3P_0$		30115334		1.006E-13		49.5 (178) 40.0 (173) 10.4 (223)
13	179	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s\ ^3P_1$		30116998		8.120E-14		54.3 (179) 24.4 (174) 11.7 (171)
13	180	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d\ ^3D_3$		30117198		1.782E-13		70.0 (180) 26.1 (208) 3.84 (225)
13	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p\ ^1P_1$		30117658		6.021E-14		55.7 (181) 24.6 (193) 7.37 (170)
13	182	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d\ ^3F_2$		30118279		6.135E-14		73.6 (182)
13	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d\ ^1D_2$		30120088		1.683E-13		36.9 (183) 31.5 (188) 23.9 (215)
13	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d\ ^3F_3$		30120763		6.811E-14		64.6 (184) 18.6 (200) 10.2 (214)
13	185	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p\ ^3P_0$		30120858		5.583E-14		92.1 (185)
13	186	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s\ ^3P_2$		30121075		5.491E-14		57.9 (186) 20.9 (218) 9.83 (212)
13	187	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d\ ^3D_1$		30121795		1.299E-13		60.5 (187) 23.1 (193) 9.78 (176)
13	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d\ ^3D_2$		30123769		1.454E-13		35.0 (183) 30.8 (188) 21.4 (177)
13	189	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f\ ^3F_4$		30124470		2.346E-13		76.1 (189)
13	190	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d\ ^1D_2$		30125054		6.497E-14		40.3 (190) 27.5 (186) 13.1 (212)
13	191	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f\ ^3G_3$		30125453		5.515E-14		67.6 (191) 21.5 (216) 9.67 (195)
13	192	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d\ ^3D_1$		30125516		5.565E-14		70.3 (192) 10.9 (236) 8.21 (219)
13	193	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p\ ^3P_1$		30125870		5.923E-14		37.8 (193) 27.3 (181) 20.0 (176)
13	194	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f\ ^3G_4$		30125927		5.517E-14		40.6 (194) 32.0 (217) 26.2 (224)
13	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f\ ^3F_3$		30126298		5.431E-14		31.7 (195) 30.2 (225) 19.1 (216)
13	196	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f\ ^3F_2$		30126694		5.549E-14		63.9 (196) 18.9 (235) 12.9 (227)
13	197	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g\ ^3H_4$		30126711		5.450E-14		68.5 (197) 18.0 (221) 13.4 (228)
13	198	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g\ ^3H_5$		30126769		5.449E-14		37.5 (198) 31.5 (222) 31.1 (229)
13	199	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f\ ^3F_2$		30126779		2.180E-13		76.1 (199)
13	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f\ ^3F_3$		30126890		1.737E-13		70.3 (200) 10.9 (214) 6.96 (184)
13	201	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g\ ^3G_3$		30127140		5.903E-14		48.9 (201) 24.9 (226) 18.2 (233)
13	202	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g\ ^3F_4$		30127191		5.508E-14		46.2 (202) 29.7 (228) 22.8 (221)
13	203	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f\ ^1F_3$		30127537		1.743E-12		100. (203)
13	204	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g\ ^3G_4$		30127584		3.739E-12		70.7 (204) 29.3 (207)
13	205	$2s_{1/2}5g_{9/2}(J=3)$	$2s5g\ ^3G_3$		30127596		2.242E-12		100. (205)
13	206	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g\ ^3G_5$		30127605		7.298E-12		100. (206)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
13	207	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		30127658		3.445E-12		73.6 (207)
13	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		30127770		7.081E-14		54.7 (208) 28.2 (180) 8.16 (195)
13	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		30128160		5.595E-14		74.9 (209)
13	210	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		30129951		7.240E-14		56.7 (210) 27.9 (171) 8.79 (192)
13	211	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		30131173		6.944E-14		76.4 (211)
13	212	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		30131223		5.773E-14		37.7 (212) 32.3 (190) 18.5 (182)
13	213	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		30131234		6.163E-14		67.1 (213) 18.2 (170) 12.9 (193)
13	214	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3D_3$		30132736		5.613E-14		70.6 (214) 23.5 (184) 4.23 (200)
13	215	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		30133948		6.743E-14		63.7 (215) 25.4 (183) 4.65 (209)
13	216	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		30135300		5.457E-14		39.8 (216) 31.3 (191) 28.8 (195)
13	217	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		30135577		5.457E-14		64.9 (217) 31.1 (194) 4.02 (224)
13	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		30135639		5.826E-14		59.6 (218) 23.7 (212) 9.40 (175)
13	219	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		30136326		5.852E-14		72.1 (219) 14.5 (192) 9.44 (174)
13	220	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		30136498		5.429E-14		100. (220)
13	221	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		30136717		5.479E-14		37.5 (221) 31.4 (197) 31.1 (228)
13	222	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		30136767		5.478E-14		68.6 (222) 18.3 (198) 13.1 (229)
13	223	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		30136851		5.864E-14		88.2 (223)
13	224	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		30137142		5.426E-14		69.3 (224) 28.1 (194) 2.56 (217)
13	225	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		30137284		5.506E-14		62.8 (225) 21.7 (195) 13.7 (216)
13	226	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		30137501		5.468E-14		47.1 (201) 29.3 (226) 23.6 (233)
13	227	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		30137539		5.474E-14		41.2 (227) 33.1 (196) 24.4 (235)
13	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		30137541		5.468E-14		52.9 (202) 25.5 (228) 21.6 (221)
13	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3H_5$		30137558		5.456E-14		55.8 (229) 44.2 (198)
13	230	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		30137592		5.456E-14		100. (230)
13	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		30138460		5.358E-14		82.9 (231)
13	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		30138741		5.450E-14		100. (232)
13	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		30138810		5.444E-14		53.9 (233) 41.7 (226) 4.37 (231)
13	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		30139107		5.500E-14		97.8 (234)
13	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		30139592		5.455E-14		55.0 (235) 43.6 (227) 1.39 (215)
13	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		30141284		5.709E-14		80.9 (236)
13	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		30142352		6.222E-14		75.6 (237)
13	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^1S_1$		30306779		2.301E-13		73.2 (238)
13	239	$2p_{1/2}6s_{1/2}(J=1)$	$2s6p^1P_1$		30308386		9.756E-14		36.8 (239) 30.3 (285) 24.8 (249)
13	240	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		30309333		2.065E-13		70.2 (240) 22.8 (319) 7.04 (253)
13	241	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		30309625		9.223E-14		61.7 (241) 38.3 (246)
13	242	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		30311229		2.567E-13		62.3 (242) 15.7 (239) 11.0 (249)
13	243	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		30311488		6.794E-14		68.5 (243) 19.3 (254) 11.0 (250)
13	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		30311610		2.728E-13		79.5 (244)
13	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		30312854		7.773E-14		49.1 (245) 25.6 (251) 14.1 (290)
13	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		30314217		1.198E-13		57.4 (246) 36.3 (241) 6.33 (296)
13	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		30315310		6.194E-14		72.3 (247)
13	248	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		30315494		3.512E-13		83.8 (248)
13	249	$2s_{1/2}6p_{3/2}(J=1)$	$2p6s^3P_1$		30315613		9.898E-14		46.2 (249) 24.5 (239) 23.3 (242)
13	250	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		30315645		6.637E-14		35.8 (250) 35.0 (283) 15.7 (238)
13	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		30316694		2.394E-13		48.2 (251) 29.2 (256) 13.2 (290)
13	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		30317002		6.889E-14		54.2 (252) 19.5 (272) 14.1 (291)
13	253	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		30317502		6.205E-14		82.6 (253)
13	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		30317670		1.905E-13		75.2 (254)
13	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		30318285		6.036E-14		27.6 (255) 26.1 (292) 22.9 (289)
13	256	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		30319128		2.012E-13		55.6 (256) 20.0 (251) 17.7 (245)
13	257	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		30319204		5.467E-14		71.1 (257) 17.5 (293) 9.88 (301)
13	258	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		30319399		5.893E-13		90.1 (258)
13	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		30319488		5.460E-14		41.5 (259) 29.3 (300) 28.0 (294)
13	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		30319760		5.752E-14		63.5 (260) 14.9 (321) 11.5 (295)
13	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		30319911		5.288E-14		71.4 (261) 16.2 (298) 12.4 (310)
13	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		30319946		5.287E-14		39.0 (262) 32.4 (305) 28.6 (299)
13	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		30320026		5.168E-14		71.6 (263) 15.7 (302) 12.7 (312)
13	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		30320044		5.169E-14		38.6 (264) 33.1 (304) 28.4 (303)
13	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		30320128		5.719E-14		39.3 (265) 32.0 (301) 21.6 (293)
13	266	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		30320197		5.729E-14		55.1 (266) 24.0 (320) 15.8 (308)
13	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		30320269		6.721E-14		35.6 (267) 22.0 (309) 18.4 (272)
13	268	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		30320272		3.723E-13		88.1 (268)
13	269	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		30320357		5.431E-14		43.5 (269) 31.4 (311) 25.1 (315)
13	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		30320363		5.660E-14		49.1 (270) 25.9 (310) 20.1 (298)
13	271	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		30320376		5.432E-14		56.5 (271) 23.9 (312) 19.6 (302)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
13	272	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^3F_3$		30320399		1.301E-13		60.3 (272) 12.7 (267) 7.87 (309)
13	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		30320770		2.840E-12		100. (273)
13	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		30320790		3.681E-12		75.0 (274)
13	275	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		30320798		7.422E-12		100. (275)
13	276	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		30320799		2.136E-12		100. (276)
13	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		30320840		3.629E-12		79.7 (277)
13	278	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		30320897		9.271E-12		100. (278)
13	279	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		30320898		1.104E-11		56.3 (279) 43.7 (280)
13	280	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		30320916		9.424E-12		56.4 (280) 43.6 (279)
13	281	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		30320917		1.115E-11		100. (281)
13	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		30322634		5.833E-14		81.2 (282)
13	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		30323689		5.526E-14		47.0 (250) 29.4 (283) 17.7 (243)
13	284	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		30324427		5.930E-14		88.8 (284)
13	285	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		30325073		6.802E-14		61.9 (285) 20.6 (239) 15.3 (249)
13	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		30325140		5.515E-14		71.1 (286) 24.3 (245) 2.48 (251)
13	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		30326415		6.009E-14		63.1 (287) 21.7 (283) 13.1 (238)
13	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		30326705		5.723E-14		94.2 (288)
13	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		30326876		5.548E-14		49.0 (289) 24.9 (292) 19.8 (247)
13	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		30327704		5.918E-14		69.1 (290) 11.8 (286) 10.7 (256)
13	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		30327814		5.504E-14		65.2 (291) 30.9 (252) 2.51 (313)
13	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		30329178		5.665E-14		52.2 (255) 35.4 (292) 5.60 (244)
13	293	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		30329373		5.429E-14		43.2 (293) 29.1 (301) 27.7 (257)
13	294	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		30329531		5.424E-14		68.1 (294) 29.3 (259) 2.63 (300)
13	295	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		30329533		5.698E-14		68.4 (295) 22.5 (260) 6.16 (242)
13	296	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		30329825		5.730E-14		92.5 (296)
13	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		30329932		5.301E-14		100. (297)
13	298	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^1G_4$		30330175		5.390E-14		39.3 (298) 32.4 (310) 28.3 (261)
13	299	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		30330206		5.390E-14		71.6 (299) 17.5 (262) 10.9 (305)
13	300	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		30330279		5.297E-14		67.5 (300) 28.8 (259) 3.66 (294)
13	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		30330394		5.465E-14		55.2 (265) 28.0 (301) 16.8 (293)
13	302	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		30330436		5.330E-14		38.6 (302) 33.4 (312) 28.0 (263)
13	303	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		30330453		5.323E-14		70.7 (303) 22.7 (264) 6.63 (304)
13	304	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		30330475		4.967E-14		60.2 (304) 38.5 (264) 1.33 (303)
13	305	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		30330488		5.159E-14		56.6 (305) 43.4 (262)
13	306	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		30330493		4.962E-14		100. (306)
13	307	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		30330505		5.160E-14		100. (307)
13	308	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		30330556		5.458E-14		42.0 (266) 38.2 (308) 19.8 (320)
13	309	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^1F_3$		30330663		5.450E-14		50.3 (267) 24.9 (309) 21.6 (317)
13	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		30330692		5.452E-14		48.0 (270) 28.4 (310) 23.6 (298)
13	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		30330739		5.450E-14		56.5 (269) 23.7 (311) 19.8 (315)
13	312	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		30330756		5.451E-14		43.5 (271) 30.2 (312) 26.3 (302)
13	313	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		30330806		5.356E-14		76.6 (313)
13	314	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		30331181		5.401E-14		100. (314)
13	315	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		30331198		5.400E-14		55.1 (315) 44.9 (311)
13	316	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		30331406		5.413E-14		100. (316)
13	317	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		30331441		5.417E-14		56.5 (317) 43.5 (309)
13	318	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		30331483		5.443E-14		98.6 (318)
13	319	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		30331634		6.258E-14		73.3 (319)
13	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		30331809		5.436E-14		54.3 (320) 43.4 (308) 1.29 (266)
13	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		30332215		5.595E-14		76.7 (321)
14	1	$1s_{1/2}^2(J=0)$	$1s^2S_0$	0	0	0			100. (1)
14	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	14835945	14835904	14835449	2.803E-06	2.844E-06	100. (2)
14	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	14949760	14949829	14949306	6.549E-09	6.553E-09	100. (3)
14	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	14951545	14951606	14951086	6.333E-12	6.354E-12	100. (4)
14	5	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	14958691	14958767	14958246	4.329E-09	4.331E-09	100. (5)
14	6	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	14958753	14958826	14958357	2.101E-03	2.062E-03	100. (6)
14	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	15042040	15041946	15041599	2.665E-14	2.664E-14	100. (7)
14	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	17546734	17546678	17546264	4.326E-12	4.334E-12	100. (8)
14	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	17578029	17577936	17577568	1.556E-12	1.556E-12	100. (9)
14	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	17578568	17578486	17578119	1.447E-12	1.448E-12	100. (10)
14	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	17579166	17578934	17578727	4.631E-12	4.638E-12	100. (11)
14	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	17580689	17580608	17580241	1.568E-12	1.568E-12	100. (12)
14	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	17598002	17597850	17597516	5.282E-13	5.278E-13	100. (13)
14	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	17598031	17597894	17597565	5.306E-13	5.301E-13	85.1 (14)
14	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	17598849	17598702	17598368	5.297E-13	5.293E-13	100. (15)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
14	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	17599605	17599534	17599225	5.447E-13	5.443E-13	85.1 (16)
14	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	17603422	17603221	17602961	9.119E-14	9.102E-14	100. (17)
14	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	18479389	18479304	18478977	6.343E-12	6.372E-12	100. (18)
14	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	18492307	18492168	18491844	2.639E-12	2.643E-12	100. (19)
14	20	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	18492537	18492403	18492080	2.504E-12	2.508E-12	100. (20)
14	21	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	18492532	18492404	18492131	6.730E-12	6.752E-12	100. (21)
14	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	18493430	18493298	18492975	2.656E-12	2.661E-12	100. (22)
14	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	18500576	18500379	18500067	1.225E-12	1.225E-12	100. (23)
14	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	18500576	18500413	18500102	1.231E-12	1.230E-12	88.9 (24)
14	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	18500926	18500738	18500426	1.229E-12	1.229E-12	100. (25)
14	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	18501452	18501158	18500856	2.535E-12	2.533E-12	56.6 (26) 43.4 (30)
14	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	18501245	18501196	18500889	1.277E-12	1.275E-12	88.9 (27)
14	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	18501452	18501196	18500892	2.534E-12	2.532E-12	100. (28)
14	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	18501452	18501378	18501074	2.536E-12	2.535E-12	100. (29)
14	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	18501452	18501408	18501107	2.538E-12	2.536E-12	56.6 (30) 43.4 (26)
14	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	18502736	18502565	18502282	2.164E-13	2.158E-13	100. (31)
14	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	18907613	18907491	18907181	9.969E-12	1.006E-11	100. (32)
14	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	18914144	18913997	18913686	4.477E-12	4.497E-12	100. (33)
14	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	18914246	18914073	18913793	1.058E-11	1.062E-11	100. (34)
14	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	18914262	18914118	18913808	4.275E-12	4.293E-12	100. (35)
14	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	18914719	18914576	18914266	4.503E-12	4.524E-12	100. (36)
14	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	18918351	18918157	18917850	2.351E-12	2.353E-12	100. (37)
14	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	18918351	18918177	18917871	2.362E-12	2.364E-12	90.0 (38)
14	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	18918530	18918341	18918034	2.359E-12	2.361E-12	100. (39)
14	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	18918801	18918575	18918273	4.900E-12	4.898E-12	57.3 (40) 42.7 (45)
14	41	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	18918801	18918594	18918291	4.898E-12	4.896E-12	100. (41)
14	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	18918694	18918598	18918294	2.465E-12	2.461E-12	90.0 (42)
14	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	18918801	18918687	18918384	4.904E-12	4.901E-12	100. (43)
14	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$	18918894	18918696	18918395	8.223E-12	8.218E-12	54.7 (44) 45.3 (48)
14	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	18918801	18918704	18918402	4.910E-12	4.906E-12	57.3 (45) 42.7 (40)
14	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$	18918894	18918707	18918406	8.224E-12	8.219E-12	100. (46)
14	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$	18918894	18918763	18918462	8.227E-12	8.222E-12	100. (47)
14	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$	18918894	18918773	18918472	8.228E-12	8.223E-12	54.7 (48) 45.3 (44)
14	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	18919421	18919255	18918971	4.224E-13	4.195E-13	100. (49)
14	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$	19139084	19138976	19138647	1.560E-11	1.544E-11	100. (50)
14	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$	19142846	19142713	19142384	7.278E-12	7.224E-12	100. (51)
14	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$	19142875	19142747	19142455	1.557E-11	1.620E-11	100. (52)
14	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$	19142915	19142783	19142455	6.965E-12	6.917E-12	100. (53)
14	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$	19143179	19143048	19142719	7.316E-12	7.268E-12	100. (54)
14	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$	19145268	19145099	19144777	4.044E-12	4.013E-12	100. (55)
14	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$	19145268	19145111	19144790	4.059E-12	4.033E-12	90.5 (56)
14	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$	19145372	19145205	19144884	4.058E-12	4.028E-12	100. (57)
14	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$	19145529	19145338	19145028	8.378E-12	8.373E-12	57.8 (58) 42.2 (64)
14	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$	19145529	19145349	19145038	8.373E-12	8.370E-12	100. (59)
14	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$	19145467	19145360	19145041	4.177E-12	4.218E-12	90.5 (60)
14	61	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$	19145579	19145402	19145098	1.411E-11	1.410E-11	54.6 (61) 45.4 (68)
14	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$	19145529	19145403	19145092	8.381E-12	8.380E-12	100. (62)
14	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$	19145579	19145409	19145105	1.411E-11	1.410E-11	100. (63)
14	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$	19145529	19145412	19145103	8.395E-12	8.384E-12	57.8 (64) 42.2 (58)
14	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$	19145610	19145440	19145139	2.128E-11	2.126E-11	53.9 (65) 46.1 (70)
14	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$	19145579	19145442	19145138	1.412E-11	1.411E-11	100. (66)
14	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$	19145610	19145445	19145143	2.128E-11	2.126E-11	100. (67)
14	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$	19145579	19145447	19145143	1.412E-11	1.411E-11	54.6 (68) 45.4 (61)
14	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$	19145610	19145466	19145165	2.128E-11	2.127E-11	100. (69)
14	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$	19145610	19145470	19145169	2.128E-11	2.127E-11	53.9 (70) 46.1 (65)
14	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	19145877	19145736	19145436	7.289E-13	7.142E-13	100. (71)
14	72	$2s^2_{1/2}(J=0)$	$2s^2^1S_0$	30812900	30810209		1.102E-13		78.1 (72)
14	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	30839900	30836977		4.447E-14		100. (73)
14	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	30843900	30841027		4.450E-14		100. (74)
14	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	30853000	30850168		4.461E-14		100. (75)
14	76	$2p^2_{1/2}(J=0)$	$2p^2^3P_0$	30942600	30939333		2.204E-14		100. (76)
14	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	30947300	30944051		2.198E-14		100. (77)
14	78	$2p^2_{3/2}(J=2)$	$2p^2^3P_2$	30954800	30951684		2.200E-14		98.5 (78)
14	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	31007100	31003676		2.179E-14		98.5 (79)
14	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	31014400	31012431		4.192E-14		100. (80)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
14	81	$2p_{3/2}^2(J=0)$	$2p^2\ ^1S_0$	31177700	31174473		2.809E-14		78.3 (81)
14	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s\ ^3S_1$		33633260		1.125E-13		71.8 (82) 28.2 (106)
14	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p\ ^1P_1$		33647564		6.212E-14		48.6 (83) 45.8 (110) 4.27 (116)
14	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s\ ^1S_0$		33668522		1.545E-13		75.5 (84)
14	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s\ ^3P_0$		33676267		6.129E-14		58.6 (85) 40.3 (90) 1.10 (113)
14	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p\ ^3D_1$		33677329		3.672E-14		70.5 (86) 15.4 (92) 14.1 (102)
14	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p\ ^3P_1$		33678944		7.633E-14		57.8 (87) 38.7 (91) 3.49 (112)
14	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p\ ^3P_2$		33682770		1.028E-13		77.9 (88)
14	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^3D_2$		33683944		3.923E-14		79.1 (89)
14	90	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p\ ^3P_0$		33685728		6.019E-14		46.5 (90) 37.4 (85) 16.1 (113)
14	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s\ ^3P_1$		33688451		5.061E-14		55.4 (91) 28.5 (87) 15.0 (112)
14	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p\ ^1P_1$		33690516		3.409E-14		84.3 (92)
14	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p\ ^3D_3$		33691244		4.222E-14		72.7 (93)
14	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s\ ^3P_2$		33694538		4.196E-14		82.2 (94)
14	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d\ ^3F_2$		33717120		4.163E-14		82.7 (95)
14	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		33723662		4.191E-14		98.4 (96)
14	97	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p\ ^3P_0$		33725966		3.302E-14		100. (97)
14	98	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p\ ^3P_1$		33728612		3.433E-14		92.7 (98)
14	99	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^1D_2$		33728983		4.991E-14		40.2 (99) 26.0 (114) 24.5 (104)
14	100	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^1D_2$		33729002		4.059E-14		82.0 (100)
14	101	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d\ ^3F_4$		33731229		4.214E-14		100. (101)
14	102	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d\ ^3D_1$		33734781		1.308E-13		78.6 (102)
14	103	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^3D_2$		33736334		6.903E-14		39.9 (103) 19.9 (104) 14.9 (99)
14	104	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p\ ^3P_2$		33736964		4.804E-14		54.9 (104) 30.3 (103) 10.0 (89)
14	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d\ ^3D_3$		33738520		1.103E-13		72.7 (105)
14	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p\ ^3S_1$		33744683		4.415E-14		69.4 (106) 26.5 (82) 4.14 (98)
14	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d\ ^3D_1$		33752783		3.732E-14		92.3 (107)
14	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d\ ^3D_2$		33755840		3.709E-14		96.6 (108)
14	109	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d\ ^3D_3$		33759192		3.678E-14		98.3 (109)
14	110	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s\ ^1P_1$		33760119		5.478E-14		51.0 (110) 38.1 (83) 5.60 (107)
14	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^3P_2$		33779239		4.410E-14		76.5 (111)
14	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d\ ^3P_1$		33780959		4.376E-14		80.1 (112)
14	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d\ ^3P_0$		33782174		4.364E-14		82.9 (113)
14	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^1D_2$		33784930		6.519E-14		56.9 (114) 43.1 (99)
14	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d\ ^1F_3$		33801414		3.532E-14		100. (115)
14	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d\ ^1P_1$		33814221		4.022E-14		89.7 (116)
14	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p\ ^3S_0$		33825316		4.086E-14		76.1 (117)
14	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s\ ^3S_1$		34614325		1.414E-13		73.2 (118)
14	119	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p\ ^1P_1$		34621190		7.250E-14		47.7 (119) 40.2 (151) 7.36 (127)
14	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s\ ^1S_0$		34625964		1.644E-13		74.3 (120)
14	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s\ ^3P_0$		34628405		6.880E-14		56.1 (121) 42.3 (126) 1.64 (161)
14	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p\ ^3P_1$		34630779		1.007E-13		60.0 (122) 31.2 (127) 4.67 (160)
14	123	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		34633139		1.411E-13		77.2 (123)
14	124	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p\ ^3D_1$		34633185		4.456E-14		69.9 (124) 18.0 (137) 12.2 (129)
14	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		34637324		5.050E-14		66.1 (125) 27.6 (136) 3.80 (156)
14	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p\ ^3P_0$		34639508		6.695E-14		45.2 (126) 41.7 (121) 13.1 (161)
14	127	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s\ ^3P_1$		34642024		5.524E-14		56.4 (127) 25.7 (122) 12.7 (160)
14	128	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		34643058		7.461E-14		52.2 (128) 45.9 (140) 1.92 (163)
14	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^1P_1$		34643809		4.081E-14		74.0 (129)
14	130	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s\ ^3P_2$		34647557		4.176E-14		63.7 (130) 13.3 (158) 11.3 (131)
14	131	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		34648538		4.419E-14		66.0 (131) 13.9 (130) 7.27 (138)
14	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^1D_2$		34651814		8.527E-14		38.4 (132) 35.1 (156) 19.3 (136)
14	133	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		34652337		3.834E-14		96.5 (133)
14	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		34652816		4.737E-14		76.7 (134)
14	135	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		34654510		5.713E-14		54.2 (135) 34.9 (137) 3.71 (124)
14	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^3D_2$		34658244		9.138E-14		40.3 (136) 20.5 (132) 20.2 (125)
14	137	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		34658586		5.959E-14		38.5 (137) 27.9 (135) 22.5 (124)
14	138	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d\ ^1D_2$		34658800		4.367E-14		67.3 (138) 11.3 (152) 5.94 (131)
14	139	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d\ ^3F_4$		34659313		7.054E-14		58.6 (139) 41.4 (153)
14	140	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p\ ^3D_3$		34661540		5.988E-14		51.8 (140) 38.2 (128) 5.96 (163)
14	141	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p\ ^3P_2$		34662106		4.123E-14		76.8 (141)
14	142	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		34663261		4.073E-14		75.1 (142)
14	143	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		34664709		4.040E-14		61.0 (143) 27.3 (155) 11.7 (147)
14	144	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3F_4$		34665607		4.035E-14		40.5 (144) 37.0 (157) 22.5 (162)
14	145	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		34666267		4.128E-14		75.8 (145)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
14	146	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		34666307		9.805E-14		60.5 (146) 32.4 (152) 2.47 (138)
14	147	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		34666429		4.304E-14		45.1 (147) 26.6 (155) 19.0 (163)
14	148	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		34666947		1.423E-13		74.1 (148)
14	149	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		34668205		1.645E-12		100. (149)
14	150	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		34668642		4.642E-14		68.6 (150) 22.3 (118) 7.89 (135)
14	151	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		34668669		5.516E-14		50.6 (151) 31.5 (119) 13.2 (142)
14	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		34669630		5.534E-14		39.4 (152) 28.2 (146) 15.8 (131)
14	153	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		34670354		9.249E-14		58.4 (153) 41.6 (139)
14	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		34672132		4.455E-14		71.4 (154) 16.8 (134) 11.8 (148)
14	155	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		34677316		4.052E-14		38.4 (143) 34.6 (155) 27.0 (147)
14	156	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		34677615		5.780E-14		54.2 (156) 39.3 (132) 2.15 (167)
14	157	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		34677923		4.051E-14		57.9 (144) 35.7 (157) 6.40 (162)
14	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		34679069		4.446E-14		66.4 (158) 14.2 (152) 12.7 (123)
14	159	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		34680330		4.047E-14		100. (159)
14	160	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		34680348		4.440E-14		75.4 (160)
14	161	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		34681289		4.436E-14		85.3 (161)
14	162	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		34681532		4.045E-14		71.1 (162) 27.2 (157) 1.68 (144)
14	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		34682203		4.115E-14		73.2 (163)
14	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		34682613		4.080E-14		44.4 (164) 30.0 (167) 22.5 (145)
14	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		34685742		4.107E-14		97.6 (165)
14	166	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^1F_3$		34686021		3.890E-14		93.6 (166)
14	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		34686599		4.061E-14		53.8 (167) 43.7 (164) 1.43 (156)
14	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		34691997		4.269E-14		84.0 (168)
14	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		34695676		4.560E-14		75.7 (169)
14	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		35058992		1.633E-13		73.6 (170)
14	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p^1P_1$		35062387		7.270E-14		41.0 (171) 33.1 (210) 19.2 (179)
14	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		35064200		1.680E-13		73.3 (172)
14	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		35064893		6.846E-14		59.6 (173) 39.3 (178) 1.08 (220)
14	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		35067179		1.510E-13		63.2 (174) 17.5 (179) 12.1 (171)
14	175	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		35068043		4.818E-14		69.5 (175) 18.8 (186) 11.7 (181)
14	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		35068253		1.878E-13		80.7 (176)
14	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		35070635		5.568E-14		54.2 (177) 27.2 (183) 10.3 (215)
14	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		35072396		7.901E-14		52.4 (178) 39.1 (173) 8.50 (220)
14	179	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		35074632		6.388E-14		52.7 (179) 23.4 (174) 16.5 (171)
14	180	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		35074979		1.695E-13		77.3 (180)
14	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		35075283		4.604E-14		47.0 (181) 29.5 (207) 9.68 (170)
14	182	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		35075492		4.555E-14		73.2 (182)
14	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		35077723		1.408E-13		39.0 (183) 33.2 (188) 19.3 (215)
14	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		35078494		5.080E-14		60.7 (184) 19.1 (198) 11.8 (214)
14	185	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		35078682		4.260E-14		89.1 (185)
14	186	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		35079446		1.150E-13		67.8 (186) 16.3 (207) 11.7 (175)
14	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5s^3P_2$		35079788		4.152E-14		38.3 (187) 24.5 (217) 17.1 (199)
14	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		35081943		1.221E-13		45.0 (188) 25.9 (183) 21.2 (177)
14	189	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		35082774		2.793E-13		85.0 (189)
14	190	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		35083319		4.109E-14		68.8 (190) 20.1 (216) 9.80 (224)
14	191	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		35083600		4.155E-14		68.3 (191) 12.5 (236) 9.88 (219)
14	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		35083898		4.111E-14		40.9 (192) 30.7 (218) 27.1 (225)
14	193	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		35084220		6.851E-14		36.6 (193) 32.8 (187) 22.6 (213)
14	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		35084561		4.087E-14		36.1 (194) 35.4 (224) 22.5 (216)
14	195	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		35084712		4.062E-14		69.4 (195) 17.7 (222) 13.0 (228)
14	196	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		35084766		4.183E-14		61.0 (196) 21.4 (235) 14.4 (226)
14	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		35084791		4.062E-14		37.9 (197) 31.4 (229) 30.7 (223)
14	198	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		35084935		1.245E-13		68.9 (198) 8.71 (214) 7.37 (184)
14	199	$2s_{1/2}5f_{5/2}(J=2)$	$2p5d^3D_2$		35085007		8.589E-14		50.1 (193) 19.3 (187) 16.6 (199)
14	200	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		35085172		4.492E-14		45.8 (200) 25.4 (227) 18.7 (233)
14	201	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		35085235		4.122E-14		48.2 (201) 28.5 (228) 21.6 (222)
14	202	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		35085639		1.735E-12		100. (202)
14	203	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		35085678		2.709E-12		71.0 (203) 29.0 (206)
14	204	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		35085689		1.778E-12		100. (204)
14	205	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		35085713		5.749E-12		100. (205)
14	206	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		35085773		2.786E-12		73.3 (206)
14	207	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3P_1$		35085945		4.162E-14		36.6 (207) 36.0 (181) 18.6 (175)
14	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		35087687		4.818E-14		77.7 (208)
14	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		35088645		4.080E-14		75.3 (209)
14	210	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		35089909		5.233E-14		59.9 (210) 24.8 (171) 9.45 (179)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
14	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		35091673		4.464E-14		66.8 (211) 16.0 (207) 15.0 (170)
14	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		35091760		4.644E-14		86.3 (212)
14	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		35091987		4.188E-14		39.6 (213) 32.6 (199) 18.9 (182)
14	214	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3D_3$		35093758		4.122E-14		69.3 (214) 26.0 (184) 2.60 (198)
14	215	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		35094479		4.676E-14		66.7 (215) 18.8 (188) 7.38 (209)
14	216	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		35096707		4.069E-14		40.9 (216) 30.1 (190) 29.0 (224)
14	217	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		35096740		4.272E-14		57.2 (217) 28.4 (199) 7.21 (176)
14	218	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		35097037		4.069E-14		65.9 (218) 30.6 (192) 3.49 (225)
14	219	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		35097463		4.295E-14		71.1 (219) 17.8 (191) 7.42 (174)
14	220	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		35098056		4.315E-14		90.4 (220)
14	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		35098068		4.051E-14		100. (221)
14	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		35098281		4.085E-14		37.7 (222) 31.7 (228) 30.6 (195)
14	223	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		35098350		4.085E-14		69.3 (223) 18.1 (197) 12.5 (229)
14	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		35098753		4.095E-14		59.4 (194) 24.2 (224) 15.2 (216)
14	225	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		35098819		4.049E-14		69.0 (225) 28.1 (192) 2.91 (218)
14	226	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		35099025		4.077E-14		39.7 (226) 36.8 (196) 22.4 (235)
14	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		35099096		4.078E-14		49.3 (200) 27.8 (227) 22.9 (233)
14	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		35099151		4.078E-14		50.7 (201) 26.5 (228) 22.8 (222)
14	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		35099239		4.070E-14		56.0 (229) 44.0 (197)
14	230	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		35099285		4.070E-14		100. (230)
14	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		35100020		3.990E-14		82.6 (231)
14	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		35100467		4.066E-14		100. (232)
14	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		35100553		4.064E-14		54.9 (233) 42.8 (227) 2.31 (231)
14	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		35100784		4.093E-14		98.3 (234)
14	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		35101370		4.066E-14		55.0 (235) 43.8 (226) 1.24 (215)
14	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		35102868		4.212E-14		79.7 (236)
14	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		35103594		4.545E-14		76.2 (237)
14	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		35297336		1.672E-13		73.8 (238)
14	239	$2p_{1/2}6s_{1/2}(J=1)$	$2s6p^1P_1$		35298998		6.896E-14		34.1 (239) 28.9 (250) 28.7 (285)
14	240	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		35300059		1.470E-13		70.3 (240) 21.0 (316) 8.75 (254)
14	241	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		35300188		6.597E-14		63.3 (241) 36.7 (246)
14	242	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		35302189		2.095E-13		64.0 (242) 17.7 (239) 7.78 (250)
14	243	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		35302203		4.971E-14		68.9 (243) 18.5 (253) 11.2 (283)
14	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		35302566		1.984E-13		79.9 (244)
14	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		35303825		5.664E-14		47.2 (245) 24.4 (251) 15.8 (290)
14	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		35305296		9.523E-14		60.1 (246) 35.1 (241) 4.77 (296)
14	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		35306406		4.593E-14		72.0 (247) 14.1 (289) 9.96 (268)
14	248	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		35306881		2.980E-13		85.8 (248)
14	249	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		35306931		5.059E-14		36.0 (249) 30.7 (283) 17.8 (238)
14	250	$2s_{1/2}6p_{3/2}(J=1)$	$2p6s^3P_1$		35307039		8.048E-14		42.3 (250) 29.9 (239) 22.6 (242)
14	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		35308043		1.894E-13		52.8 (251) 25.7 (257) 10.5 (290)
14	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		35308384		5.110E-14		51.3 (252) 19.5 (272) 15.1 (291)
14	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		35309020		1.554E-13		77.1 (253)
14	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		35309048		4.792E-14		77.9 (254)
14	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		35309911		4.654E-14		29.5 (255) 28.0 (292) 22.5 (289)
14	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		35310675		4.094E-14		71.5 (256) 17.2 (293) 9.77 (300)
14	257	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		35310792		1.695E-13		62.2 (257) 16.3 (251) 15.9 (245)
14	258	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		35311021		4.741E-13		90.5 (258)
14	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		35311025		4.090E-14		41.5 (259) 29.6 (301) 27.5 (295)
14	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		35311364		4.344E-14		60.7 (260) 16.5 (321) 12.5 (294)
14	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		35311476		3.984E-14		71.6 (261) 16.2 (298) 12.2 (310)
14	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		35311525		3.984E-14		39.1 (262) 32.4 (305) 28.5 (299)
14	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		35311614		3.922E-14		71.5 (263) 15.8 (302) 12.7 (312)
14	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		35311640		3.922E-14		38.5 (264) 33.0 (306) 28.5 (303)
14	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		35311711		4.336E-14		41.3 (265) 30.6 (300) 20.5 (293)
14	266	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		35311761		4.295E-14		51.9 (266) 25.1 (320) 16.6 (304)
14	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		35311825		4.692E-14		38.1 (267) 24.7 (309) 18.9 (319)
14	268	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		35311859		3.003E-13		88.6 (268)
14	269	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		35311915		4.051E-14		42.8 (269) 31.8 (311) 25.4 (315)
14	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		35311931		4.280E-14		49.7 (270) 25.0 (310) 19.2 (298)
14	271	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		35311940		4.052E-14		57.2 (271) 23.6 (312) 19.2 (302)
14	272	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^3F_3$		35311988		1.146E-13		66.6 (272) 8.74 (267) 5.82 (252)
14	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		35312406		2.868E-12		100. (273)
14	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		35312422		2.771E-12		76.9 (274)
14	275	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		35312429		1.722E-12		100. (275)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
14	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		35312437		6.482E-12		100. (276)
14	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		35312485		3.183E-12		80.2 (277)
14	278	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		35312543		8.069E-12		100. (278)
14	279	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		35312543		9.430E-12		56.4 (279) 43.6 (280)
14	280	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		35312568		8.238E-12		56.5 (280) 43.5 (279)
14	281	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		35312569		9.531E-12		100. (281)
14	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		35316779		4.254E-14		89.0 (282)
14	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^1P_1$		35318071		4.062E-14		51.4 (283) 26.7 (249) 17.1 (243)
14	284	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		35318800		4.242E-14		93.1 (284)
14	285	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		35319197		4.774E-14		64.6 (285) 19.1 (250) 15.2 (239)
14	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		35319651		4.068E-14		67.5 (286) 27.3 (245) 3.52 (290)
14	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^3S_1$		35320897		4.318E-14		63.6 (287) 24.4 (249) 9.61 (238)
14	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		35321411		4.188E-14		96.7 (288)
14	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		35321618		4.114E-14		52.8 (289) 22.1 (292) 20.0 (247)
14	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		35322306		4.241E-14		69.3 (290) 16.2 (286) 7.71 (245)
14	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		35322656		4.091E-14		63.8 (291) 33.4 (252) 2.78 (313)
14	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		35324072		4.168E-14		51.0 (255) 38.5 (292) 4.14 (289)
14	293	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		35324428		4.061E-14		43.7 (293) 29.0 (300) 27.3 (256)
14	294	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		35324433		4.186E-14		68.3 (294) 24.7 (260) 4.36 (242)
14	295	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		35324618		4.058E-14		68.2 (295) 29.4 (259) 2.37 (301)
14	296	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		35324741		4.207E-14		94.5 (296)
14	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		35325093		3.997E-14		100. (297)
14	298	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		35325328		4.043E-14		39.1 (298) 32.6 (310) 28.3 (261)
14	299	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		35325370		4.043E-14		71.6 (299) 17.7 (262) 10.7 (305)
14	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		35325492		4.075E-14		52.9 (265) 29.5 (300) 17.6 (293)
14	301	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		35325514		3.996E-14		67.5 (301) 28.6 (259) 3.96 (295)
14	302	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		35325625		4.012E-14		38.2 (302) 33.5 (312) 28.3 (263)
14	303	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		35325650		4.012E-14		71.6 (303) 17.4 (264) 11.0 (306)
14	304	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		35325664		4.072E-14		44.1 (266) 37.5 (304) 18.3 (320)
14	305	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		35325744		3.924E-14		56.8 (305) 43.2 (262)
14	306	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		35325750		3.819E-14		56.0 (306) 44.0 (264)
14	307	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		35325765		3.925E-14		100. (307)
14	308	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		35325775		3.819E-14		100. (308)
14	309	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^1F_3$		35325821		4.070E-14		50.3 (267) 23.1 (309) 21.1 (319)
14	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		35325860		4.071E-14		46.8 (270) 28.8 (310) 24.4 (298)
14	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^1G_4$		35325919		4.070E-14		57.2 (269) 23.2 (311) 19.6 (315)
14	312	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		35325942		4.070E-14		42.8 (271) 30.3 (312) 26.9 (302)
14	313	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		35325955		4.012E-14		73.3 (313)
14	314	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		35326400		4.038E-14		100. (314)
14	315	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		35326424		4.038E-14		55.0 (315) 45.0 (311)
14	316	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		35326588		4.462E-14		74.1 (316)
14	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		35326635		4.047E-14		100. (317)
14	318	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		35326677		4.061E-14		100. (318)
14	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		35326685		4.049E-14		56.2 (319) 43.8 (309)
14	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		35327065		4.058E-14		54.8 (320) 43.7 (304) 1.51 (266)
14	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		35327373		4.134E-14		75.5 (321)
15	1	$1s^2_{1/2}(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
15	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	17135769	17135478		1.374E-06		100. (2)
15	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	17258746	17258558		6.014E-09		100. (3)
15	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	17261163	17260991		3.211E-12		100. (4)
15	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	17268828	17268617		1.399E-03		100. (5)
15	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	17270908	17270760		3.439E-09		100. (6)
15	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	17360546	17360208		1.993E-14		100. (7)
15	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	20271101	20270786		3.256E-12		100. (8)
15	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	20304936	20304592		1.155E-12		100. (9)
15	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	20305682	20305339		1.041E-12		100. (10)
15	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	20306284	20305752		3.471E-12		100. (11)
15	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	20308579	20308237		1.166E-12		100. (12)
15	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	20327307	20326927		3.930E-13		100. (13)
15	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$	20327351	20326968		3.949E-13		82.4 (14)
15	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	20328471	20328091		3.944E-13		100. (15)
15	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	20329412	20329010		4.043E-13		82.4 (16)
15	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	20332953	20332519		6.831E-14		100. (17)
15	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	21350958	21350624		4.768E-12		100. (18)
15	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	21364940	21364539		1.961E-12		100. (19)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
15	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	21365193	21364820		5.042E-12		100. (20)
15	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	21365251	21364857		1.816E-12		100. (21)
15	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	21366469	21366080		1.976E-12		100. (22)
15	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	21374203	21373753		9.119E-13		100. (23)
15	24	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^3D_2$	21374203	21373791		9.166E-13		86.3 (24)
15	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	21374685	21374244		9.151E-13		100. (25)
15	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	21375302	21374704		1.884E-12		56.7 (26) 43.3 (30)
15	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	21375043	21374744		9.471E-13		86.3 (27)
15	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	21375302	21374751		1.883E-12		100. (28)
15	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	21375302	21375000		1.885E-12		100. (29)
15	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	21375302	21375038		1.887E-12		56.7 (30) 43.3 (26)
15	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	21376454	21376024		1.622E-13		100. (31)
15	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	21846994	21846619		7.495E-12		100. (32)
15	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	21854063	21853658		3.330E-12		100. (33)
15	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	21854145	21853753		7.917E-12		100. (34)
15	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	21854223	21853822		3.113E-12		100. (35)
15	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	21854847	21854447		3.353E-12		100. (36)
15	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	21858780	21858327		1.751E-12		100. (37)
15	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	21858780	21858351		1.760E-12		87.5 (38)
15	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	21859026	21858579		1.758E-12		100. (39)
15	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	21859341	21858835		3.642E-12		57.3 (40) 42.7 (45)
15	41	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	21859341	21858859		3.640E-12		100. (41)
15	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	21859210	21858859		1.827E-12		87.5 (42)
15	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	21859341	21858986		3.645E-12		100. (43)
15	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$	21859465	21858995		6.112E-12		54.8 (44) 45.2 (48)
15	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	21859341	21859007		3.649E-12		57.3 (45) 42.7 (40)
15	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$	21859465	21859010		6.113E-12		100. (46)
15	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$	21859465	21859086		6.116E-12		100. (47)
15	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$	21859465	21859098		6.116E-12		54.8 (48) 45.2 (44)
15	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	21859894	21859467		3.166E-13		100. (49)
15	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$	22115189	22114824		1.176E-11		100. (50)
15	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$	22119265	22118867		5.426E-12		100. (51)
15	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$	22119283	22118911		1.162E-11		100. (52)
15	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$	22119357	22118962		5.088E-12		100. (53)
15	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$	22119717	22119324		5.459E-12		100. (54)
15	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$	22121979	22121548		3.015E-12		100. (55)
15	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$	22121979	22121562		3.025E-12		88.1 (56)
15	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$	22122121	22121693		3.027E-12		100. (57)
15	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$	22122303	22121840		6.225E-12		57.7 (58) 42.3 (64)
15	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$	22122303	22121853		6.223E-12		100. (59)
15	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$	22122227	22121862		3.096E-12		88.1 (60)
15	61	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$	22122303	22121927		6.230E-12		100. (61)
15	62	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$	22122371	22121928		1.049E-11		54.7 (62) 45.3 (68)
15	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$	22122371	22121936		1.049E-11		100. (63)
15	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$	22122303	22121939		6.240E-12		57.7 (64) 42.3 (58)
15	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$	22122413	22121980		1.582E-11		54.0 (65) 46.0 (70)
15	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$	22122371	22121981		1.050E-11		100. (66)
15	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$	22122413	22121985		1.582E-11		100. (67)
15	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$	22122371	22121987		1.050E-11		54.7 (68) 45.3 (62)
15	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$	22122413	22122015		1.582E-11		100. (69)
15	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$	22122413	22122019		1.582E-11		54.0 (70) 46.0 (65)
15	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	22122612	22122207		5.462E-13		100. (71)
15	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	35498500	35494664		8.353E-14		78.5 (72)
15	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	35526700	35522535		3.356E-14		100. (73)
15	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	35531900	35527840		3.359E-14		100. (74)
15	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	35544000	35540016		3.368E-14		100. (75)
15	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	35639000	35634468		1.670E-14		100. (76)
15	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	35645300	35640809		1.662E-14		100. (77)
15	78	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$	35655100	35650716		1.664E-14		97.7 (78)
15	79	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	35711600	35706895		1.651E-14		97.7 (79)
15	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	35717100	35713940		3.190E-14		100. (80)
15	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	35894000	35889552		2.114E-14		78.7 (81)
15	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		38750201		8.727E-14		72.6 (82)
15	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		38766042		4.706E-14		48.7 (83) 45.2 (109) 4.14 (116)
15	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		38788084		1.176E-13		76.1 (84)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
15	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		38795860		4.565E-14		60.7 (85) 39.3 (90)
15	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		38797059		2.768E-14		70.6 (86) 15.9 (92) 13.6 (102)
15	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		38799366		5.913E-14		59.6 (87) 36.8 (91) 3.55 (112)
15	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		38804170		8.029E-14		80.1 (88)
15	89	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		38805760		2.981E-14		78.7 (89)
15	90	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		38806570		4.693E-14		48.7 (90) 36.2 (85) 15.1 (113)
15	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		38810320		3.834E-14		56.9 (91) 27.4 (87) 14.0 (112)
15	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		38814100		2.605E-14		82.7 (92)
15	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		38815356		3.287E-14		70.3 (93) 29.7 (105)
15	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		38818577		3.152E-14		85.0 (94)
15	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		38840687		3.158E-14		82.3 (95)
15	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		38849200		3.176E-14		97.8 (96)
15	97	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		38850594		2.514E-14		98.7 (97)
15	98	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		38853999		2.710E-14		87.8 (98)
15	99	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		38854101		4.059E-14		38.4 (99) 25.8 (114) 21.3 (104)
15	100	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		38856007		3.084E-14		81.1 (100)
15	101	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		38859447		3.199E-14		100. (101)
15	102	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		38859897		8.782E-14		75.5 (102)
15	103	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^3D_2$		38862305		7.958E-14		62.0 (103) 19.5 (89) 9.42 (99)
15	104	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		38864764		2.845E-14		77.9 (104)
15	105	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		38864849		7.824E-14		70.3 (105) 29.7 (93)
15	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		38871956		3.285E-14		69.3 (106) 24.9 (82) 5.83 (98)
15	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		38880068		2.849E-14		89.4 (107)
15	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		38884439		2.827E-14		92.3 (108)
15	109	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		38888449		4.135E-14		50.6 (109) 37.7 (83) 7.41 (107)
15	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		38889009		2.793E-14		97.5 (110)
15	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		38909763		3.318E-14		75.8 (111)
15	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		38911823		3.295E-14		80.3 (112)
15	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		38913355		3.288E-14		84.1 (113)
15	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		38915367		4.775E-14		55.2 (114) 44.8 (99)
15	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		38934959		2.680E-14		98.9 (115)
15	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		38948182		3.044E-14		88.3 (116)
15	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		38959487		3.083E-14		76.8 (117)
15	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		39881941		1.100E-13		74.5 (118)
15	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		39889458		5.401E-14		46.7 (119) 38.7 (150) 10.1 (127)
15	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		39894356		1.243E-13		74.6 (120)
15	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		39896631		5.117E-14		57.3 (121) 41.3 (126) 1.35 (161)
15	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		39899723		8.160E-14		62.3 (122) 27.6 (127) 5.41 (119)
15	123	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		39901845		3.356E-14		70.0 (123) 17.4 (135) 12.7 (129)
15	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		39902511		1.124E-13		79.6 (124)
15	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		39907053		3.844E-14		63.9 (125) 27.8 (136) 5.08 (155)
15	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		39909005		5.292E-14		47.7 (126) 40.8 (121) 11.5 (161)
15	127	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		39912439		4.285E-14		56.6 (127) 24.8 (122) 10.9 (159)
15	128	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		39914300		6.582E-14		59.6 (128) 38.2 (140) 2.18 (163)
15	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		39914811		3.175E-14		66.8 (129) 14.7 (137) 7.59 (135)
15	130	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		39918391		3.324E-14		70.2 (130) 16.8 (138) 6.78 (146)
15	131	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		39920310		3.148E-14		72.7 (131)
15	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^1D_2$		39922726		7.164E-14		35.8 (132) 30.2 (155) 26.2 (136)
15	133	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		39923278		2.949E-14		95.1 (133)
15	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		39924031		3.613E-14		73.4 (134)
15	135	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		39925627		5.587E-14		49.8 (135) 36.7 (137) 6.64 (123)
15	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^3D_2$		39930056		7.558E-14		37.0 (136) 27.1 (132) 22.3 (125)
15	137	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		39931282		3.687E-14		38.2 (137) 23.7 (135) 20.4 (123)
15	138	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		39931321		3.391E-14		58.0 (138) 14.7 (152) 9.08 (131)
15	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		39932186		6.972E-14		55.2 (139) 44.8 (153)
15	140	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		39934589		3.960E-14		56.1 (140) 28.0 (128) 7.91 (163)
15	141	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		39935041		3.089E-14		73.7 (141)
15	142	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		39936117		3.021E-14		79.2 (142)
15	143	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		39936283		3.072E-14		63.8 (143) 23.9 (156) 12.3 (147)
15	144	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		39937372		3.066E-14		38.4 (144) 37.7 (157) 24.0 (162)
15	145	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		39938215		3.164E-14		69.8 (145) 15.7 (167) 10.1 (164)
15	146	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		39938311		1.159E-13		76.3 (146)
15	147	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		39938534		3.373E-14		39.1 (147) 24.0 (156) 20.9 (163)
15	148	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		39938850		1.301E-13		78.9 (148)
15	149	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		39940132		1.334E-12		100. (149)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
15	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		39942177		4.167E-14		52.8 (150) 30.8 (119) 11.4 (141)
15	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		39942639		3.435E-14		68.4 (151) 19.7 (118) 10.2 (137)
15	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		39943771		3.502E-14		44.4 (152) 20.3 (138) 16.2 (130)
15	153	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		39944006		5.402E-14		55.4 (153) 44.6 (139)
15	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		39947125		3.204E-14		73.9 (154)
15	155	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		39951944		4.088E-14		58.2 (155) 34.2 (132) 3.01 (142)
15	156	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		39953141		3.080E-14		36.3 (156) 35.9 (143) 27.8 (147)
15	157	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		39953855		3.080E-14		60.5 (157) 33.9 (144) 5.62 (162)
15	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		39954327		3.321E-14		64.0 (158) 18.4 (152) 10.7 (124)
15	159	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		39955731		3.324E-14		74.6 (159)
15	160	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		39956551		3.077E-14		100. (160)
15	161	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		39956846		3.330E-14		87.2 (161)
15	162	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		39957891		3.076E-14		70.4 (162) 27.7 (144) 1.92 (157)
15	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		39958144		3.117E-14		69.1 (163) 17.2 (147) 11.9 (156)
15	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		39958558		3.094E-14		42.6 (164) 28.6 (167) 27.3 (145)
15	165	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		39962186		3.115E-14		98.0 (165)
15	166	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^1F_3$		39962247		2.954E-14		91.8 (166)
15	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		39963210		3.084E-14		54.0 (167) 44.8 (164) 1.26 (155)
15	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		39968368		3.214E-14		83.4 (168)
15	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		39971709		3.415E-14		76.4 (169)
15	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		40395489		1.251E-13		74.5 (170)
15	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p^1P_1$		40399087		5.315E-14		38.7 (171) 31.5 (210) 23.1 (179)
15	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		40401015		1.235E-13		73.3 (172)
15	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		40401541		5.075E-14		61.4 (173) 38.6 (178)
15	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		40404407		1.276E-13		65.1 (174) 14.0 (171) 13.5 (179)
15	175	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		40404964		3.621E-14		69.9 (175) 18.1 (186) 12.0 (182)
15	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		40405580		1.446E-13		80.9 (176)
15	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		40408078		4.192E-14		51.8 (177) 26.4 (183) 12.1 (215)
15	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		40409876		6.321E-14		55.0 (178) 38.1 (173) 6.85 (220)
15	179	$2s_{1/2}5p_{3/2}(J=1)$	$2p5s^3P_1$		40412767		5.180E-14		50.2 (179) 22.6 (174) 21.7 (171)
15	180	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		40413145		3.450E-14		72.9 (180)
15	181	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		40413197		1.615E-13		82.8 (181)
15	182	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		40413302		3.580E-14		40.4 (182) 33.0 (207) 11.9 (170)
15	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		40415799		1.180E-13		45.2 (183) 29.7 (188) 15.6 (215)
15	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		40416690		3.858E-14		57.3 (184) 19.4 (198) 13.1 (214)
15	185	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		40416983		3.325E-14		85.7 (185)
15	186	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		40417514		9.830E-14		72.2 (186) 12.7 (175) 12.6 (207)
15	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		40418755		3.263E-14		27.1 (187) 23.1 (216) 21.5 (213)
15	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		40420614		1.047E-13		53.0 (188) 21.0 (183) 19.5 (177)
15	189	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		40421463		3.159E-13		90.6 (189)
15	190	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		40421637		3.122E-14		69.8 (190) 19.3 (217) 9.71 (224)
15	191	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		40422135		3.176E-14		66.3 (191) 14.1 (236) 11.3 (219)
15	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		40422331		3.124E-14		41.2 (192) 29.7 (218) 27.8 (225)
15	193	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		40423146		3.172E-14		38.7 (193) 34.2 (224) 21.9 (217)
15	194	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		40423159		2.015E-13		86.7 (194)
15	195	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		40423173		3.089E-14		70.0 (195) 17.4 (222) 12.6 (228)
15	196	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		40423269		3.197E-14		57.7 (196) 23.2 (235) 15.5 (226)
15	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		40423279		3.088E-14		38.3 (197) 31.7 (229) 30.0 (223)
15	198	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		40423443		8.584E-14		65.3 (198) 7.60 (199) 7.35 (184)
15	199	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		40423664		3.562E-14		42.5 (199) 25.2 (227) 18.6 (233)
15	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		40423742		3.148E-14		49.7 (200) 27.5 (228) 20.6 (222)
15	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		40424222		1.713E-12		100. (201)
15	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		40424255		2.038E-12		70.7 (202) 29.3 (205)
15	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		40424265		1.422E-12		100. (203)
15	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		40424308		4.536E-12		100. (204)
15	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		40424375		2.287E-12		72.5 (205)
15	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		40425346		3.365E-14		69.8 (206) 10.1 (216) 10.1 (213)
15	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		40427379		3.075E-14		42.4 (207) 33.8 (207) 17.8 (175)
15	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		40429083		3.394E-14		86.0 (208)
15	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		40430399		3.068E-14		72.1 (209) 22.0 (177) 2.72 (183)
15	210	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		40431022		3.829E-14		62.7 (210) 21.1 (171) 12.6 (179)
15	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		40433361		3.308E-14		66.5 (211) 18.7 (207) 12.2 (170)
15	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		40433773		3.336E-14		92.0 (212)
15	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		40434112		3.143E-14		45.4 (213) 28.6 (216) 19.5 (180)
15	214	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		40436106		3.110E-14		67.4 (214) 28.5 (184) 2.44 (231)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
15	215	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		40436314		3.359E-14		68.1 (215) 13.3 (188) 10.9 (209)
15	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		40439171		3.206E-14		55.1 (187) 32.2 (216) 5.47 (176)
15	217	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		40439444		3.095E-14		41.7 (217) 29.2 (190) 29.1 (224)
15	218	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		40439832		3.095E-14		66.6 (218) 30.4 (192) 3.05 (225)
15	219	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		40439906		3.223E-14		70.2 (219) 20.7 (191) 5.78 (174)
15	220	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		40440552		3.243E-14		93.1 (220)
15	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		40440973		3.083E-14		100. (221)
15	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		40441183		3.107E-14		37.8 (222) 32.3 (228) 29.9 (195)
15	223	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		40441274		3.107E-14		70.0 (223) 18.0 (197) 12.0 (229)
15	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		40441569		3.108E-14		57.2 (193) 26.3 (224) 16.5 (217)
15	225	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		40441824		3.083E-14		68.6 (225) 28.1 (192) 3.26 (218)
15	226	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		40441849		3.098E-14		40.1 (196) 38.9 (226) 21.0 (235)
15	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		40442030		3.103E-14		51.0 (199) 26.7 (227) 22.4 (233)
15	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		40442104		3.103E-14		49.0 (200) 27.2 (228) 23.8 (222)
15	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		40442256		3.097E-14		56.3 (229) 43.7 (197)
15	230	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		40442319		3.097E-14		100. (230)
15	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		40442893		3.034E-14		81.7 (231)
15	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		40443529		3.095E-14		100. (232)
15	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		40443638		3.093E-14		55.2 (233) 43.4 (227) 1.42 (231)
15	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		40443788		3.108E-14		98.7 (234)
15	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		40444480		3.091E-14		54.3 (235) 43.5 (226) 1.15 (196)
15	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		40445768		3.174E-14		78.4 (236)
15	237	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^3S_0$		40446047		3.383E-14		76.5 (237)
15	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		40670988		1.247E-13		74.1 (238)
15	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		40672695		5.004E-14		32.3 (239) 31.8 (250) 27.6 (285)
15	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		40673847		4.859E-14		64.7 (240) 35.3 (246)
15	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		40673869		1.071E-13		69.9 (241) 19.6 (314) 10.4 (254)
15	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		40676022		3.721E-14		69.4 (242) 17.6 (253) 11.4 (283)
15	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		40676257		1.709E-13		64.9 (243) 18.9 (250) 5.47 (239)
15	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		40676653		1.469E-13		80.0 (244)
15	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		40677924		4.222E-14		45.7 (245) 23.2 (251) 17.3 (290)
15	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		40679482		7.668E-14		62.4 (246) 34.1 (240) 3.58 (295)
15	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		40680634		3.473E-14		71.9 (247) 14.2 (289) 9.66 (268)
15	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		40681322		3.917E-14		36.4 (248) 27.1 (283) 19.4 (238)
15	249	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		40681394		2.429E-13		87.2 (249)
15	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		40681584		6.627E-14		38.1 (239) 33.9 (250) 22.0 (243)
15	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		40682526		1.505E-13		56.7 (251) 23.2 (257) 8.70 (290)
15	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		40682907		3.858E-14		48.9 (252) 19.3 (272) 15.9 (291)
15	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		40683507		1.274E-13		78.7 (253)
15	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		40683713		3.779E-14		73.4 (254)
15	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		40684618		3.626E-14		30.9 (255) 28.4 (292) 21.2 (289)
15	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		40685280		3.120E-14		71.9 (256) 17.0 (294) 9.66 (300)
15	257	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		40685599		1.428E-13		67.0 (257) 14.3 (245) 13.8 (251)
15	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		40685702		3.117E-14		41.5 (258) 30.0 (301) 27.1 (296)
15	259	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		40685786		3.383E-13		90.3 (259)
15	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		40686090		3.349E-14		58.0 (260) 18.0 (321) 13.2 (293)
15	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		40686177		3.050E-14		71.8 (261) 16.2 (298) 12.1 (309)
15	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		40686244		3.049E-14		39.2 (262) 32.5 (306) 28.3 (299)
15	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		40686339		3.015E-14		71.5 (263) 15.9 (303) 12.6 (313)
15	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		40686373		3.015E-14		38.5 (264) 33.0 (307) 28.5 (304)
15	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		40686429		3.340E-14		42.6 (265) 29.4 (300) 19.5 (294)
15	266	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		40686461		3.282E-14		49.9 (266) 26.1 (320) 17.3 (302)
15	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		40686525		3.402E-14		39.9 (267) 26.9 (305) 20.4 (319)
15	268	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		40686598		2.438E-13		89.1 (268)
15	269	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		40686620		3.083E-14		42.3 (269) 32.1 (312) 25.6 (316)
15	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		40686647		3.313E-14		49.8 (270) 24.2 (309) 18.4 (298)
15	271	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		40686654		3.083E-14		57.7 (271) 23.4 (313) 18.9 (303)
15	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		40686734		1.016E-13		71.4 (272) 6.39 (252) 5.91 (267)
15	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		40687207		2.857E-12		100. (273)
15	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		40687223		2.174E-12		77.5 (274)
15	275	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		40687228		1.429E-12		100. (275)
15	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		40687247		5.605E-12		100. (276)
15	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		40687301		2.805E-12		80.0 (277)
15	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		40687359		7.955E-12		56.3 (278) 43.7 (280)
15	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		40687359		7.012E-12		100. (279)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
15	280	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		40687394		7.179E-12		56.4 (280) 43.6 (278)
15	281	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		40687394		8.082E-12		100. (281)
15	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		40694948		3.195E-14		93.0 (282)
15	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		40696463		3.067E-14		54.8 (283) 25.1 (248) 16.9 (242)
15	284	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		40697210		3.148E-14		95.7 (284)
15	285	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		40697302		3.472E-14		66.5 (285) 22.4 (239) 11.1 (250)
15	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		40698138		3.077E-14		63.5 (286) 30.1 (245) 5.17 (290)
15	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		40699353		3.206E-14		64.0 (287) 26.2 (248) 7.12 (238)
15	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		40700153		3.156E-14		98.0 (288)
15	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		40700378		3.120E-14		54.9 (289) 20.0 (292) 20.0 (247)
15	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		40700933		3.148E-14		67.7 (290) 20.4 (286) 7.52 (245)
15	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		40701509		3.106E-14		61.8 (291) 35.2 (252) 3.00 (311)
15	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		40702980		3.144E-14		49.4 (255) 40.4 (292) 4.30 (289)
15	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		40703336		3.154E-14		68.7 (293) 26.6 (260) 3.16 (243)
15	294	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		40703496		3.095E-14		44.1 (294) 29.0 (300) 27.0 (256)
15	295	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		40703656		3.167E-14		96.0 (295)
15	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		40703721		3.094E-14		68.2 (296) 29.7 (258) 2.10 (301)
15	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		40704261		3.061E-14		100. (297)
15	298	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		40704496		3.087E-14		38.9 (298) 32.9 (309) 28.1 (261)
15	299	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		40704551		3.087E-14		71.7 (299) 17.8 (262) 10.5 (306)
15	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		40704613		3.100E-14		51.3 (265) 30.5 (300) 18.2 (294)
15	301	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		40704750		3.061E-14		67.4 (301) 28.3 (258) 4.30 (296)
15	302	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		40704790		3.099E-14		45.7 (266) 37.1 (302) 17.2 (320)
15	303	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		40704832		3.070E-14		37.8 (303) 33.8 (313) 28.4 (263)
15	304	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		40704865		3.070E-14		71.5 (304) 17.2 (264) 11.3 (307)
15	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^1F_3$		40704999		3.098E-14		48.4 (267) 20.7 (305) 20.4 (319)
15	306	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		40705000		3.022E-14		57.0 (306) 43.0 (262)
15	307	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		40705020		2.961E-14		55.7 (307) 44.3 (264)
15	308	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		40705028		3.022E-14		100. (308)
15	309	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		40705052		3.100E-14		45.8 (270) 29.1 (309) 25.1 (298)
15	310	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		40705054		2.961E-14		100. (310)
15	311	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		40705109		3.062E-14		68.0 (311) 14.7 (291) 7.31 (252)
15	312	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		40705123		3.099E-14		57.7 (269) 22.8 (312) 19.5 (316)
15	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		40705155		3.100E-14		42.3 (271) 30.2 (313) 27.5 (303)
15	314	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		40705473		3.291E-14		74.2 (314)
15	315	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		40705644		3.079E-14		100. (315)
15	316	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		40705676		3.079E-14		54.9 (316) 45.1 (312)
15	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		40705885		3.085E-14		100. (317)
15	318	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		40705886		3.091E-14		100. (318)
15	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		40705951		3.087E-14		55.9 (319) 44.1 (305)
15	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		40706339		3.090E-14		54.7 (320) 43.6 (302) 1.70 (266)
15	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		40706537		3.126E-14		74.2 (321)
16	1	$1s_{1/2}^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
16	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	19602076	19601811		7.063E-07		100. (2)
16	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	19734314	19734164		5.547E-09		100. (3)
16	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	19737521	19737387		1.711E-12		100. (4)
16	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	19745473	19745276		1.012E-03		100. (5)
16	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	19750573	19750450		2.668E-09		100. (6)
16	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	19846285	19845969		1.521E-14		100. (7)
16	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	23193163	23192876		2.496E-12		100. (8)
16	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	23229571	23229261		8.755E-13		100. (9)
16	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	23230551	23230244		7.566E-13		100. (10)
16	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	23231087	23230575		2.651E-12		100. (11)
16	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	23234429	23234124		8.848E-13		100. (12)
16	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	23254611	23254265		2.984E-13		100. (13)
16	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	23254645	23254295		2.999E-13		79.8 (14)
16	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	23256165	23255820		2.996E-13		100. (15)
16	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	23257195	23256829		3.063E-13		79.8 (16)
16	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	23260416	23260017		5.223E-14		100. (17)
16	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	24431101	24430813		3.651E-12		100. (18)
16	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	24446163	24445790		1.488E-12		100. (19)
16	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	24446439	24446115		3.849E-12		100. (20)
16	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	24446570	24446208		1.335E-12		99.0 (21)
16	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	24448199	24447845		1.501E-12		100. (22)
16	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	24456527	24456114		6.927E-13		100. (23)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
16	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	24456527	24456153		6.965E-13		83.7 (24)
16	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	24457176	24456770		6.956E-13		100. (25)
16	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$	24457889	24457269		1.429E-12		56.8 (26) 43.2 (30)
16	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	24457576	24457314		7.171E-13		83.7 (27)
16	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$	24457889	24457327		1.429E-12		100. (28)
16	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$	24457889	24457659		1.430E-12		100. (29)
16	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$	24457889	24457706		1.431E-12		56.8 (30) 43.2 (26)
16	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	24458842	24458444		1.241E-13		99.0 (31)
16	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	24999972	24999639		5.741E-12		100. (32)
16	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	25007589	25007216		2.528E-12		100. (33)
16	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	25007605	25007328		6.039E-12		100. (34)
16	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	25007798	25007430		2.299E-12		98.9 (35)
16	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	25008632	25008268		2.547E-12		100. (36)
16	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	25012870	25012449		1.331E-12		100. (37)
16	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	25012870	25012474		1.338E-12		85.0 (38)
16	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	25013202	25012785		1.336E-12		100. (39)
16	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$	25013562	25013064		2.762E-12		57.3 (40) 42.7 (45)
16	41	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	25013407	25013089		1.383E-12		85.0 (41)
16	42	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$	25013562	25013093		2.761E-12		100. (42)
16	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$	25013562	25013262		2.765E-12		100. (43)
16	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$	25013723	25013272		4.637E-12		54.8 (44) 45.2 (48)
16	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$	25013562	25013288		2.769E-12		57.3 (45) 42.7 (40)
16	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$	25013723	25013290		4.638E-12		100. (46)
16	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$	25013723	25013392		4.640E-12		100. (47)
16	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$	25013723	25013406		4.641E-12		54.8 (48) 45.2 (44)
16	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	25014007	25013617		2.423E-13		98.9 (49)
16	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$	25307614	25307291		9.031E-12		100. (50)
16	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$	25312007	25311643		4.125E-12		100. (51)
16	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$	25312000	25311696		8.848E-12		100. (52)
16	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$	25312128	25311768		3.767E-12		98.9 (53)
16	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$	25312610	25312253		4.154E-12		100. (54)
16	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$	25315047	25314648		2.292E-12		100. (55)
16	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$	25315047	25314664		2.300E-12		85.6 (56)
16	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$	25315239	25314842		2.304E-12		100. (57)
16	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$	25315445	25315002		4.722E-12		57.6 (58) 42.4 (64)
16	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$	25315445	25315018		4.720E-12		100. (59)
16	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$	25315357	25315026		2.344E-12		85.6 (60)
16	61	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$	25315445	25315116		4.727E-12		100. (61)
16	62	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$	25315534	25315117		7.957E-12		54.8 (62) 45.2 (68)
16	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$	25315534	25315128		7.958E-12		100. (63)
16	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$	25315445	25315131		4.733E-12		57.6 (64) 42.4 (58)
16	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$	25315589	25315186		1.200E-11		54.0 (65) 46.0 (70)
16	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$	25315534	25315187		7.963E-12		100. (66)
16	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$	25315589	25315192		1.200E-11		100. (67)
16	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$	25315534	25315195		7.963E-12		54.8 (68) 45.2 (62)
16	69	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$	25315589	25315232		1.200E-11		100. (69)
16	70	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$	25315589	25315237		1.200E-11		54.0 (70) 46.0 (65)
16	71	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	25315693	25315325		4.179E-13		98.9 (71)
16	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	40511800	40513195		6.489E-14		78.9 (72)
16	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	40541800	40541993		2.583E-14		100. (73)
16	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	40548200	40548803		2.585E-14		100. (74)
16	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	40564200	40564740		2.594E-14		100. (75)
16	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	40663600	40664056		1.289E-14		100. (76)
16	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	40671900	40672442		1.281E-14		100. (77)
16	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	40684300	40685008		1.282E-14		96.7 (78)
16	79	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	40745200	40745558		1.272E-14		96.7 (79)
16	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	40748400	40750090		2.464E-14		100. (80)
16	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	40939100	40939773		1.618E-14		79.2 (81)
16	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		44232445		6.911E-14		73.6 (82)
16	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		44249915		3.626E-14		48.7 (83) 44.5 (109) 4.00 (116)
16	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		44272907		9.112E-14		76.7 (84)
16	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		44280600		3.465E-14		62.1 (85) 37.9 (89)
16	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		44281961		2.125E-14		70.7 (86) 16.3 (92) 13.1 (101)
16	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		44285097		4.674E-14		61.6 (87) 34.8 (91) 3.59 (112)
16	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		44291052		6.343E-14		81.8 (88)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
16	89	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		44292691		3.730E-14		50.9 (89) 35.1 (85) 14.1 (113)
16	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		44293168		2.307E-14		78.3 (90)
16	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		44297777		2.961E-14		58.3 (91) 26.4 (87) 12.9 (112)
16	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		44303605		2.030E-14		80.5 (92)
16	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		44305523		2.627E-14		67.3 (93) 32.7 (104)
16	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		44308715		2.417E-14		87.1 (94)
16	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		44329692		2.439E-14		82.0 (95)
16	96	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		44340518		2.448E-14		96.9 (96)
16	97	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		44340692		1.951E-14		98.1 (97)
16	98	$2s_{1/2}3d_{3/2}(J=2)$	$2p3p^1D_2$		44344690		3.400E-14		35.2 (98) 24.5 (114) 20.4 (102)
16	99	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		44344929		2.265E-14		78.5 (99)
16	100	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		44349085		2.386E-14		79.1 (100)
16	101	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		44350700		5.505E-14		68.2 (101) 17.5 (86) 12.8 (99)
16	102	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^3D_2$		44353905		5.686E-14		57.3 (102) 20.1 (90) 11.3 (114)
16	103	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		44354168		2.472E-14		100. (103)
16	104	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		44357060		5.583E-14		67.4 (104) 32.6 (93)
16	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		44358965		2.187E-14		79.8 (105)
16	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		44365270		2.484E-14		69.0 (106) 23.2 (82) 7.80 (99)
16	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		44372916		2.214E-14		85.2 (107)
16	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		44379078		2.196E-14		88.9 (108)
16	109	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		44382574		3.170E-14		50.2 (109) 37.2 (83) 9.16 (107)
16	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		44385171		2.160E-14		95.4 (110)
16	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		44406559		2.538E-14		74.0 (111)
16	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		44408939		2.522E-14		80.3 (112)
16	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		44410821		2.521E-14		85.3 (113)
16	114	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		44411628		3.544E-14		53.2 (114) 46.8 (98)
16	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		44434793		2.071E-14		98.4 (115)
16	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		44448417		2.344E-14		88.2 (116)
16	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		44459648		2.364E-14		76.8 (117)
16	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		45525676		8.728E-14		75.0 (118)
16	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		45533825		4.078E-14		45.4 (119) 37.3 (150) 13.2 (127)
16	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		45538836		9.540E-14		74.9 (120)
16	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		45540894		3.881E-14		58.6 (121) 40.3 (126) 1.10 (160)
16	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		45544815		6.781E-14		64.5 (122) 24.0 (127) 6.88 (119)
16	123	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		45546550		2.573E-14		70.2 (123) 16.7 (135) 13.1 (129)
16	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		45548069		9.023E-14		81.4 (124)
16	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		45552965		2.972E-14		60.9 (125) 27.5 (132) 6.43 (155)
16	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		45554594		4.259E-14		50.2 (126) 39.9 (121) 9.94 (160)
16	127	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		45559169		3.411E-14		56.0 (127) 23.9 (122) 11.0 (119)
16	128	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		45561834		6.088E-14		67.1 (128) 30.5 (142) 2.45 (162)
16	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		45561971		2.515E-14		58.9 (129) 19.5 (138) 8.23 (135)
16	130	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		45564736		2.581E-14		74.1 (130)
16	131	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		45569426		2.397E-14		70.7 (131) 16.8 (157) 5.65 (153)
16	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		45569808		6.147E-14		33.5 (132) 33.2 (136) 25.8 (155)
16	133	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		45570429		2.316E-14		92.5 (133)
16	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		45571480		2.802E-14		70.0 (134) 14.8 (146) 9.70 (154)
16	135	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		45572768		5.347E-14		59.9 (135) 25.6 (138) 8.89 (123)
16	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		45578220		6.264E-14		35.2 (136) 32.1 (132) 22.8 (125)
16	137	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		45580302		2.685E-14		47.6 (137) 16.5 (153) 16.3 (131)
16	138	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		45581183		2.538E-14		41.8 (138) 23.4 (129) 18.7 (123)
16	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		45581203		7.787E-14		69.4 (139) 30.6 (152)
16	140	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		45583019		2.384E-14		71.6 (140) 10.3 (168) 8.23 (159)
16	141	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		45583982		2.382E-14		59.7 (141) 29.4 (156) 5.02 (147)
16	142	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		45584409		2.589E-14		45.1 (142) 19.9 (147) 13.7 (162)
16	143	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		45585326		2.370E-14		39.3 (143) 35.5 (158) 25.2 (163)
16	144	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		45586128		2.362E-14		62.3 (144) 17.2 (167) 12.1 (164)
16	145	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		45586392		1.147E-13		82.7 (145)
16	146	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		45586913		1.104E-13		80.9 (146)
16	147	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		45587136		2.811E-14		27.1 (147) 20.7 (142) 18.4 (128)
16	148	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		45587358		2.392E-14		71.7 (148) 13.0 (125) 5.73 (132)
16	149	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		45588270		1.085E-12		100. (149)
16	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		45592423		3.183E-14		55.8 (150) 29.7 (119) 9.16 (140)
16	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		45593612		2.587E-14		68.2 (151) 17.2 (118) 12.6 (138)
16	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		45594912		3.380E-14		69.6 (152) 30.4 (139)
16	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		45595214		2.531E-14		41.8 (153) 28.2 (137) 16.9 (130)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
16	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		45599302		2.419E-14		73.8 (154)
16	155	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		45603205		2.940E-14		61.8 (155) 28.6 (136) 4.83 (148)
16	156	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		45606150		2.383E-14		37.6 (156) 33.9 (141) 28.4 (147)
16	157	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		45606727		2.527E-14		61.7 (157) 22.5 (153) 8.83 (124)
16	158	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		45606985		2.383E-14		62.4 (158) 32.6 (143) 4.97 (163)
16	159	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		45608208		2.534E-14		73.6 (159)
16	160	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		45609485		2.545E-14		89.0 (160)
16	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		45609968		2.381E-14		100. (161)
16	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		45611295		2.404E-14		65.4 (162) 19.6 (147) 13.6 (156)
16	163	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		45611431		2.380E-14		69.8 (163) 28.1 (143) 2.17 (158)
16	164	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		45611695		2.390E-14		40.6 (164) 31.3 (144) 26.9 (167)
16	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		45615596		2.284E-14		89.7 (165)
16	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		45615801		2.404E-14		98.4 (166)
16	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		45617012		2.384E-14		53.6 (167) 45.3 (164) 1.09 (155)
16	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		45621854		2.464E-14		82.5 (168)
16	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		45624657		2.598E-14		77.0 (169)
16	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		46113078		9.751E-14		75.2 (170)
16	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p^1P_1$		46116850		3.963E-14		36.4 (171) 30.2 (209) 26.7 (180)
16	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		46118904		9.254E-14		73.0 (172)
16	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		46119243		3.837E-14		62.5 (173) 37.5 (178)
16	174	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		46122731		1.086E-13		65.8 (174) 15.4 (171) 10.2 (180)
16	175	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		46122944		2.771E-14		69.6 (175) 17.2 (186) 12.2 (207)
16	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		46124033		1.121E-13		81.4 (176)
16	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		46126629		3.207E-14		49.8 (177) 25.5 (183) 13.8 (214)
16	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		46128428		5.135E-14		57.4 (178) 37.1 (173) 5.47 (220)
16	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		46131905		2.659E-14		72.8 (179)
16	180	$2s_{1/2}5p_{3/2}(J=1)$	$2p5s^3P_1$		46132037		4.303E-14		46.5 (180) 26.6 (171) 21.8 (174)
16	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		46132377		2.823E-14		34.9 (181) 34.9 (207) 13.6 (170)
16	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		46132514		1.503E-13		86.6 (182)
16	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		46134983		9.864E-14		50.4 (183) 26.7 (188) 12.9 (214)
16	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		46136012		2.976E-14		54.4 (184) 19.4 (198) 14.2 (215)
16	185	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		46136394		2.646E-14		82.0 (185)
16	186	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		46136683		8.310E-14		75.4 (186)
16	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		46138615		2.606E-14		29.0 (187) 26.5 (216) 22.7 (213)
16	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		46140429		9.088E-14		59.5 (188) 17.6 (177) 17.3 (183)
16	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		46141076		2.413E-14		70.5 (189) 18.7 (217) 9.59 (224)
16	190	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		46141238		3.233E-13		93.6 (190)
16	191	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		46141773		2.476E-14		63.6 (191) 15.6 (237) 12.3 (218)
16	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		46141894		2.415E-14		41.3 (192) 28.9 (219) 28.5 (226)
16	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		46142765		2.390E-14		70.5 (193) 17.3 (222) 12.2 (228)
16	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		46142817		2.489E-14		41.0 (194) 33.0 (224) 21.1 (217)
16	195	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		46142833		1.791E-13		89.0 (195)
16	196	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		46142882		2.482E-14		55.0 (196) 24.6 (235) 16.5 (225)
16	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		46142902		2.390E-14		38.5 (197) 32.0 (229) 29.5 (223)
16	198	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		46143087		5.569E-14		58.0 (198) 11.9 (199) 7.42 (227)
16	199	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		46143290		3.007E-14		35.9 (199) 22.4 (227) 21.1 (198)
16	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		46143382		2.446E-14		50.7 (200) 26.8 (228) 19.9 (222)
16	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		46143959		1.646E-12		100. (201)
16	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		46143991		1.587E-12		70.1 (202) 29.9 (205)
16	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		46143999		1.166E-12		100. (203)
16	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		46144067		3.600E-12		100. (204)
16	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		46144141		1.903E-12		71.6 (205) 28.4 (202)
16	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		46148336		2.522E-14		83.3 (206)
16	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		46150950		2.343E-14		47.0 (207) 31.3 (181) 17.3 (175)
16	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		46152673		2.503E-14		90.8 (208)
16	209	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		46154131		2.848E-14		64.8 (209) 17.3 (171) 15.8 (180)
16	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		46154202		2.356E-14		68.4 (210) 24.8 (177) 3.66 (214)
16	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		46157104		2.504E-14		66.3 (211) 20.8 (181) 9.80 (170)
16	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		46157985		2.506E-14		95.2 (212)
16	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		46158385		2.416E-14		49.6 (213) 25.7 (216) 19.8 (179)
16	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		46160284		2.494E-14		69.3 (214) 15.2 (210) 9.37 (188)
16	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		46160578		2.396E-14		65.3 (215) 30.7 (184) 2.77 (231)
16	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		46163732		2.455E-14		53.4 (187) 35.2 (216) 4.44 (213)
16	217	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		46164311		2.396E-14		42.2 (217) 29.3 (224) 28.5 (189)
16	218	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		46164460		2.467E-14		69.4 (218) 23.0 (191) 4.48 (174)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
16	219	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		46164763		2.395E-14		67.0 (219) 30.3 (192) 2.68 (226)
16	220	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		46165147		2.484E-14		94.5 (220)
16	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		46166016		2.388E-14		100. (221)
16	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		46166221		2.405E-14		37.8 (222) 32.8 (228) 29.4 (193)
16	223	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		46166341		2.405E-14		70.5 (223) 18.0 (197) 11.6 (229)
16	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		46166532		2.403E-14		54.9 (194) 27.6 (224) 17.5 (217)
16	225	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		46166809		2.397E-14		42.4 (196) 37.9 (225) 19.7 (235)
16	226	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		46166958		2.387E-14		68.4 (226) 28.0 (192) 3.63 (219)
16	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		46167103		2.402E-14		52.3 (199) 25.7 (227) 22.1 (233)
16	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		46167203		2.402E-14		47.7 (200) 27.6 (228) 24.7 (222)
16	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		46167410		2.398E-14		56.5 (229) 43.5 (197)
16	230	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		46167496		2.398E-14		100. (230)
16	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		46167882		2.347E-14		80.2 (231)
16	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		46168729		2.396E-14		100. (232)
16	233	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		46168866		2.396E-14		55.8 (233) 44.2 (227)
16	234	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		46168920		2.402E-14		100. (234)
16	235	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		46169726		2.392E-14		54.6 (235) 44.1 (225) 1.31 (196)
16	236	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		46170540		2.563E-14		76.5 (236)
16	237	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		46170794		2.438E-14		77.1 (237)
16	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		46428426		9.466E-14		74.3 (238)
16	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		46430163		3.733E-14		35.2 (239) 29.7 (250) 26.9 (284)
16	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		46431282		3.660E-14		66.0 (240) 34.0 (246)
16	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		46431454		7.953E-14		69.4 (241) 18.6 (312) 12.1 (254)
16	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		46433620		2.841E-14		69.2 (242) 16.5 (253) 11.4 (283)
16	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		46434110		1.392E-13		65.5 (243) 19.5 (250) 4.67 (293)
16	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		46434556		1.105E-13		79.9 (244)
16	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		46435830		3.208E-14		44.7 (245) 22.0 (251) 18.7 (290)
16	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		46437453		6.252E-14		64.3 (246) 33.0 (240) 2.69 (294)
16	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		46438667		2.673E-14		71.9 (247) 14.2 (289) 9.31 (269)
16	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		46439499		3.074E-14		36.4 (248) 24.4 (283) 20.6 (238)
16	249	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		46439722		1.925E-13		87.8 (249)
16	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		46439923		5.504E-14		37.7 (250) 35.1 (239) 22.1 (243)
16	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		46440826		1.203E-13		59.6 (251) 21.1 (258) 7.39 (290)
16	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		46441244		2.959E-14		47.2 (252) 18.8 (272) 17.5 (308)
16	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		46441813		1.056E-13		80.7 (253)
16	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		46442161		3.026E-14		69.2 (254) 23.5 (241) 7.22 (312)
16	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		46443110		2.856E-14		32.0 (255) 28.3 (292) 19.9 (289)
16	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		46443695		2.416E-14		72.3 (256)
16	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		46444193		2.414E-14		41.6 (257) 30.4 (302) 26.8 (296)
16	258	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		46444228		1.202E-13		70.7 (258) 12.9 (245) 12.0 (251)
16	259	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		46444378		2.216E-13		88.9 (259)
16	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		46444613		2.626E-14		55.6 (260) 19.3 (321) 13.6 (293)
16	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		46444690		2.370E-14		71.9 (261) 16.1 (298) 12.0 (307)
16	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		46444776		2.369E-14		39.3 (262) 32.6 (306) 28.1 (299)
16	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		46444875		2.349E-14		71.5 (263) 16.0 (303) 12.5 (314)
16	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		46444921		2.350E-14		38.5 (264) 33.0 (309) 28.5 (304)
16	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		46444962		2.612E-14		43.6 (265) 28.4 (300) 18.7 (295)
16	266	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		46444970		2.550E-14		48.8 (266) 27.1 (320) 18.0 (301)
16	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		46445040		2.543E-14		41.9 (267) 29.1 (319) 22.0 (305)
16	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		46445144		2.387E-14		41.9 (268) 32.3 (313) 25.8 (316)
16	269	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		46445172		2.010E-13		89.6 (269)
16	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		46445184		2.627E-14		49.3 (270) 23.4 (307) 17.6 (298)
16	271	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		46445189		2.387E-14		58.1 (271) 23.3 (314) 18.6 (303)
16	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		46445316		9.068E-14		75.1 (272)
16	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		46445852		2.766E-12		100. (273)
16	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		46445868		1.769E-12		77.3 (274)
16	275	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		46445870		1.215E-12		100. (275)
16	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		46445904		4.823E-12		100. (276)
16	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		46445964		2.478E-12		79.2 (277)
16	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		46446022		6.728E-12		56.2 (278) 43.8 (281)
16	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		46446023		6.068E-12		100. (279)
16	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		46446068		6.820E-12		100. (280)
16	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		46446068		6.205E-12		56.2 (281) 43.8 (278)
16	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		46457922		2.454E-14		95.3 (282)
16	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		46459667		2.363E-14		56.4 (283) 24.0 (248) 16.7 (242)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
16	284	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		46460208		2.603E-14		67.2 (284) 24.9 (239) 7.89 (250)
16	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		46460456		2.403E-14		97.2 (285)
16	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		46461404		2.371E-14		60.0 (286) 33.0 (245) 6.97 (290)
16	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		46462598		2.440E-14		64.3 (287) 27.3 (248) 5.31 (238)
16	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		46463730		2.430E-14		98.8 (288)
16	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		46463960		2.411E-14		56.4 (289) 20.0 (247) 18.7 (292)
16	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		46464395		2.401E-14		65.6 (290) 24.6 (286) 7.03 (245)
16	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		46465180		2.401E-14		60.0 (291) 36.8 (252) 3.22 (308)
16	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		46466710		2.420E-14		48.7 (255) 41.8 (292) 4.51 (289)
16	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		46467054		2.426E-14		68.5 (293) 27.8 (260) 2.30 (243)
16	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		46467382		2.434E-14		97.0 (294)
16	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^3F_3$		46467383		2.399E-14		44.3 (295) 29.1 (300) 26.7 (256)
16	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		46467645		2.398E-14		68.2 (296) 30.0 (257) 1.85 (302)
16	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		46468249		2.379E-14		100. (297)
16	298	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^1G_4$		46468484		2.395E-14		38.7 (298) 33.3 (307) 28.0 (261)
16	299	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		46468556		2.395E-14		71.8 (299) 18.0 (262) 10.1 (306)
16	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		46468563		2.400E-14		50.0 (265) 31.2 (300) 18.8 (295)
16	301	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3G_2$		46468738		2.400E-14		47.0 (266) 36.7 (301) 16.3 (320)
16	302	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^3G_4$		46468800		2.381E-14		67.3 (302) 28.0 (257) 4.69 (296)
16	303	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		46468860		2.385E-14		37.5 (303) 34.2 (314) 28.4 (263)
16	304	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		46468903		2.385E-14		71.5 (304) 17.2 (264) 11.2 (309)
16	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		46468995		2.397E-14		40.6 (267) 18.8 (308) 17.8 (305)
16	306	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^3H_5$		46469068		2.358E-14		57.3 (306) 42.7 (262)
16	307	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		46469072		2.402E-14		45.1 (270) 29.2 (307) 25.7 (298)
16	308	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		46469082		2.377E-14		55.5 (308) 13.4 (267) 13.1 (291)
16	309	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		46469102		2.321E-14		55.8 (309) 44.2 (264)
16	310	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		46469107		2.358E-14		100. (310)
16	311	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		46469147		2.321E-14		100. (311)
16	312	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		46469148		2.491E-14		73.9 (312)
16	313	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		46469154		2.401E-14		58.1 (268) 22.4 (313) 19.5 (316)
16	314	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		46469197		2.402E-14		41.9 (271) 30.1 (314) 28.0 (303)
16	315	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		46469713		2.388E-14		100. (315)
16	316	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		46469756		2.388E-14		54.7 (316) 45.3 (313)
16	317	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		46469915		2.394E-14		100. (317)
16	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		46469959		2.392E-14		100. (318)
16	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		46470044		2.393E-14		55.7 (305) 44.3 (319)
16	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		46470438		2.394E-14		54.7 (320) 43.4 (301) 1.87 (266)
16	321	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		46470524		2.410E-14		73.1 (321)
17	1	$1s_{1/2}^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
17	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	22236180	22235307		3.783E-07		100. (2)
17	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	22377820	22377068		5.133E-09		100. (3)
17	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	22381940	22381216		9.537E-13		98.8 (4)
17	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	22390000	22389200		7.970E-04		100. (5)
17	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	22399100	22398386		2.025E-09		100. (6)
17	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	22500680	22499758		1.183E-14		98.8 (7)
17	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	26314360	26313471		1.944E-12		100. (8)
17	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	26353380	26352470		6.754E-13		100. (9)
17	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	26354630	26353727		5.547E-13		98.6 (10)
17	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	26355050	26353930		2.059E-12		100. (11)
17	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	26359730	26358831		6.836E-13		100. (12)
17	13	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	26381370	26380429		2.307E-13		100. (13)
17	14	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	26381390	26380441		2.318E-13		77.5 (14)
17	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	26383410	26382465		2.317E-13		100. (15)
17	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	26384530	26383570		2.363E-13		77.5 (16)
17	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	26387270	26386277		4.067E-14		98.6 (17)
17	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	27720900	27720428		2.842E-12		100. (18)
17	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	27737300	27736483		1.148E-12		100. (19)
17	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	27738000	27736848		2.988E-12		100. (20)
17	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	27737800	27737016		9.919E-13		98.5 (21)
17	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	27740000	27739170		1.160E-12		100. (22)
17	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	27749100	27748037		5.356E-13		100. (23)
17	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	27749100	27748074		5.386E-13		81.2 (24)
17	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	27750000	27748895		5.381E-13		100. (25)
17	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		27749434		1.103E-12		56.8 (26) 43.2 (30)
17	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	27750400	27749485		5.529E-13		81.2 (27)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
17	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		27749505		1.103E-12		100. (28)
17	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		27749939		1.105E-12		100. (29)
17	30	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		27749996		1.106E-12		56.8 (30) 43.2 (26)
17	31	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	27751600	27750399		9.665E-14		98.5 (31)
17	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	28367700	28367122		4.469E-12		100. (32)
17	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	28376100	28375244		1.953E-12		100. (33)
17	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	28376500	28375373		4.684E-12		100. (34)
17	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	28376400	28375518		1.716E-12		98.5 (35)
17	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	28377500	28376621		1.970E-12		100. (36)
17	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	28382100	28381104		1.029E-12		100. (37)
17	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	28382100	28381129		1.035E-12		82.5 (38)
17	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	28382500	28381543		1.034E-12		100. (39)
17	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		28381844		2.133E-12		57.3 (40) 42.7 (45)
17	41	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	28382800	28381872		1.066E-12		82.5 (41)
17	42	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		28381879		2.132E-12		100. (42)
17	43	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		28382101		2.136E-12		100. (43)
17	44	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		28382113		3.581E-12		54.9 (44) 45.1 (48)
17	45	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		28382132		2.138E-12		57.3 (45) 42.7 (40)
17	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		28382134		3.582E-12		100. (46)
17	47	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		28382268		3.584E-12		100. (47)
17	48	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		28382285		3.584E-12		54.9 (48) 45.1 (44)
17	49	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	28383400	28382287		1.887E-13		98.5 (49)
17	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		28716950		7.041E-12		100. (50)
17	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		28721616		3.191E-12		100. (51)
17	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		28721677		6.854E-12		100. (52)
17	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		28721774		2.820E-12		98.5 (53)
17	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		28722413		3.217E-12		100. (54)
17	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		28724980		1.773E-12		100. (55)
17	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		28724996		1.778E-12		83.1 (56)
17	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		28725235		1.784E-12		100. (57)
17	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		28725406		3.646E-12		57.5 (58) 42.5 (64)
17	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		28725426		3.644E-12		100. (59)
17	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		28725433		1.807E-12		83.1 (60)
17	61	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		28725555		3.651E-12		100. (61)
17	62	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		28725556		6.145E-12		54.9 (62) 45.1 (68)
17	63	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		28725568		6.146E-12		100. (63)
17	64	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		28725573		3.655E-12		57.5 (64) 42.5 (58)
17	65	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		28725645		9.267E-12		54.0 (65) 46.0 (71)
17	66	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		28725646		6.150E-12		100. (66)
17	67	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		28725653		9.268E-12		100. (67)
17	68	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		28725656		6.150E-12		54.9 (68) 45.1 (62)
17	69	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		28725666		3.255E-13		98.5 (69)
17	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		28725704		9.271E-12		100. (70)
17	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		28725711		9.272E-12		54.0 (71) 46.0 (65)
17	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	45867000	45866664		5.118E-14		79.3 (72)
17	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	45896700	45896195		2.020E-14		100. (73)
17	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	45905600	45904783		2.022E-14		100. (74)
17	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	45925500	45925323		2.029E-14		100. (75)
17	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	46030000	46028996		1.012E-14		98.9 (76)
17	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	46040000	46039938		1.002E-14		100. (77)
17	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	46056000	46055542		1.003E-14		95.2 (78)
17	79	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	46121000	46120794		9.967E-15		95.2 (79)
17	80	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	46121500	46121849		1.934E-14		100. (80)
17	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	46327000	46326209		1.258E-14		79.8 (81)
17	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		50080960		5.575E-14		74.6 (82)
17	83	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		50100146		2.834E-14		48.5 (83) 43.7 (109) 3.97 (91)
17	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		50123950		7.170E-14		76.3 (84)
17	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		50131449		2.674E-14		63.5 (85) 36.5 (89)
17	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		50133003		1.658E-14		70.9 (86) 16.6 (92) 12.5 (100)
17	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		50137109		3.761E-14		62.8 (87) 32.4 (91) 3.57 (112)
17	88	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		50144419		5.064E-14		83.2 (88)
17	89	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		50145053		3.013E-14		53.1 (89) 33.9 (85) 13.0 (114)
17	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		50147178		1.814E-14		76.9 (90)
17	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		50151857		2.328E-14		59.4 (91) 25.3 (87) 11.8 (112)
17	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		50160025		1.610E-14		78.7 (92)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
17	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		50162778		2.155E-14		63.7 (93) 36.3 (103)
17	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		50166045		1.887E-14		88.6 (94)
17	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		50185146		1.913E-14		82.0 (95)
17	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		50197246		1.540E-14		97.5 (96)
17	97	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		50198630		1.916E-14		94.5 (97)
17	98	$2s_{1/2}3d_{3/2}(J=2)$	$2p3p^1D_2$		50201724		2.918E-14		31.7 (98) 27.2 (102) 22.9 (113)
17	99	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		50202298		2.052E-14		64.1 (99) 26.1 (100) 4.28 (106)
17	100	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		50208413		3.275E-14		55.8 (100) 23.5 (99) 16.3 (86)
17	101	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		50209242		1.875E-14		75.5 (101)
17	102	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^3D_2$		50212380		4.107E-14		50.2 (102) 20.0 (90) 14.8 (113)
17	103	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		50216283		3.999E-14		63.7 (103) 36.3 (93)
17	104	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		50216553		1.940E-14		100. (104)
17	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		50220507		1.719E-14		81.7 (105)
17	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		50225762		1.905E-14		68.0 (106) 21.1 (82) 9.82 (99)
17	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		50232314		1.747E-14		81.8 (107)
17	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		50240900		1.734E-14		84.4 (108)
17	109	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		50243553		2.471E-14		49.6 (109) 36.3 (83) 10.4 (107)
17	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		50248831		1.697E-14		93.8 (110)
17	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		50270816		1.969E-14		72.4 (111)
17	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		50273466		1.960E-14		80.0 (112)
17	113	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		50274820		2.660E-14		50.3 (113) 48.6 (98) 1.08 (105)
17	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		50275721		1.963E-14		86.5 (114)
17	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3F_3$		50302072		1.625E-14		97.9 (115)
17	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		50316096		1.832E-14		87.9 (116)
17	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		50326930		1.839E-14		77.3 (117)
17	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		51546524		7.038E-14		76.1 (118)
17	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		51555279		3.119E-14		43.8 (119) 35.9 (150) 16.6 (127)
17	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		51560394		7.412E-14		74.9 (120)
17	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		51562190		2.993E-14		60.3 (121) 39.7 (126)
17	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		51567043		5.745E-14		65.9 (122) 20.2 (127) 8.24 (119)
17	123	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		51568302		2.004E-14		70.5 (123) 16.0 (135) 13.5 (128)
17	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		51570821		7.283E-14		83.0 (124)
17	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		51576063		2.330E-14		58.7 (125) 27.2 (131) 7.90 (155)
17	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		51577266		3.481E-14		52.6 (126) 38.9 (121) 8.50 (160)
17	127	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		51583213		2.783E-14		54.7 (127) 23.0 (122) 14.8 (119)
17	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		51586231		2.019E-14		51.3 (128) 24.0 (141) 8.64 (135)
17	129	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		51586603		5.835E-14		74.0 (129)
17	130	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		51588203		2.025E-14		74.8 (130)
17	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		51594056		5.333E-14		39.9 (131) 30.0 (136) 21.7 (155)
17	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		51594776		1.851E-14		90.2 (132)
17	133	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		51596160		1.875E-14		60.4 (133) 19.6 (156) 9.39 (153)
17	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		51596167		2.204E-14		66.7 (134) 15.1 (146) 11.2 (154)
17	135	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		51596986		4.904E-14		67.4 (135) 19.4 (141) 10.4 (123)
17	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		51603743		5.330E-14		43.2 (136) 26.8 (131) 22.0 (125)
17	137	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		51606980		2.171E-14		36.6 (137) 28.3 (133) 15.0 (153)
17	138	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		51607253		9.427E-14		80.7 (138)
17	139	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		51608195		1.870E-14		69.7 (139) 11.6 (168) 9.66 (159)
17	140	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		51608940		1.861E-14		67.0 (140) 23.7 (157) 9.39 (143)
17	141	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		51609458		1.873E-14		41.3 (141) 30.4 (128) 17.7 (123)
17	142	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		51610494		1.861E-14		39.9 (142) 33.8 (158) 26.3 (164)
17	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		51610953		1.843E-14		34.0 (143) 31.9 (162) 18.5 (157)
17	144	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		51611463		1.895E-14		63.8 (144) 20.5 (167) 13.9 (163)
17	145	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		51611658		9.663E-14		83.0 (145)
17	146	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		51612181		9.113E-14		81.9 (146)
17	147	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		51613641		8.855E-13		100. (147)
17	148	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		51614429		2.294E-14		61.3 (148) 24.9 (129) 6.27 (143)
17	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		51616504		1.828E-14		77.0 (149)
17	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		51620569		2.451E-14		58.2 (150) 27.6 (119) 7.29 (127)
17	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		51622735		1.982E-14		67.9 (151) 14.8 (118) 14.7 (141)
17	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		51624370		2.307E-14		80.8 (152)
17	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		51625083		1.930E-14		37.4 (153) 34.9 (137) 17.6 (130)
17	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		51629808		1.876E-14		72.4 (154)
17	155	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		51632627		2.157E-14		65.3 (155) 23.2 (136) 7.48 (149)
17	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		51637449		1.957E-14		59.5 (156) 26.2 (153) 7.19 (124)
17	157	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		51637509		1.872E-14		38.6 (157) 32.4 (140) 29.0 (143)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
17	158	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		51638478		1.872E-14		63.8 (158) 31.8 (142) 4.41 (164)
17	159	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		51638956		1.964E-14		72.6 (159)
17	160	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		51640378		1.977E-14		90.6 (160)
17	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		51641749		1.870E-14		100. (161)
17	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		51642828		1.885E-14		62.2 (162) 21.6 (143) 15.1 (157)
17	163	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		51643192		1.875E-14		39.4 (163) 35.0 (144) 25.6 (167)
17	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		51643317		1.870E-14		69.3 (164) 28.3 (142) 2.45 (158)
17	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		51647240		1.794E-14		87.6 (165)
17	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		51647757		1.886E-14		98.7 (166)
17	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		51649173		1.872E-14		53.8 (167) 46.2 (163)
17	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		51653639		1.919E-14		81.5 (168)
17	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		51655704		2.004E-14		77.3 (169)
17	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		52212766		7.705E-14		75.7 (170)
17	171	$2p_{1/2}5s_{1/2}(J=1)$	$2s5p^1P_1$		52216689		3.008E-14		34.2 (171) 30.0 (180) 29.1 (209)
17	172	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		52218874		7.035E-14		72.6 (172)
17	173	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		52219011		2.951E-14		63.6 (173) 36.4 (178)
17	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		52222996		2.155E-14		70.1 (174) 16.4 (186) 12.4 (207)
17	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		52223152		9.267E-14		67.0 (175) 16.5 (171) 7.73 (180)
17	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		52224632		8.758E-14		81.7 (176)
17	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		52227311		2.490E-14		48.2 (177) 24.6 (183) 15.3 (214)
17	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		52229059		4.224E-14		59.6 (178) 36.1 (173) 4.34 (220)
17	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		52232794		2.080E-14		72.7 (179)
17	180	$2s_{1/2}5p_{3/2}(J=1)$	$2p5s^3P_1$		52233436		3.635E-14		42.9 (180) 31.2 (171) 21.4 (175)
17	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		52233530		2.253E-14		36.0 (181) 30.7 (207) 15.0 (170)
17	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		52233955		1.353E-13		88.2 (182)
17	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		52236298		8.248E-14		54.4 (183) 24.3 (188) 10.9 (214)
17	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		52237483		2.328E-14		51.9 (184) 19.3 (198) 15.1 (215)
17	185	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		52237908		2.139E-14		78.3 (185)
17	186	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		52237981		7.021E-14		77.8 (186)
17	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		52240470		2.097E-14		30.4 (187) 28.0 (216) 22.3 (213)
17	188	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		52242394		7.905E-14		64.7 (188) 15.8 (177) 14.6 (183)
17	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		52242661		1.894E-14		71.1 (189) 18.3 (218) 9.47 (224)
17	190	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		52243148		2.972E-13		95.1 (190)
17	191	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		52243529		1.962E-14		61.3 (191) 17.1 (237) 13.1 (217)
17	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		52243615		1.896E-14		41.4 (192) 29.1 (226) 28.3 (219)
17	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		52244512		1.878E-14		70.9 (193) 17.2 (222) 11.9 (228)
17	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		52244625		1.975E-14		42.4 (194) 31.6 (224) 20.2 (218)
17	195	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		52244634		1.955E-14		52.9 (195) 25.7 (236) 17.2 (225)
17	196	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		52244641		1.494E-13		89.5 (196)
17	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		52244688		1.877E-14		38.8 (197) 32.2 (229) 29.1 (223)
17	198	$2p_{1/2}5g_{7/2}(J=3)$	$2s5f^3F_3$		52244886		3.441E-14		46.0 (198) 18.8 (199) 12.2 (227)
17	199	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		52245083		2.785E-14		33.7 (198) 28.0 (199) 18.2 (227)
17	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		52245184		1.931E-14		51.5 (200) 26.3 (228) 19.2 (222)
17	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		52245875		1.512E-12		100. (201)
17	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		52245909		1.271E-12		69.3 (202) 30.7 (205)
17	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		52245916		9.761E-13		100. (203)
17	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		52246015		2.878E-12		100. (204)
17	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		52246096		1.603E-12		70.5 (205) 29.5 (202)
17	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		52254688		1.954E-14		89.4 (206)
17	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		52257802		1.825E-14		50.0 (207) 29.5 (181) 17.0 (174)
17	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		52259595		1.909E-14		93.8 (208)
17	209	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		52260429		2.159E-14		66.3 (209) 18.8 (180) 13.7 (171)
17	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		52261207		1.840E-14		64.9 (210) 28.0 (177) 5.56 (214)
17	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		52264072		1.932E-14		66.2 (211) 22.3 (181) 7.83 (170)
17	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		52265540		1.939E-14		97.0 (212)
17	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		52265963		1.891E-14		52.0 (213) 23.3 (216) 19.9 (179)
17	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		52267568		1.904E-14		68.0 (214) 19.6 (210) 6.37 (188)
17	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		52268337		1.878E-14		63.9 (215) 33.0 (184) 3.10 (231)
17	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		52271590		1.914E-14		52.2 (187) 37.5 (216) 4.75 (213)
17	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		52272293		1.922E-14		68.8 (217) 24.9 (191) 3.46 (175)
17	218	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		52272474		1.883E-14		42.6 (218) 29.5 (224) 28.0 (189)
17	219	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		52272998		1.883E-14		67.3 (219) 30.3 (192) 2.35 (226)
17	220	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		52273010		1.935E-14		95.6 (220)
17	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		52274363		1.878E-14		100. (221)
17	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		52274566		1.890E-14		37.7 (222) 33.3 (228) 29.0 (193)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
17	223	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		52274720		1.890E-14		70.8 (223) 18.0 (197) 11.1 (229)
17	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		52274808		1.887E-14		53.1 (194) 28.6 (224) 18.3 (218)
17	225	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		52275072		1.883E-14		44.2 (195) 37.2 (225) 18.7 (236)
17	226	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		52275388		1.878E-14		68.1 (226) 27.8 (192) 4.01 (219)
17	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		52275485		1.888E-14		53.3 (199) 24.8 (227) 21.9 (234)
17	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		52275615		1.889E-14		46.7 (200) 27.8 (228) 25.5 (222)
17	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		52275870		1.885E-14		56.8 (229) 43.2 (197)
17	230	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		52275983		1.885E-14		100. (230)
17	231	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		52276159		1.845E-14		78.1 (231)
17	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		52277234		1.884E-14		100. (232)
17	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		52277349		1.887E-14		100. (233)
17	234	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		52277406		1.884E-14		55.6 (234) 44.4 (227)
17	235	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^3S_0$		52278263		1.975E-14		76.3 (235)
17	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		52278277		1.880E-14		54.5 (236) 44.1 (225) 1.44 (195)
17	237	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		52279117		1.905E-14		75.8 (237)
17	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		52570665		7.321E-14		74.4 (238)
17	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		52572422		2.840E-14		37.7 (239) 27.9 (250) 26.4 (284)
17	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		52573506		2.809E-14		67.2 (240) 32.8 (246)
17	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		52573830		6.015E-14		68.7 (241) 17.7 (302) 13.6 (254)
17	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		52576012		2.206E-14		69.7 (242) 15.6 (253) 11.5 (283)
17	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		52576763		1.136E-13		66.0 (243) 20.0 (250) 4.35 (293)
17	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		52577298		8.452E-14		80.3 (244)
17	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		52578565		2.478E-14		43.9 (245) 20.9 (251) 19.8 (290)
17	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		52580222		5.155E-14		66.0 (246) 31.9 (240) 2.03 (294)
17	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		52581530		2.089E-14		72.0 (247) 14.2 (289) 8.93 (271)
17	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		52582484		2.441E-14		36.4 (248) 22.3 (283) 21.4 (238)
17	249	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		52582893		1.508E-13		88.0 (249)
17	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		52583075		4.603E-14		40.1 (250) 31.9 (239) 22.1 (243)
17	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		52583966		9.699E-14		61.9 (251) 19.5 (258) 6.40 (290)
17	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		52584418		2.301E-14		45.8 (252) 18.9 (306) 18.2 (272)
17	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		52584960		8.857E-14		81.8 (253)
17	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		52585399		2.454E-14		65.5 (254) 25.9 (241) 8.63 (302)
17	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		52586419		2.275E-14		33.0 (255) 28.1 (292) 18.8 (289)
17	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		52586946		1.898E-14		72.6 (256)
17	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		52587526		1.897E-14		41.6 (257) 30.7 (303) 26.5 (296)
17	258	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		52587701		1.014E-13		72.7 (258)
17	259	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		52587824		1.370E-13		86.8 (259)
17	260	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		52587952		2.087E-14		54.0 (260) 20.6 (320) 14.0 (293)
17	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		52588043		1.868E-14		72.1 (261) 16.0 (298) 11.9 (308)
17	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		52588152		1.867E-14		39.4 (262) 32.7 (309) 27.9 (300)
17	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		52588254		1.855E-14		71.6 (263) 16.1 (304) 12.3 (314)
17	264	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		52588313		1.855E-14		38.6 (264) 33.0 (310) 28.4 (305)
17	265	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		52588315		2.011E-14		47.5 (265) 27.7 (321) 18.4 (301)
17	266	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		52588335		2.072E-14		44.3 (266) 27.6 (299) 18.0 (295)
17	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		52588396		1.956E-14		42.8 (267) 30.4 (307) 23.0 (319)
17	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		52588514		1.876E-14		41.6 (268) 32.5 (312) 26.0 (316)
17	269	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		52588573		2.140E-14		48.1 (269) 22.4 (308) 16.7 (298)
17	270	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		52588573		1.876E-14		58.4 (270) 23.3 (314) 18.3 (304)
17	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		52588604		1.680E-13		91.0 (271)
17	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		52588758		8.002E-14		77.8 (272)
17	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		52589364		2.546E-12		100. (273)
17	274	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		52589381		1.481E-12		76.7 (274)
17	275	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		52589382		1.054E-12		100. (275)
17	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		52589433		4.490E-12		100. (276)
17	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		52589500		2.194E-12		78.2 (277)
17	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		52589558		5.673E-12		56.0 (278) 44.0 (281)
17	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		52589559		5.239E-12		100. (279)
17	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		52589617		5.739E-12		100. (280)
17	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		52589618		5.359E-12		56.0 (281) 44.0 (278)
17	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		52606847		1.920E-14		97.6 (282)
17	283	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		52608837		1.852E-14		57.3 (283) 23.7 (248) 16.6 (242)
17	284	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		52609073		2.001E-14		66.9 (284) 26.5 (239) 5.59 (250)
17	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		52609692		1.872E-14		98.1 (285)
17	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		52610608		1.858E-14		56.0 (286) 35.3 (245) 8.72 (290)
17	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		52611796		1.896E-14		64.7 (287) 27.6 (248) 4.00 (238)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
17	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		52613303		1.905E-14		100. (288)
17	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		52613527		1.893E-14		57.3 (289) 20.1 (247) 17.9 (292)
17	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		52613848		1.870E-14		63.3 (290) 28.4 (286) 6.37 (245)
17	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		52614831		1.886E-14		58.4 (291) 38.2 (252) 3.44 (306)
17	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		52616426		1.895E-14		48.2 (255) 42.8 (292) 4.75 (289)
17	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		52616751		1.898E-14		68.3 (293) 28.6 (260) 1.69 (243)
17	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		52617086		1.904E-14		97.8 (294)
17	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		52617255		1.887E-14		44.3 (295) 29.3 (299) 26.4 (256)
17	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		52617559		1.887E-14		68.1 (296) 30.3 (257) 1.60 (303)
17	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		52618225		1.876E-14		100. (297)
17	298	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		52618463		1.886E-14		38.5 (298) 33.7 (308) 27.8 (261)
17	299	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		52618507		1.887E-14		49.1 (266) 31.6 (299) 19.3 (295)
17	300	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		52618555		1.886E-14		71.9 (300) 18.3 (262) 9.80 (309)
17	301	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		52618675		1.887E-14		47.9 (265) 36.5 (301) 15.6 (321)
17	302	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		52618788		1.926E-14		73.4 (302)
17	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		52618833		1.877E-14		67.2 (303) 27.7 (257) 5.10 (296)
17	304	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		52618881		1.880E-14		37.1 (304) 34.5 (314) 28.3 (263)
17	305	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		52618937		1.880E-14		71.6 (305) 17.4 (264) 11.0 (310)
17	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6d\ ^1F_3$		52618967		1.878E-14		41.3 (306) 23.3 (267) 12.0 (291)
17	307	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^1F_3$		52619052		1.877E-14		31.6 (306) 31.2 (267) 15.9 (307)
17	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		52619088		1.889E-14		44.5 (269) 29.2 (308) 26.3 (298)
17	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		52619123		1.864E-14		57.6 (309) 42.4 (262)
17	310	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		52619171		1.840E-14		56.0 (310) 44.0 (264)
17	311	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		52619176		1.864E-14		100. (311)
17	312	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^1G_4$		52619182		1.889E-14		58.4 (268) 22.1 (312) 19.5 (316)
17	313	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^1I_7$		52619229		1.840E-14		100. (313)
17	314	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		52619236		1.889E-14		41.5 (270) 29.9 (314) 28.5 (304)
17	315	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		52619779		1.880E-14		100. (315)
17	316	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		52619835		1.880E-14		54.5 (316) 45.5 (312)
17	317	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		52619932		1.883E-14		100. (317)
17	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		52620025		1.883E-14		100. (318)
17	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		52620131		1.884E-14		55.4 (319) 44.6 (307)
17	320	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		52620499		1.889E-14		72.1 (320) 14.3 (260) 12.4 (293)
17	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		52620529		1.883E-14		54.6 (321) 43.3 (301) 2.02 (265)
18	1	$1s_{1/2}^2(J=0)$	$1s^2\ ^1S_0$	0	0	0			100. (1)
18	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	25036647	25036335	25035494	2.101E-07	2.126E-07	100. (2)
18	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	25187805	25187645	25186738	4.765E-09	4.767E-09	100. (3)
18	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	25193006	25192850	25191948	5.538E-13	5.551E-13	98.4 (4)
18	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	25200961	25200766	25199938	6.796E-04	6.623E-04	100. (5)
18	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	25215228	25215082	25214178	1.510E-09	1.510E-09	100. (6)
18	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	25322440	25322086	25321364	9.349E-15	9.346E-15	98.4 (7)
18	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	29633366	29633053	29632250	1.536E-12	1.538E-12	100. (8)
18	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	29675029	29674704	29673932	5.293E-13	5.293E-13	100. (9)
18	10	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	29676590	29676271	29675502	4.093E-13	4.096E-13	98.1 (10)
18	11	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	29676853	29676300	29675663	1.623E-12	1.624E-12	100. (11)
18	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	29683203	29682887	29682116	5.366E-13	5.366E-13	100. (12)
18	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$	29706292	29705930	29705195	1.820E-13	1.819E-13	75.4 (13)
18	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	29706303	29705946	29705205	1.811E-13	1.810E-13	100. (14)
18	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	29708923	29708566	29707826	1.820E-13	1.819E-13	100. (15)
18	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	29710147	29709772	29709049	1.852E-13	1.851E-13	75.4 (16)
18	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	29712236	29711827	29711149	3.219E-14	3.215E-14	98.1 (17)
18	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	31219860	31219988	31219253	2.244E-12	2.250E-12	100. (18)
18	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	31237290	31237134	31236400	9.005E-13	9.014E-13	100. (19)
18	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	31238060	31237537	31236846	2.354E-12	2.358E-12	100. (20)
18	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	31237960	31237798	31237065	7.426E-13	7.435E-13	98.0 (21)
18	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	31240750	31240591	31239858	9.107E-13	9.116E-13	100. (22)
18	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$	31250460	31250057	31249334	4.205E-13	4.204E-13	100. (23)
18	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$	31250560	31250089	31249367	4.229E-13	4.228E-13	78.9 (24)
18	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$	31251560	31251163	31250440	4.228E-13	4.228E-13	100. (25)
18	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		31251742	31251026	8.655E-13	8.651E-13	56.8 (26) 43.2 (31)
18	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$	31252060	31251800	31251081	4.331E-13	4.328E-13	78.9 (27)
18	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		31251827	31251110	8.654E-13	8.650E-13	100. (28)
18	29	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		31252385	31251668	8.667E-13	8.664E-13	100. (29)
18	30	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	31253060	31252427	31251728	7.653E-14	7.639E-14	98.0 (30)
18	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		31252453	31251738	8.674E-13	8.670E-13	56.8 (31) 43.2 (26)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
18	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	31949560	31949600	31948878	3.530E-12	3.544E-12	100. (32)
18	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$	31958520	31958275	31957551	1.533E-12	1.535E-12	100. (33)
18	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	31958960	31958418	31957722	3.686E-12	3.703E-12	100. (34)
18	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p\ ^3P_1$	31958860	31958615	31957892	1.292E-12	1.294E-12	98.0 (35)
18	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p\ ^3P_2$	31960290	31960045	31959322	1.548E-12	1.551E-12	100. (36)
18	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d\ ^3D_1$	31965340	31964831	31964112	8.083E-13	8.081E-13	100. (37)
18	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d\ ^3D_2$	31965260	31964855	31964136	8.131E-13	8.130E-13	80.2 (38)
18	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d\ ^3D_3$	31965910	31965397	31964678	8.129E-13	8.130E-13	100. (39)
18	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f\ ^3F_3$		31965720	31965004	1.673E-12	1.672E-12	57.2 (40) 42.8 (46)
18	41	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d\ ^1D_2$	31966160	31965751	31965034	8.347E-13	8.343E-13	80.2 (41)
18	42	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f\ ^3F_2$		31965762	31965046	1.672E-12	1.672E-12	100. (42)
18	43	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p\ ^1P_1$	31966560	31966016	31965317	1.495E-13	1.488E-13	98.0 (43)
18	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f\ ^3F_4$		31966048	31965332	1.676E-12	1.675E-12	100. (44)
18	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g\ ^3G_4$		31966060	31965346	2.809E-12	2.808E-12	54.9 (45) 45.1 (49)
18	46	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f\ ^1F_3$		31966085	31965369	1.677E-12	1.676E-12	57.2 (46) 42.8 (40)
18	47	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g\ ^3G_3$		31966086	31965371	2.810E-12	2.809E-12	100. (47)
18	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g\ ^3G_5$		31966258	31965543	2.812E-12	2.811E-12	100. (48)
18	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g\ ^1G_4$		31966279	31965564	2.812E-12	2.811E-12	54.9 (49) 45.1 (45)
18	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s\ ^3S_1$	32344339	32343589	32343589	5.564E-12	5.435E-12	100. (50)
18	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p\ ^3P_0$		32349321	32348572	2.505E-12	2.466E-12	100. (51)
18	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s\ ^1S_0$		32349391	32348676	5.393E-12	5.639E-12	100. (52)
18	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p\ ^3P_1$		32349518	32348771	2.127E-12	2.101E-12	98.0 (53)
18	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p\ ^3P_2$		32350346	32349598	2.528E-12	2.491E-12	100. (54)
18	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d\ ^3D_1$		32353087	32352348	1.393E-12	1.379E-12	100. (55)
18	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d\ ^3D_2$		32353103	32352364	1.396E-12	1.388E-12	80.8 (56)
18	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d\ ^3D_3$		32353415	32352676	1.402E-12	1.388E-12	100. (57)
18	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f\ ^3F_3$		32353598	32352873	2.859E-12	2.859E-12	57.5 (58) 42.5 (65)
18	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f\ ^3F_2$		32353623	32352896	2.858E-12	2.858E-12	100. (59)
18	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d\ ^1D_2$		32353628	32352891	1.415E-12	1.427E-12	80.8 (60)
18	61	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p\ ^1P_1$		32353775	32353054	2.577E-13	2.543E-13	98.0 (61)
18	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f\ ^3F_4$		32353788	32353061	2.864E-12	2.864E-12	100. (62)
18	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g\ ^3G_4$		32353789	32353070	4.821E-12	4.819E-12	54.9 (63) 45.1 (69)
18	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g\ ^3G_3$		32353804	32353085	4.821E-12	4.819E-12	100. (64)
18	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f\ ^1F_3$		32353810	32353084	2.867E-12	2.865E-12	57.5 (65) 42.5 (58)
18	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h\ ^3H_5$		32353902	32353187	7.271E-12	7.268E-12	54.1 (66) 45.9 (71)
18	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g\ ^3G_5$		32353903	32353185	4.825E-12	4.823E-12	100. (67)
18	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h\ ^3H_4$		32353912	32353196	7.271E-12	7.268E-12	100. (68)
18	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g\ ^1G_4$		32353915	32353197	4.825E-12	4.823E-12	54.9 (69) 45.1 (63)
18	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h\ ^3H_6$		32353978	32353263	7.274E-12	7.271E-12	100. (70)
18	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h\ ^1H_5$		32353986	32353271	7.274E-12	7.271E-12	54.1 (71) 45.9 (66)
18	72	$2s_{1/2}^2(J=0)$	$2s^2\ ^1S_0$	51555000	51555833		4.094E-14		79.7 (72)
18	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p\ ^3P_0$	51586000	51585904		1.602E-14		100. (73)
18	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p\ ^3P_1$	51596600	51596558		1.604E-14		100. (74)
18	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p\ ^3P_2$	51622500	51622674		1.611E-14		100. (75)
18	76	$2p_{1/2}^2(J=0)$	$2p^2\ ^3P_0$	51730100	51730094		8.064E-15		98.5 (76)
18	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2\ ^3P_1$	51744000	51744207		7.957E-15		100. (77)
18	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2\ ^3P_2$	51762800	51763202		7.963E-15		93.3 (78)
18	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p\ ^1P_1$	51829200	51830108		1.539E-14		100. (79)
18	80	$2p_{3/2}^2(J=2)$	$2p^2\ ^1D_2$	51833400	51833687		7.918E-15		93.3 (80)
18	81	$2p_{3/2}^2(J=0)$	$2p^2\ ^1S_0$	52049600	52049873		9.915E-15		80.4 (81)
18	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s\ ^3S_1$		56296627		4.571E-14		75.7 (82)
18	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p\ ^1P_1$		56317605		2.242E-14		48.1 (83) 42.8 (109) 5.36 (91)
18	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s\ ^1S_0$		56342086		5.714E-14		76.6 (84)
18	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s\ ^3P_0$		56349283		2.094E-14		64.8 (85) 35.2 (88)
18	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p\ ^3D_1$		56351064		1.312E-14		71.2 (86) 16.8 (92) 12.0 (100)
18	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p\ ^3P_1$		56356284		3.073E-14		64.7 (87) 30.3 (91) 3.55 (113)
18	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p\ ^3P_0$		56364531		2.468E-14		55.3 (88) 32.9 (85) 11.9 (114)
18	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p\ ^3P_2$		56365191		4.083E-14		84.3 (89)
18	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^3D_2$		56368708		1.447E-14		75.2 (90)
18	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s\ ^3P_1$		56373514		1.862E-14		60.1 (91) 24.3 (87) 10.6 (113)
18	92	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p\ ^1P_1$		56384231		1.299E-14		75.1 (92)
18	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p\ ^3D_3$		56388044		1.817E-14		59.2 (93) 40.8 (103)
18	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s\ ^3P_2$		56391574		1.497E-14		89.5 (94)
18	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d\ ^3F_2$		56407973		1.522E-14		81.0 (95)
18	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p\ ^3P_0$		56421144		1.234E-14		96.7 (96)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
18	97	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		56424459		1.520E-14		92.8 (97)
18	98	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		56426103		2.546E-14		33.9 (98) 28.2 (112) 21.1 (102)
18	99	$2s_{1/2}3d_{3/2}(J=1)$	$2p3p^3P_1$		56426883		2.004E-14		48.7 (99) 40.9 (100) 4.42 (86)
18	100	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		56434259		2.010E-14		40.6 (100) 35.8 (99) 14.4 (86)
18	101	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		56437358		1.495E-14		72.1 (101) 14.7 (95) 6.97 (108)
18	102	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		56438739		3.062E-14		43.3 (98) 19.9 (90) 18.9 (102)
18	103	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		56443604		2.875E-14		59.2 (103) 40.8 (93)
18	104	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		56447687		1.544E-14		100. (104)
18	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		56450386		1.374E-14		82.3 (105)
18	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		56454499		1.481E-14		67.5 (106) 19.2 (82) 11.9 (99)
18	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		56459171		1.395E-14		78.6 (107)
18	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		56471017		1.389E-14		78.1 (108)
18	109	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		56472363		1.955E-14		49.7 (109) 35.7 (83) 11.2 (107)
18	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		56481073		1.352E-14		92.0 (110)
18	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		56503653		1.548E-14		70.5 (111) 13.2 (108) 10.5 (89)
18	112	$2s_{1/2}3d_{5/2}(J=2)$	$2p3p^1D_2$		56506000		2.014E-14		51.0 (112) 47.3 (102) 1.67 (105)
18	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		56506496		1.543E-14		79.6 (113)
18	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		56509136		1.549E-14		87.7 (114)
18	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		56537883		1.293E-14		96.2 (115)
18	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		56552326		1.452E-14		87.5 (116)
18	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		56562398		1.448E-14		77.8 (117)
18	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		57945390		5.754E-14		76.2 (118)
18	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		57954721		2.415E-14		41.6 (119) 34.2 (150) 19.8 (127)
18	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		57959934		5.819E-14		74.9 (120)
18	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		57961429		2.342E-14		61.3 (121) 38.7 (126)
18	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		57967305		4.936E-14		67.7 (122) 17.0 (127) 9.56 (119)
18	123	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		57968012		1.583E-14		70.9 (123) 15.3 (134) 13.8 (128)
18	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		57971693		5.911E-14		83.2 (124)
18	125	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		57977269		1.849E-14		56.5 (125) 26.8 (131) 9.39 (155)
18	126	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		57977920		2.881E-14		54.8 (126) 38.0 (121) 7.20 (160)
18	127	$2s_{1/2}4p_{3/2}(J=1)$	$2p4s^3P_1$		57985469		2.323E-14		52.6 (127) 22.2 (122) 19.1 (119)
18	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		57988477		1.639E-14		44.5 (128) 27.7 (146) 9.16 (118)
18	129	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		57989486		5.697E-14		79.7 (129)
18	130	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		57989753		1.610E-14		74.7 (130)
18	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		57996391		4.645E-14		45.7 (131) 27.3 (136) 18.5 (155)
18	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		57997207		1.503E-14		87.7 (132)
18	133	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		57999013		1.756E-14		63.6 (133) 15.4 (145) 12.5 (154)
18	134	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		57999247		4.369E-14		71.8 (134) 15.6 (146) 11.2 (123)
18	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4s^3P_2$		58001071		1.506E-14		44.2 (135) 23.4 (156) 15.1 (153)
18	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		58007517		4.664E-14		50.8 (136) 22.2 (131) 20.6 (125)
18	137	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		58011257		1.160E-13		88.1 (137)
18	138	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		58011481		1.490E-14		68.0 (138) 13.0 (168) 11.0 (158)
18	139	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		58012001		1.482E-14		68.3 (139) 22.2 (157) 9.56 (162)
18	140	$2p_{3/2}4s_{1/2}(J=2)$	$2p4d^1D_2$		58012637		1.935E-14		41.0 (135) 25.0 (140) 17.1 (144)
18	141	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		58013814		1.482E-14		40.4 (141) 32.4 (159) 27.2 (164)
18	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		58014783		1.486E-14		37.4 (142) 37.1 (162) 21.6 (157)
18	143	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		58014840		1.515E-14		60.7 (143) 22.2 (167) 15.0 (163)
18	144	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		58015190		5.481E-14		73.4 (144)
18	145	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		58015597		7.474E-14		82.4 (145)
18	146	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		58017169		1.441E-14		39.3 (146) 36.3 (128) 17.1 (123)
18	147	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		58017187		7.240E-13		100. (147)
18	148	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		58022022		1.683E-14		79.7 (148)
18	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		58024917		1.443E-14		74.2 (149)
18	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		58027722		1.902E-14		60.6 (150) 25.0 (119) 9.49 (127)
18	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		58031100		1.543E-14		67.7 (151) 16.5 (146) 12.6 (118)
18	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		58033486		1.693E-14		88.2 (152)
18	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^3D_2$		58034442		1.515E-14		40.7 (140) 33.6 (153) 18.4 (130)
18	154	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3D_3$		58039723		1.483E-14		70.4 (154) 24.9 (133) 2.79 (165)
18	155	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		58041376		1.619E-14		67.5 (155) 18.0 (136) 11.0 (149)
18	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		58047589		1.539E-14		57.6 (156) 29.4 (153) 5.81 (124)
18	157	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		58048304		1.492E-14		39.2 (157) 31.2 (139) 29.5 (162)
18	158	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		58049073		1.545E-14		71.6 (158) 19.0 (138) 5.89 (122)
18	159	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		58049425		1.491E-14		64.9 (159) 31.2 (141) 3.92 (164)
18	160	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		58050619		1.558E-14		92.1 (160)
18	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		58052984		1.490E-14		100. (161)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
18	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		58053831		1.499E-14		60.1 (142) 23.3 (162) 16.6 (157)
18	163	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		58054138		1.493E-14		37.9 (163) 37.8 (143) 24.2 (167)
18	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		58054636		1.490E-14		68.9 (164) 28.4 (141) 2.74 (159)
18	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		58058277		1.429E-14		85.5 (165)
18	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		58059142		1.500E-14		98.9 (166)
18	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		58060785		1.491E-14		53.6 (167) 46.4 (163)
18	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		58064828		1.517E-14		80.3 (168)
18	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		58065962		1.567E-14		77.6 (169)
18	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		58695476		6.164E-14		76.2 (170)
18	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		58699530		2.320E-14		32.9 (171) 32.2 (181) 28.4 (209)
18	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		58701769		2.306E-14		64.7 (172) 35.3 (178)
18	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		58701847		5.419E-14		72.1 (173) 18.1 (234) 9.76 (186)
18	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		58706045		1.700E-14		69.8 (174) 15.4 (185) 12.4 (207)
18	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		58706588		7.903E-14		67.9 (175) 17.3 (181) 5.93 (171)
18	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		58708311		6.910E-14		81.9 (176)
18	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		58711057		1.959E-14		46.9 (177) 23.6 (183) 16.6 (214)
18	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		58712690		3.511E-14		61.4 (178) 35.1 (172) 3.43 (219)
18	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		58716747		1.650E-14		72.6 (179)
18	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		58717701		1.815E-14		36.5 (180) 27.5 (207) 16.1 (170)
18	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		58717879		3.106E-14		38.9 (171) 34.9 (181) 20.9 (175)
18	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		58718466		1.181E-13		89.7 (182)
18	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		58720684		6.914E-14		57.7 (183) 22.3 (189) 9.40 (214)
18	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		58722038		1.843E-14		49.9 (184) 19.0 (198) 15.8 (215)
18	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		58722348		5.962E-14		79.2 (185)
18	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		58722433		1.752E-14		74.6 (186)
18	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3F_2$		58725319		1.700E-14		32.0 (187) 28.9 (216) 21.5 (213)
18	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		58727330		1.507E-14		72.3 (188)
18	189	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		58727440		6.865E-14		68.7 (189) 14.3 (177) 12.7 (183)
18	190	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		58728149		2.493E-13		95.8 (190)
18	191	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		58728332		1.576E-14		59.1 (191) 18.4 (237) 13.7 (217)
18	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		58728431		1.508E-14		41.5 (192) 29.6 (226) 27.8 (220)
18	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		58729355		1.495E-14		71.3 (193) 17.1 (222) 11.6 (228)
18	194	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		58729462		1.560E-14		51.2 (194) 26.6 (236) 17.8 (225)
18	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		58729517		1.585E-14		43.5 (195) 30.6 (223) 19.3 (218)
18	196	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		58729548		1.254E-13		90.0 (196)
18	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		58729577		1.495E-14		38.9 (197) 32.3 (229) 28.7 (224)
18	198	$2p_{1/2}5g_{7/2}(J=3)$	$2s5f^3F_3$		58729774		2.162E-14		31.0 (198) 27.2 (199) 18.3 (227)
18	199	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		58729987		2.862E-14		49.0 (198) 18.8 (199) 12.6 (227)
18	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		58730088		1.547E-14		52.0 (200) 25.8 (228) 18.6 (222)
18	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		58730912		1.328E-12		100. (201)
18	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		58730950		1.043E-12		68.4 (202) 31.6 (205)
18	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		58730956		8.320E-13		100. (203)
18	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		58731093		2.321E-12		100. (204)
18	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		58731182		1.365E-12		69.4 (205) 30.6 (202)
18	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		58745402		1.543E-14		92.8 (206)
18	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		58749006		1.446E-14		52.4 (207) 28.9 (180) 17.0 (174)
18	208	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		58750921		1.492E-14		95.7 (208)
18	209	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		58751024		1.667E-14		67.7 (209) 21.6 (171) 10.7 (181)
18	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		58752491		1.459E-14		60.5 (210) 30.8 (177) 7.57 (214)
18	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		58755355		1.517E-14		66.3 (211) 23.0 (180) 6.24 (170)
18	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		58757510		1.531E-14		98.0 (212)
18	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		58757926		1.503E-14		53.7 (213) 21.8 (216) 20.0 (179)
18	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		58759256		1.488E-14		66.0 (214) 24.0 (210) 5.65 (177)
18	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		58760470		1.494E-14		61.8 (215) 34.8 (184) 3.39 (230)
18	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		58763833		1.516E-14		51.3 (187) 39.1 (216) 5.08 (213)
18	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		58764494		1.521E-14		69.0 (217) 26.6 (191) 2.71 (175)
18	218	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		58765023		1.501E-14		42.7 (218) 29.8 (223) 27.5 (188)
18	219	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		58765234		1.531E-14		96.5 (219)
18	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		58765626		1.501E-14		67.4 (220) 30.5 (192) 2.04 (226)
18	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		58767106		1.497E-14		100. (221)
18	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		58767308		1.506E-14		37.5 (222) 33.9 (228) 28.7 (193)
18	223	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		58767485		1.503E-14		51.7 (195) 29.2 (223) 19.1 (218)
18	224	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		58767502		1.506E-14		71.1 (224) 18.2 (197) 10.7 (229)
18	225	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		58767725		1.500E-14		45.6 (194) 36.6 (225) 17.8 (236)
18	226	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		58768205		1.497E-14		68.0 (226) 27.6 (192) 4.42 (220)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
18	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		58768264		1.505E-14		54.0 (199) 24.1 (227) 21.9 (235)
18	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		58768433		1.505E-14		45.9 (200) 27.9 (228) 26.2 (222)
18	229	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		58768726		1.503E-14		57.1 (229) 42.9 (197)
18	230	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		58768813		1.470E-14		76.1 (230)
18	231	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		58768874		1.503E-14		100. (231)
18	232	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		58770136		1.502E-14		100. (232)
18	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		58770163		1.502E-14		100. (233)
18	234	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		58770325		1.546E-14		75.8 (234)
18	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		58770350		1.502E-14		55.3 (235) 44.7 (227)
18	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		58771223		1.498E-14		54.3 (236) 44.1 (225) 1.57 (194)
18	237	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		58771831		1.510E-14		74.6 (237)
18	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		59098641		5.746E-14		74.4 (238)
18	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		59100409		2.197E-14		39.9 (239) 26.2 (250) 26.2 (283)
18	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		59101453		2.191E-14		68.4 (240) 31.6 (246)
18	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		59101932		4.615E-14		67.9 (241) 17.0 (298) 15.1 (254)
18	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		59104130		1.739E-14		70.1 (242) 14.6 (253) 11.6 (284)
18	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		59105151		9.312E-14		66.4 (243) 20.2 (250) 4.05 (293)
18	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		59105819		6.556E-14		79.8 (244)
18	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		59107066		1.942E-14		43.4 (245) 20.8 (290) 19.8 (251)
18	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		59108722		4.296E-14		67.6 (246) 30.9 (240) 1.54 (294)
18	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		59110157		1.656E-14		72.1 (247) 14.2 (289) 8.52 (271)
18	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		59111216		1.958E-14		36.3 (248) 22.1 (238) 20.7 (284)
18	249	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		59111853		1.177E-13		87.9 (249)
18	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		59111978		3.876E-14		42.0 (250) 29.2 (239) 22.3 (243)
18	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		59112887		7.894E-14		63.7 (251) 18.1 (258) 5.64 (290)
18	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		59113370		1.813E-14		44.8 (252) 20.2 (305) 17.5 (291)
18	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		59113886		7.526E-14		82.8 (253)
18	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		59114356		2.011E-14		62.1 (254) 28.0 (241) 9.92 (298)
18	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		59115492		1.832E-14		34.0 (255) 28.0 (292) 18.8 (244)
18	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		59115972		1.511E-14		72.9 (256)
18	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		59116640		1.510E-14		41.6 (257) 31.0 (303) 26.3 (296)
18	258	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		59116961		8.591E-14		74.8 (258)
18	259	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		59117045		1.679E-14		52.1 (259) 21.5 (320) 14.1 (293)
18	260	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		59117067		7.981E-14		81.7 (260)
18	261	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		59117176		1.495E-14		72.3 (261)
18	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		59117313		1.490E-14		39.5 (262) 32.8 (309) 27.7 (301)
18	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		59117416		1.483E-14		71.6 (263) 16.2 (304) 12.2 (313)
18	264	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		59117433		1.608E-14		46.4 (264) 28.2 (321) 18.7 (302)
18	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		59117491		1.665E-14		44.8 (265) 27.0 (300) 17.4 (295)
18	266	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		59117492		1.483E-14		38.6 (266) 33.1 (311) 28.3 (306)
18	267	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		59117533		1.539E-14		42.9 (267) 31.1 (307) 23.4 (319)
18	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		59117671		1.495E-14		41.3 (268) 32.6 (310) 26.1 (316)
18	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		59117745		1.496E-14		58.7 (269) 23.3 (313) 18.1 (304)
18	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		59117755		1.807E-14		45.7 (270) 21.0 (308) 17.8 (260)
18	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		59117836		1.424E-13		91.5 (271)
18	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		59118001		7.032E-14		80.5 (272)
18	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		59118685		2.225E-12		100. (273)
18	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		59118703		9.301E-13		100. (274)
18	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		59118705		1.268E-12		75.7 (275)
18	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		59118778		3.471E-12		100. (276)
18	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		59118851		1.946E-12		76.9 (277)
18	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		59118909		4.781E-12		55.9 (278) 44.1 (281)
18	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		59118910		4.511E-12		100. (279)
18	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		59118984		4.826E-12		100. (280)
18	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		59118985		4.684E-12		55.9 (281) 44.1 (278)
18	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		59142800		1.525E-14		100. (282)
18	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		59144979		1.570E-14		67.7 (283) 28.2 (239) 4.07 (250)
18	284	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		59145055		1.473E-14		57.5 (284) 24.1 (248) 16.6 (242)
18	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		59146003		1.484E-14		98.7 (285)
18	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		59146831		1.477E-14		52.2 (286) 37.3 (245) 10.4 (290)
18	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		59148036		1.498E-14		65.3 (287) 27.1 (248) 4.57 (284)
18	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		59149958		1.515E-14		100. (288)
18	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		59150166		1.507E-14		57.9 (289) 20.2 (247) 17.5 (292)
18	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		59150377		1.482E-14		61.0 (290) 32.1 (286) 5.67 (245)
18	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		59151551		1.502E-14		56.9 (291) 39.4 (252) 3.68 (305)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
18	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		59153217		1.506E-14		47.9 (255) 43.3 (292) 5.04 (289)
18	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		59153515		1.508E-14		68.1 (293) 29.2 (259) 1.38 (320)
18	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		59153857		1.511E-14		98.3 (294)
18	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		59154204		1.505E-14		44.2 (295) 29.6 (300) 26.2 (256)
18	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		59154553		1.505E-14		67.9 (296) 30.8 (257) 1.36 (303)
18	297	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		59155281		1.498E-14		100. (297)
18	298	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		59155493		1.516E-14		72.8 (298)
18	299	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		59155524		1.505E-14		38.2 (299) 34.2 (308) 27.6 (261)
18	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		59155535		1.504E-14		48.3 (265) 31.8 (300) 19.9 (295)
18	301	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		59155640		1.505E-14		72.0 (301) 18.5 (262) 9.42 (309)
18	302	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		59155689		1.504E-14		48.6 (264) 36.3 (302) 15.1 (321)
18	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		59155941		1.499E-14		67.2 (303) 27.2 (257) 5.55 (296)
18	304	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		59155989		1.501E-14		36.8 (304) 35.0 (313) 28.3 (263)
18	305	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		59155997		1.493E-14		58.2 (305) 17.9 (291) 9.43 (267)
18	306	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		59156060		1.501E-14		71.6 (306) 17.7 (266) 10.8 (311)
18	307	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		59156120		1.502E-14		46.0 (267) 20.9 (307) 15.4 (319)
18	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		59156192		1.506E-14		44.0 (270) 29.1 (308) 26.9 (299)
18	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		59156257		1.491E-14		57.9 (309) 42.1 (262)
18	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		59156296		1.506E-14		58.7 (268) 21.8 (310) 19.6 (316)
18	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		59156322		1.476E-14		56.2 (311) 43.8 (266)
18	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		59156328		1.491E-14		100. (312)
18	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		59156366		1.507E-14		41.3 (269) 29.7 (313) 29.1 (304)
18	314	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		59156396		1.476E-14		100. (314)
18	315	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		59156931		1.500E-14		100. (315)
18	316	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		59157003		1.500E-14		54.4 (316) 45.6 (310)
18	317	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		59157026		1.501E-14		100. (317)
18	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		59157173		1.502E-14		100. (318)
18	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		59157306		1.503E-14		55.2 (319) 44.8 (307)
18	320	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		59157553		1.502E-14		71.9 (320) 15.0 (259) 13.1 (293)
18	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		59157703		1.501E-14		54.6 (321) 43.2 (302) 2.15 (264)
19	1	$1s^2_{1/2}(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
19	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	28005899	28005156		1.205E-07		100. (2)
19	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	28166731	28166154		4.434E-09		100. (3)
19	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	28173110	28172539		3.339E-13		97.9 (4)
19	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	28180867	28180240		6.236E-04		100. (5)
19	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	28201500	28200943		1.111E-09		100. (6)
19	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	28314166	28313369		7.498E-15		97.9 (7)
19	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	33151400	33151991		1.229E-12		100. (8)
19	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	33195600	33196328		4.205E-13		100. (9)
19	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	33197700	33198056		1.295E-12		100. (10)
19	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	33197559	33198239		3.036E-13		97.5 (11)
19	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	33205986	33206700		4.271E-13		100. (12)
19	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$	33230700	33231173		1.448E-13		73.5 (13)
19	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	33230648	33231225		1.441E-13		100. (14)
19	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	33234084	33234549		1.450E-13		100. (15)
19	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	33235300	33235861		1.472E-13		73.5 (16)
19	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	33236700	33237080		2.585E-14		97.5 (17)
19	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	34928800	34929891		1.794E-12		100. (18)
19	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	34947500	34948143		7.159E-13		100. (19)
19	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	34948300	34948580		1.878E-12		100. (20)
19	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	34948325	34948951		5.596E-13		97.4 (21)
19	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	34951879	34952524		7.250E-13		100. (22)
19	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$	34962178	34962592		3.347E-13		100. (23)
19	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$	34962200	34962615		3.366E-13		76.8 (24)
19	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$	34963624	34963995		3.368E-13		100. (25)
19	26	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		34964613		6.883E-13		56.8 (26) 43.2 (31)
19	27	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$	34964200	34964682		3.441E-13		76.8 (27)
19	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		34964714		6.883E-13		100. (28)
19	29	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	34964700	34964944		6.148E-14		97.4 (29)
19	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		34965421		6.895E-13		100. (30)
19	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		34965502		6.900E-13		56.8 (31) 43.2 (26)
19	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	35746600	35747483		2.824E-12		100. (32)
19	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$	35756100	35756717		1.219E-12		100. (33)
19	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	35756500	35756873		2.939E-12		100. (34)
19	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p\ ^3P_1$	35756522	35757131		9.799E-13		97.4 (35)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
19	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	35758341	35758960		1.233E-12		100. (36)
19	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	35763589	35764050		6.436E-13		100. (37)
19	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	35763600	35764071		6.474E-13		78.0 (38)
19	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	35764329	35764768		6.478E-13		100. (39)
19	40	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		35765114		1.330E-12		57.2 (40) 42.8 (46)
19	41	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	35764600	35765149		6.629E-13		78.0 (41)
19	42	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		35765164		1.330E-12		100. (42)
19	43	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	35764900	35765225		1.201E-13		97.4 (43)
19	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		35765526		1.333E-12		100. (44)
19	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		35765539		2.235E-12		55.0 (45) 45.0 (49)
19	46	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		35765569		1.334E-12		57.2 (46) 42.8 (40)
19	47	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		35765570		2.235E-12		100. (47)
19	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		35765788		2.237E-12		100. (48)
19	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		35765812		2.237E-12		55.0 (49) 45.0 (45)
19	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		36189872		4.450E-12		100. (50)
19	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		36195175		1.993E-12		100. (51)
19	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		36195252		4.302E-12		100. (52)
19	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		36195415		1.616E-12		97.3 (53)
19	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		36196474		2.014E-12		100. (54)
19	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		36199389		1.109E-12		100. (55)
19	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		36199403		1.111E-12		78.6 (56)
19	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		36199804		1.117E-12		100. (57)
19	58	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		36200000		2.274E-12		57.4 (58) 42.6 (65)
19	59	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		36200029		2.273E-12		100. (59)
19	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		36200033		1.124E-12		78.6 (60)
19	61	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		36200071		2.070E-13		97.3 (61)
19	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		36200238		2.278E-12		100. (62)
19	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		36200239		3.834E-12		55.0 (63) 45.0 (69)
19	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		36200257		3.835E-12		100. (64)
19	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		36200264		2.281E-12		57.4 (65) 42.6 (58)
19	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		36200381		5.784E-12		54.1 (66) 45.9 (71)
19	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		36200383		3.838E-12		100. (67)
19	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		36200393		5.784E-12		100. (68)
19	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		36200397		3.838E-12		55.0 (69) 45.0 (63)
19	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		36200477		5.787E-12		100. (70)
19	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		36200487		5.787E-12		54.1 (71) 45.9 (66)
19	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		57581244		3.313E-14		80.1 (72)
19	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		57611651		1.287E-14		100. (73)
19	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		57624675		1.288E-14		100. (74)
19	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		57657486		1.295E-14		100. (75)
19	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		57767909		6.513E-15		98.0 (76)
19	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		57785932		6.397E-15		100. (77)
19	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$		57808630		6.401E-15		91.0 (78)
19	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		57875547		1.240E-14		100. (79)
19	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$		57885119		6.371E-15		91.0 (80)
19	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		58111576		7.907E-15		80.0 (81)
19	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		62880094		3.803E-14		76.7 (82)
19	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		62902919		1.793E-14		47.5 (83) 41.9 (108) 7.05 (91)
19	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		62927958		4.600E-14		76.8 (84)
19	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		62934741		1.663E-14		66.0 (85) 34.0 (88)
19	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		62936782		1.051E-14		71.5 (86) 17.0 (92) 11.4 (99)
19	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		62943264		2.543E-14		66.4 (87) 28.3 (91) 3.50 (113)
19	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		62951760		2.047E-14		57.4 (88) 31.8 (85) 10.8 (114)
19	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		62954060		3.323E-14		85.3 (89)
19	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		62958439		1.169E-14		74.1 (90)
19	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		62963467		1.513E-14		60.3 (91) 23.3 (87) 9.54 (113)
19	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		62976817		1.064E-14		71.5 (92) 9.76 (86) 7.79 (99)
19	93	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		62981972		1.577E-14		53.9 (93) 46.1 (103)
19	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		62986059		1.203E-14		89.0 (94)
19	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		62998872		1.225E-14		80.2 (95)
19	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		63013028		1.003E-14		95.7 (96)
19	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		63018507		2.241E-14		40.0 (97) 24.9 (112) 19.3 (101)
19	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		63018675		1.220E-14		90.9 (98)
19	99	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		63019302		1.997E-14		53.2 (99) 35.4 (100) 6.23 (86)
19	100	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		63029199		1.352E-14		45.3 (100) 28.0 (99) 13.0 (86)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
19	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		63033731		2.369E-14		37.0 (97) 23.4 (101) 19.8 (90)
19	102	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		63034029		1.207E-14		67.6 (102) 13.4 (95) 9.90 (109)
19	103	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		63039921		2.077E-14		53.9 (103) 46.1 (93)
19	104	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		63048425		1.244E-14		100. (104)
19	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		63049364		1.114E-14		82.6 (105)
19	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		63052323		1.167E-14		67.0 (106) 17.3 (82) 13.7 (100)
19	107	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		63054161		1.126E-14		75.9 (107)
19	108	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		63069757		1.568E-14		50.2 (108) 35.2 (83) 11.2 (107)
19	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		63070366		1.126E-14		71.6 (109) 10.9 (102) 8.04 (111)
19	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		63082754		1.091E-14		89.9 (110)
19	111	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		63105962		1.232E-14		68.4 (111) 16.3 (109) 9.28 (89)
19	112	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		63106019		1.537E-14		53.6 (112) 43.8 (101) 2.56 (105)
19	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		63108895		1.230E-14		78.0 (113)
19	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		63111917		1.238E-14		88.9 (114)
19	115	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^1F_3$		63143092		1.042E-14		95.1 (115)
19	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^3P_1$		63157985		1.165E-14		86.9 (116)
19	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		63166903		1.153E-14		78.2 (117)
19	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		64722947		4.757E-14		77.0 (118)
19	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		64732816		1.891E-14		39.6 (119) 33.0 (150) 23.2 (127)
19	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		64738127		4.610E-14		74.7 (120)
19	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		64739283		1.858E-14		62.4 (121) 37.6 (125)
19	122	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		64746262		4.277E-14		69.3 (122) 14.2 (127) 10.7 (119)
19	123	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		64746350		1.266E-14		71.4 (123) 14.5 (133) 14.1 (128)
19	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		64751379		4.824E-14		83.1 (124)
19	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		64757225		2.410E-14		56.8 (125) 37.1 (121) 6.05 (160)
19	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		64757266		1.482E-14		54.6 (126) 26.2 (131) 10.8 (155)
19	127	$2s_{1/2}4p_{3/2}(J=1)$	$2p4s^3P_1$		64766591		1.978E-14		49.9 (127) 23.8 (119) 21.6 (122)
19	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		64769384		1.341E-14		38.9 (128) 30.4 (147) 10.4 (118)
19	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		64770079		1.295E-14		74.6 (129)
19	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		64771153		5.567E-14		84.2 (130)
19	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		64777508		4.051E-14		50.5 (131) 25.0 (136) 15.9 (155)
19	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		64778366		1.237E-14		84.9 (132)
19	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		64780269		3.838E-14		74.2 (133)
19	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		64780701		1.414E-14		60.8 (134) 15.6 (144) 13.6 (154)
19	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		64784465		1.238E-14		27.3 (145) 26.5 (135) 20.8 (156)
19	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		64790188		4.162E-14		57.4 (136) 18.9 (126) 18.5 (131)
19	137	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		64793546		1.203E-14		66.4 (137) 14.4 (168) 12.1 (158)
19	138	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		64793883		1.194E-14		69.3 (138) 21.2 (157) 9.48 (162)
19	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		64793970		1.384E-13		92.6 (139)
19	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		64795982		1.194E-14		40.7 (140) 31.3 (159) 27.9 (164)
19	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		64796728		6.710E-14		84.3 (141)
19	142	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		64797017		1.223E-14		58.1 (142) 23.6 (167) 15.9 (163)
19	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		64797207		1.215E-14		39.5 (143) 35.8 (162) 21.1 (157)
19	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		64797871		6.153E-14		82.7 (144)
19	145	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		64799464		1.388E-14		58.9 (145) 13.4 (156) 10.1 (153)
19	146	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		64799616		5.917E-13		100. (146)
19	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		64805138		1.138E-14		40.7 (147) 37.4 (147) 16.8 (123)
19	148	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		64810164		1.273E-14		86.3 (148)
19	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		64813356		1.155E-14		70.2 (149) 20.4 (126) 4.22 (155)
19	150	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		64814777		1.488E-14		62.8 (150) 22.0 (119) 11.9 (127)
19	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		64819569		1.219E-14		67.5 (151) 17.7 (147) 10.6 (118)
19	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		64823069		1.304E-14		92.6 (152)
19	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		64824126		1.211E-14		44.7 (153) 30.2 (156) 18.9 (129)
19	154	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		64829898		1.191E-14		68.3 (154) 27.2 (134) 3.19 (165)
19	155	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		64830372		1.244E-14		67.7 (155) 15.1 (149) 13.4 (136)
19	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		64838006		1.229E-14		56.0 (135) 32.0 (156) 4.68 (124)
19	157	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		64839390		1.203E-14		39.7 (157) 30.3 (138) 30.0 (162)
19	158	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		64839418		1.233E-14		70.7 (158) 21.2 (137) 4.82 (122)
19	159	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		64840681		1.203E-14		65.7 (159) 30.9 (140) 3.47 (164)
19	160	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		64841067		1.245E-14		94.2 (160)
19	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		64844530		1.202E-14		100. (161)
19	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		64845164		1.207E-14		57.8 (143) 24.4 (162) 17.8 (157)
19	163	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		64845387		1.203E-14		40.2 (142) 36.8 (163) 23.0 (167)
19	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		64846246		1.201E-14		68.6 (164) 28.4 (140) 3.07 (159)
19	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		64849570		1.152E-14		83.3 (165)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
19	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		64850813		1.208E-14		100. (166)
19	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		64852706		1.202E-14		53.4 (167) 46.6 (163)
19	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		64856289		1.215E-14		79.1 (168)
19	169	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		64856319		1.241E-14		77.6 (169)
19	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		65561895		4.982E-14		76.6 (170)
19	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		65566058		1.815E-14		35.6 (171) 30.2 (181) 27.8 (208)
19	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		65568202		1.824E-14		65.7 (172) 34.3 (178)
19	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		65568508		4.224E-14		71.5 (173) 17.4 (232) 11.1 (186)
19	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		65572774		1.358E-14		70.2 (174) 14.5 (185) 12.6 (207)
19	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		65573724		6.733E-14		68.6 (175) 17.9 (181) 4.62 (171)
19	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		65575770		5.502E-14		81.9 (176)
19	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		65578560		1.559E-14		45.9 (177) 22.5 (183) 17.8 (214)
19	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		65580007		2.948E-14		63.2 (178) 34.1 (172) 2.71 (218)
19	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		65584455		1.325E-14		72.7 (179)
19	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		65585584		1.476E-14		36.9 (180) 25.0 (207) 16.9 (170)
19	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		65586052		2.676E-14		38.2 (181) 35.6 (171) 20.9 (175)
19	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		65586759		1.007E-13		89.6 (182)
19	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		65588844		5.825E-14		60.3 (183) 20.7 (189) 8.21 (214)
19	184	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		65590371		1.475E-14		48.3 (184) 18.6 (199) 16.6 (229)
19	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		65590485		5.107E-14		80.4 (185)
19	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		65590637		1.451E-14		71.1 (186) 21.5 (173) 7.36 (232)
19	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		65593890		1.388E-14		33.0 (187) 29.0 (216) 20.4 (213)
19	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		65595776		1.214E-14		72.7 (188)
19	189	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		65596267		5.956E-14		71.8 (189) 12.9 (177) 11.3 (183)
19	190	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		65596870		1.280E-14		57.2 (190) 19.6 (237) 14.1 (217)
19	191	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		65596956		1.940E-13		96.1 (191)
19	192	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		65597038		1.215E-14		41.5 (192) 30.0 (226) 27.4 (220)
19	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		65597989		1.206E-14		71.5 (193) 17.1 (222) 11.4 (228)
19	194	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		65598064		1.260E-14		49.7 (194) 27.3 (236) 18.3 (225)
19	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		65598193		1.286E-14		44.5 (195) 29.8 (223) 18.7 (219)
19	196	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		65598263		1.065E-13		91.3 (196)
19	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		65598264		1.205E-14		39.1 (197) 32.5 (230) 28.4 (224)
19	198	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		65598444		1.466E-14		34.6 (198) 23.8 (227) 18.1 (235)
19	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		65598710		3.132E-14		62.8 (199) 10.8 (198) 7.47 (227)
19	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		65598791		1.257E-14		52.2 (200) 25.4 (228) 18.0 (222)
19	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		65599775		1.123E-12		100. (201)
19	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		65599821		8.748E-13		67.5 (202) 32.5 (205)
19	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		65599826		7.204E-13		100. (203)
19	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		65600010		1.888E-12		100. (204)
19	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		65600107		1.173E-12		68.4 (205) 31.6 (202)
19	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		65621286		1.237E-14		94.9 (206)
19	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		65625399		1.162E-14		53.3 (207) 28.6 (180) 16.9 (174)
19	208	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		65626773		1.313E-14		68.0 (208) 23.8 (171) 8.19 (181)
19	209	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		65627493		1.188E-14		97.0 (209)
19	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		65628898		1.172E-14		56.7 (210) 33.6 (177) 9.71 (214)
19	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		65631809		1.209E-14		66.5 (211) 23.1 (180) 5.42 (207)
19	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		65634741		1.228E-14		98.7 (212)
19	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		65635125		1.210E-14		54.9 (213) 20.8 (216) 20.2 (179)
19	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		65636197		1.185E-14		63.6 (214) 28.3 (210) 5.13 (177)
19	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		65637829		1.204E-14		59.9 (215) 36.4 (184) 3.70 (229)
19	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		65641314		1.217E-14		50.6 (187) 40.2 (216) 5.43 (213)
19	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		65641915		1.221E-14		68.5 (217) 27.7 (190) 2.10 (175)
19	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		65642675		1.228E-14		97.3 (218)
19	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		65642814		1.211E-14		42.7 (219) 30.1 (223) 27.2 (188)
19	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		65643504		1.210E-14		67.4 (220) 30.8 (192) 1.75 (226)
19	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		65645101		1.208E-14		100. (221)
19	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		65645303		1.215E-14		37.2 (222) 34.4 (228) 28.4 (193)
19	223	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		65645421		1.211E-14		50.6 (195) 29.6 (223) 19.8 (219)
19	224	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		65645545		1.215E-14		71.4 (224) 18.4 (197) 10.2 (230)
19	225	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		65645621		1.210E-14		46.7 (194) 36.2 (225) 17.1 (236)
19	226	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		65646263		1.208E-14		67.9 (226) 27.3 (192) 4.87 (220)
19	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		65646296		1.214E-14		54.0 (198) 23.0 (227) 21.8 (235)
19	228	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		65646513		1.214E-14		45.2 (200) 27.8 (228) 26.9 (222)
19	229	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		65646701		1.186E-14		73.5 (229)
19	230	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		65646834		1.212E-14		57.4 (230) 42.6 (197)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
19	231	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		65647025		1.213E-14		100. (231)
19	232	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		65647598		1.229E-14		75.2 (232)
19	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		65648218		1.211E-14		100. (233)
19	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		65648290		1.212E-14		100. (234)
19	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		65648554		1.212E-14		55.1 (235) 44.9 (227)
19	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		65649423		1.208E-14		54.2 (236) 44.1 (225) 1.69 (194)
19	237	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		65649790		1.214E-14		73.6 (237)
19	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		66013050		4.562E-14		74.3 (238)
19	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		66014813		1.724E-14		41.9 (239) 26.1 (283) 24.6 (250)
19	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		66015812		1.731E-14		69.6 (240) 30.4 (246)
19	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		66016455		3.596E-14		67.0 (241) 16.5 (297) 16.5 (254)
19	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		66018663		1.389E-14		70.5 (242) 13.6 (253) 11.7 (284)
19	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		66019971		7.672E-14		66.6 (243) 20.4 (250) 3.81 (258)
19	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		66020822		5.147E-14		79.2 (244)
19	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		66022028		1.541E-14		43.1 (245) 21.7 (290) 18.7 (251)
19	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		66023648		3.622E-14		69.0 (246) 29.8 (240) 1.18 (294)
19	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		66025241		1.328E-14		72.3 (247)
19	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		66026389		1.587E-14		36.3 (248) 22.5 (238) 19.4 (284)
19	249	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		66027307		9.811E-14		88.3 (249)
19	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		66027334		3.291E-14		43.6 (250) 26.8 (239) 22.7 (243)
19	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		66028292		6.483E-14		65.2 (251) 17.0 (259) 5.01 (290)
19	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		66028793		1.444E-14		44.1 (252) 21.4 (303) 17.9 (291)
19	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		66029294		6.484E-14		83.9 (253)
19	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		66029718		1.665E-14		59.1 (254) 29.8 (241) 11.0 (297)
19	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		66031029		1.491E-14		34.5 (255) 27.7 (292) 19.6 (244)
19	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		66031466		1.217E-14		73.8 (256)
19	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		66032231		1.217E-14		42.0 (257) 31.6 (304) 26.4 (296)
19	258	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		66032584		1.365E-14		50.6 (258) 22.2 (320) 14.2 (293)
19	259	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		66032713		7.284E-14		76.9 (259)
19	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		66032781		1.294E-14		64.9 (260) 20.4 (300) 6.98 (261)
19	261	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		66032810		3.574E-14		66.8 (261) 13.2 (270) 12.2 (308)
19	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		66032953		1.203E-14		39.5 (262) 32.8 (309) 27.6 (302)
19	263	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		66033022		1.302E-14		45.3 (263) 28.4 (321) 18.8 (301)
19	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		66033058		1.199E-14		71.7 (264) 16.3 (305) 12.0 (313)
19	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		66033125		1.354E-14		45.1 (265) 26.5 (299) 16.9 (295)
19	266	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		66033146		1.230E-14		42.9 (266) 31.6 (307) 23.7 (319)
19	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		66033153		1.199E-14		38.6 (267) 33.1 (311) 28.3 (306)
19	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		66033308		1.206E-14		41.1 (268) 32.7 (310) 26.2 (317)
19	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		66033401		1.206E-14		58.9 (269) 23.3 (313) 17.8 (305)
19	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		66033433		1.620E-14		41.4 (270) 26.1 (261) 18.8 (308)
19	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		66033573		1.226E-13		91.9 (271)
19	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		66033748		6.229E-14		82.7 (272)
19	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		66034521		1.863E-12		100. (273)
19	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		66034542		8.339E-13		100. (274)
19	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		66034545		1.111E-12		74.6 (275)
19	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		66034644		2.934E-12		100. (276)
19	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		66034722		1.729E-12		75.5 (277)
19	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		66034780		4.029E-12		55.8 (278) 44.2 (281)
19	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		66034783		3.870E-12		100. (279)
19	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		66034875		4.061E-12		100. (280)
19	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		66034877		3.995E-12		55.8 (281) 44.2 (278)
19	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		66066626		1.227E-14		100. (282)
19	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		66068772		1.253E-14		67.7 (283) 29.3 (239) 2.97 (250)
19	284	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		66069167		1.187E-14		57.2 (284) 25.1 (248) 16.6 (242)
19	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		66070238		1.193E-14		100. (285)
19	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		66070922		1.189E-14		48.8 (286) 39.1 (245) 12.1 (290)
19	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		66072171		1.201E-14		65.8 (287) 26.1 (248) 5.78 (284)
19	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		66074549		1.221E-14		100. (288)
19	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		66074729		1.215E-14		58.2 (289) 20.3 (247) 17.4 (292)
19	290	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		66074833		1.191E-14		59.3 (290) 35.7 (286) 5.01 (245)
19	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		66076194		1.211E-14		55.6 (291) 40.5 (252) 3.94 (303)
19	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		66077937		1.213E-14		48.1 (255) 43.9 (292) 5.43 (289)
19	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		66078200		1.214E-14		68.6 (293) 30.0 (258) 1.37 (320)
19	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		66078548		1.216E-14		98.7 (294)
19	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		66079084		1.214E-14		44.0 (295) 29.9 (299) 26.1 (256)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
19	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		66079483		1.214E-14		67.6 (296) 31.3 (257) 1.13 (304)
19	297	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^3S_0$		66080122		1.213E-14		72.2 (297) 24.6 (254) 3.21 (241)
19	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		66080275		1.210E-14		100. (298)
19	299	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		66080504		1.214E-14		47.7 (265) 31.8 (299) 20.5 (295)
19	300	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		66080523		1.215E-14		37.8 (300) 34.6 (308) 27.5 (260)
19	301	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		66080636		1.214E-14		49.2 (263) 36.2 (301) 14.6 (321)
19	302	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		66080667		1.215E-14		72.1 (302) 18.9 (262) 9.02 (309)
19	303	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		66080945		1.203E-14		64.3 (303) 21.1 (291) 7.48 (252)
19	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		66080979		1.211E-14		67.2 (304) 26.7 (257) 6.06 (296)
19	305	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^1H_5$		66081039		1.213E-14		36.4 (305) 35.4 (313) 28.2 (264)
19	306	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		66081129		1.212E-14		71.6 (306) 18.0 (267) 10.4 (311)
19	307	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		66081135		1.214E-14		52.3 (266) 22.4 (307) 18.3 (319)
19	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		66081239		1.216E-14		43.7 (270) 28.9 (308) 27.5 (300)
19	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		66081327		1.206E-14		58.3 (309) 41.7 (262)
19	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		66081355		1.216E-14		58.9 (268) 21.5 (310) 19.7 (317)
19	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		66081413		1.196E-14		56.6 (311) 43.4 (267)
19	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		66081420		1.206E-14		100. (312)
19	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^3H_5$		66081443		1.216E-14		41.1 (269) 29.6 (305) 29.4 (313)
19	314	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		66081506		1.196E-14		100. (314)
19	315	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		66082028		1.212E-14		100. (315)
19	316	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		66082052		1.211E-14		100. (316)
19	317	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		66082118		1.212E-14		54.2 (317) 45.8 (310)
19	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		66082261		1.213E-14		100. (318)
19	319	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		66082424		1.213E-14		54.9 (319) 45.1 (307)
19	320	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		66082543		1.210E-14		71.0 (320) 15.5 (258) 13.5 (293)
19	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		66082816		1.212E-14		54.6 (321) 43.1 (301) 2.27 (263)
20	1	$1s^2_2(J=0)$	$1s^2_1S_0$	0	0				100. (1)
20	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	31142150	31142315		7.119E-08		100. (2)
20	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	31312840	31313161		4.135E-09		100. (3)
20	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	31321060	31320835		2.084E-13		97.2 (4)
20	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	31328450	31328172		6.187E-04		100. (5)
20	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	31356380	31356694		8.111E-10		100. (6)
20	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	31473810	31474329		6.094E-15		97.2 (7)
20	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	36870940	36870980		9.940E-13		100. (8)
20	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	36918070	36918046		3.383E-13		100. (9)
20	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	36919930	36919896		1.046E-12		100. (10)
20	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	36920260	36920328		2.263E-13		96.8 (11)
20	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	36930850	36931020		3.442E-13		100. (12)
20	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$		36956916		1.166E-13		71.9 (13) 28.1 (16)
20	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$		36957016		1.161E-13		100. (14)
20	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$		36961175		1.169E-13		100. (15)
20	16	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$		36962601		1.185E-13		71.9 (16) 28.1 (13)
20	17	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	36962850	36962786		2.104E-14		96.8 (17)
20	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	38850670	38850878		1.450E-12		100. (18)
20	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	38870230	38870253		5.762E-13		100. (19)
20	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	38870530	38870721		1.516E-12		100. (20)
20	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	38871150	38871216		4.242E-13		96.7 (21)
20	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	38875630	38875732		5.844E-13		100. (22)
20	23	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$		38886405		2.697E-13		100. (23)
20	24	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$		38886414		2.712E-13		74.9 (24)
20	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$		38888160		2.716E-13		100. (25)
20	26	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	38888680	38888715		5.004E-14		96.7 (26)
20	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		38888818		5.542E-13		56.8 (27) 43.2 (31)
20	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$		38888900		2.768E-13		74.9 (28)
20	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		38888937		5.542E-13		100. (29)
20	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		38889821		5.553E-13		100. (30)
20	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		38889916		5.557E-13		56.8 (31) 43.2 (27)
20	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	39761380	39761529		2.285E-12		100. (32)
20	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	39771270	39771331		9.823E-13		100. (33)
20	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	39771310	39771498		2.370E-12		100. (34)
20	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	39771750	39771824		7.477E-13		96.6 (35)
20	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	39774040	39774136		9.947E-13		100. (36)
20	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		39779532		5.188E-13		100. (37)
20	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		39779547		5.216E-13		76.0 (38)
20	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		39780431		5.226E-13		100. (39)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
20	40	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	39780630	39780684		9.777E-14		96.6 (40)
20	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		39780798		1.071E-12		57.1 (41) 42.9 (47)
20	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		39780840		5.331E-13		76.0 (42)
20	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		39780858		1.071E-12		100. (43)
20	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		39781311		1.073E-12		100. (44)
20	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		39781325		1.800E-12		55.0 (45) 45.0 (49)
20	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		39781361		1.800E-12		100. (46)
20	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		39781361		1.074E-12		57.1 (47) 42.9 (41)
20	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		39781633		1.802E-12		100. (48)
20	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		39781662		1.802E-12		55.0 (49) 45.0 (45)
20	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		40254308		3.598E-12		100. (50)
20	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		40259938		1.604E-12		100. (51)
20	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		40260018		3.474E-12		100. (52)
20	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		40260223		1.235E-12		96.6 (53)
20	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		40261562		1.623E-12		100. (54)
20	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		40264653		8.936E-13		100. (55)
20	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		40264665		8.948E-13		76.6 (56)
20	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		40265173		9.010E-13		100. (57)
20	58	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		40265321		1.685E-13		96.6 (58)
20	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		40265385		1.831E-12		57.3 (59) 42.7 (65)
20	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		40265418		1.830E-12		100. (60)
20	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		40265419		9.049E-13		76.6 (61)
20	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		40265680		1.834E-12		100. (62)
20	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		40265683		3.088E-12		55.0 (63) 45.0 (69)
20	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		40265704		3.088E-12		100. (64)
20	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		40265710		1.837E-12		57.3 (65) 42.7 (59)
20	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		40265861		4.658E-12		54.1 (66) 45.9 (71)
20	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		40265862		3.091E-12		100. (67)
20	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		40265874		4.658E-12		100. (68)
20	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		40265878		3.091E-12		55.0 (69) 45.0 (63)
20	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		40265979		4.661E-12		100. (70)
20	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		40265991		4.661E-12		54.1 (71) 45.9 (66)
20	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		63944025		2.700E-14		79.5 (72)
20	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		63974572		1.045E-14		100. (73)
20	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		63990280		1.046E-14		99.0 (74)
20	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		64031065		1.052E-14		100. (75)
20	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		64143608		5.326E-15		97.5 (76)
20	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		64166425		5.202E-15		100. (77)
20	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$		64193079		5.204E-15		88.2 (78)
20	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		64259464		1.012E-14		99.0 (79)
20	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$		64276629		5.188E-15		88.2 (80)
20	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		64512786		6.374E-15		80.3 (81)
20	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		69832638		3.205E-14		77.9 (82)
20	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		69857350		1.447E-14		46.7 (83) 40.9 (108) 9.03 (91)
20	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		69882836		3.736E-14		76.9 (84)
20	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		69889110		1.336E-14		67.2 (85) 32.8 (88)
20	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		69891446		8.521E-15		71.9 (86) 17.2 (92) 10.9 (98)
20	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		69899333		2.126E-14		68.0 (87) 26.4 (91) 3.42 (113)
20	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		69908015		1.715E-14		59.4 (88) 30.9 (85) 9.68 (114)
20	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		69912359		2.728E-14		86.1 (89)
20	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		69917698		9.543E-15		72.8 (90)
20	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		69923079		1.249E-14		60.0 (91) 22.4 (87) 9.11 (83)
20	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		69938988		8.829E-15		67.0 (92) 9.06 (86) 8.73 (98)
20	93	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		69945831		1.411E-14		52.1 (93) 47.9 (103)
20	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		69950852		9.781E-15		85.6 (94)
20	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		69959257		9.975E-15		78.6 (95)
20	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		69974181		8.252E-15		94.6 (96)
20	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		69980272		1.981E-14		45.1 (97) 22.1 (111) 17.7 (101)
20	98	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		69980924		1.941E-14		61.6 (98) 26.4 (100) 7.45 (86)
20	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		69982609		9.898E-15		88.7 (99)
20	100	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		69994798		9.857E-15		50.4 (100) 19.2 (98) 12.2 (86)
20	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		69998734		1.900E-14		31.5 (97) 28.2 (101) 19.7 (90)
20	102	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		70000484		9.863E-15		62.0 (102) 13.3 (109) 11.8 (95)
20	103	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		70006827		1.511E-14		52.1 (103) 47.9 (93)
20	104	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		70018612		9.173E-15		73.7 (104)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
20	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		70018830		9.143E-15		83.2 (105)
20	106	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		70020297		1.014E-14		100. (106)
20	107	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		70020742		9.309E-15		66.7 (107) 15.6 (82) 15.3 (100)
20	108	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		70037149		1.272E-14		51.6 (108) 34.9 (83) 10.6 (104)
20	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		70040592		9.233E-15		64.6 (109) 15.7 (102) 8.56 (112)
20	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		70055401		8.910E-15		87.5 (110)
20	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		70076440		1.181E-14		56.3 (111) 39.8 (101) 3.87 (105)
20	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		70079297		9.924E-15		66.4 (112) 19.4 (109) 8.11 (89)
20	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		70082201		9.919E-15		77.0 (113)
20	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		70085589		1.001E-14		90.1 (114)
20	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		70119236		8.495E-15		93.8 (115)
20	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		70134628		9.446E-15		86.2 (116)
20	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		70141972		9.282E-15		78.6 (117)
20	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		71880516		3.972E-14		77.8 (118)
20	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		71890889		1.497E-14		37.5 (119) 32.1 (149) 26.5 (127)
20	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		71896293		3.681E-14		74.4 (120)
20	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		71897083		1.491E-14		63.4 (121) 36.6 (125)
20	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		71904650		1.024E-14		71.1 (122) 14.2 (128) 13.6 (133)
20	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		71905227		3.726E-14		70.7 (123) 11.9 (127) 11.8 (119)
20	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		71911225		3.960E-14		83.6 (124)
20	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		71916500		2.035E-14		58.7 (125) 36.2 (121) 5.06 (159)
20	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		71917402		1.200E-14		52.9 (126) 25.5 (131) 12.3 (154)
20	127	$2s_{1/2}4p_{3/2}(J=1)$	$2p4s^3P_1$		71927883		1.713E-14		46.8 (127) 28.4 (119) 21.2 (123)
20	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^1P_1$		71930304		1.106E-14		34.3 (128) 32.4 (147) 11.3 (118)
20	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		71930536		1.053E-14		74.5 (129)
20	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		71932953		5.377E-14		87.5 (130)
20	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		71938759		3.538E-14		54.5 (131) 23.0 (136) 13.8 (154)
20	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		71939555		1.030E-14		81.9 (132)
20	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		71941412		3.355E-14		76.1 (133)
20	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		71942583		1.151E-14		58.3 (134) 15.6 (144) 14.6 (155)
20	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		71947576		1.031E-14		28.9 (135) 24.8 (156) 20.8 (153)
20	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		71953064		3.749E-14		63.4 (136) 17.3 (126) 15.8 (131)
20	137	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		71955729		9.835E-15		64.8 (137) 15.8 (169) 13.0 (157)
20	138	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		71955949		9.731E-15		70.1 (138) 20.6 (158) 9.34 (162)
20	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		71956806		1.570E-13		95.2 (139)
20	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		71958364		9.728E-15		41.0 (140) 30.4 (160) 28.6 (164)
20	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		71959352		8.846E-14		92.2 (141)
20	142	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		71959363		9.979E-15		56.0 (142) 24.8 (167) 16.6 (163)
20	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		71959769		9.986E-15		41.5 (143) 34.9 (162) 20.6 (158)
20	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		71960359		5.108E-14		82.0 (144)
20	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		71962287		4.824E-13		98.7 (145)
20	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		71967384		1.040E-14		78.9 (146)
20	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3P_1$		71974855		9.157E-15		43.9 (128) 36.0 (147) 16.7 (122)
20	148	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		71980213		9.935E-15		90.2 (148)
20	149	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		71983300		1.176E-14		64.5 (149) 18.9 (119) 14.4 (127)
20	150	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		71983321		9.347E-15		65.7 (150) 23.4 (126) 6.49 (154)
20	151	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^3S_1$		71989678		9.765E-15		67.5 (151) 18.4 (147) 8.93 (118)
20	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		71994598		1.036E-14		95.3 (152)
20	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		71995648		9.824E-15		48.0 (153) 27.9 (156) 19.4 (129)
20	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		72001191		9.779E-15		66.8 (154) 19.6 (150) 9.81 (136)
20	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		72001859		9.684E-15		66.7 (155) 29.6 (134) 3.63 (165)
20	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		72010235		9.935E-15		54.7 (135) 34.0 (156) 5.03 (153)
20	157	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		72011527		9.970E-15		69.9 (157) 23.0 (137) 3.93 (123)
20	158	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		72012300		9.807E-15		39.9 (158) 30.5 (162) 29.6 (138)
20	159	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		72013262		1.007E-14		95.2 (159)
20	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		72013783		9.805E-15		66.2 (160) 30.8 (140) 3.04 (164)
20	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		72017925		9.797E-15		100. (161)
20	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		72018359		9.830E-15		55.8 (143) 25.3 (162) 18.9 (158)
20	163	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		72018471		9.805E-15		42.1 (142) 35.9 (163) 22.0 (167)
20	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		72019680		9.796E-15		68.3 (164) 28.2 (140) 3.43 (160)
20	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		72022656		9.390E-15		81.2 (165)
20	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		72024305		9.835E-15		100. (166)
20	167	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		72026476		9.794E-15		53.2 (167) 46.8 (163)
20	168	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		72028339		9.946E-15		77.4 (168)
20	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		72029566		9.846E-15		77.9 (169)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
20	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s\ ^3S_1$		72813367		4.066E-14		76.9 (170)
20	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s\ ^3P_1$		72817623		1.438E-14		38.0 (171) 28.4 (181) 27.5 (208)
20	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s\ ^3P_0$		72819657		1.461E-14		66.8 (172) 33.2 (178)
20	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s\ ^1S_0$		72820202		3.331E-14		70.8 (173) 16.8 (230) 12.4 (186)
20	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p\ ^3D_1$		72824534		1.098E-14		70.5 (174) 13.5 (184) 12.7 (207)
20	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p\ ^3P_1$		72825904		5.740E-14		69.1 (175) 18.3 (181) 3.82 (217)
20	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p\ ^3P_2$		72828368		4.425E-14		82.4 (176)
20	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p\ ^3D_2$		72831183		1.254E-14		45.2 (177) 21.5 (183) 18.9 (214)
20	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p\ ^3P_0$		72832358		2.496E-14		64.7 (178) 33.1 (172) 2.15 (218)
20	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d\ ^3F_2$		72837279		1.076E-14		72.7 (179)
20	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p\ ^3P_1$		72838543		1.209E-14		37.1 (180) 23.0 (207) 17.4 (170)
20	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p\ ^1P_1$		72839310		2.322E-14		41.3 (181) 32.7 (171) 21.2 (175)
20	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d\ ^3D_3$		72840201		8.454E-14		90.0 (182)
20	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d\ ^3D_2$		72842139		4.939E-14		62.4 (183) 19.4 (189) 7.27 (214)
20	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d\ ^3D_1$		72843753		4.412E-14		81.6 (184)
20	185	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d\ ^3F_3$		72843846		1.192E-14		47.1 (185) 18.0 (199) 18.0 (228)
20	186	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p\ ^3P_0$		72843861		1.213E-14		67.9 (186) 23.6 (173) 8.59 (230)
20	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d\ ^3P_2$		72847566		1.142E-14		33.9 (187) 29.0 (216) 19.4 (213)
20	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f\ ^3G_3$		72849366		9.882E-15		73.0 (188)
20	189	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d\ ^1D_2$		72850237		5.155E-14		74.4 (189)
20	190	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d\ ^3D_1$		72850503		1.050E-14		55.9 (190) 20.8 (237) 14.5 (217)
20	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f\ ^3G_4$		72850802		9.888E-15		42.0 (191) 30.7 (226) 27.3 (220)
20	192	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f\ ^3F_4$		72850938		1.427E-13		94.5 (192)
20	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g\ ^3H_4$		72851779		9.829E-15		71.8 (193) 17.0 (222) 11.2 (229)
20	194	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f\ ^3F_2$		72851804		1.028E-14		48.6 (194) 27.9 (236) 18.6 (224)
20	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f\ ^3D_3$		72852022		1.054E-14		45.2 (195) 29.1 (223) 18.1 (219)
20	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g\ ^3H_5$		72852117		9.825E-15		39.2 (196) 32.6 (231) 28.2 (225)
20	197	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f\ ^3F_2$		72852149		9.151E-14		91.7 (197)
20	198	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g\ ^3G_3$		72852261		1.094E-14		38.6 (198) 27.2 (235) 20.6 (227)
20	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f\ ^3F_3$		72852614		3.263E-14		71.1 (199) 6.40 (185) 6.25 (198)
20	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g\ ^3F_4$		72852662		1.035E-14		52.2 (200) 25.0 (229) 17.5 (222)
20	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f\ ^1F_3$		72853827		9.197E-13		98.9 (201)
20	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g\ ^3G_4$		72853884		7.460E-13		66.6 (202) 33.4 (205)
20	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g\ ^3G_3$		72853889		6.313E-13		100. (203)
20	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g\ ^3G_5$		72854128		1.548E-12		100. (204)
20	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g\ ^1G_4$		72854233		1.015E-12		67.3 (205) 32.7 (202)
20	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s\ ^3P_2$		72883846		1.005E-14		96.2 (206)
20	207	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p\ ^1P_1$		72888497		9.451E-14		53.8 (207) 29.3 (180) 16.9 (174)
20	208	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s\ ^1P_1$		72889207		1.052E-14		68.2 (208) 25.6 (171) 6.25 (181)
20	209	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p\ ^3D_3$		72890838		9.608E-15		97.9 (209)
20	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p\ ^3P_2$		72891952		9.526E-15		52.5 (210) 35.8 (177) 11.7 (214)
20	211	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p\ ^3S_1$		72894971		9.762E-15		66.8 (211) 22.5 (180) 6.75 (207)
20	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d\ ^3F_4$		72898764		9.981E-15		100. (212)
20	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d\ ^1D_2$		72899090		9.859E-15		55.6 (213) 20.3 (179) 20.2 (216)
20	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p\ ^1D_2$		72899918		9.584E-15		61.2 (214) 32.2 (210) 4.54 (177)
20	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d\ ^3D_3$		72901947		9.808E-15		58.2 (215) 37.8 (185) 4.01 (228)
20	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d\ ^3D_2$		72905570		9.891E-15		50.2 (187) 40.9 (216) 5.84 (213)
20	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d\ ^3P_1$		72906092		9.913E-15		68.2 (217) 28.5 (190) 1.66 (237)
20	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d\ ^3P_0$		72906867		9.970E-15		97.8 (218)
20	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f\ ^1F_3$		72907382		9.873E-15		42.6 (219) 30.6 (223) 26.9 (188)
20	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f\ ^3F_4$		72908170		9.872E-15		67.3 (220) 31.3 (191) 1.46 (226)
20	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f\ ^3G_5$		72909888		9.851E-15		100. (221)
20	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g\ ^1G_4$		72910090		9.910E-15		36.9 (222) 35.0 (229) 28.1 (193)
20	223	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f\ ^3F_3$		72910152		9.877E-15		49.7 (195) 29.8 (223) 20.5 (219)
20	224	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f\ ^3D_2$		72910300		9.868E-15		47.6 (194) 35.8 (224) 16.6 (236)
20	225	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g\ ^3G_5$		72910388		9.910E-15		71.5 (225) 18.7 (196) 9.77 (231)
20	226	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f\ ^1G_4$		72911102		9.852E-15		67.8 (226) 26.8 (191) 5.37 (220)
20	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g\ ^3F_3$		72911118		9.890E-15		52.2 (198) 21.3 (227) 21.2 (235)
20	228	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d\ ^1F_3$		72911362		9.682E-15		68.9 (228) 18.6 (215) 7.13 (185)
20	229	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g\ ^3G_4$		72911394		9.904E-15		44.7 (200) 27.7 (229) 27.6 (222)
20	230	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p\ ^1S_0$		72911628		9.898E-15		74.6 (230)
20	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g\ ^1H_5$		72911734		9.891E-15		57.8 (231) 42.2 (196)
20	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g\ ^3H_6$		72911977		9.891E-15		100. (232)
20	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f\ ^3D_1$		72913052		9.872E-15		100. (233)
20	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g\ ^3F_2$		72913237		9.888E-15		100. (234)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
20	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		72913559		9.887E-15		54.8 (227) 45.2 (235)
20	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		72914415		9.853E-15		54.1 (236) 44.1 (224) 1.80 (194)
20	237	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		72914535		9.867E-15		72.6 (237)
20	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		73315242		3.649E-14		74.3 (238)
20	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		73316987		1.370E-14		43.7 (239) 26.2 (283) 23.1 (249)
20	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		73317932		1.385E-14		70.8 (240) 29.2 (246)
20	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		73318746		2.838E-14		66.1 (241) 17.8 (254) 16.2 (297)
20	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		73320963		1.123E-14		70.9 (242) 12.6 (253) 11.8 (284)
20	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		73322574		6.367E-14		66.8 (243) 20.6 (249) 4.02 (258)
20	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		73323661		4.089E-14		78.7 (244)
20	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		73324808		1.236E-14		43.0 (245) 22.5 (289) 17.6 (251)
20	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		73326348		3.084E-14		71.1 (246) 28.9 (240)
20	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		73328143		1.078E-14		72.6 (247)
20	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		73329360		1.296E-14		36.3 (248) 22.8 (238) 18.6 (287)
20	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		73330501		2.817E-14		44.9 (249) 24.7 (239) 23.2 (243)
20	250	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		73330617		7.193E-14		87.7 (250)
20	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		73331539		5.373E-14		66.5 (251) 16.1 (260) 4.48 (289)
20	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		73332049		1.162E-14		43.6 (252) 22.5 (303) 18.3 (291)
20	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		73332539		5.658E-14		84.9 (253)
20	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		73332836		1.390E-14		56.5 (254) 31.5 (241) 12.0 (297)
20	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		73334393		1.225E-14		35.2 (255) 27.7 (292) 20.4 (244)
20	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		73334794		9.916E-15		74.0 (256)
20	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		73335663		9.908E-15		42.0 (257) 31.8 (304) 26.2 (296)
20	258	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		73335929		1.121E-14		49.3 (258) 22.9 (319) 14.2 (293)
20	259	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		73336234		9.844E-15		72.4 (259)
20	260	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		73336311		5.585E-14		79.1 (260)
20	261	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		73336396		2.489E-14		60.8 (261) 22.3 (270) 11.2 (308)
20	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		73336442		9.818E-15		39.6 (262) 32.9 (309) 27.5 (302)
20	263	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		73336445		1.086E-14		43.2 (263) 27.9 (321) 18.3 (301)
20	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		73336550		9.790E-15		71.7 (264) 16.4 (305) 11.8 (313)
20	265	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		73336602		9.973E-15		42.9 (265) 31.9 (306) 24.0 (320)
20	266	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		73336602		1.113E-14		45.3 (266) 26.0 (299) 16.5 (295)
20	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		73336668		9.790E-15		38.6 (267) 33.1 (311) 28.2 (307)
20	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		73336795		9.837E-15		41.0 (268) 32.8 (310) 26.2 (317)
20	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		73336911		9.838E-15		59.0 (269) 23.4 (313) 17.6 (305)
20	270	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		73336984		1.593E-14		38.9 (261) 34.4 (270) 15.5 (308)
20	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		73337174		1.069E-13		92.4 (271)
20	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		73337360		5.545E-14		83.7 (272)
20	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		73338231		1.512E-12		98.8 (273)
20	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		73338258		7.560E-13		100. (274)
20	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		73338264		9.865E-13		73.4 (275)
20	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		73338393		2.475E-12		100. (276)
20	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		73338478		1.538E-12		74.2 (277)
20	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		73338537		3.401E-12		55.6 (278) 44.4 (281)
20	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		73338540		3.318E-12		100. (279)
20	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		73338654		3.424E-12		100. (280)
20	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		73338657		3.406E-12		55.6 (281) 44.4 (278)
20	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		73379845		9.994E-15		100. (282)
20	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		73381971		1.015E-14		67.7 (283) 30.1 (239) 2.19 (249)
20	284	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		73382695		9.669E-15		56.4 (284) 26.9 (248) 16.8 (242)
20	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		73383926		9.703E-15		100. (285)
20	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		73384403		9.685E-15		45.7 (286) 40.6 (245) 13.7 (289)
20	287	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		73385734		9.752E-15		66.4 (287) 24.4 (248) 7.47 (284)
20	288	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		73388609		9.948E-15		100. (288)
20	289	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		73388742		9.689E-15		57.1 (289) 38.6 (286) 4.33 (245)
20	290	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		73388749		9.906E-15		58.3 (290) 20.4 (247) 17.5 (292)
20	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		73390292		9.878E-15		54.3 (291) 41.5 (252) 4.24 (303)
20	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		73392119		9.881E-15		48.0 (292) 43.7 (292) 5.85 (290)
20	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		73392336		9.884E-15		68.3 (293) 30.3 (258) 1.36 (319)
20	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		73392692		9.900E-15		100. (294)
20	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		73393433		9.908E-15		43.7 (295) 30.4 (299) 25.9 (256)
20	296	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		73393888		9.907E-15		67.8 (296) 32.2 (257)
20	297	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		73394204		9.827E-15		71.7 (297) 25.9 (254) 2.47 (241)
20	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		73394744		9.883E-15		100. (298)
20	299	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		73394951		9.902E-15		47.3 (266) 31.7 (299) 21.1 (295)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
20	300	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		73395001		9.914E-15		37.5 (300) 35.1 (308) 27.4 (259)
20	301	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		73395053		9.901E-15		49.7 (263) 36.1 (301) 14.3 (321)
20	302	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		73395178		9.914E-15		72.1 (302) 19.3 (262) 8.58 (309)
20	303	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		73395349		9.811E-15		65.5 (303) 22.9 (291) 7.73 (252)
20	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		73395487		9.890E-15		67.3 (304) 26.1 (257) 6.62 (296)
20	305	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		73395573		9.900E-15		36.0 (305) 35.9 (313) 28.1 (264)
20	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^1F_3$		73395633		9.912E-15		54.9 (265) 22.5 (306) 19.7 (320)
20	307	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		73395685		9.900E-15		71.6 (307) 18.5 (267) 9.97 (311)
20	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		73395771		9.919E-15		43.4 (270) 28.6 (308) 28.0 (300)
20	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		73395873		9.860E-15		58.8 (309) 41.2 (262)
20	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^1G_4$		73395899		9.921E-15		59.0 (268) 21.2 (310) 19.8 (317)
20	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		73395986		9.793E-15		57.0 (311) 43.0 (267)
20	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		73395994		9.860E-15		100. (312)
20	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		73396009		9.922E-15		40.9 (269) 30.1 (305) 29.0 (313)
20	314	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		73396101		9.793E-15		100. (314)
20	315	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		73396548		9.884E-15		100. (315)
20	316	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		73396609		9.893E-15		100. (316)
20	317	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		73396721		9.893E-15		54.0 (317) 46.0 (310)
20	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		73396828		9.899E-15		100. (318)
20	319	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		73397000		9.862E-15		70.2 (319) 15.9 (258) 13.9 (293)
20	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		73397026		9.902E-15		54.6 (320) 45.4 (306)
20	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		73397407		9.888E-15		54.6 (321) 43.1 (301) 2.38 (263)
21	1	$1s_{1/2}^2(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
21	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	34448120	34448308		4.315E-08		100. (2)
21	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	34628770	34629173		3.864E-09		100. (3)
21	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	34638550	34638223		1.343E-13		96.5 (4)
21	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	34645360	34645074		6.614E-04		100. (5)
21	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	34682810	34683009		5.902E-10		100. (6)
21	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	34805000	34805659		5.014E-15		96.5 (7)
21	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	40790620	40790661		8.122E-13		100. (8)
21	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	40840530	40840500		2.751E-13		100. (9)
21	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	40842480	40842462		8.529E-13		100. (10)
21	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	40843100	40843177		1.697E-13		96.0 (11)
21	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	40856320	40856540		2.805E-13		100. (12)
21	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$		40883855		9.496E-14		70.5 (13) 29.5 (17)
21	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$		40884013		9.457E-14		100. (14)
21	15	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$		40889156		9.526E-14		100. (15)
21	16	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	40889690	40889644		1.732E-14		96.0 (16)
21	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$		40890702		9.644E-14		70.5 (17) 29.5 (13)
21	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	42983370	42983634		1.185E-12		100. (18)
21	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	43004100	43004149		4.688E-13		100. (19)
21	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	43004390	43004644		1.237E-12		100. (20)
21	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	43005180	43005276		3.235E-13		95.8 (21)
21	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	43010770	43010923		4.763E-13		100. (22)
21	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$		43022192		2.208E-13		73.2 (23)
21	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$		43022202		2.197E-13		100. (24)
21	25	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$		43024372		2.214E-13		100. (25)
21	26	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	43024380	43024449		4.123E-14		95.8 (26)
21	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		43025071		4.512E-13		56.8 (27) 43.2 (31)
21	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$		43025169		2.252E-13		73.2 (28)
21	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		43025210		4.512E-13		100. (29)
21	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		43026302		4.522E-13		100. (30)
21	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		43026413		4.525E-13		56.8 (31) 43.2 (27)
21	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	43992240	43992441		1.868E-12		100. (32)
21	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$	44002720	44002819		7.999E-13		100. (33)
21	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	44002740	44002997		1.931E-12		100. (34)
21	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p\ ^3P_1$	44003270	44003396		5.741E-13		95.7 (35)
21	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p\ ^3P_2$	44006140	44006287		8.112E-13		100. (36)
21	37	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d\ ^3D_1$		44011990		4.227E-13		100. (37)
21	38	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d\ ^3D_2$		44011997		4.249E-13		74.3 (38)
21	39	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d\ ^3D_3$		44013101		4.262E-13		100. (39)
21	40	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p\ ^1P_1$	44013010	44013109		8.055E-14		95.7 (40)
21	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f\ ^3F_3$		44013491		8.719E-13		57.1 (41) 42.9 (47)
21	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d\ ^1D_2$		44013540		4.335E-13		74.3 (42)
21	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f\ ^3F_2$		44013561		8.718E-13		100. (43)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
21	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		44014120		8.741E-13		100. (44)
21	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		44014136		1.465E-12		55.0 (45) 45.0 (49)
21	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		44014178		1.466E-12		100. (46)
21	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		44014179		8.749E-13		57.1 (47) 42.9 (41)
21	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		44014514		1.467E-12		100. (48)
21	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		44014547		1.467E-12		55.0 (49) 45.0 (45)
21	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		44538374		2.937E-12		100. (50)
21	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		44544335		1.305E-12		100. (51)
21	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		44544420		2.836E-12		100. (52)
21	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		44544668		9.502E-13		95.7 (53)
21	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		44546342		1.322E-12		100. (54)
21	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		44549609		7.278E-13		100. (55)
21	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		44549616		7.284E-13		74.8 (56)
21	57	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		44550252		7.344E-13		100. (57)
21	58	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		44550258		1.388E-13		95.7 (58)
21	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		44550476		1.490E-12		57.2 (59) 42.8 (65)
21	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		44550515		1.490E-12		100. (60)
21	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		44550515		7.364E-13		74.8 (61)
21	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		44550839		1.494E-12		100. (62)
21	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		44550842		2.514E-12		55.0 (63) 45.0 (69)
21	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		44550866		2.514E-12		100. (64)
21	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		44550874		1.495E-12		57.2 (65) 42.8 (59)
21	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		44551060		3.793E-12		54.1 (66) 45.9 (71)
21	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		44551061		2.517E-12		100. (67)
21	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		44551076		3.794E-12		100. (68)
21	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		44551080		2.518E-12		55.0 (69) 45.0 (63)
21	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		44551206		3.796E-12		100. (70)
21	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		44551219		3.796E-12		54.1 (71) 45.9 (66)
21	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		70645171		2.226E-14		79.7 (72)
21	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		70675688		8.575E-15		100. (73)
21	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		70694399		8.583E-15		98.7 (74)
21	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		70744610		8.641E-15		100. (75)
21	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		70858223		4.404E-15		96.8 (76)
21	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		70886887		4.273E-15		100. (77)
21	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$		70917678		4.274E-15		85.0 (78)
21	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		70983047		8.330E-15		98.7 (79)
21	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$		71009668		4.265E-15		85.0 (80)
21	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		71254884		5.186E-15		80.6 (81)
21	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		77155420		2.732E-14		78.1 (82)
21	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		77182040		1.177E-14		45.7 (83) 39.9 (108) 11.3 (91)
21	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		77207879		3.057E-14		77.0 (84)
21	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		77213555		1.086E-14		68.3 (85) 31.7 (88)
21	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		77216226		6.978E-15		72.3 (86)
21	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		77225652		1.792E-14		69.5 (87) 24.7 (91) 3.30 (113)
21	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		77234446		1.451E-14		61.3 (88) 30.0 (85) 8.64 (114)
21	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		77241304		2.259E-14		86.8 (89)
21	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		77247695		7.868E-15		71.4 (90) 23.0 (97) 3.21 (111)
21	91	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		77253586		1.047E-14		58.4 (91) 21.5 (87) 11.7 (83)
21	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		77271806		7.406E-15		61.7 (92) 10.1 (100) 9.66 (98)
21	93	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		77280733		1.303E-14		58.7 (93) 41.3 (103)
21	94	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		77286693		8.066E-15		63.1 (94) 18.8 (95) 10.5 (102)
21	95	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		77290908		8.173E-15		61.5 (95) 24.9 (94) 8.91 (102)
21	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		77305752		6.869E-15		92.1 (96)
21	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		77312627		1.753E-14		49.4 (97) 19.8 (111) 16.5 (101)
21	98	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		77313021		1.826E-14		67.0 (98) 20.8 (100) 8.13 (86)
21	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		77317468		8.108E-15		86.4 (99)
21	100	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		77332509		7.562E-15		52.3 (100) 16.5 (92) 13.3 (98)
21	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		77334984		1.579E-14		33.1 (101) 27.0 (97) 19.6 (90)
21	102	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		77337845		8.141E-15		55.6 (102) 16.8 (109) 10.1 (95)
21	103	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		77345847		1.113E-14		58.7 (103) 41.3 (93)
21	104	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		77353731		7.536E-15		71.9 (104) 9.33 (116) 8.77 (113)
21	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		77360057		7.578E-15		81.7 (105)
21	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		77361162		7.512E-15		66.6 (106) 16.3 (100) 13.9 (82)
21	107	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		77364723		8.343E-15		100. (107)
21	108	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		77375860		1.042E-14		52.7 (108) 34.0 (83) 9.50 (104)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
21	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		77383247		7.640E-15		57.5 (109) 21.2 (102) 9.82 (95)
21	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		77400432		7.349E-15		84.9 (110)
21	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		77418743		9.148E-15		58.9 (111) 35.3 (101) 5.76 (105)
21	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		77425098		8.079E-15		64.3 (112) 22.4 (109) 7.02 (89)
21	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		77427840		8.083E-15		76.0 (113)
21	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		77431572		8.175E-15		91.2 (114)
21	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		77467745		6.994E-15		92.4 (115)
21	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		77483702		7.741E-15		85.4 (116)
21	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		77489039		7.540E-15		78.9 (117)
21	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		79419300		3.345E-14		78.5 (118)
21	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p^1P_1$		79430148		1.198E-14		35.5 (119) 31.3 (149) 29.6 (127)
21	120	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		79435636		2.964E-14		74.1 (120)
21	121	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		79436038		1.210E-14		64.3 (121) 35.7 (125)
21	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		79444122		8.375E-15		71.4 (122) 14.4 (147) 12.7 (133)
21	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		79445399		3.254E-14		71.9 (123) 12.6 (119) 10.0 (127)
21	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		79452463		3.273E-14		83.9 (124)
21	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		79456947		1.732E-14		60.4 (125) 35.4 (121) 4.21 (159)
21	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		79458909		9.801E-15		51.5 (126) 24.8 (131) 13.6 (154)
21	127	$2s_{1/2}4p_{3/2}(J=1)$	$2p4s^3P_1$		79470537		1.503E-14		43.4 (127) 32.9 (119) 21.0 (123)
21	128	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		79472360		8.645E-15		74.4 (128)
21	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		79472477		9.175E-15		33.8 (129) 30.6 (147) 13.0 (151)
21	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		79476128		5.102E-14		90.0 (130)
21	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		79481382		3.092E-14		57.8 (131) 21.5 (136) 12.1 (154)
21	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		79481957		8.668E-15		79.0 (132)
21	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		79483915		2.932E-14		77.5 (133)
21	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		79485893		9.445E-15		56.1 (134) 15.6 (144) 15.4 (155)
21	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3F_2$		79491742		8.636E-15		30.6 (135) 27.2 (156) 21.3 (153)
21	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		79497352		3.383E-14		67.6 (136) 15.5 (126) 13.6 (131)
21	137	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		79499252		8.123E-15		62.6 (137) 17.0 (169) 13.6 (157)
21	138	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		79499440		8.008E-15		70.7 (138) 20.1 (158) 9.19 (163)
21	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		79501047		1.690E-13		96.8 (139)
21	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		79502204		8.005E-15		41.1 (140) 29.7 (160) 29.1 (164)
21	141	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		79503120		8.219E-15		54.2 (141) 25.7 (168) 17.3 (162)
21	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		79503251		7.819E-14		92.4 (142)
21	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		79503752		8.268E-15		42.8 (143) 33.7 (163) 19.9 (158)
21	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		79504301		4.283E-14		81.5 (144)
21	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		79506443		3.922E-13		97.9 (145)
21	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		79518756		8.435E-15		86.2 (146)
21	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		79527694		7.479E-15		46.1 (147) 35.7 (129) 16.7 (122)
21	148	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		79533541		7.942E-15		92.9 (148)
21	149	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		79534744		9.404E-15		65.8 (149) 16.9 (127) 15.8 (119)
21	150	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		79536208		7.645E-15		60.9 (150) 26.3 (126) 8.99 (154)
21	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		79542856		7.921E-15		67.6 (151) 18.4 (129) 7.47 (118)
21	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		79549455		8.399E-15		96.8 (152)
21	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		79550413		8.064E-15		50.0 (153) 26.1 (156) 19.6 (128)
21	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		79555276		7.839E-15		65.1 (154) 24.3 (150) 7.06 (136)
21	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		79557025		7.961E-15		64.4 (155) 31.6 (134) 4.03 (165)
21	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		79565696		8.127E-15		53.7 (135) 35.5 (156) 5.51 (153)
21	157	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		79566820		8.152E-15		69.3 (157) 24.6 (137) 3.20 (123)
21	158	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		79568456		8.075E-15		40.0 (158) 31.1 (163) 28.9 (138)
21	159	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		79568627		8.232E-15		96.0 (159)
21	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		79570154		8.075E-15		66.5 (160) 30.9 (140) 2.63 (164)
21	161	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		79574595		8.069E-15		100. (161)
21	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		79574810		8.072E-15		43.7 (141) 35.2 (162) 21.0 (168)
21	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		79574841		8.089E-15		54.3 (143) 25.8 (163) 19.9 (158)
21	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		79576363		8.067E-15		68.2 (164) 27.9 (140) 3.85 (160)
21	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		79578962		7.732E-15		79.2 (165)
21	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		79581041		8.092E-15		100. (166)
21	167	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		79583473		8.061E-15		77.1 (167)
21	168	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		79583521		8.063E-15		52.6 (168) 46.4 (162) 1.06 (141)
21	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		79586089		8.069E-15		76.7 (169)
21	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		80451117		3.348E-14		77.2 (170)
21	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		80455454		1.152E-14		40.2 (171) 27.3 (208) 26.7 (181)
21	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		80457364		1.184E-14		67.7 (172) 32.3 (178)
21	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		80458155		2.656E-14		70.1 (173) 16.3 (226) 13.6 (184)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
21	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		80462551		8.971E-15		70.9 (174) 12.9 (207) 12.6 (185)
21	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		80464354		4.904E-14		69.5 (175) 18.7 (181) 3.54 (217)
21	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		80467344		3.593E-14		82.2 (176)
21	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		80470163		1.018E-14		44.7 (177) 20.5 (183) 19.9 (214)
21	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		80470962		2.130E-14		66.1 (178) 32.2 (172) 1.71 (218)
21	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		80476460		8.823E-15		72.9 (179)
21	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		80477820		9.981E-15		37.3 (180) 21.5 (207) 17.7 (170)
21	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		80478892		2.027E-14		43.5 (181) 29.8 (171) 21.4 (175)
21	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		80480040		7.046E-14		90.2 (182)
21	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		80481810		4.218E-14		64.2 (183) 18.4 (190) 6.50 (214)
21	184	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		80483327		1.022E-14		64.9 (184) 25.4 (173) 9.73 (226)
21	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		80483390		3.846E-14		82.6 (185)
21	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		80483706		9.728E-15		46.1 (186) 19.2 (227) 17.4 (199)
21	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		80487600		9.471E-15		35.0 (187) 29.1 (216) 18.8 (213)
21	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		80489340		8.126E-15		73.2 (188)
21	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		80490469		8.693E-15		54.3 (189) 21.7 (236) 14.6 (217)
21	190	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		80490594		4.448E-14		75.8 (190)
21	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		80490969		8.131E-15		42.0 (191) 31.0 (228) 27.0 (220)
21	192	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		80491341		1.001E-13		93.1 (192)
21	193	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		80491926		8.486E-15		47.5 (193) 28.3 (237) 18.9 (224)
21	194	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		80491971		8.094E-15		71.9 (194) 16.9 (222) 11.1 (230)
21	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		80492250		8.718E-15		45.8 (195) 28.6 (223) 17.6 (219)
21	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		80492382		8.088E-15		39.3 (196) 32.7 (231) 28.0 (225)
21	197	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		80492447		7.944E-14		92.1 (197)
21	198	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		80492473		8.627E-15		41.1 (198) 29.5 (229) 22.2 (235)
21	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		80492939		3.189E-14		74.5 (199)
21	200	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		80492947		8.643E-15		51.8 (200) 24.6 (230) 16.9 (222)
21	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		80494310		7.393E-13		98.2 (201)
21	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		80494381		6.439E-13		65.8 (202) 34.2 (205)
21	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		80494386		5.584E-13		100. (203)
21	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		80494691		1.280E-12		100. (204)
21	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		80494804		8.825E-13		66.4 (205) 33.6 (202)
21	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		80534483		8.256E-15		100. (206)
21	207	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		80539704		7.771E-15		52.9 (207) 30.4 (180) 16.8 (174)
21	208	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		80539737		8.548E-15		68.2 (208) 27.0 (171) 4.78 (181)
21	209	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		80542369		7.868E-15		98.5 (209)
21	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		80543064		7.825E-15		48.7 (210) 37.7 (177) 13.6 (214)
21	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		80546269		7.979E-15		67.1 (211) 21.3 (180) 8.52 (207)
21	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		80551000		8.204E-15		100. (212)
21	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		80551243		8.114E-15		56.0 (213) 20.4 (179) 20.0 (216)
21	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		80551835		7.849E-15		58.8 (214) 35.8 (210) 3.95 (177)
21	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		80554248		8.075E-15		56.6 (215) 39.1 (186) 4.35 (227)
21	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		80558022		8.125E-15		49.9 (187) 41.2 (216) 6.30 (213)
21	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		80558446		8.139E-15		67.9 (217) 29.2 (189) 1.65 (236)
21	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		80559238		8.182E-15		98.3 (218)
21	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		80560155		8.132E-15		42.3 (219) 31.1 (223) 26.6 (188)
21	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		80561051		8.131E-15		67.0 (220) 31.8 (191) 1.19 (228)
21	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		80562893		8.117E-15		100. (221)
21	222	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		80563097		8.163E-15		36.5 (222) 35.5 (230) 27.9 (194)
21	223	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		80563105		8.134E-15		49.0 (195) 29.8 (223) 21.3 (219)
21	224	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		80563183		8.128E-15		48.3 (193) 35.6 (224) 16.1 (237)
21	225	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		80563460		8.163E-15		71.7 (225) 19.1 (196) 9.28 (231)
21	226	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		80563844		8.070E-15		74.0 (226)
21	227	$2p_{3/2}5g_{7/2}(J=3)$	$2p5d^1F_3$		80564127		8.072E-15		31.4 (198) 30.6 (227) 14.2 (235)
21	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		80564146		8.117E-15		67.8 (228) 26.3 (191) 5.93 (220)
21	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		80564251		8.046E-15		41.3 (227) 23.5 (198) 11.5 (229)
21	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		80564506		8.159E-15		44.2 (200) 28.3 (222) 27.5 (230)
21	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		80564854		8.148E-15		58.2 (231) 41.8 (196)
21	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		80565157		8.149E-15		100. (232)
21	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		80566091		8.129E-15		100. (233)
21	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		80566404		8.146E-15		100. (234)
21	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		80566794		8.146E-15		54.6 (235) 45.4 (229)
21	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		80567489		8.109E-15		72.5 (236)
21	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		80567628		8.116E-15		54.1 (237) 44.0 (224) 1.91 (193)
21	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		81006466		2.961E-14		74.2 (238)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
21	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s\ ^3P_1$		81008179		1.101E-14		45.4 (239) 26.3 (283) 21.6 (249)
21	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s\ ^3P_0$		81009064		1.121E-14		71.9 (240) 28.1 (246)
21	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s\ ^1S_0$		81010058		2.265E-14		65.1 (241) 19.0 (254) 15.9 (296)
21	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p\ ^3D_1$		81012278		9.191E-15		71.2 (242) 11.8 (284) 11.6 (253)
21	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p\ ^3P_1$		81014208		5.329E-14		67.0 (243) 20.8 (249) 4.18 (258)
21	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p\ ^3P_2$		81015593		3.282E-14		78.1 (244)
21	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p\ ^3D_2$		81016662		1.002E-14		43.0 (245) 23.3 (288) 16.6 (251)
21	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p\ ^3P_0$		81018074		2.648E-14		72.2 (246) 27.8 (240)
21	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d\ ^3F_2$		81020116		8.834E-15		72.0 (247) 14.0 (290) 7.09 (271)
21	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p\ ^3P_1$		81021386		1.067E-14		36.4 (248) 22.9 (238) 19.4 (287)
21	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p\ ^1P_1$		81022737		2.428E-14		46.1 (249) 23.8 (243) 22.7 (239)
21	250	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d\ ^3D_3$		81023035		5.661E-14		87.0 (250)
21	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d\ ^3D_2$		81023880		4.486E-14		67.5 (251) 15.3 (262) 4.03 (288)
21	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		81024392		9.444E-15		43.3 (252) 23.5 (303) 18.6 (291)
21	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d\ ^3D_1$		81024877		4.989E-14		85.9 (253)
21	254	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p\ ^3P_0$		81024963		1.170E-14		54.2 (254) 33.0 (241) 12.8 (296)
21	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d\ ^3P_2$		81026840		1.016E-14		35.5 (255) 27.4 (292) 21.0 (244)
21	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f\ ^3G_3$		81027204		8.157E-15		74.1 (256)
21	257	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f\ ^3G_4$		81028188		8.150E-15		42.0 (257) 32.0 (304) 26.1 (297)
21	258	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d\ ^3D_1$		81028334		9.285E-15		48.2 (258) 23.4 (319) 14.2 (293)
21	259	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g\ ^3H_4$		81028776		8.096E-15		72.5 (259)
21	260	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f\ ^3F_2$		81028935		9.724E-15		39.6 (260) 25.7 (321) 17.5 (300)
21	261	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g\ ^3H_5$		81029028		8.089E-15		39.7 (261) 33.0 (309) 27.4 (302)
21	262	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d\ ^1D_2$		81029034		3.355E-14		63.6 (262) 13.6 (251) 8.34 (245)
21	263	$2p_{1/2}6g_{9/2}(J=4)$	$2s6f\ ^3F_4$		81029069		1.454E-14		44.4 (263) 31.7 (270) 15.0 (308)
21	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h\ ^1I_5$		81029136		8.072E-15		71.8 (264) 16.6 (313) 11.7 (305)
21	265	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$		81029148		8.182E-15		43.2 (265) 32.4 (306) 24.4 (320)
21	266	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f\ ^3D_3$		81029177		9.246E-15		45.4 (266) 25.6 (299) 16.1 (295)
21	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h\ ^3I_6$		81029281		8.072E-15		38.7 (267) 33.2 (311) 28.2 (307)
21	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$		81029379		8.101E-15		40.8 (268) 32.9 (310) 26.3 (317)
21	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$		81029522		8.101E-15		59.1 (269) 23.5 (305) 17.4 (313)
21	270	$2s_{1/2}6f_{7/2}(J=4)$	$2p6g\ ^3F_4$		81029672		1.786E-14		55.3 (270) 25.2 (270) 11.3 (308)
21	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f\ ^3F_2$		81029889		9.418E-14		92.9 (271)
21	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^3F_3$		81030088		4.969E-14		84.0 (272)
21	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^1F_3$		81031065		1.207E-12		98.2 (273)
21	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$		81031099		6.903E-13		100. (274)
21	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$		81031107		8.825E-13		72.2 (275) 27.8 (277)
21	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		81031273		2.086E-12		100. (276)
21	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		81031364		1.368E-12		72.8 (277)
21	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		81031423		2.878E-12		55.5 (278) 44.5 (281)
21	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		81031427		2.845E-12		100. (279)
21	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		81031568		2.895E-12		100. (280)
21	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		81031571		2.907E-12		55.5 (281) 44.5 (278)
21	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		81083891		8.224E-15		100. (282)
21	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		81086009		8.315E-15		67.6 (283) 30.7 (239) 1.63 (249)
21	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^1P_1$		81087065		7.960E-15		54.3 (284) 29.0 (248) 16.7 (242)
21	285	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		81088504		7.979E-15		100. (285)
21	286	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		81088708		7.969E-15		43.0 (286) 41.8 (245) 15.2 (288)
21	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$		81090169		8.008E-15		66.7 (287) 22.1 (248) 9.76 (284)
21	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		81093544		7.968E-15		55.0 (288) 41.2 (286) 3.72 (245)
21	289	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		81093575		8.191E-15		100. (289)
21	290	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		81093661		8.157E-15		58.1 (290) 20.6 (247) 17.8 (292)
21	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		81095281		8.135E-15		53.0 (291) 42.4 (252) 4.56 (303)
21	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		81097200		8.132E-15		48.0 (255) 43.4 (292) 6.35 (290)
21	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		81097361		8.133E-15		68.0 (293) 30.6 (258) 1.37 (319)
21	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		81097725		8.145E-15		100. (294)
21	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		81098684		8.163E-15		43.3 (295) 30.9 (299) 25.8 (256)
21	296	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		81099185		8.045E-15		71.1 (296) 26.9 (254) 1.92 (241)
21	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		81099200		8.163E-15		67.2 (297) 32.8 (257)
21	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		81100123		8.147E-15		100. (298)
21	299	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		81100309		8.158E-15		46.9 (266) 31.4 (299) 21.7 (295)
21	300	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		81100371		8.157E-15		50.0 (260) 36.0 (300) 14.0 (321)
21	301	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		81100387		8.170E-15		37.1 (301) 35.6 (308) 27.3 (259)
21	302	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		81100602		8.170E-15		72.1 (302) 19.8 (261) 8.10 (309)
21	303	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		81100650		8.081E-15		65.5 (303) 24.4 (291) 7.73 (252)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
21	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		81100897		8.153E-15		67.3 (304) 25.4 (257) 7.26 (297)
21	305	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		81101021		8.162E-15		36.3 (305) 35.6 (313) 28.1 (264)
21	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^1F_3$		81101043		8.169E-15		55.8 (265) 22.2 (306) 20.4 (320)
21	307	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		81101157		8.162E-15		71.5 (307) 19.1 (267) 9.45 (311)
21	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		81101219		8.173E-15		43.1 (270) 28.6 (301) 28.3 (308)
21	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		81101328		8.136E-15		59.3 (309) 40.7 (261)
21	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^1G_4$		81101357		8.176E-15		59.1 (268) 20.9 (310) 20.0 (317)
21	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		81101471		8.090E-15		57.6 (311) 42.4 (267)
21	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		81101482		8.136E-15		100. (312)
21	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		81101493		8.176E-15		40.7 (269) 30.6 (313) 28.7 (305)
21	314	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		81101612		8.090E-15		100. (314)
21	315	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		81101947		8.145E-15		100. (315)
21	316	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		81102104		8.156E-15		100. (316)
21	317	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^3G_4$		81102242		8.156E-15		53.7 (317) 46.3 (310)
21	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		81102304		8.159E-15		100. (318)
21	319	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^3P_1$		81102363		8.119E-15		69.6 (319) 16.1 (258) 14.3 (293)
21	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^3F_3$		81102543		8.161E-15		54.4 (320) 45.6 (306)
21	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		81102908		8.148E-15		54.6 (321) 43.0 (300) 2.48 (260)
22	1	$1s^2_1(J=0)$	$1s^2^1S_0$	0	0	0			100. (1)
22	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	37923880	37923509	37922221	2.678E-08	2.704E-08	100. (2)
22	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	38114760	38114564	38113210	3.617E-09	3.619E-09	100. (3)
22	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	38125260	38125056	38123713	8.920E-14	8.937E-14	95.6 (4)
22	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	38131640	38131323	38130063	7.602E-04	7.328E-04	100. (5)
22	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	38180620	38180443	38179094	4.295E-10	4.296E-10	100. (6)
22	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	38308340	38307933	38306785	4.171E-15	4.169E-15	95.6 (7)
22	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	44911910	44911544	44910299	6.698E-13	6.704E-13	100. (8)
22	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	44964560	44964200	44962976	2.260E-13	2.260E-13	100. (9)
22	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	44966970	44966265	44965160	7.023E-13	7.026E-13	100. (10)
22	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	44967630	44967286	44966068	1.282E-13	1.283E-13	95.0 (11)
22	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	44984160	44983824	44982602	2.309E-13	2.309E-13	100. (12)
22	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	45012940	45012550	45011363	7.808E-14	7.805E-14	69.2 (13) 30.8 (17)
22	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	45013170	45012778	45011586	7.780E-14	7.777E-14	100. (14)
22	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	45018670	45018224	45017088	1.443E-14	1.441E-14	95.0 (15)
22	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	45019460	45019071	45017879	7.843E-14	7.840E-14	100. (16)
22	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	45021140	45020744	45019565	7.929E-14	7.925E-14	69.2 (17) 30.8 (13)
22	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	47328500	47328706	47327518	9.767E-13	9.789E-13	100. (18)
22	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	47350600	47350380	47349190	3.853E-13	3.856E-13	100. (19)
22	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	47351600	47350900	47349750	1.018E-12	1.019E-12	100. (20)
22	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	47351900	47351677	47350490	2.484E-13	2.486E-13	94.8 (21)
22	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	47358900	47358666	47357477	3.921E-13	3.924E-13	100. (22)
22	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	47371000	47370522	47369345	1.816E-13	1.816E-13	71.7 (23) 28.3 (28)
22	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	47371100	47370555	47369377	1.808E-13	1.807E-13	100. (24)
22	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	47373500	47372720	47371564	3.434E-14	3.429E-14	94.8 (25)
22	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	47373800	47373210	47372032	1.823E-13	1.823E-13	100. (26)
22	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		47373949	47372778	3.710E-13	3.709E-13	56.8 (27) 43.2 (31)
22	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	47374500	47374065	47372890	1.851E-13	1.849E-13	71.7 (28) 28.3 (23)
22	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		47374109	47372937	3.710E-13	3.709E-13	100. (29)
22	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		47375445	47374273	3.720E-13	3.719E-13	100. (30)
22	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		47375573	47374402	3.722E-13	3.721E-13	56.8 (31) 43.2 (27)
22	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	48440800	48440781	48439604	1.541E-12	1.540E-12	100. (32)
22	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	48451630	48451745	48450566	6.579E-13	6.571E-13	100. (33)
22	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	48452600	48451931	48450777	1.588E-12	1.599E-12	100. (34)
22	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	48452700	48452408	48451230	4.438E-13	4.435E-13	94.7 (35)
22	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	48456300	48455987	48454808	6.681E-13	6.675E-13	100. (36)
22	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		48461994	48460820	3.494E-13	3.493E-13	72.7 (37)
22	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		48461998	48460824	3.479E-13	3.475E-13	100. (38)
22	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	48463700	48463074	48461918	6.709E-14	6.686E-14	94.7 (39)
22	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		48463358	48462184	3.511E-13	3.507E-13	100. (40)
22	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		48463770	48462598	7.170E-13	7.169E-13	57.1 (41) 42.9 (47)
22	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		48463828	48462656	3.562E-13	3.562E-13	72.7 (42)
22	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		48463851	48462678	7.169E-13	7.167E-13	100. (43)
22	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		48464535	48463362	7.189E-13	7.188E-13	100. (44)
22	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		48464551	48463380	1.205E-12	1.205E-12	55.1 (45) 44.9 (49)
22	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		48464600	48463429	1.206E-12	1.205E-12	100. (46)
22	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		48464602	48463431	7.196E-13	7.193E-13	57.1 (47) 42.9 (41)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
22	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		48465011	48463840	1.207E-12	1.207E-12	100. (48)
22	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		48465050	48463879	1.207E-12	1.207E-12	55.1 (49) 44.9 (45)
22	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		49042631	49041421	2.419E-12	2.361E-12	100. (50)
22	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		49048928	49047719	1.072E-12	1.056E-12	100. (51)
22	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		49049018	49047842	2.339E-12	2.434E-12	100. (52)
22	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$	49000000	49049311	49048104	7.356E-13	7.284E-13	94.7 (53)
22	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		49051383	49050174	1.088E-12	1.072E-12	100. (54)
22	55	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		49054826	49053629	5.985E-13	5.931E-13	100. (55)
22	56	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		49054828	49053631	5.988E-13	5.966E-13	73.2 (56)
22	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$	49000000	49055452	49054269	1.156E-13	1.145E-13	94.7 (57)
22	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		49055613	49054416	6.045E-13	5.990E-13	100. (58)
22	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		49055849	49054666	1.225E-12	1.225E-12	57.2 (59) 42.8 (65)
22	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		49055895	49054699	6.054E-13	6.089E-13	73.2 (60)
22	61	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		49055895	49054712	1.225E-12	1.225E-12	100. (61)
22	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		49056291	49055108	1.228E-12	1.229E-12	100. (62)
22	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		49056294	49055119	2.068E-12	2.067E-12	55.1 (63) 44.9 (69)
22	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		49056322	49055147	2.068E-12	2.067E-12	100. (64)
22	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		49056331	49055148	1.230E-12	1.229E-12	57.2 (65) 42.8 (59)
22	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		49056559	49055388	3.120E-12	3.120E-12	54.2 (66) 45.8 (71)
22	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		49056560	49055385	2.071E-12	2.070E-12	100. (67)
22	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		49056577	49055406	3.121E-12	3.120E-12	100. (68)
22	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		49056583	49055408	2.071E-12	2.070E-12	55.1 (69) 44.9 (63)
22	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		49056736	49055565	3.123E-12	3.122E-12	100. (70)
22	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		49056751	49055580	3.123E-12	3.122E-12	54.2 (71) 45.8 (66)
22	72	$2s^2_1/2(J=0)$	$2s^2^1S_0$	77684000	77685450		1.849E-14		79.8 (72)
22	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	77717000	77715764		7.104E-15		100. (73)
22	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	77739000	77737796		7.110E-15		98.3 (74)
22	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	77798000	77799077		7.164E-15		100. (75)
22	76	$2p^2_1/2(J=0)$	$2p^2^3P_0$	77913000	77912506		3.679E-15		96.0 (76)
22	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	77948000	77948269		3.542E-15		100. (77)
22	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	77984000	77983306		3.542E-15		81.4 (78)
22	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	78046000	78047258		6.919E-15		98.3 (79)
22	80	$2p^2_3/2(J=2)$	$2p^2^1D_2$	78085000	78085447		3.539E-15		81.4 (80)
22	81	$2p^2_3/2(J=0)$	$2p^2^1S_0$	78338000	78339031		4.257E-15		80.9 (81)
22	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		84849340		2.352E-14		79.0 (82)
22	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		84877865		9.650E-15		44.5 (83) 38.8 (108) 13.7 (91)
22	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		84903982		2.517E-14		76.9 (84)
22	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		84908978		8.913E-15		69.3 (85) 30.7 (88)
22	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		84912017		5.769E-15		71.9 (86) 17.4 (92) 9.57 (98)
22	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		84923116		1.522E-14		70.7 (87) 23.2 (91) 3.14 (113)
22	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		84931947		1.237E-14		63.1 (88) 29.2 (85) 7.67 (114)
22	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		84941858		1.885E-14		87.4 (89)
22	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		84949368		6.543E-15		70.0 (90) 23.2 (97) 3.96 (111)
22	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		84955954		8.905E-15		56.8 (91) 20.9 (87) 14.8 (83)
22	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		84976071		6.264E-15		56.0 (92) 13.0 (101) 10.5 (98)
22	93	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		84987509		1.238E-14		65.4 (93) 34.6 (103)
22	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		84991303		6.781E-15		68.2 (94) 20.0 (102) 9.89 (95)
22	95	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		84998066		6.689E-15		76.5 (95)
22	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		85008612		5.777E-15		90.3 (96)
22	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		85016538		1.553E-14		53.0 (97) 17.8 (111) 15.4 (100)
22	98	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		85016594		1.674E-14		70.6 (98) 17.2 (101) 8.44 (86)
22	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		85024187		6.700E-15		83.9 (99)
22	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		85043432		1.355E-14		38.3 (100) 23.2 (97) 19.4 (90)
22	101	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		85043533		5.992E-15		52.4 (101) 21.0 (92) 12.2 (86)
22	102	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		85047027		6.783E-15		49.0 (102) 19.9 (109) 8.85 (112)
22	103	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		85058275		8.331E-15		65.4 (103) 34.6 (93)
22	104	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		85060457		6.242E-15		70.9 (104) 10.5 (116) 10.0 (113)
22	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		85074039		6.328E-15		80.0 (105)
22	106	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3S_1$		85074742		6.128E-15		66.7 (106) 16.8 (101) 12.3 (82)
22	107	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		85082863		6.929E-15		100. (107)
22	108	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		85086986		8.592E-15		54.2 (108) 32.9 (83) 8.10 (104)
22	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		85099599		6.374E-15		51.5 (109) 27.0 (102) 11.7 (94)
22	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		85119012		6.118E-15		82.3 (110)
22	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		85134210		7.150E-15		61.2 (111) 30.4 (100) 8.34 (105)
22	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		85144541		6.645E-15		62.5 (112) 25.0 (109) 6.04 (89)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
22	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d\ ^3P_1$		85146979		6.652E-15		75.0 (113)
22	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d\ ^3P_0$		85151024		6.742E-15		92.2 (114)
22	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d\ ^1F_3$		85189801		5.812E-15		90.9 (115)
22	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d\ ^1P_1$		85206396		6.402E-15		84.5 (116)
22	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p\ ^1S_0$		85209291		6.179E-15		79.1 (117)
22	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s\ ^3S_1$		87340241		2.838E-14		79.1 (118)
22	119	$2p_{1/2}4s_{1/2}(J=1)$	$2s4p\ ^1P_1$		87351533		9.686E-15		33.5 (119) 32.5 (127) 30.6 (148)
22	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s\ ^3P_0$		87357089		9.911E-15		65.2 (120) 34.8 (125)
22	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s\ ^1S_0$		87357095		2.405E-14		73.6 (121)
22	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p\ ^3D_1$		87365703		6.913E-15		71.7 (122) 14.6 (147) 11.9 (133)
22	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p\ ^3P_1$		87367716		2.845E-14		72.0 (123) 13.2 (119) 8.45 (127)
22	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		87376062		1.723E-14		84.1 (124)
22	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p\ ^3P_0$		87379507		2.484E-14		62.0 (125) 34.5 (120) 3.49 (158)
22	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		87382748		8.069E-15		50.3 (126) 23.9 (131) 14.8 (154)
22	127	$2s_{1/2}4p_{3/2}(J=1)$	$2p4s\ ^3P_1$		87395485		1.332E-14		39.6 (127) 36.7 (119) 20.8 (123)
22	128	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		87396512		7.163E-15		74.4 (128)
22	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		87396876		7.657E-15		34.8 (129) 27.7 (147) 14.5 (151)
22	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		87401666		4.747E-14		91.7 (130)
22	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^3D_2$		87406350		2.713E-14		60.5 (131) 20.2 (136) 10.8 (154)
22	132	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		87406488		7.355E-15		76.0 (132)
22	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		87408752		2.570E-14		78.8 (133)
22	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		87411596		7.817E-15		54.2 (134) 16.1 (155) 15.5 (144)
22	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d\ ^3F_2$		87418054		7.265E-15		31.9 (135) 28.4 (156) 21.0 (153)
22	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^1D_2$		87424009		3.043E-14		70.9 (136) 14.0 (126) 12.0 (131)
22	137	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		87425069		6.769E-15		60.9 (137) 18.2 (169) 14.2 (157)
22	138	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		87425323		6.650E-15		71.2 (138) 19.7 (159) 9.04 (163)
22	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f\ ^3F_4$		87427702		1.732E-13		97.8 (139)
22	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3G_4$		87428472		6.647E-15		41.3 (140) 29.6 (164) 29.1 (160)
22	141	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		87429261		6.831E-15		52.7 (141) 26.6 (168) 17.8 (161)
22	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f\ ^3F_2$		87429549		6.788E-14		93.5 (142)
22	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f\ ^3D_3$		87430142		6.896E-15		44.0 (143) 32.8 (163) 19.2 (159)
22	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f\ ^3F_3$		87430675		3.631E-14		80.7 (144)
22	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f\ ^1F_3$		87433067		3.182E-13		96.8 (145)
22	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s\ ^3P_2$		87454452		6.950E-15		90.6 (146)
22	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p\ ^1P_1$		87464762		6.181E-15		46.8 (147) 35.7 (129) 16.5 (122)
22	148	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s\ ^1P_1$		87470285		7.613E-15		67.4 (148) 19.4 (127) 13.2 (119)
22	149	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p\ ^3D_3$		87471281		6.466E-15		94.8 (149)
22	150	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p\ ^3P_2$		87473156		6.312E-15		56.2 (150) 29.0 (126) 11.5 (154)
22	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p\ ^3S_1$		87480272		6.498E-15		67.7 (151) 17.9 (129) 8.18 (147)
22	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d\ ^1F_4$		87488776		6.914E-15		97.8 (152)
22	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d\ ^1D_2$		87489568		6.686E-15		51.4 (153) 24.9 (156) 19.9 (128)
22	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p\ ^1D_2$		87493787		6.391E-15		62.9 (154) 28.8 (150) 5.07 (136)
22	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d\ ^3D_3$		87496551		6.608E-15		62.2 (155) 33.4 (134) 4.44 (165)
22	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d\ ^3D_2$		87505550		6.718E-15		53.0 (156) 36.6 (156) 6.03 (153)
22	157	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d\ ^3P_1$		87506455		6.735E-15		69.4 (157) 26.1 (137) 2.63 (123)
22	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d\ ^3P_0$		87508323		6.800E-15		96.7 (158)
22	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f\ ^1F_3$		87509020		6.710E-15		39.9 (159) 31.7 (163) 28.4 (138)
22	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f\ ^3F_4$		87510958		6.710E-15		66.6 (160) 31.2 (140) 2.23 (164)
22	161	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f\ ^3D_2$		87515565		6.706E-15		45.0 (161) 34.7 (161) 20.3 (168)
22	162	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f\ ^3G_5$		87515703		6.705E-15		100. (162)
22	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f\ ^3F_3$		87515774		6.718E-15		52.9 (163) 26.2 (163) 20.9 (159)
22	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f\ ^1G_4$		87517457		6.704E-15		68.1 (164) 27.5 (140) 4.33 (160)
22	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d\ ^1F_3$		87519651		6.425E-15		77.3 (165)
22	166	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f\ ^3D_1$		87522184		6.719E-15		100. (166)
22	167	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p\ ^1S_0$		87522907		6.604E-15		76.7 (167)
22	168	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f\ ^1D_2$		87525008		6.699E-15		52.5 (168) 46.4 (161) 1.14 (141)
22	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d\ ^1P_1$		87527022		6.678E-15		75.6 (169)
22	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s\ ^3S_1$		88476107		2.779E-14		77.5 (170)
22	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s\ ^3P_1$		88480506		9.327E-15		42.2 (171) 27.3 (207) 25.1 (181)
22	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s\ ^3P_0$		88482277		9.680E-15		68.7 (172) 31.3 (178)
22	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s\ ^1S_0$		88483325		2.139E-14		69.4 (173) 15.9 (222) 14.7 (184)
22	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p\ ^3D_1$		88487781		7.404E-15		71.2 (174) 13.0 (208) 11.7 (185)
22	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p\ ^3P_1$		88490037		4.204E-14		69.8 (175) 19.0 (181) 3.28 (217)
22	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p\ ^3P_2$		88493670		2.944E-14		81.9 (176)
22	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p\ ^3D_2$		88496470		8.344E-15		44.3 (177) 20.8 (214) 19.6 (183)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
22	178	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		88496786		1.831E-14		67.4 (178) 31.2 (172) 1.36 (218)
22	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		88502963		7.302E-15		73.0 (179)
22	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		88504382		8.292E-15		37.6 (180) 20.2 (208) 18.6 (211)
22	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		88505771		1.781E-14		45.4 (181) 27.2 (171) 21.8 (175)
22	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		88507257		5.853E-14		90.3 (182)
22	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		88508833		3.629E-14		65.7 (183) 17.5 (190) 5.85 (214)
22	184	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		88509988		8.671E-15		62.2 (184) 27.0 (173) 10.8 (222)
22	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		88510371		3.385E-14		83.7 (185)
22	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		88510922		8.002E-15		45.3 (186) 20.3 (227) 17.7 (215)
22	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		88514970		7.912E-15		35.5 (187) 28.9 (216) 18.0 (213)
22	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		88516669		6.744E-15		73.4 (188)
22	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		88517736		7.253E-15		53.0 (189) 22.5 (236) 14.8 (217)
22	190	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		88518315		3.803E-14		77.6 (190)
22	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		88518508		6.746E-15		41.9 (191) 31.3 (228) 26.8 (220)
22	192	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		88519145		6.645E-14		91.0 (192)
22	193	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		88519402		7.081E-15		46.6 (193) 28.6 (237) 19.0 (223)
22	194	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		88519537		6.735E-15		72.1 (194) 16.7 (225) 11.2 (230)
22	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		88519849		7.272E-15		46.3 (195) 28.1 (224) 17.2 (219)
22	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		88520032		6.717E-15		39.4 (196) 32.7 (231) 27.9 (226)
22	197	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		88520054		7.001E-15		42.2 (197) 30.7 (229) 23.1 (235)
22	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		88520137		6.968E-14		92.5 (198)
22	199	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		88520621		7.334E-15		51.0 (199) 24.0 (230) 16.3 (225)
22	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		88520660		3.016E-14		76.7 (200)
22	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		88522206		5.891E-13		97.4 (201)
22	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		88522294		5.621E-13		65.0 (202) 35.0 (205)
22	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		88522299		4.977E-13		100. (203)
22	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		88522680		1.067E-12		100. (204)
22	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		88522801		7.707E-13		65.4 (205) 34.6 (202)
22	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		88574338		6.849E-15		100. (206)
22	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		88579509		7.032E-15		68.2 (207) 28.2 (171) 3.67 (181)
22	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		88580155		6.452E-15		51.3 (208) 32.0 (180) 16.7 (174)
22	209	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		88583242		6.512E-15		98.9 (209)
22	210	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		88583382		6.889E-15		45.3 (210) 39.3 (177) 15.4 (214)
22	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		88586869		6.590E-15		67.2 (211) 19.5 (180) 10.8 (208)
22	212	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		88592609		6.809E-15		100. (212)
22	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$		88592741		6.740E-15		56.2 (213) 20.6 (179) 20.1 (216)
22	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		88593102		6.497E-15		56.5 (214) 39.1 (210) 3.40 (177)
22	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		88595889		6.709E-15		55.0 (215) 40.3 (186) 4.72 (227)
22	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		88599834		6.739E-15		50.2 (187) 41.6 (216) 6.90 (213)
22	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		88600135		6.748E-15		68.3 (217) 30.1 (189) 1.66 (236)
22	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		88600944		6.781E-15		98.6 (218)
22	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		88602294		6.759E-15		42.0 (219) 31.6 (224) 26.4 (188)
22	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		88603310		6.759E-15		67.3 (220) 32.7 (191)
22	221	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		88605280		6.747E-15		100. (221)
22	222	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		88605409		6.652E-15		73.3 (222)
22	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		88605434		6.755E-15		48.9 (193) 35.4 (223) 15.6 (237)
22	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		88605443		6.760E-15		48.3 (195) 29.6 (224) 22.0 (219)
22	225	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^1G_4$		88605487		6.785E-15		36.2 (225) 36.1 (230) 27.8 (194)
22	226	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		88605926		6.785E-15		71.7 (226) 19.5 (196) 8.75 (231)
22	227	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		88606384		6.631E-15		65.0 (227) 21.6 (215) 6.58 (186)
22	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		88606560		6.748E-15		67.8 (228) 25.6 (191) 6.57 (220)
22	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		88606633		6.769E-15		52.0 (197) 21.7 (229) 19.2 (235)
22	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		88607014		6.782E-15		43.8 (199) 28.9 (225) 27.2 (230)
22	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		88607356		6.774E-15		58.8 (231) 41.2 (196)
22	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		88607731		6.774E-15		100. (232)
22	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		88608497		6.755E-15		100. (233)
22	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		88608955		6.772E-15		100. (234)
22	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		88609423		6.772E-15		54.3 (235) 45.7 (229)
22	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		88609814		6.727E-15		71.6 (236) 14.5 (189) 14.0 (217)
22	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		88610224		6.746E-15		54.0 (237) 44.0 (223) 2.01 (193)
22	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		89087685		2.420E-14		73.1 (238)
22	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		89089347		8.931E-15		47.5 (239) 26.8 (283) 20.4 (249)
22	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		89090164		9.155E-15		73.1 (240)
22	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		89091349		1.826E-14		64.1 (241) 20.2 (253) 15.7 (296)
22	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		89093565		7.602E-15		71.5 (242) 11.8 (284) 10.7 (254)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
22	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p\ ^3P_1$		89095839		4.496E-14		67.7 (243) 21.2 (249) 4.34 (257)
22	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p\ ^3P_2$		89097587		2.657E-14		77.6 (244)
22	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p\ ^3D_2$		89098553		8.200E-15		43.1 (245) 24.0 (288) 15.6 (251)
22	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p\ ^3P_0$		89099786		2.295E-14		73.4 (246)
22	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d\ ^3F_2$		89102120		7.310E-15		72.1 (247) 13.9 (290) 6.63 (271)
22	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p\ ^3P_1$		89103430		8.852E-15		36.6 (248) 23.0 (238) 20.1 (287)
22	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p\ ^1P_1$		89105013		2.110E-14		46.5 (249) 24.2 (243) 20.7 (239)
22	250	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d\ ^3D_3$		89105536		4.471E-14		86.2 (250)
22	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d\ ^3D_2$		89106288		3.770E-14		68.4 (251) 14.7 (266) 3.83 (260)
22	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		89106788		7.746E-15		43.1 (252) 24.4 (302) 19.0 (291)
22	253	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p\ ^3P_0$		89107056		9.933E-15		52.1 (253) 34.4 (241) 13.5 (296)
22	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d\ ^3D_1$		89107277		4.450E-14		86.9 (254)
22	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d\ ^3F_2$		89109339		8.495E-15		35.7 (255) 27.1 (292) 21.6 (244)
22	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f\ ^3G_3$		89109666		6.771E-15		74.2 (256)
22	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d\ ^3D_1$		89110763		7.754E-15		47.3 (257) 23.9 (317) 14.2 (293)
22	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f\ ^3G_4$		89110775		6.764E-15		41.9 (258) 32.1 (304) 26.0 (297)
22	259	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g\ ^3H_4$		89111379		6.726E-15		72.6 (259)
22	260	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f\ ^3F_2$		89111497		7.458E-15		42.6 (260) 28.3 (321) 19.0 (300)
22	261	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g\ ^3H_5$		89111681		6.723E-15		39.7 (261) 33.0 (309) 27.3 (303)
22	262	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$		89111755		6.780E-15		43.0 (262) 32.6 (305) 24.5 (320)
22	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h\ ^3I_5$		89111790		6.712E-15		71.8 (263) 16.7 (313) 11.5 (306)
22	264	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g\ ^3F_4$		89111791		9.409E-15		40.8 (264) 28.5 (270) 18.9 (308)
22	265	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f\ ^3D_3$		89111816		7.755E-15		45.3 (265) 25.2 (299) 15.8 (295)
22	266	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d\ ^1D_2$		89111816		4.310E-14		76.0 (266)
22	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h\ ^3I_6$		89111966		6.712E-15		38.7 (267) 33.2 (311) 28.1 (307)
22	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$		89112031		6.731E-15		40.7 (268) 32.9 (310) 26.3 (318)
22	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$		89112204		6.731E-15		59.3 (269) 23.5 (306) 17.2 (313)
22	270	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f\ ^3F_4$		89112480		2.289E-14		71.3 (270) 16.2 (264) 7.23 (308)
22	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f\ ^3F_2$		89112694		8.390E-14		93.4 (271)
22	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^3F_3$		89112906		4.502E-14		84.4 (272)
22	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^1F_3$		89114001		9.590E-13		97.6 (273)
22	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$		89114045		6.342E-13		100. (274)
22	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$		89114055		7.961E-13		71.0 (275) 29.0 (277)
22	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		89114263		1.764E-12		100. (276)
22	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		89114360		1.217E-12		71.5 (277) 28.5 (275)
22	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		89114419		2.443E-12		55.4 (278) 44.6 (281)
22	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		89114424		2.440E-12		100. (279)
22	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		89114595		2.456E-12		100. (280)
22	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		89114600		2.484E-12		55.4 (281) 44.6 (278)
22	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		89179908		6.830E-15		100. (282)
22	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		89182029		6.886E-15		67.6 (283) 31.2 (239) 1.23 (249)
22	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^1P_1$		89183418		6.614E-15		51.8 (284) 31.6 (248) 16.6 (242)
22	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		89184982		6.619E-15		43.0 (245) 40.4 (285) 16.6 (288)
22	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		89185124		6.624E-15		100. (286)
22	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$		89186634		6.641E-15		66.8 (287) 19.4 (248) 12.7 (284)
22	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		89190389		6.616E-15		53.2 (288) 43.7 (285) 3.19 (245)
22	289	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		89190602		6.805E-15		100. (289)
22	290	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		89190621		6.778E-15		57.9 (290) 20.7 (247) 18.3 (292)
22	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		89192315		6.761E-15		51.8 (291) 43.3 (252) 4.92 (302)
22	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		89194338		6.755E-15		48.6 (255) 43.3 (292) 7.00 (290)
22	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		89194428		6.755E-15		67.7 (293) 30.9 (257) 1.39 (317)
22	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		89194801		6.764E-15		100. (294)
22	295	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		89195995		6.786E-15		42.9 (295) 31.4 (299) 25.7 (256)
22	296	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		89196217		6.666E-15		70.7 (296) 27.8 (253) 1.49 (241)
22	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		89196580		6.786E-15		66.4 (297) 33.6 (258)
22	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		89197573		6.776E-15		100. (298)
22	299	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		89197739		6.781E-15		46.6 (265) 31.1 (299) 22.4 (295)
22	300	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		89197751		6.781E-15		50.3 (260) 36.0 (300) 13.7 (321)
22	301	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^1G_4$		89197844		6.794E-15		36.7 (301) 36.1 (308) 27.2 (259)
22	302	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		89198005		6.716E-15		66.2 (302) 26.1 (291) 7.72 (252)
22	303	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		89198103		6.794E-15		72.0 (303) 20.5 (261) 7.56 (309)
22	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		89198370		6.781E-15		67.4 (304) 24.7 (258) 7.98 (297)
22	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		89198524		6.793E-15		56.3 (262) 21.8 (305) 20.9 (320)
22	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$		89198546		6.789E-15		36.8 (306) 35.2 (313) 28.0 (263)
22	307	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		89198712		6.789E-15		71.4 (307) 19.8 (267) 8.82 (311)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
22	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		89198744		6.795E-15		42.9 (264) 29.2 (301) 28.0 (308)
22	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		89198853		6.771E-15		59.9 (309) 40.1 (261)
22	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^1G_4$		89198893		6.798E-15		59.2 (268) 20.6 (310) 20.2 (318)
22	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		89199032		6.740E-15		58.3 (311) 41.7 (267)
22	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		89199044		6.771E-15		100. (312)
22	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^1H_5$		89199059		6.798E-15		40.6 (269) 31.1 (313) 28.3 (306)
22	314	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		89199203		6.740E-15		100. (314)
22	315	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		89199407		6.772E-15		100. (315)
22	316	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		89199678		6.784E-15		100. (316)
22	317	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		89199791		6.746E-15		69.0 (317) 16.3 (257) 14.7 (293)
22	318	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^3G_4$		89199846		6.784E-15		53.5 (318) 46.5 (310)
22	319	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		89199853		6.785E-15		100. (319)
22	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		89200137		6.787E-15		54.1 (320) 45.9 (305)
22	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		89200483		6.774E-15		54.6 (321) 42.9 (300) 2.57 (260)
23	1	$1s_{1/2}^2(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
23	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	41568880	41568458		1.698E-08		100. (2)
23	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	41770130	41769888		3.390E-09		100. (3)
23	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	41782100	41781855		6.094E-14		94.7 (4)
23	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	41787830	41787465		9.382E-04		100. (5)
23	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	41849950	41849736		3.135E-10		100. (6)
23	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	41982380	41981912		3.505E-15		94.7 (7)
23	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	49234710	49234329		5.570E-13		100. (8)
23	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	49290220	49289850		1.874E-13		100. (9)
23	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	49292760	49292011		5.832E-13		100. (10)
23	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	49293700	49293352		9.755E-14		94.0 (11)
23	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	49313970	49313631		1.918E-13		100. (12)
23	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$	49344160	49343762		6.479E-14		68.1 (13) 31.9 (17)
23	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	49344470	49344073		6.458E-14		100. (14)
23	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	49349740	49349293		1.213E-14		94.0 (15)
23	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	49352090	49351698		6.516E-14		100. (16)
23	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	49353910	49353505		6.579E-14		68.1 (17) 31.9 (13)
23	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	51886600	51886846		8.120E-13		100. (18)
23	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	51909900	51909696		3.195E-13		100. (19)
23	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	51910900	51910237		8.455E-13		100. (20)
23	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	51911400	51911166		1.921E-13		93.8 (21)
23	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	51919900	51919737		3.257E-13		100. (22)
23	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$	51932600	51932176		1.507E-13		70.4 (23) 29.6 (28)
23	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$	51932700	51932238		1.501E-13		100. (24)
23	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	51935100	51934305		2.889E-14		93.8 (25)
23	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$	51935800	51935456		1.515E-13		100. (26)
23	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		51936235		3.079E-13		56.8 (27) 43.2 (31)
23	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$	51936800	51936373		1.535E-13		70.4 (28) 29.6 (23)
23	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		51936419		3.079E-13		100. (29)
23	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		51938037		3.088E-13		100. (30)
23	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		51938183		3.090E-13		56.8 (31) 43.2 (27)
23	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	53107300	53107319		1.282E-12		100. (32)
23	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$	53118760	53118878		5.460E-13		100. (33)
23	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	53119700	53119070		1.318E-12		100. (34)
23	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p\ ^3P_1$	53119900	53119628		3.455E-13		93.7 (35)
23	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p\ ^3P_2$	53124300	53124017		5.554E-13		100. (36)
23	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d\ ^3D_2$		53130321		2.900E-13		71.3 (37) 28.7 (42)
23	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d\ ^3D_1$		53130339		2.889E-13		100. (38)
23	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p\ ^1P_1$	53132000	53131364		5.644E-14		93.7 (39)
23	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d\ ^3D_3$		53131986		2.918E-13		100. (40)
23	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f\ ^3F_3$		53132421		5.949E-13		57.0 (41) 43.0 (47)
23	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d\ ^1D_2$		53132489		2.953E-13		71.3 (42) 28.7 (37)
23	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f\ ^3F_2$		53132513		5.949E-13		100. (43)
23	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f\ ^3F_4$		53133342		5.967E-13		100. (44)
23	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g\ ^3G_4$		53133360		1.000E-12		55.1 (45) 44.9 (49)
23	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g\ ^3G_3$		53133416		1.001E-12		100. (46)
23	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f\ ^1F_3$		53133419		5.972E-13		57.0 (47) 43.0 (41)
23	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g\ ^3G_5$		53133913		1.002E-12		100. (48)
23	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g\ ^1G_4$		53133958		1.002E-12		55.1 (49) 44.9 (45)
23	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s\ ^3S_1$		53767859		2.008E-12		100. (50)
23	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p\ ^3P_0$		53774496		8.887E-13		100. (51)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
23	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		53774590		1.946E-12		100. (52)
23	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		53774929		5.736E-13		93.6 (53)
23	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		53777471		9.027E-13		100. (54)
23	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		53781085		4.966E-13		71.7 (55) 28.3 (60)
23	56	$1s_{1/2}6d_{5/2}(J=1)$	$1s6d^3D_1$		53781091		4.966E-13		100. (56)
23	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		53781688		9.728E-14		93.6 (57)
23	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		53782045		5.021E-13		100. (58)
23	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		53782293		1.017E-12		57.2 (59) 42.8 (65)
23	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		53782346		5.023E-13		71.7 (60) 28.3 (55)
23	61	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		53782346		1.016E-12		100. (61)
23	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		53782826		1.020E-12		100. (62)
23	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		53782829		1.716E-12		55.1 (63) 44.9 (69)
23	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		53782861		1.716E-12		100. (64)
23	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		53782871		1.021E-12		57.1 (65) 42.9 (59)
23	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		53783148		2.590E-12		54.2 (66) 45.8 (71)
23	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		53783149		1.719E-12		100. (67)
23	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		53783169		2.590E-12		100. (68)
23	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		53783175		1.719E-12		55.1 (69) 44.9 (63)
23	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		53783361		2.592E-12		100. (70)
23	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		53783379		2.592E-12		54.2 (71) 45.8 (66)
23	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	85064000	85065956		1.545E-14		79.9 (72)
23	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	85098000	85095911		5.935E-15		100. (73)
23	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	85123000	85121579		5.940E-15		97.9 (74)
23	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	85195000	85195780		5.990E-15		100. (75)
23	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	85309000	85307552		3.102E-15		94.0 (76)
23	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	85352000	85351884		2.962E-15		100. (77)
23	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	85392000	85391207		2.961E-15		77.7 (78)
23	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	85452000	85453414		5.796E-15		97.9 (79)
23	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	85505000	85505549		2.962E-15		77.7 (80)
23	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	85766000	85766782		3.522E-15		81.1 (81)
23	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		92915662		2.043E-14		80.0 (82)
23	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		92946070		7.969E-15		43.1 (83) 37.8 (107) 16.3 (91)
23	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		92972406		2.085E-14		76.9 (84)
23	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		92976654		7.384E-15		70.2 (85) 29.8 (88)
23	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		92980093		4.812E-15		72.1 (86) 17.5 (92) 8.96 (97)
23	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		92992994		1.299E-14		71.8 (87) 22.0 (91) 3.32 (83)
23	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		93001775		1.062E-14		64.8 (88) 28.5 (85) 6.77 (114)
23	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		93015351		1.585E-14		87.1 (89)
23	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		93024035		5.483E-15		68.6 (90) 23.3 (98) 4.80 (111)
23	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		93031505		7.677E-15		54.7 (91) 20.5 (87) 18.2 (83)
23	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		93052996		5.328E-15		50.2 (92) 16.0 (102) 11.2 (97)
23	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		93066887		5.689E-15		76.1 (93)
23	94	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		93067373		1.207E-14		71.8 (94) 28.2 (104)
23	95	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		93081213		5.577E-15		81.7 (95)
23	96	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		93084003		4.904E-15		88.4 (96)
23	97	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		93093005		1.512E-14		73.9 (97)
23	98	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		93093349		1.377E-14		55.9 (98) 16.2 (111) 14.6 (100)
23	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		93104084		5.582E-15		81.4 (99)
23	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		93125372		1.198E-14		44.1 (100) 20.4 (98) 19.2 (90)
23	101	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		93129429		5.701E-15		42.6 (101) 22.1 (109) 11.5 (95)
23	102	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		93129430		4.856E-15		52.2 (102) 25.4 (92) 12.6 (86)
23	103	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		93140105		5.212E-15		69.3 (103) 11.6 (116) 11.1 (113)
23	104	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		93145787		6.368E-15		71.8 (104) 28.2 (94)
23	105	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^3P_2$		93162155		5.310E-15		78.0 (105)
23	106	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		93163045		5.049E-15		66.9 (106) 16.7 (102) 10.9 (82)
23	107	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		93172028		7.129E-15		55.9 (107) 31.5 (83) 6.64 (103)
23	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		93176276		5.802E-15		100. (108)
23	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		93191261		5.357E-15		45.8 (109) 32.2 (101) 13.3 (93)
23	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		93212692		5.136E-15		79.5 (110)
23	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		93224541		5.651E-15		62.2 (111) 25.1 (100) 11.6 (105)
23	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		93239192		5.517E-15		60.8 (112) 27.3 (109) 5.17 (89)
23	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		93241174		5.525E-15		74.0 (113)
23	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		93245500		5.609E-15		93.1 (114)
23	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		93286977		4.870E-15		89.3 (115)
23	116	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		93304290		5.341E-15		83.4 (116)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
23	117	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		93304312		5.106E-15		79.2 (117)
23	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		95644655		2.423E-14		79.7 (118)
23	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		95656367		7.903E-15		35.2 (119) 31.5 (127) 30.1 (148)
23	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		95661558		8.194E-15		66.1 (120) 33.9 (125)
23	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		95661989		1.966E-14		73.2 (121)
23	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		95670718		5.757E-15		72.0 (122) 14.8 (147) 11.1 (133)
23	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		95673492		2.491E-14		72.7 (123)
23	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		95683370		2.281E-14		84.3 (124)
23	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		95685496		1.280E-14		63.4 (125) 33.7 (120) 2.90 (158)
23	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		95690267		6.693E-15		49.2 (126) 23.1 (132) 16.0 (154)
23	127	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		95704053		1.190E-14		39.9 (127) 35.7 (119) 20.7 (123)
23	128	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		95704340		5.984E-15		74.4 (128)
23	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		95704855		6.426E-15		35.6 (129) 25.3 (147) 15.9 (151)
23	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		95710936		4.341E-14		92.9 (130)
23	131	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		95714452		6.286E-15		73.2 (131)
23	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		95715015		2.390E-14		62.7 (132) 19.2 (136) 9.68 (154)
23	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		95717273		2.264E-14		79.9 (133)
23	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		95721046		6.519E-15		52.5 (134) 16.7 (155) 15.6 (165)
23	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		95727956		6.139E-15		33.0 (135) 29.1 (156) 20.4 (153)
23	136	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		95734383		2.719E-14		73.6 (136)
23	137	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		95734522		5.686E-15		59.4 (137) 19.3 (169) 14.6 (157)
23	138	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		95734956		5.567E-15		71.7 (138) 19.4 (159) 8.90 (162)
23	139	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		95738147		1.704E-13		98.5 (139)
23	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		95738529		5.565E-15		41.4 (140) 30.0 (164) 28.6 (160)
23	141	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		95739142		5.725E-15		51.4 (141) 27.2 (168) 18.2 (161)
23	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		95739623		5.922E-14		93.7 (142)
23	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		95740307		5.792E-15		44.9 (143) 32.0 (162) 18.7 (159)
23	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		95740835		3.113E-14		79.9 (144)
23	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		95743519		2.582E-13		95.6 (145)
23	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		95775901		5.790E-15		93.2 (146)
23	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		95787561		5.161E-15		46.8 (147) 36.7 (129) 16.5 (122)
23	148	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		95791483		6.239E-15		67.9 (148) 21.4 (119) 10.7 (127)
23	149	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		95794967		5.340E-15		96.2 (149)
23	150	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		95795698		5.259E-15		51.8 (150) 31.5 (126) 13.9 (154)
23	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		95803500		5.386E-15		67.7 (151) 16.8 (129) 10.3 (147)
23	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		95814101		5.759E-15		98.5 (152)
23	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		95814657		5.594E-15		52.3 (153) 24.1 (156) 20.1 (128)
23	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		95818273		5.283E-15		60.4 (154) 33.1 (150) 3.65 (136)
23	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		95821988		5.533E-15		60.1 (155) 35.0 (134) 4.87 (165)
23	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		95831355		5.605E-15		52.4 (135) 37.3 (156) 6.60 (153)
23	157	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		95831987		5.616E-15		68.8 (157) 27.2 (137) 2.14 (123)
23	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		95833909		5.670E-15		97.2 (158)
23	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		95835551		5.622E-15		39.7 (159) 32.3 (162) 28.0 (138)
23	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		95837757		5.622E-15		66.5 (160) 31.6 (140) 1.84 (164)
23	161	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		95842294		5.618E-15		46.1 (141) 34.3 (161) 19.6 (168)
23	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		95842719		5.626E-15		51.8 (143) 26.4 (162) 21.8 (159)
23	163	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		95842815		5.618E-15		100. (163)
23	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		95844525		5.617E-15		68.1 (164) 27.0 (140) 4.88 (160)
23	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		95846286		5.384E-15		75.5 (165)
23	166	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		95848215		5.464E-15		76.2 (166)
23	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		95849293		5.627E-15		100. (167)
23	168	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		95852498		5.612E-15		52.4 (168) 46.3 (161) 1.23 (141)
23	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		95853928		5.577E-15		74.6 (169)
23	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		96889677		2.323E-14		77.7 (170)
23	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		96894122		7.623E-15		44.1 (171) 27.3 (207) 23.5 (181)
23	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		96895737		7.987E-15		69.7 (172) 30.3 (177)
23	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		96897054		1.739E-14		68.6 (173) 15.8 (184) 15.6 (221)
23	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		96901564		6.169E-15		71.4 (174) 13.1 (208) 10.8 (185)
23	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		96904295		3.619E-14		70.1 (175) 19.3 (181) 3.04 (217)
23	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		96908705		2.433E-14		81.6 (176)
23	177	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		96911170		1.586E-14		68.7 (177) 30.2 (172) 1.09 (218)
23	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		96911458		6.893E-15		44.1 (178) 21.6 (214) 18.6 (183)
23	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		96918143		6.093E-15		72.4 (179)
23	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		96919586		6.930E-15		37.4 (180) 19.3 (211) 18.9 (208)
23	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		96921306		1.573E-14		47.1 (181) 24.9 (171) 22.2 (175)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
23	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		96923216		4.861E-14		91.0 (182)
23	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		96924563		3.147E-14		67.0 (183) 16.9 (190) 5.30 (214)
23	184	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		96925184		7.407E-15		59.8 (184) 28.4 (173) 11.7 (221)
23	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		96926053		3.007E-14		84.7 (185)
23	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		96926851		6.634E-15		44.7 (186) 21.3 (227) 18.1 (215)
23	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3F_2$		96931040		6.655E-15		36.0 (187) 28.8 (216) 17.3 (212)
23	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		96932712		5.643E-15		73.6 (188)
23	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		96933659		6.095E-15		51.8 (189) 23.2 (236) 14.9 (217)
23	190	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		96934760		3.142E-14		78.5 (190)
23	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		96934781		5.644E-15		41.9 (191) 31.5 (228) 26.6 (220)
23	192	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		96935593		5.999E-15		45.6 (192) 28.7 (237) 19.0 (223)
23	193	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		96935709		3.543E-14		85.0 (193)
23	194	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		96935838		5.802E-15		70.1 (194) 14.6 (230) 12.3 (225)
23	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		96936182		6.115E-15		46.6 (195) 27.8 (224) 16.8 (219)
23	196	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		96936366		5.785E-15		42.5 (196) 31.3 (229) 23.5 (235)
23	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		96936426		5.625E-15		39.5 (197) 32.8 (231) 27.7 (226)
23	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		96936579		6.171E-14		92.9 (198)
23	199	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		96937049		6.352E-15		49.5 (199) 23.1 (225) 15.6 (230)
23	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		96937133		2.801E-14		78.5 (200)
23	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		96938876		4.692E-13		96.5 (201)
23	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		96938982		4.948E-13		64.2 (202) 35.8 (205)
23	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		96938988		4.463E-13		100. (203)
23	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		96939458		8.953E-13		100. (204)
23	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		96939589		6.752E-13		64.6 (205) 35.4 (202)
23	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		97004955		5.731E-15		100. (206)
23	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		97010064		5.848E-15		68.1 (207) 29.1 (171) 2.83 (181)
23	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		97011386		5.403E-15		49.2 (208) 34.3 (180) 16.5 (174)
23	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		97014450		5.429E-15		42.3 (209) 40.7 (178) 17.0 (214)
23	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		97015012		5.441E-15		100. (210)
23	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		97018341		5.495E-15		67.0 (211) 17.3 (180) 13.7 (208)
23	212	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		97025141		5.645E-15		56.1 (212) 20.7 (179) 20.3 (216)
23	213	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		97025149		5.700E-15		100. (213)
23	214	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		97025274		5.430E-15		54.8 (214) 42.3 (209) 2.93 (178)
23	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		97028429		5.621E-15		53.5 (215) 41.4 (186) 5.13 (227)
23	216	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		97032565		5.639E-15		50.1 (187) 41.2 (216) 7.51 (212)
23	217	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		97032717		5.644E-15		67.8 (217) 30.5 (189) 1.67 (236)
23	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		97033545		5.670E-15		98.9 (218)
23	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		97035360		5.665E-15		41.6 (219) 32.2 (224) 26.2 (188)
23	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		97036509		5.664E-15		66.6 (220) 33.4 (191)
23	221	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		97037885		5.538E-15		72.7 (221)
23	222	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		97038615		5.656E-15		100. (222)
23	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		97038615		5.661E-15		49.4 (192) 35.3 (223) 15.3 (237)
23	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		97038731		5.664E-15		47.8 (195) 29.4 (224) 22.8 (219)
23	225	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		97038825		5.686E-15		36.6 (225) 35.8 (230) 27.6 (194)
23	226	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		97039350		5.686E-15		71.7 (226) 20.1 (197) 8.17 (231)
23	227	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		97039516		5.550E-15		67.7 (227) 24.2 (215) 6.91 (186)
23	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		97039906		5.656E-15		67.8 (228) 24.9 (191) 7.30 (220)
23	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^1F_3$		97040006		5.681E-15		55.3 (196) 22.0 (229) 21.1 (235)
23	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		97040481		5.684E-15		43.5 (199) 29.6 (230) 26.9 (225)
23	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		97040808		5.677E-15		59.4 (231) 40.6 (197)
23	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		97041265		5.678E-15		100. (232)
23	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		97041832		5.660E-15		100. (233)
23	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		97042453		5.676E-15		100. (234)
23	235	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		97043011		5.676E-15		54.0 (235) 46.0 (229)
23	236	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		97043073		5.629E-15		70.8 (236) 14.8 (189) 14.5 (217)
23	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		97043769		5.654E-15		54.0 (237) 43.9 (223) 2.10 (192)
23	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		97560249		1.991E-14		72.6 (238)
23	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		97561841		7.316E-15		48.9 (239) 27.1 (283) 19.0 (249)
23	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		97562581		7.545E-15		74.3 (240)
23	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		97563970		1.485E-14		63.1 (241) 21.3 (252) 15.6 (295)
23	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		97566174		6.353E-15		71.6 (242) 11.7 (284) 9.73 (254)
23	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		97568819		3.825E-14		67.6 (243) 21.3 (249) 4.41 (257)
23	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		97571001		2.168E-14		77.0 (244)
23	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		97571837		6.768E-15		43.3 (245) 24.6 (288) 14.5 (251)
23	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		97572837		2.007E-14		74.5 (246)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
23	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d\ ^3F_2$		97575516		6.102E-15		72.3 (247)
23	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p\ ^3P_1$		97576848		7.388E-15		36.5 (248) 22.6 (238) 20.5 (287)
23	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p\ ^1P_1$		97578688		1.846E-14		47.2 (249) 24.9 (243) 19.0 (239)
23	250	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d\ ^3D_3$		97579482		3.545E-14		85.3 (250)
23	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d\ ^3D_2$		97580121		3.187E-14		69.1 (251) 14.2 (266) 4.04 (260)
23	252	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p\ ^3P_0$		97580468		8.494E-15		50.3 (252) 35.7 (241) 14.0 (295)
23	253	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		97580596		6.408E-15		43.0 (253) 25.2 (302) 19.3 (291)
23	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d\ ^3D_1$		97581099		4.011E-14		87.9 (254)
23	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d\ ^3P_2$		97583249		7.160E-15		35.9 (255) 26.9 (292) 22.2 (244)
23	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f\ ^3G_3$		97583539		5.667E-15		74.3 (256)
23	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d\ ^3D_1$		97584574		6.525E-15		46.5 (257) 24.2 (316) 14.2 (293)
23	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f\ ^3G_4$		97584784		5.660E-15		41.9 (258) 32.2 (304) 25.8 (297)
23	259	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g\ ^3H_4$		97585404		5.634E-15		72.6 (259)
23	260	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f\ ^3F_2$		97585466		6.227E-15		42.4 (260) 28.6 (321) 19.1 (299)
23	261	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g\ ^3H_5$		97585763		5.633E-15		39.7 (261) 33.0 (309) 27.2 (303)
23	262	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$		97585785		5.669E-15		42.8 (262) 32.7 (305) 24.5 (320)
23	263	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h\ ^3I_5$		97585873		5.626E-15		71.8 (263) 16.8 (313) 11.3 (306)
23	264	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f\ ^3D_3$		97585882		6.563E-15		45.2 (264) 24.9 (300) 15.4 (296)
23	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g\ ^3F_4$		97585921		6.813E-15		47.3 (265) 21.7 (301) 17.3 (270)
23	266	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d\ ^1D_2$		97586044		3.974E-14		77.6 (266)
23	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h\ ^3I_6$		97586085		5.626E-15		38.7 (267) 33.2 (311) 28.1 (308)
23	268	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$		97586112		5.638E-15		40.6 (268) 33.0 (319) 26.4 (310)
23	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$		97586322		5.638E-15		59.3 (269) 23.6 (306) 17.0 (313)
23	270	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f\ ^3F_4$		97586776		3.116E-14		82.6 (270)
23	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f\ ^3F_2$		97586951		7.548E-14		93.9 (271)
23	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^3F_3$		97587177		4.120E-14		84.6 (272)
23	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^1F_3$		97588402		7.646E-13		96.8 (273)
23	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$		97588456		5.851E-13		100. (274)
23	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$		97588467		7.215E-13		69.8 (275) 30.2 (277)
23	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		97588726		1.497E-12		100. (276)
23	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		97588829		1.083E-12		70.2 (277) 29.8 (275)
23	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		97588888		2.082E-12		55.3 (278) 44.7 (281)
23	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		97588894		2.096E-12		100. (279)
23	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		97589100		2.091E-12		100. (280)
23	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		97589106		2.126E-12		55.3 (281) 44.7 (278)
23	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		97669451		5.721E-15		100. (282)
23	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		97671583		5.756E-15		68.1 (283) 31.9 (239)
23	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^1P_1$		97673301		5.541E-15		48.8 (284) 34.7 (248) 16.5 (242)
23	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		97674780		5.544E-15		43.9 (285) 38.2 (285) 17.9 (288)
23	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		97675348		5.546E-15		100. (286)
23	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$		97676698		5.557E-15		66.9 (287) 16.6 (248) 16.5 (284)
23	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		97680840		5.541E-15		51.4 (288) 45.8 (285) 2.71 (245)
23	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		97681189		5.679E-15		57.4 (289) 20.9 (247) 19.0 (292)
23	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		97681257		5.702E-15		100. (290)
23	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		97682957		5.665E-15		50.6 (291) 44.1 (253) 5.33 (302)
23	292	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		97685095		5.659E-15		49.2 (255) 43.0 (292) 7.76 (289)
23	293	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		97685099		5.658E-15		67.4 (293) 31.2 (257) 1.42 (316)
23	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		97685483		5.665E-15		100. (294)
23	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		97686859		5.574E-15		70.3 (295) 28.6 (252) 1.17 (241)
23	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		97686933		5.688E-15		42.3 (296) 32.0 (300) 25.6 (256)
23	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		97687592		5.687E-15		65.6 (297) 34.4 (258)
23	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		97688657		5.681E-15		100. (298)
23	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		97688757		5.684E-15		50.6 (260) 36.0 (299) 13.5 (321)
23	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		97688806		5.684E-15		46.3 (264) 30.6 (300) 23.1 (296)
23	301	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		97688939		5.695E-15		36.6 (301) 36.2 (307) 27.1 (259)
23	302	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		97688978		5.628E-15		65.3 (302) 27.3 (291) 7.45 (253)
23	303	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		97689248		5.695E-15		71.8 (303) 21.2 (261) 6.96 (309)
23	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		97689471		5.685E-15		67.4 (304) 23.8 (258) 8.80 (297)
23	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^1F_3$		97689644		5.695E-15		57.1 (262) 21.5 (305) 21.4 (320)
23	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$		97689715		5.693E-15		37.3 (306) 34.7 (313) 28.0 (263)
23	307	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^1G_4$		97689914		5.696E-15		42.7 (265) 29.7 (307) 27.6 (301)
23	308	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		97689915		5.692E-15		71.2 (308) 20.7 (267) 8.07 (311)
23	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		97690014		5.680E-15		60.6 (309) 39.4 (261)
23	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		97690074		5.699E-15		59.3 (268) 20.4 (310) 20.3 (319)
23	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		97690236		5.659E-15		59.2 (311) 40.8 (267)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
23	312	$2p_{3/2}6g_{9/2}(J = 6)$	$2p6g^3H_6$		97690251		5.680E-15		100. (312)
23	313	$2p_{3/2}6h_{11/2}(J = 5)$	$2p6h^3H_5$		97690274		5.699E-15		40.5 (269) 31.6 (313) 27.9 (306)
23	314	$2p_{3/2}6h_{11/2}(J = 7)$	$2p6h^3I_7$		97690442		5.659E-15		100. (314)
23	315	$2p_{3/2}6f_{5/2}(J = 1)$	$2p6f^3D_1$		97690494		5.677E-15		100. (315)
23	316	$2p_{3/2}6d_{5/2}(J = 1)$	$2p6d^1P_1$		97690845		5.652E-15		68.5 (316) 16.4 (257) 15.0 (293)
23	317	$2p_{3/2}6h_{9/2}(J = 3)$	$2p6h^3G_3$		97690896		5.689E-15		100. (317)
23	318	$2p_{3/2}6g_{7/2}(J = 2)$	$2p6g^3F_2$		97691038		5.689E-15		100. (318)
23	319	$2p_{3/2}6h_{11/2}(J = 4)$	$2p6h^1G_4$		97691099		5.689E-15		53.3 (310) 46.7 (319)
23	320	$2p_{3/2}6g_{9/2}(J = 3)$	$2p6g^3F_3$		97691377		5.690E-15		53.8 (320) 46.2 (305)
23	321	$2p_{3/2}6f_{7/2}(J = 2)$	$2p6f^1D_2$		97691694		5.679E-15		54.6 (321) 42.7 (299) 2.65 (260)
24	1	$1s_{1/2}^2(J = 0)$	$1s^2^1S_0$	0	0				100. (1)
24	2	$1s_{1/2}2s_{1/2}(J = 1)$	$1s2s^3S_1$	45384110	45383654		1.098E-08		100. (2)
24	3	$1s_{1/2}2p_{1/2}(J = 0)$	$1s2p^3P_0$	45595910	45595648		3.182E-09		100. (3)
24	4	$1s_{1/2}2p_{1/2}(J = 1)$	$1s2p^3P_1$	45609360	45609096		4.273E-14		93.6 (4)
24	5	$1s_{1/2}2s_{1/2}(J = 0)$	$1s2s^1S_0$	45614410	45614009		1.231E-03		100. (5)
24	6	$1s_{1/2}2p_{3/2}(J = 2)$	$1s2p^3P_2$	45691820	45691593		2.300E-10		100. (6)
24	7	$1s_{1/2}2p_{3/2}(J = 1)$	$1s2p^1P_1$	45828830	45828328		2.973E-15		93.6 (7)
24	8	$1s_{1/2}3s_{1/2}(J = 1)$	$1s3s^3S_1$	53760100	53759678		4.667E-13		100. (8)
24	9	$1s_{1/2}3p_{1/2}(J = 0)$	$1s3p^3P_0$	53818510	53818113		1.566E-13		100. (9)
24	10	$1s_{1/2}3s_{1/2}(J = 0)$	$1s3s^1S_0$	53821190	53820359		4.880E-13		100. (10)
24	11	$1s_{1/2}3p_{1/2}(J = 1)$	$1s3p^3P_1$	53822410	53822026		7.494E-14		92.9 (11)
24	12	$1s_{1/2}3p_{3/2}(J = 2)$	$1s3p^3P_2$	53847040	53846683		1.607E-13		100. (12)
24	13	$1s_{1/2}3d_{3/2}(J = 2)$	$1s3d^3D_2$	53878640	53878212		5.419E-14		67.2 (13) 32.8 (17)
24	14	$1s_{1/2}3d_{3/2}(J = 1)$	$1s3d^3D_1$	53879040	53878618		5.405E-14		100. (14)
24	15	$1s_{1/2}3p_{3/2}(J = 1)$	$1s3p^1P_1$	53884060	53883580		1.030E-14		92.9 (15)
24	16	$1s_{1/2}3d_{5/2}(J = 3)$	$1s3d^3D_3$	53888200	53887778		5.458E-14		100. (16)
24	17	$1s_{1/2}3d_{5/2}(J = 2)$	$1s3d^1D_2$	53890160	53889727		5.504E-14		67.2 (17) 32.8 (13)
24	18	$1s_{1/2}4s_{1/2}(J = 1)$	$1s4s^3S_1$	56658500	56658761		6.802E-13		100. (18)
24	19	$1s_{1/2}4p_{1/2}(J = 0)$	$1s4p^3P_0$	56683000	56682808		2.672E-13		100. (19)
24	20	$1s_{1/2}4s_{1/2}(J = 0)$	$1s4s^1S_0$	56684100	56683367		7.075E-13		100. (20)
24	21	$1s_{1/2}4p_{1/2}(J = 1)$	$1s4p^3P_1$	56684700	56684447		1.498E-13		92.6 (21)
24	22	$1s_{1/2}4p_{3/2}(J = 2)$	$1s4p^3P_2$	56695100	56694868		2.728E-13		100. (22)
24	23	$1s_{1/2}4d_{3/2}(J = 2)$	$1s4d^3D_2$	56708400	56707889		1.261E-13		69.3 (23) 30.7 (28)
24	24	$1s_{1/2}4d_{3/2}(J = 1)$	$1s4d^3D_1$	56708600	56707985		1.256E-13		100. (24)
24	25	$1s_{1/2}4p_{3/2}(J = 1)$	$1s4p^1P_1$	56710700	56709942		2.452E-14		92.6 (25)
24	26	$1s_{1/2}4d_{5/2}(J = 3)$	$1s4d^3D_3$	56712400	56711851		1.269E-13		100. (26)
24	27	$1s_{1/2}4f_{5/2}(J = 3)$	$1s4f^3F_3$		56712669		2.576E-13		56.8 (27) 43.2 (31)
24	28	$1s_{1/2}4d_{5/2}(J = 2)$	$1s4d^1D_2$	56713200	56712833		1.284E-13		69.3 (28) 30.7 (23)
24	29	$1s_{1/2}4f_{5/2}(J = 2)$	$1s4f^3F_2$		56712881		2.576E-13		100. (29)
24	30	$1s_{1/2}4f_{7/2}(J = 4)$	$1s4f^3F_4$		56714823		2.584E-13		100. (30)
24	31	$1s_{1/2}4f_{7/2}(J = 3)$	$1s4f^1F_3$		56714989		2.586E-13		56.8 (31) 43.2 (27)
24	32	$1s_{1/2}5s_{1/2}(J = 1)$	$1s5s^3S_1$	57992700	57992781		1.075E-12		100. (32)
24	33	$1s_{1/2}5p_{1/2}(J = 0)$	$1s5p^3P_0$	58004840	58004944		4.568E-13		100. (33)
24	34	$1s_{1/2}5s_{1/2}(J = 0)$	$1s5s^1S_0$	58005800	58005141		1.102E-12		100. (34)
24	35	$1s_{1/2}5p_{1/2}(J = 1)$	$1s5p^3P_1$	58006100	58005780		2.711E-13		92.5 (35)
24	36	$1s_{1/2}5p_{3/2}(J = 2)$	$1s5p^3P_2$	58011400	58011117		4.654E-13		100. (36)
24	37	$1s_{1/2}5d_{3/2}(J = 2)$	$1s5d^3D_2$		58017717		2.426E-13		70.1 (37) 29.9 (42)
24	38	$1s_{1/2}5d_{3/2}(J = 1)$	$1s5d^3D_1$		58017750		2.418E-13		100. (38)
24	39	$1s_{1/2}5p_{3/2}(J = 1)$	$1s5p^1P_1$	58019400	58018718		4.791E-14		92.5 (39)
24	40	$1s_{1/2}5d_{5/2}(J = 3)$	$1s5d^3D_3$		58019730		2.445E-13		100. (40)
24	41	$1s_{1/2}5f_{5/2}(J = 3)$	$1s5f^3F_3$		58020186		4.977E-13		57.0 (41) 43.0 (47)
24	42	$1s_{1/2}5d_{5/2}(J = 2)$	$1s5d^1D_2$		58020267		2.469E-13		70.1 (42) 29.9 (37)
24	43	$1s_{1/2}5f_{5/2}(J = 2)$	$1s5f^3F_2$		58020292		4.977E-13		100. (43)
24	44	$1s_{1/2}5f_{7/2}(J = 4)$	$1s5f^3F_4$		58021287		4.994E-13		100. (44)
24	45	$1s_{1/2}5g_{7/2}(J = 4)$	$1s5g^3G_4$		58021306		8.372E-13		55.1 (45) 44.9 (49)
24	46	$1s_{1/2}5g_{7/2}(J = 3)$	$1s5g^3G_3$		58021370		8.374E-13		100. (46)
24	47	$1s_{1/2}5f_{7/2}(J = 3)$	$1s5f^1F_3$		58021375		4.998E-13		57.0 (47) 43.0 (41)
24	48	$1s_{1/2}5g_{9/2}(J = 5)$	$1s5g^3G_5$		58021967		8.385E-13		100. (48)
24	49	$1s_{1/2}5g_{9/2}(J = 4)$	$1s5g^1G_4$		58022018		8.386E-13		55.1 (49) 44.9 (45)
24	50	$1s_{1/2}6s_{1/2}(J = 1)$	$1s6s^3S_1$		58714790		1.679E-12		100. (50)
24	51	$1s_{1/2}6p_{1/2}(J = 0)$	$1s6p^3P_0$		58721774		7.424E-13		100. (51)
24	52	$1s_{1/2}6s_{1/2}(J = 0)$	$1s6s^1S_0$		58721870		1.632E-12		100. (52)
24	53	$1s_{1/2}6p_{1/2}(J = 1)$	$1s6p^3P_1$		58722257		4.508E-13		92.4 (53)
24	54	$1s_{1/2}6p_{3/2}(J = 2)$	$1s6p^3P_2$		58725347		7.552E-13		100. (54)
24	55	$1s_{1/2}6d_{3/2}(J = 2)$	$1s6d^3D_2$		58729130		4.152E-13		70.5 (55) 29.5 (61)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
24	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		58729145		4.154E-13		100. (56)
24	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		58729710		8.256E-14		92.4 (57)
24	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		58730291		4.203E-13		100. (58)
24	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		58730551		8.504E-13		57.1 (59) 42.9 (65)
24	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		58730612		8.502E-13		100. (60)
24	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		58730612		4.202E-13		70.5 (61) 29.5 (55)
24	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		58731188		8.532E-13		100. (62)
24	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		58731191		1.436E-12		55.1 (63) 44.9 (69)
24	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		58731228		1.436E-12		100. (64)
24	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		58731240		8.542E-13		57.1 (65) 42.9 (59)
24	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		58731572		2.168E-12		54.2 (66) 45.8 (71)
24	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		58731573		1.438E-12		100. (67)
24	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		58731596		2.168E-12		100. (68)
24	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		58731603		1.439E-12		55.1 (69) 44.9 (63)
24	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		58731827		2.170E-12		100. (70)
24	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		58731847		2.170E-12		54.2 (71) 45.8 (66)
24	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	92786000	92787698		1.299E-14		79.9 (72)
24	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	92820000	92817152		4.997E-15		100. (73)
24	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	92848000	92846758		5.000E-15		97.4 (74)
24	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	92935000	92935952		5.047E-15		100. (75)
24	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	93047000	93044341		2.639E-15		92.7 (76)
24	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	93100000	93098963		2.495E-15		100. (77)
24	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	93143000	93142554		2.494E-15		73.9 (78)
24	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	93201000	93202760		4.892E-15		97.4 (79)
24	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	93271000	93271476		2.497E-15		73.9 (80)
24	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	93539000	93539634		2.936E-15		81.2 (81)
24	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		101355562		1.788E-14		81.0 (82)
24	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		101387814		6.626E-15		41.6 (83) 36.8 (107) 19.0 (91)
24	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		101414330		1.736E-14		76.7 (84)
24	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		101417766		6.168E-15		71.1 (85) 28.9 (88)
24	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		101421635		4.046E-15		72.3 (86)
24	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		101436461		1.114E-14		72.6 (87)
24	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		101445104		9.177E-15		66.3 (88) 27.7 (85) 5.94 (114)
24	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		101463032		1.343E-14		87.4 (89)
24	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		101472924		4.626E-15		67.1 (90) 23.4 (98) 5.70 (111)
24	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		101481462		6.702E-15		52.0 (91) 21.9 (83) 20.3 (87)
24	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		101503753		4.550E-15		44.8 (92) 18.8 (102) 11.7 (97)
24	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		101516352		4.800E-15		77.5 (93)
24	94	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		101521481		1.196E-14		77.6 (94)
24	95	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		101533069		4.198E-15		86.3 (95)
24	96	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		101539876		4.692E-15		78.1 (96)
24	97	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		101543517		1.355E-14		75.8 (97)
24	98	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		101544315		1.224E-14		58.3 (98) 14.8 (111) 14.0 (100)
24	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		101558392		4.686E-15		78.9 (99)
24	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		101581991		1.089E-14		49.5 (100) 18.5 (90) 17.8 (98)
24	101	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		101586493		4.829E-15		36.5 (101) 23.1 (109) 16.7 (96)
24	102	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		101591624		4.004E-15		51.5 (102) 28.8 (92) 12.9 (86)
24	103	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		101593894		4.385E-15		68.0 (103) 12.8 (117) 12.1 (113)
24	104	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		101609955		4.978E-15		77.6 (104)
24	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		101625723		4.465E-15		73.8 (105)
24	106	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		101627571		4.197E-15		67.2 (106) 16.0 (102) 9.60 (82)
24	107	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		101632436		5.944E-15		57.7 (107) 29.7 (83) 7.35 (91)
24	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		101646436		4.896E-15		100. (108)
24	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		101659719		4.533E-15		41.5 (109) 36.9 (101) 14.7 (93)
24	110	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3D_3$		101682947		4.345E-15		76.6 (110)
24	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		101691369		4.526E-15		62.9 (111) 20.3 (100) 15.6 (105)
24	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		101710530		4.621E-15		59.4 (112) 29.1 (109) 4.61 (101)
24	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		101711900		4.628E-15		73.1 (113)
24	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		101716473		4.705E-15		94.0 (114)
24	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		101760768		4.112E-15		87.5 (115)
24	116	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		101775615		4.253E-15		79.1 (116)
24	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		101778883		4.492E-15		82.4 (117)
24	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		104333776		2.081E-14		80.3 (118)
24	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		104345880		6.506E-15		37.7 (119) 29.8 (148) 29.7 (128)
24	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		104350678		6.829E-15		67.0 (120) 33.0 (125)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
24	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		104351549		1.619E-14		72.6 (121)
24	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		104360396		4.835E-15		72.2 (122) 14.9 (147) 10.2 (133)
24	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		104363961		2.182E-14		73.2 (123)
24	124	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		104375649		1.924E-14		85.1 (124)
24	125	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		104376146		1.111E-14		64.7 (125) 32.9 (120) 2.40 (158)
24	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		104382723		5.589E-15		48.4 (126) 22.2 (132) 17.1 (154)
24	127	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		104397101		5.037E-15		74.5 (127)
24	128	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		104397489		1.069E-14		43.4 (128) 32.8 (119) 21.1 (123)
24	129	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		104397682		5.420E-15		36.2 (129) 23.4 (147) 17.1 (151)
24	130	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		104405217		3.916E-14		93.8 (130)
24	131	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		104407066		5.408E-15		70.5 (131) 21.4 (121) 8.11 (166)
24	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		104408645		2.116E-14		64.0 (132) 18.2 (138) 8.66 (154)
24	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		104410742		2.005E-14		81.0 (133)
24	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		104415505		5.473E-15		51.1 (134) 17.2 (155) 16.8 (165)
24	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		104422759		5.213E-15		34.0 (135) 29.4 (156) 19.7 (153)
24	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		104428865		4.809E-15		58.5 (136) 20.6 (169) 15.0 (157)
24	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		104429603		4.696E-15		72.0 (137) 19.2 (159) 8.76 (162)
24	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		104429742		2.411E-14		75.8 (138)
24	139	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		104433645		4.694E-15		41.4 (139) 30.4 (164) 28.2 (160)
24	140	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		104433669		1.624E-13		98.9 (140)
24	141	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		104434032		4.838E-15		50.3 (141) 27.8 (168) 18.6 (161)
24	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		104434748		5.205E-14		93.9 (142)
24	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		104435518		4.899E-15		45.8 (143) 31.4 (162) 18.2 (159)
24	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		104436050		2.697E-14		78.9 (144)
24	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		104439073		2.101E-13		94.2 (145)
24	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		104484499		4.869E-15		95.0 (146)
24	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		104497504		4.347E-15		45.7 (147) 38.0 (129) 16.3 (122)
24	148	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		104499800		5.171E-15		68.1 (148) 23.2 (119) 8.69 (128)
24	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		104505288		4.418E-15		48.3 (149) 34.1 (126) 16.3 (154)
24	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		104506056		4.462E-15		97.1 (150)
24	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		104514035		4.505E-15		67.5 (151) 15.2 (129) 13.0 (147)
24	152	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		104526899		4.843E-15		98.9 (152)
24	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		104527148		4.717E-15		52.9 (153) 23.8 (156) 20.3 (127)
24	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		104530193		4.419E-15		58.0 (154) 36.9 (149) 2.65 (138)
24	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		104534811		4.669E-15		58.1 (155) 36.6 (134) 5.32 (165)
24	156	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		104544589		4.716E-15		52.0 (135) 37.6 (156) 7.22 (153)
24	157	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		104544885		4.723E-15		68.3 (157) 28.1 (136) 1.89 (169)
24	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		104546858		4.767E-15		97.7 (158)
24	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		104549530		4.746E-15		39.5 (159) 32.9 (162) 27.6 (137)
24	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		104552031		4.746E-15		66.3 (160) 32.2 (139) 1.46 (164)
24	161	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		104556476		4.743E-15		47.0 (141) 34.0 (161) 18.9 (168)
24	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		104557160		4.748E-15		50.9 (143) 26.4 (162) 22.7 (159)
24	163	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		104557413		4.743E-15		100. (163)
24	164	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		104559047		4.742E-15		68.1 (164) 26.3 (139) 5.53 (160)
24	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		104560346		4.545E-15		73.8 (165)
24	166	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^3S_0$		104560890		4.564E-15		75.6 (166)
24	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		104563849		4.748E-15		100. (167)
24	168	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		104567477		4.738E-15		52.4 (168) 46.3 (161) 1.31 (141)
24	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		104568288		4.695E-15		73.7 (169)
24	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		105693080		1.954E-14		77.0 (170)
24	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		105697552		6.284E-15		45.9 (171) 27.4 (207) 22.0 (181)
24	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		105698995		6.643E-15		70.7 (172) 29.3 (177)
24	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		105700594		1.426E-14		67.8 (173) 16.9 (183) 15.3 (221)
24	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		105705152		5.185E-15		71.6 (174) 13.2 (208) 9.92 (185)
24	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		105708384		3.132E-14		70.2 (175) 19.6 (181) 2.81 (216)
24	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		105713714		2.025E-14		81.4 (176)
24	177	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		105715369		1.383E-14		70.5 (177) 29.5 (172)
24	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		105716389		5.738E-15		44.0 (178) 22.4 (212) 17.6 (184)
24	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		105723263		5.124E-15		72.5 (179)
24	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		105724696		5.824E-15		37.7 (180) 20.1 (211) 18.0 (208)
24	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		105726766		1.399E-14		48.5 (181) 22.8 (175) 22.7 (171)
24	182	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		105729189		4.044E-14		90.6 (182)
24	183	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		105730168		6.367E-15		57.7 (183) 29.8 (173) 12.5 (221)
24	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		105730271		2.750E-14		68.2 (184) 16.4 (191) 4.81 (212)
24	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		105731703		2.694E-14		85.7 (185)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
24	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$	105732760			5.540E-15		44.2 (186) 22.3 (226) 18.4 (215)
24	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$	105737077			5.634E-15		36.5 (187) 28.6 (217) 17.1 (176)
24	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$	105738734			4.758E-15		73.7 (188)
24	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$	105739499			5.156E-15		50.9 (189) 23.8 (235) 14.9 (216)
24	190	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$	105741056			4.758E-15		41.9 (190) 31.7 (228) 26.4 (220)
24	191	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$	105741192			2.276E-14		76.1 (191)
24	192	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$	105741774			5.273E-15		42.4 (192) 27.4 (237) 18.0 (222)
24	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$	105742130			4.828E-15		70.7 (193) 19.1 (230) 8.40 (225)
24	194	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$	105742317			2.449E-14		81.4 (194)
24	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$	105742516			5.179E-15		46.9 (195) 27.5 (224) 16.5 (219)
24	196	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$	105742679			4.841E-15		42.6 (196) 31.7 (236) 23.8 (229)
24	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$	105742836			4.746E-15		39.5 (197) 32.9 (231) 27.6 (227)
24	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$	105743044			5.515E-14		93.3 (198)
24	199	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$	105743504			5.673E-15		46.9 (199) 21.8 (225) 16.7 (194)
24	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$	105743632			2.587E-14		79.7 (200)
24	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$	105745591			3.757E-13		95.5 (201)
24	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$	105745720			4.386E-13		63.5 (202) 36.5 (205)
24	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$	105745729			4.020E-13		100. (203)
24	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$	105746300			7.564E-13		100. (204)
24	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$	105746439			5.929E-13		63.8 (205) 36.2 (202)
24	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$	105827793			4.834E-15		100. (206)
24	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$	105832864			4.910E-15		68.0 (207) 29.8 (171) 2.20 (181)
24	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3P_1$	105834842			4.560E-15		46.7 (208) 36.9 (180) 16.4 (174)
24	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$	105837732			4.577E-15		41.9 (178) 39.6 (209) 18.4 (212)
24	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$	105839152			4.584E-15		100. (210)
24	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$	105842175			4.621E-15		66.5 (211) 17.2 (208) 14.8 (180)
24	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$	105849822			4.575E-15		52.8 (212) 44.8 (209) 2.48 (178)
24	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$	105849920			4.765E-15		55.8 (213) 20.9 (179) 20.8 (217)
24	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$	105850102			4.810E-15		100. (214)
24	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$	105853345			4.746E-15		52.0 (215) 42.4 (186) 5.57 (226)
24	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$	105857669			4.758E-15		67.4 (187) 30.9 (189) 1.69 (235)
24	217	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$	105857696			4.755E-15		50.0 (217) 40.7 (217) 8.21 (213)
24	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$	105858518			4.778E-15		100. (218)
24	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$	105860838			4.783E-15		41.1 (219) 32.8 (224) 26.1 (188)
24	220	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$	105862131			4.782E-15		65.8 (220) 34.2 (190)
24	221	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$	105862748			4.651E-15		72.2 (221) 25.5 (183) 2.30 (173)
24	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$	105864206			4.780E-15		49.8 (192) 35.2 (222) 14.9 (237)
24	223	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$	105864379			4.776E-15		100. (223)
24	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$	105864451			4.782E-15		47.4 (195) 29.1 (224) 23.5 (219)
24	225	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$	105864594			4.801E-15		37.2 (225) 35.4 (230) 27.5 (193)
24	226	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$	105865040			4.685E-15		67.4 (226) 25.8 (215) 6.80 (186)
24	227	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$	105865219			4.801E-15		71.6 (227) 20.9 (197) 7.52 (231)
24	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$	105865668			4.777E-15		67.8 (228) 24.0 (190) 8.13 (220)
24	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$	105865817			4.798E-15		56.4 (196) 21.8 (229) 21.8 (236)
24	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$	105866395			4.799E-15		43.2 (199) 30.2 (230) 26.6 (225)
24	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3H_5$	105866690			4.794E-15		60.1 (231) 39.9 (197)
24	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$	105867242			4.795E-15		100. (232)
24	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$	105867579			4.779E-15		100. (233)
24	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$	105868384			4.794E-15		100. (234)
24	235	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$	105868745			4.748E-15		70.1 (235) 15.0 (189) 14.9 (216)
24	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$	105869046			4.793E-15		53.7 (229) 46.3 (236)
24	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$	105869746			4.774E-15		54.0 (237) 43.8 (222) 2.19 (192)
24	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$	106425421			1.644E-14		72.1 (238) 11.5 (287) 7.55 (284)
24	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$	106426918			6.044E-15		50.4 (239) 27.4 (283) 17.7 (249)
24	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$	106427575			6.267E-15		75.5 (240)
24	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$	106429181			1.217E-14		62.0 (241) 22.4 (251) 15.6 (295)
24	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$	106431365			5.363E-15		71.5 (242) 11.6 (284) 8.82 (254)
24	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$	106434412			3.280E-14		67.6 (243) 21.6 (249) 4.45 (257)
24	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$	106437107			1.779E-14		76.3 (244)
24	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$	106437782			5.629E-15		43.5 (245) 25.3 (288) 13.6 (252)
24	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$	106438490			1.770E-14		75.7 (246)
24	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$	106441569			5.135E-15		72.4 (247)
24	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$	106442907			6.204E-15		36.7 (248) 22.4 (238) 21.0 (287)
24	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$	106445036			1.625E-14		47.8 (249) 25.7 (243) 17.5 (239)
24	250	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$	106446145			2.821E-14		84.3 (250)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
24	251	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p\ ^3P_0$		106446460		7.316E-15		48.6 (251) 37.0 (241) 14.4 (295)
24	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d\ ^3D_2$		106446650		2.707E-14		69.6 (252) 13.8 (268) 4.26 (259)
24	253	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		106447085		5.343E-15		43.0 (253) 26.0 (301) 19.5 (291)
24	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d\ ^3D_1$		106447614		3.653E-14		88.9 (254)
24	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d\ ^3P_2$		106449840		6.079E-15		35.9 (255) 26.7 (293) 22.7 (244)
24	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f\ ^3G_3$		106450091		4.779E-15		74.3 (256)
24	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d\ ^3D_1$		106451033		5.530E-15		45.9 (257) 24.6 (316) 14.2 (292)
24	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f\ ^3G_4$		106451485		4.772E-15		41.9 (258) 32.4 (304) 25.8 (297)
24	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f\ ^3F_2$		106452114		5.268E-15		42.0 (259) 28.8 (321) 19.2 (299)
24	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g\ ^3H_4$		106452120		4.755E-15		72.7 (260)
24	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$		106452506		4.778E-15		42.7 (261) 32.7 (320) 24.6 (305)
24	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g\ ^3H_5$		106452544		4.754E-15		39.8 (262) 33.1 (309) 27.2 (303)
24	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f\ ^3D_3$		106452647		5.603E-15		44.9 (263) 24.5 (300) 15.6 (250)
24	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h\ ^3I_5$		106452655		4.751E-15		71.9 (264) 16.9 (313) 11.2 (306)
24	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g\ ^3F_4$		106452733		5.316E-15		51.3 (265) 23.4 (302) 14.7 (307)
24	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$		106452893		4.758E-15		40.6 (266) 33.0 (319) 26.4 (310)
24	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h\ ^3I_6$		106452909		4.751E-15		38.7 (267) 33.2 (311) 28.1 (308)
24	268	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d\ ^1D_2$		106452987		3.582E-14		78.5 (268)
24	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$		106453143		4.758E-15		59.4 (269) 23.7 (306) 16.8 (313)
24	270	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f\ ^3F_4$		106453825		4.219E-14		89.4 (270)
24	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f\ ^3F_2$		106453931		6.854E-14		94.3 (271)
24	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^3F_3$		106454173		3.811E-14		84.7 (272)
24	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^1F_3$		106455540		6.145E-13		96.0 (273)
24	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$		106455607		5.412E-13		100. (274)
24	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$		106455619		6.562E-13		68.7 (275) 31.3 (277)
24	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$		106455936		1.274E-12		100. (276)
24	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$		106456046		9.628E-13		69.0 (277) 31.0 (275)
24	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$		106456105		1.780E-12		55.2 (278) 44.8 (281)
24	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$		106456113		1.803E-12		100. (279)
24	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$		106456358		1.787E-12		100. (280)
24	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$		106456365		1.821E-12		55.2 (281) 44.8 (278)
24	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$		106553993		4.829E-15		100. (282)
24	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$		106556143		4.851E-15		67.9 (283) 32.1 (239)
24	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^1P_1$		106558178		4.678E-15		44.7 (284) 37.5 (248) 16.1 (242)
24	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$		106559574		4.679E-15		44.7 (245) 36.1 (285) 19.2 (288)
24	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$		106560655		4.680E-15		100. (286)
24	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$		106561849		4.687E-15		65.8 (287) 20.6 (284) 13.6 (248)
24	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$		106566376		4.676E-15		49.9 (288) 47.8 (285) 2.31 (245)
24	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		106566847		4.794E-15		56.9 (289) 21.1 (247) 19.8 (293)
24	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		106567020		4.813E-15		100. (290)
24	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		106568687		4.783E-15		49.4 (291) 44.9 (253) 5.78 (301)
24	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		106570854		4.776E-15		67.1 (292) 31.4 (257) 1.47 (316)
24	293	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		106570954		4.777E-15		49.4 (255) 42.1 (293) 8.54 (289)
24	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		106571250		4.782E-15		100. (294)
24	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		106572590		4.700E-15		70.5 (295) 29.5 (251)
24	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$		106572979		4.803E-15		41.8 (296) 32.7 (300) 25.6 (256)
24	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$		106573720		4.803E-15		64.6 (297) 35.4 (258)
24	298	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		106574862		4.799E-15		100. (298)
24	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		106574871		4.800E-15		50.8 (259) 36.0 (299) 13.2 (321)
24	300	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$		106574994		4.800E-15		46.1 (263) 30.2 (300) 23.8 (296)
24	301	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		106575052		4.752E-15		64.4 (301) 28.5 (291) 7.13 (253)
24	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		106575154		4.810E-15		37.2 (302) 35.8 (307) 27.1 (260)
24	303	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		106575519		4.810E-15		71.6 (303) 22.1 (262) 6.28 (309)
24	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^1G_4$		106575683		4.802E-15		67.5 (304) 22.8 (258) 9.75 (297)
24	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		106575885		4.809E-15		57.2 (261) 21.8 (305) 21.1 (320)
24	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$		106576012		4.809E-15		37.7 (306) 34.3 (313) 27.9 (264)
24	307	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^1G_4$		106576212		4.810E-15		42.5 (265) 30.3 (307) 27.2 (302)
24	308	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		106576251		4.809E-15		70.9 (308) 22.0 (267) 7.15 (311)
24	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		106576295		4.800E-15		60.6 (309) 38.1 (262) 1.27 (303)
24	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		106576384		4.813E-15		59.4 (266) 20.6 (310) 20.0 (319)
24	311	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		106576568		4.786E-15		59.6 (311) 39.3 (267) 1.07 (308)
24	312	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		106576584		4.800E-15		100. (312)
24	313	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		106576624		4.813E-15		40.4 (269) 32.1 (313) 27.6 (306)
24	314	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		106576691		4.794E-15		100. (314)
24	315	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		106576812		4.786E-15		100. (315)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
24	316	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		106577008		4.771E-15		68.1 (316) 16.5 (257) 15.4 (292)
24	317	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		106577243		4.806E-15		100. (317)
24	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		106577345		4.805E-15		100. (318)
24	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		106577485		4.806E-15		53.0 (310) 47.0 (319)
24	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		106577744		4.806E-15		53.5 (305) 46.5 (320)
24	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		106578027		4.796E-15		54.6 (321) 42.6 (299) 2.73 (259)
25	1	$1s_{1/2}^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
25	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	49370240	49369728		7.225E-09		100. (2)
25	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	49592800	49592493		2.990E-09		100. (3)
25	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	49607700	49607392		3.070E-14		92.5 (4)
25	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	49612040	49611593		1.693E-03		100. (5)
25	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	49707130	49706873		1.697E-10		100. (6)
25	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	49848620	49848061		2.543E-15		92.5 (7)
25	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	58488800	58488406		3.937E-13		100. (8)
25	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	58550200	58549808		1.319E-13		100. (9)
25	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	58553000	58552130		4.112E-13		100. (10)
25	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	58554500	58554122		5.815E-14		91.7 (11)
25	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	58584200	58583864		1.356E-13		100. (12)
25	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	58617200	58616783		4.567E-14		66.4 (13) 33.6 (17)
25	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	58617700	58617298		4.557E-14		100. (14)
25	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	58622500	58621975		8.812E-15		91.7 (15)
25	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	58628600	58628212		4.606E-14		100. (16)
25	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	58630700	58630312		4.639E-14		66.4 (17) 33.6 (13)
25	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	61644700	61645321		5.738E-13		100. (18)
25	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	61670600	61670585		2.251E-13		100. (19)
25	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	61671800	61671158		5.962E-13		100. (20)
25	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	61672500	61672389		1.179E-13		91.4 (21)
25	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	61685000	61684960		2.303E-13		100. (22)
25	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	61699000	61698560		1.062E-13		68.2 (23) 31.8 (28)
25	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	61698800	61698696		1.059E-13		100. (24)
25	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	61701200	61700531		2.098E-14		91.4 (25)
25	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	61703400	61703302		1.071E-13		100. (26)
25	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		61704160		2.172E-13		56.8 (27) 43.2 (31)
25	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	61704700	61704353		1.082E-13		68.2 (28) 31.8 (23)
25	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		61704401		2.172E-13		100. (29)
25	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		61706713		2.179E-13		100. (30)
25	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		61706902		2.181E-13		56.8 (31) 43.2 (27)
25	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	63097900	63098059		9.073E-13		100. (32)
25	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	63110750	63110836		3.851E-13		100. (33)
25	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	63111600	63111037		9.274E-13		100. (34)
25	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	63111900	63111755		2.146E-13		91.3 (35)
25	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	63118300	63118194		3.930E-13		100. (36)
25	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		63125087		2.044E-13		69.0 (37) 31.0 (42)
25	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		63125140		2.040E-13		100. (38)
25	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	63126600	63126046		4.100E-14		91.3 (39)
25	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		63127499		2.065E-13		100. (40)
25	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		63127977		4.195E-13		57.0 (41) 43.0 (47)
25	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		63128073		2.080E-13		69.0 (42) 31.0 (37)
25	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		63128098		4.195E-13		100. (43)
25	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		63129283		4.211E-13		100. (44)
25	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		63129303		7.060E-13		55.1 (45) 44.9 (49)
25	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		63129375		7.061E-13		100. (46)
25	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		63129382		4.214E-13		57.0 (47) 43.0 (41)
25	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		63130087		7.071E-13		100. (48)
25	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		63130144		7.072E-13		55.1 (49) 44.9 (45)
25	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		63884328		1.414E-12		100. (50)
25	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		63891664		6.248E-13		100. (51)
25	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		63891761		1.379E-12		100. (52)
25	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		63892194		3.574E-13		91.2 (53)
25	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		63895922		6.365E-13		100. (54)
25	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		63899873		3.497E-13		69.4 (55) 30.6 (61)
25	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		63899899		3.500E-13		100. (56)
25	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		63900429		7.064E-14		91.2 (57)
25	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		63901264		3.546E-13		100. (58)
25	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		63901537		7.168E-13		57.1 (59) 42.9 (65)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
25	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		63901606		7.167E-13		100. (60)
25	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		63901607		3.543E-13		69.4 (61) 30.6 (55)
25	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		63902292		7.194E-13		100. (62)
25	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		63902295		1.211E-12		55.1 (63) 44.9 (69)
25	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		63902337		1.211E-12		100. (64)
25	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		63902350		7.202E-13		57.1 (65) 42.9 (59)
25	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		63902747		1.828E-12		54.2 (66) 45.8 (71)
25	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		63902749		1.213E-12		100. (67)
25	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		63902774		1.828E-12		100. (68)
25	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		63902782		1.213E-12		55.1 (69) 44.9 (63)
25	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		63903049		1.830E-12		100. (70)
25	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		63903072		1.830E-12		54.2 (71) 45.8 (66)
25	72	$2s^2_{1/2}(J=0)$	$2s^2^1S_0$	100851000	100851956		1.097E-14		79.9 (72)
25	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	100885000	100880786		4.237E-15		100. (73)
25	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	100917000	100914619		4.239E-15		96.8 (74)
25	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	101020000	101021116		4.284E-15		100. (75)
25	76	$2p^2_{1/2}(J=0)$	$2p^2^3P_0$	101126000	101124128		2.262E-15		91.2 (76)
25	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	101192000	101191034		2.117E-15		100. (77)
25	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	101240000	101238828		2.116E-15		70.2 (78) 29.8 (80)
25	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	101297000	101296837		4.157E-15		96.8 (79)
25	80	$2p^2_{3/2}(J=2)$	$2p^2^1D_2$	101384000	101385020		2.121E-15		70.2 (80) 29.8 (78)
25	81	$2p^2_{3/2}(J=0)$	$2p^2^1S_0$	101659000	101659410		2.464E-15		81.2 (81)
25	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		110170511		1.575E-14		81.9 (82)
25	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		110204559		5.547E-15		39.6 (83) 35.5 (106) 21.4 (91)
25	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		110231222		1.452E-14		76.5 (84)
25	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		110233800		5.192E-15		71.9 (85) 28.1 (88)
25	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		110238125		3.427E-15		72.5 (86)
25	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		110254989		9.585E-15		73.2 (87)
25	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		110263404		7.974E-15		67.7 (88) 27.1 (85) 5.19 (114)
25	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		110286450		1.145E-14		88.6 (89)
25	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		110297572		3.926E-15		65.6 (90) 23.3 (97) 6.66 (111)
25	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		110307337		5.920E-15		49.5 (91) 26.1 (83) 20.4 (87)
25	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		110329867		3.897E-15		40.0 (92) 21.4 (103) 13.1 (107)
25	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		110341436		4.077E-15		78.4 (93)
25	94	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		110351334		1.195E-14		82.5 (94)
25	95	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		110357254		3.620E-15		84.2 (95)
25	96	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		110369693		1.210E-14		77.3 (96)
25	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		110370994		1.090E-14		60.3 (97) 13.7 (111) 13.6 (100)
25	98	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		110375237		3.975E-15		71.9 (98) 14.5 (112) 6.61 (109)
25	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		110388657		3.961E-15		76.4 (99)
25	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		110414754		1.015E-14		54.8 (100) 17.7 (90) 15.7 (97)
25	101	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		110420140		4.120E-15		30.6 (101) 24.2 (98) 22.7 (109)
25	102	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		110423353		3.716E-15		66.7 (102) 13.9 (117) 13.0 (113)
25	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		110431799		3.347E-15		51.7 (103) 31.4 (92) 13.3 (86)
25	104	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		110452627		3.979E-15		82.5 (104)
25	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		110466413		3.758E-15		69.6 (105) 15.3 (100) 9.77 (90)
25	106	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		110469992		4.977E-15		59.4 (106) 27.7 (83) 8.85 (91)
25	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		110470156		3.519E-15		67.5 (107) 14.8 (103) 9.27 (92)
25	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		110495146		4.160E-15		100. (108)
25	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		110506749		3.860E-15		40.4 (101) 37.8 (109) 15.8 (93)
25	110	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		110531566		3.702E-15		73.8 (110)
25	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		110536624		3.680E-15		62.7 (111) 20.2 (105) 16.0 (100)
25	112	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		110560357		3.902E-15		58.2 (112) 30.7 (109) 5.19 (101)
25	113	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		110560942		3.907E-15		72.2 (113) 21.1 (102) 3.63 (87)
25	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		110565737		3.976E-15		95.7 (114)
25	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		110612988		3.497E-15		85.7 (115)
25	116	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		110625032		3.568E-15		79.0 (116)
25	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		110631991		3.805E-15		81.3 (117)
25	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		113409135		1.796E-14		80.9 (118)
25	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		113421610		5.400E-15		40.0 (119) 29.5 (148) 27.9 (129)
25	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		113425988		5.734E-15		67.8 (120) 32.2 (124)
25	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		113427312		1.342E-14		72.1 (121) 15.8 (164) 12.1 (130)
25	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		113436275		4.092E-15		72.4 (122)
25	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		113440657		1.914E-14		73.5 (123)
25	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		113452996		9.689E-15		65.9 (124) 32.1 (120) 1.99 (158)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
25	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		113454465		1.633E-14		85.1 (125)
25	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		113461686		4.698E-15		47.8 (126) 21.4 (132) 18.1 (154)
25	127	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		113476364		4.269E-15		74.5 (127)
25	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		113476929		4.593E-15		36.8 (128) 21.8 (147) 18.2 (151)
25	129	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p\ ^1P_1$		113477355		9.654E-15		46.0 (129) 29.6 (119) 21.3 (123)
25	130	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		113485860		4.678E-15		68.0 (130) 22.9 (121) 9.12 (164)
25	131	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		113486094		3.499E-14		94.4 (131)
25	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^3D_2$		113488808		1.882E-14		65.6 (132) 17.6 (138) 7.87 (154)
25	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		113490728		1.785E-14		82.0 (133)
25	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		113496553		4.624E-15		49.9 (134) 17.9 (166) 17.6 (155)
25	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d\ ^3P_2$		113504073		4.447E-15		34.9 (135) 29.6 (157) 19.0 (152)
25	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		113509667		4.094E-15		57.2 (136) 21.5 (169) 15.2 (156)
25	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		113510841		3.989E-15		72.3 (137)
25	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^1D_2$		113511661		2.115E-14		77.7 (138)
25	139	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3G_4$		113515398		3.986E-15		41.5 (139) 30.7 (165) 27.8 (160)
25	140	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		113515509		4.123E-15		49.4 (140) 28.3 (168) 18.9 (161)
25	141	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f\ ^3F_4$		113515854		1.512E-13		100. (141)
25	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f\ ^3F_2$		113516502		4.606E-14		94.2 (142)
25	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f\ ^3D_3$		113517359		4.169E-15		46.5 (143) 30.9 (162) 17.8 (159)
25	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f\ ^3F_3$		113517897		2.360E-14		77.9 (144)
25	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f\ ^1F_3$		113521308		1.719E-13		92.7 (145)
25	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s\ ^3P_2$		113581983		4.128E-15		96.1 (146)
25	147	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p\ ^1P_1$		113596325		3.691E-15		43.9 (147) 39.9 (128) 16.1 (122)
25	148	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s\ ^1P_1$		113597014		4.332E-15		68.3 (148) 24.7 (119) 7.01 (129)
25	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p\ ^3P_2$		113603698		3.740E-15		44.7 (149) 36.0 (126) 18.2 (154)
25	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p\ ^3D_3$		113606334		3.765E-15		97.8 (150)
25	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p\ ^3S_1$		113613702		3.800E-15		67.0 (151) 16.2 (147) 13.3 (128)
25	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d\ ^1D_2$		113628832		4.007E-15		53.2 (152) 23.7 (157) 20.4 (127)
25	153	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d\ ^3F_4$		113628966		4.106E-15		100. (153)
25	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p\ ^1D_2$		113631331		3.732E-15		55.6 (154) 40.3 (149) 2.13 (126)
25	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d\ ^3D_3$		113636812		3.968E-15		56.2 (155) 38.0 (134) 5.80 (166)
25	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d\ ^3P_1$		113646947		4.002E-15		67.8 (156) 28.8 (136) 1.91 (169)
25	157	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d\ ^3D_2$		113647054		3.999E-15		51.7 (135) 37.6 (157) 7.92 (152)
25	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d\ ^3P_0$		113648969		4.038E-15		98.1 (158)
25	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f\ ^1F_3$		113652757		4.035E-15		39.1 (159) 33.6 (162) 27.3 (137)
25	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f\ ^3F_4$		113655585		4.035E-15		65.9 (160) 33.0 (139) 1.10 (165)
25	161	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f\ ^3D_2$		113659912		4.031E-15		47.8 (140) 33.8 (161) 18.4 (168)
25	162	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f\ ^3F_3$		113660900		4.036E-15		50.1 (143) 26.3 (162) 23.6 (159)
25	163	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f\ ^3G_5$		113661305		4.032E-15		100. (163)
25	164	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p\ ^1S_0$		113662739		3.844E-15		75.0 (164)
25	165	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f\ ^1G_4$		113662829		4.032E-15		68.2 (165) 25.5 (139) 6.28 (160)
25	166	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d\ ^1F_3$		113663632		3.863E-15		72.2 (166) 22.1 (155) 5.67 (134)
25	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f\ ^3D_1$		113667656		4.035E-15		100. (167)
25	168	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f\ ^1D_2$		113671753		4.027E-15		52.4 (168) 46.2 (161) 1.40 (140)
25	169	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d\ ^1P_1$		113671906		3.982E-15		72.8 (169)
25	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s\ ^3S_1$		114887877		1.651E-14		76.9 (170)
25	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s\ ^3P_1$		114892354		5.222E-15		48.0 (171) 27.9 (207) 20.8 (181)
25	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s\ ^3P_0$		114893612		5.566E-15		71.6 (172) 28.4 (177)
25	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s\ ^1S_0$		114895505		1.178E-14		67.0 (173) 17.9 (182) 15.1 (220)
25	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p\ ^3D_1$		114900105		4.395E-15		71.6 (174) 13.2 (208) 9.06 (185)
25	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p\ ^3P_1$		114903864		2.725E-14		70.4 (175) 20.0 (181) 2.80 (189)
25	176	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p\ ^3P_2$		114910274		1.699E-14		81.2 (176)
25	177	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p\ ^3P_0$		114910942		1.214E-14		71.5 (177) 28.5 (172)
25	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p\ ^3D_2$		114912841		4.809E-15		44.0 (178) 23.1 (212) 16.7 (184)
25	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d\ ^3F_2$		114919898		4.340E-15		72.6 (179)
25	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p\ ^3P_1$		114921289		4.920E-15		38.0 (180) 20.8 (211) 17.2 (208)
25	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p\ ^1P_1$		114923732		1.251E-14		49.8 (181) 23.4 (175) 20.8 (171)
25	182	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p\ ^3P_0$		114926503		5.505E-15		55.8 (182) 31.0 (173) 13.2 (220)
25	183	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d\ ^3D_3$		114926758		3.375E-14		90.3 (183)
25	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d\ ^3D_2$		114927532		2.421E-14		69.2 (184) 16.0 (191) 4.38 (212)
25	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d\ ^3D_1$		114928897		2.434E-14		86.6 (185)
25	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d\ ^3F_3$		114930231		4.658E-15		43.9 (186) 23.1 (226) 18.7 (215)
25	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d\ ^3P_2$		114934664		4.799E-15		36.8 (187) 28.5 (217) 17.4 (176)
25	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f\ ^3G_3$		114936317		4.040E-15		73.8 (188)
25	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d\ ^3D_1$		114936834		4.388E-15		50.1 (189) 24.4 (235) 15.0 (216)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
25	190	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		114938916		4.039E-15		41.9 (190) 31.9 (228) 26.3 (221)
25	191	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		114939162		1.114E-14		64.4 (191) 12.9 (192) 8.19 (237)
25	192	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		114939557		5.460E-15		32.5 (192) 21.5 (237) 15.7 (191)
25	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		114940016		4.043E-15		72.3 (193)
25	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		114940435		4.417E-15		47.1 (194) 27.2 (224) 16.2 (219)
25	195	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		114940519		1.560E-14		75.2 (195)
25	196	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		114940574		4.092E-15		42.6 (196) 32.0 (236) 24.0 (229)
25	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		114940845		4.032E-15		39.6 (197) 32.9 (231) 27.5 (227)
25	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		114941111		4.968E-14		93.8 (198)
25	199	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		114941581		5.325E-15		42.5 (199) 24.8 (195) 19.7 (225)
25	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		114941735		2.386E-14		80.4 (200)
25	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		114943935		3.036E-13		94.4 (201)
25	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		114944088		3.905E-13		62.8 (202) 37.2 (205)
25	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		114944099		3.631E-13		100. (203)
25	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		114944786		6.430E-13		100. (204)
25	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		114944935		5.218E-13		63.1 (205) 36.9 (202)
25	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		115044640		4.107E-15		100. (206)
25	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		115049693		4.156E-15		67.9 (207) 30.4 (171) 1.73 (181)
25	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		115052301		3.876E-15		43.0 (208) 39.1 (180) 15.9 (174)
25	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		115055019		3.887E-15		42.9 (178) 37.3 (209) 19.8 (212)
25	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		115057463		3.891E-15		100. (210)
25	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		115060188		3.915E-15		65.4 (211) 21.0 (208) 12.3 (180)
25	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		115068549		3.884E-15		50.9 (212) 47.0 (209) 2.10 (178)
25	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		115068879		4.050E-15		55.4 (213) 21.5 (217) 21.0 (179)
25	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		115069275		4.087E-15		100. (214)
25	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		115072440		4.035E-15		50.6 (215) 43.4 (186) 6.05 (226)
25	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		115076794		4.041E-15		67.1 (216) 31.2 (189) 1.73 (235)
25	217	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		115077034		4.039E-15		50.5 (187) 40.4 (217) 9.09 (213)
25	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		115077664		4.057E-15		100. (218)
25	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		115080531		4.067E-15		40.6 (219) 33.5 (224) 26.0 (188)
25	220	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		115081800		3.938E-15		71.7 (220) 26.5 (182) 1.87 (173)
25	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		115081985		4.066E-15		64.8 (221) 35.2 (190)
25	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		115084015		4.064E-15		50.1 (192) 35.2 (222) 14.6 (237)
25	223	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		115084383		4.061E-15		100. (223)
25	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		115084413		4.066E-15		47.0 (194) 28.7 (224) 24.3 (219)
25	225	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		115084604		4.082E-15		37.7 (225) 34.9 (230) 27.4 (193)
25	226	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		115084768		3.983E-15		66.2 (226) 27.2 (215) 6.54 (186)
25	227	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		115085339		4.082E-15		71.4 (227) 21.8 (197) 6.79 (231)
25	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		115085653		4.062E-15		67.9 (228) 23.0 (190) 9.10 (221)
25	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		115085872		4.080E-15		56.6 (196) 22.1 (229) 21.3 (236)
25	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		115086563		4.081E-15		43.0 (199) 30.8 (230) 26.2 (225)
25	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		115086814		4.077E-15		60.3 (231) 38.6 (197) 1.08 (227)
25	232	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		115087474		4.077E-15		100. (232)
25	233	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		115087542		4.063E-15		100. (233)
25	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		115088554		4.076E-15		100. (234)
25	235	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		115088639		4.033E-15		69.5 (235) 15.3 (216) 15.2 (189)
25	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		115089334		4.076E-15		53.4 (229) 46.6 (236)
25	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		115089965		4.059E-15		54.0 (237) 43.7 (222) 2.27 (192)
25	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		115684769		1.361E-14		71.3 (238) 11.1 (287) 8.07 (284)
25	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		115686148		5.033E-15		51.7 (239) 27.7 (283) 16.4 (249)
25	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		115686715		5.245E-15		76.6 (240)
25	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		115688553		1.005E-14		60.9 (241) 23.4 (250) 15.6 (295)
25	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		115690711		4.573E-15		71.2 (242) 11.4 (284) 7.95 (254)
25	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		115694189		2.835E-14		67.5 (243) 21.8 (249) 4.45 (257)
25	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		115697480		1.468E-14		75.7 (244)
25	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		115697966		4.717E-15		43.8 (245) 25.8 (288) 13.2 (285)
25	246	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		115698316		1.572E-14		76.8 (246)
25	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		115701860		4.356E-15		72.4 (247)
25	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		115703187		5.239E-15		37.0 (248) 22.1 (238) 21.5 (287)
25	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		115705635		1.437E-14		48.3 (249) 26.4 (243) 16.0 (239)
25	250	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		115706606		6.345E-15		47.0 (250) 38.3 (241) 14.7 (295)
25	251	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		115707105		2.249E-14		83.2 (251)
25	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		115707454		2.307E-14		70.0 (252) 13.4 (268) 4.50 (259)
25	253	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		115707836		4.488E-15		43.0 (253) 26.6 (300) 19.8 (291)
25	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		115708402		3.354E-14		89.8 (254)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
25	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d\ ^3P_2$	115710695			5.196E-15		36.0 (255) 26.5 (293) 23.2 (244)
25	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f\ ^3G_3$	115710904			4.059E-15		74.4 (256)
25	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d\ ^3D_1$	115711721			4.719E-15		45.3 (257) 24.8 (315) 14.2 (292)
25	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f\ ^3G_4$	115712461			4.051E-15		41.9 (258) 32.5 (304) 25.7 (297)
25	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f\ ^3F_2$	115713025			4.495E-15		41.6 (259) 28.8 (321) 19.2 (298)
25	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g\ ^3H_4$	115713111			4.040E-15		72.7 (260)
25	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g\ ^3G_3$	115713502			4.055E-15		42.6 (261) 32.8 (320) 24.6 (305)
25	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g\ ^3H_5$	115713609			4.040E-15		39.8 (262) 33.1 (308) 27.1 (303)
25	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f\ ^3D_3$	115713694			4.823E-15		44.5 (263) 24.1 (301) 16.7 (251)
25	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h\ ^3I_5$	115713721			4.038E-15		71.9 (264) 17.1 (314) 11.1 (306)
25	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g\ ^3F_4$	115713819			4.332E-15		53.6 (265) 24.4 (302) 15.3 (307)
25	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h\ ^3H_4$	115713957			4.043E-15		40.5 (266) 33.1 (319) 26.4 (310)
25	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h\ ^3I_6$	115714022			4.038E-15		38.7 (267) 33.2 (312) 28.0 (309)
25	268	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d\ ^1D_2$	115714227			3.225E-14		79.2 (268)
25	269	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h\ ^3G_5$	115714254			4.043E-15		59.5 (269) 23.8 (306) 16.7 (314)
25	270	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f\ ^3F_4$	115715206			5.453E-14		93.2 (270)
25	271	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f\ ^3F_2$	115715217			6.274E-14		94.8 (271)
25	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f\ ^3F_3$	115715476			3.554E-14		84.8 (272)
25	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f\ ^1F_3$	115716996			4.989E-13		95.1 (273)
25	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g\ ^3G_3$	115717079			5.012E-13		100. (274)
25	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g\ ^3G_4$	115717092			5.973E-13		67.7 (275) 32.3 (277)
25	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g\ ^3G_5$	115717476			1.090E-12		100. (276)
25	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g\ ^1G_4$	115717593			8.559E-13		68.0 (277) 32.0 (275)
25	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h\ ^3H_5$	115717651			1.528E-12		55.2 (278) 44.8 (281)
25	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h\ ^3H_4$	115717661			1.556E-12		100. (279)
25	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h\ ^3H_6$	115717952			1.534E-12		100. (280)
25	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h\ ^1H_5$	115717960			1.571E-12		55.2 (281) 44.8 (278)
25	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s\ ^3P_2$	115835329			4.105E-15		100. (282)
25	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s\ ^1P_1$	115837504			4.119E-15		67.7 (283) 32.3 (239)
25	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p\ ^1P_1$	115839841			3.977E-15		40.6 (284) 40.2 (248) 15.6 (242)
25	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p\ ^3P_2$	115841161			3.977E-15		45.4 (285) 34.3 (285) 20.3 (288)
25	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p\ ^3D_3$	115842849			3.978E-15		100. (286)
25	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$	115843899			3.982E-15		63.5 (287) 24.8 (284) 10.6 (248)
25	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^1D_2$	115848801			3.975E-15		49.6 (288) 48.5 (288) 1.96 (245)
25	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$	115849401			4.075E-15		56.1 (289) 21.2 (247) 20.7 (293)
25	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$	115849701			4.092E-15		100. (290)
25	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$	115851313			4.066E-15		48.1 (291) 45.6 (253) 6.27 (300)
25	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$	115853500			4.059E-15		66.8 (292) 31.7 (257) 1.53 (315)
25	293	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$	115853723			4.061E-15		49.6 (255) 41.0 (293) 9.43 (289)
25	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$	115853909			4.065E-15		100. (294)
25	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$	115855217			3.992E-15		70.1 (295) 29.9 (250)
25	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^1F_3$	115855941			4.084E-15		41.2 (296) 33.3 (301) 25.5 (256)
25	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^3F_4$	115856773			4.084E-15		63.5 (297) 36.5 (258)
25	298	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$	115857902			4.081E-15		50.9 (259) 36.0 (298) 13.1 (321)
25	299	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$	115857997			4.081E-15		100. (299)
25	300	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$	115858036			4.040E-15		63.5 (300) 29.7 (291) 6.77 (253)
25	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^3F_3$	115858114			4.081E-15		45.9 (263) 29.6 (301) 24.5 (296)
25	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$	115858301			4.091E-15		37.7 (302) 35.3 (307) 27.0 (260)
25	303	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$	115858730			4.090E-15		71.2 (303) 23.2 (262) 5.52 (308)
25	304	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^3G_4$	115858818			4.083E-15		67.5 (304) 21.7 (258) 10.8 (297)
25	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$	115859058			4.090E-15		57.2 (261) 22.1 (305) 20.6 (320)
25	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$	115859250			4.091E-15		38.1 (306) 34.0 (314) 27.9 (264)
25	307	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^1G_4$	115859451			4.090E-15		42.3 (265) 30.9 (307) 26.8 (302)
25	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$	115859507			4.084E-15		61.4 (308) 36.9 (262) 1.67 (303)
25	309	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$	115859531			4.090E-15		70.4 (309) 23.6 (267) 6.04 (312)
25	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$	115859634			4.093E-15		59.4 (266) 20.9 (310) 19.7 (319)
25	311	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$	115859805			4.077E-15		100. (311)
25	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$	115859839			4.074E-15		60.7 (312) 37.7 (267) 1.61 (309)
25	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$	115859856			4.084E-15		100. (313)
25	314	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^1H_5$	115859919			4.093E-15		40.3 (269) 32.5 (314) 27.2 (306)
25	315	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$	115860089			4.056E-15		67.7 (315) 16.5 (257) 15.8 (292)
25	316	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$	115860127			4.074E-15		100. (316)
25	317	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$	115860530			4.088E-15		100. (317)
25	318	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$	115860582			4.087E-15		100. (318)
25	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^1G_4$	115860818			4.088E-15		52.7 (310) 47.3 (319)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
25	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		115861052		4.087E-15		53.2 (305) 46.8 (320)
25	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		115861292		4.079E-15		54.7 (321) 42.5 (298) 2.80 (259)
26	1	$1s^2_{1/2}(J=0)$	$1s^2^1S_0$	0	0	0			100. (1)
26	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	53527760	53527200	53525401	4.834E-09	4.875E-09	100. (2)
26	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	53761280	53760943	53759081	2.812E-09	2.813E-09	100. (3)
26	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	53777570	53777233	53775393	2.256E-14	2.259E-14	91.3 (4)
26	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	53781230	53780739	53778969	2.337E-03	2.254E-03	100. (5)
26	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	53896600	53896319	53894467	1.261E-10	1.261E-10	100. (6)
26	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	54042490	54041881	54040245	2.192E-15	2.191E-15	91.3 (7)
26	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	63421700	63421204	63419461	3.342E-13	3.344E-13	100. (8)
26	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	63486100	63485627	63483898	1.118E-13	1.118E-13	100. (9)
26	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	63489000	63488017	63486393	3.488E-13	3.488E-13	100. (10)
26	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	63490700	63490320	63488601	4.561E-14	4.565E-14	90.4 (11)
26	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	63526300	63525930	63524204	1.153E-13	1.153E-13	100. (12)
26	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	63560700	63560232	63558542	3.875E-14	3.874E-14	65.7 (13) 34.3 (17)
26	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	63561300	63560870	63559174	3.869E-14	3.868E-14	100. (14)
26	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	63565800	63565245	63563600	7.597E-15	7.591E-15	90.4 (15)
26	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	63574200	63573781	63572086	3.915E-14	3.913E-14	100. (16)
26	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	63576500	63576038	63574354	3.938E-14	3.937E-14	65.7 (17) 34.3 (13)
26	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	66846900	66847270	66845577	4.871E-13	4.879E-13	100. (18)
26	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	66873900	66873773	66872077	1.909E-13	1.910E-13	100. (19)
26	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	66875000	66874357	66872697	5.057E-13	5.058E-13	100. (20)
26	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	66875900	66875732	66874040	9.365E-14	9.371E-14	90.1 (21)
26	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	66890900	66890783	66889089	1.957E-13	1.958E-13	100. (22)
26	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	66905400	66904958	66903275	9.013E-14	9.011E-14	67.4 (23) 32.6 (28)
26	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	66905700	66905140	66903456	8.992E-14	8.990E-14	100. (24)
26	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	66907600	66906848	66905185	1.809E-14	1.807E-14	90.1 (25)
26	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	66911100	66910590	66908906	9.105E-14	9.106E-14	100. (26)
26	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		66911488	66909809	1.844E-13	1.843E-13	56.8 (27) 43.2 (31)
26	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	66912100	66911713	66910032	9.178E-14	9.174E-14	67.4 (28) 32.6 (23)
26	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		66911759	66910080	1.844E-13	1.843E-13	100. (29)
26	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		66914494	66912814	1.851E-13	1.850E-13	100. (30)
26	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		66914706	66913029	1.852E-13	1.851E-13	56.8 (31) 43.2 (27)
26	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	68423800	68423916	68422232	7.708E-13	7.675E-13	100. (32)
26	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	68437270	68437318	68435632	3.268E-13	3.257E-13	100. (33)
26	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	68438100	68437521	68435859	7.860E-13	7.938E-13	100. (34)
26	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	68438600	68438315	68436632	1.714E-13	1.711E-13	90.0 (35)
26	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	68446300	68446024	68444339	3.342E-13	3.330E-13	100. (36)
26	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		68453209	68451529	1.734E-13	1.733E-13	68.0 (37) 32.0 (42)
26	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		68453284	68451603	1.732E-13	1.728E-13	100. (38)
26	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	68454800	68454125	68452461	3.534E-14	3.525E-14	90.0 (39)
26	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		68456075	68454394	1.755E-13	1.752E-13	100. (40)
26	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		68456575	68454897	3.561E-13	3.561E-13	57.0 (41) 43.0 (47)
26	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		68456687	68455008	1.765E-13	1.766E-13	68.0 (42) 32.0 (37)
26	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		68456713	68455034	3.561E-13	3.560E-13	100. (43)
26	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		68458113	68456434	3.575E-13	3.575E-13	100. (44)
26	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		68458135	68456457	5.994E-13	5.993E-13	55.2 (45) 44.8 (49)
26	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		68458216	68456538	5.995E-13	5.994E-13	100. (46)
26	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		68458225	68456546	3.578E-13	3.577E-13	57.0 (47) 43.0 (41)
26	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		68459057	68457379	6.005E-13	6.004E-13	100. (48)
26	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		68459122	68457444	6.006E-13	6.005E-13	55.2 (49) 44.8 (45)
26	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		69277232	69275513	1.198E-12	1.177E-12	100. (50)
26	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		69284928	69283210	5.293E-13	5.233E-13	100. (51)
26	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		69285023	69283338	1.173E-12	1.208E-12	100. (52)
26	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		69285503	69283789	2.858E-13	2.841E-13	89.9 (53)
26	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		69289964	69288247	5.401E-13	5.348E-13	100. (54)
26	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		69294087	69292382	2.966E-13	2.961E-13	68.4 (55) 31.6 (60)
26	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		69294125	69292420	2.970E-13	2.950E-13	100. (56)
26	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		69294615	69292922	6.089E-14	6.040E-14	89.9 (57)
26	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		69295740	69294035	3.011E-13	2.992E-13	100. (58)
26	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		69296029	69294338	6.084E-13	6.084E-13	57.1 (59) 42.9 (65)
26	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		69296106	69294401	3.008E-13	3.016E-13	68.4 (60) 31.6 (55)
26	61	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		69296108	69294417	6.083E-13	6.082E-13	100. (61)
26	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		69296918	69295227	6.108E-13	6.110E-13	100. (62)
26	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		69296923	69295242	1.028E-12	1.028E-12	55.2 (63) 44.8 (69)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
26	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		69296971	69295289	1.028E-12	1.028E-12	100. (64)
26	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		69296984	69295293	6.115E-13	6.111E-13	57.1 (65) 42.9 (59)
26	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		69297457	69295779	1.552E-12	1.552E-12	54.2 (66) 45.8 (71)
26	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		69297458	69295776	1.030E-12	1.030E-12	100. (67)
26	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		69297488	69295809	1.553E-12	1.552E-12	100. (68)
26	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		69297495	69295813	1.030E-12	1.030E-12	55.2 (69) 44.8 (63)
26	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		69297812	69296134	1.554E-12	1.554E-12	100. (70)
26	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		69297838	69296160	1.554E-12	1.554E-12	54.2 (71) 45.8 (66)
26	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	109258000	109259778		9.289E-15		79.8 (72)
26	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	109291000	109287871		3.614E-15		100. (73)
26	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	109329000	109326200		3.616E-15		96.2 (74)
26	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	109453000	109452566		3.658E-15		100. (75)
26	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	109551000	109547908		1.953E-15		89.6 (76)
26	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	109631000	109629385		1.808E-15		100. (77)
26	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	109683000	109681287		1.807E-15		66.7 (78) 33.3 (80)
26	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	109737000	109736961		3.560E-15		96.2 (79)
26	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	109846000	109847733		1.813E-15		66.7 (80) 33.3 (78)
26	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	110126000	110127710		2.081E-15		81.2 (81)
26	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		119361736		1.394E-14		82.8 (82)
26	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		119397518		4.673E-15		37.8 (83) 34.5 (106) 24.0 (91)
26	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		119424317		1.221E-14		76.2 (84)
26	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		119425987		4.400E-15		72.7 (85)
26	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		119430791		2.924E-15		72.6 (86)
26	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		119449806		8.275E-15		73.6 (87)
26	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		119457901		6.965E-15		69.1 (88) 26.4 (85) 4.52 (114)
26	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		119486909		9.816E-15		88.8 (89)
26	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		119499264		3.351E-15		64.2 (90) 23.1 (97) 7.66 (111)
26	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		119510383		5.281E-15		46.1 (91) 30.1 (83) 20.5 (87)
26	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		119532643		3.346E-15		35.8 (92) 23.7 (103) 14.9 (107)
26	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		119543472		3.485E-15		78.4 (93)
26	94	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		119557744		3.142E-15		82.0 (94)
26	95	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		119558230		1.195E-14		86.4 (95)
26	96	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		119572844		1.079E-14		78.5 (96)
26	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		119574698		9.746E-15		62.1 (97) 13.2 (100) 12.7 (111)
26	98	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		119588184		3.388E-15		61.4 (98) 17.8 (113) 9.76 (109)
26	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		119596173		3.370E-15		74.1 (99)
26	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		119624870		9.628E-15		59.9 (100) 16.6 (90) 14.1 (97)
26	101	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		119629758		3.171E-15		65.6 (101) 15.1 (117) 13.7 (112)
26	102	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^1D_2$		119632259		3.538E-15		34.9 (98) 24.7 (102) 20.7 (109)
26	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		119651346		2.831E-15		51.5 (103) 32.5 (92) 13.3 (86)
26	104	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		119675368		3.244E-15		86.4 (104)
26	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		119685709		3.167E-15		64.9 (105) 14.0 (100) 12.3 (90)
26	106	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		119686244		4.187E-15		61.0 (106) 25.5 (83) 10.5 (91)
26	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		119692418		2.972E-15		67.6 (107) 13.2 (103) 11.9 (92)
26	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		119723960		3.558E-15		100. (108)
26	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		119733868		3.307E-15		43.1 (102) 35.0 (109) 16.6 (93)
26	110	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		119760094		3.174E-15		71.0 (110) 23.0 (99) 5.99 (115)
26	111	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		119761956		3.037E-15		61.7 (111) 24.9 (105) 12.3 (100)
26	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		119789848		3.322E-15		71.4 (112) 22.5 (101) 3.11 (87)
26	113	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		119790229		3.320E-15		57.2 (113) 31.8 (109) 5.81 (102)
26	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		119794840		3.384E-15		96.2 (114)
26	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		119845209		2.993E-15		83.8 (115)
26	116	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		119854154		3.015E-15		78.7 (116)
26	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		119865186		3.245E-15		80.2 (117)
26	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		122872020		1.556E-14		80.5 (118)
26	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		122884840		4.516E-15		42.5 (119) 29.7 (147) 26.4 (129)
26	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		122888771		4.847E-15		68.6 (120) 31.4 (124)
26	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		122890564		1.121E-14		71.5 (121) 15.5 (162) 13.0 (130)
26	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		122899638		3.489E-15		72.5 (122)
26	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		122904869		1.682E-14		73.8 (123)
26	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		122917330		8.496E-15		67.1 (124) 31.3 (120) 1.66 (158)
26	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		122921140		1.395E-14		85.0 (125)
26	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		122928468		3.973E-15		47.3 (126) 20.5 (132) 19.0 (154)
26	127	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		122943440		3.642E-15		73.8 (127)
26	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		122943918		3.910E-15		37.3 (128) 20.4 (148) 19.2 (151)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
26	129	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		122944969		8.753E-15		48.3 (129) 26.8 (119) 21.7 (123)
26	130	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		122952113		4.068E-15		65.7 (130) 24.2 (121) 10.1 (162)
26	131	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		122954904		3.105E-14		94.9 (131)
26	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		122956824		1.684E-14		67.0 (132) 17.2 (138) 7.18 (154)
26	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		122958551		1.599E-14		82.9 (133)
26	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		122965508		3.930E-15		48.9 (134) 19.0 (166) 17.9 (155)
26	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		122973238		3.813E-15		35.6 (135) 29.7 (157) 18.3 (152)
26	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		122978238		3.505E-15		56.0 (136) 22.3 (168) 15.4 (156)
26	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		122979990		3.410E-15		72.6 (137)
26	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		122981469		1.828E-14		78.5 (138)
26	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		122984896		3.545E-15		48.5 (139) 28.6 (169) 19.1 (161)
26	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		122985115		3.407E-15		41.5 (140) 30.9 (165) 27.5 (160)
26	141	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		122986039		1.383E-13		100. (141)
26	142	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		122986214		4.106E-14		94.5 (142)
26	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		122987156		3.570E-15		47.1 (143) 30.5 (163) 17.4 (159)
26	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		122987702		2.085E-14		76.8 (144)
26	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		122991559		1.417E-13		91.2 (145)
26	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		123069857		3.525E-15		97.9 (146)
26	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		123084646		3.663E-15		68.4 (147) 26.0 (119) 5.65 (129)
26	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		123085510		3.155E-15		41.6 (128) 41.2 (148) 15.7 (122)
26	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		123092453		3.188E-15		41.9 (149) 37.9 (126) 20.1 (154)
26	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		123097339		3.203E-15		98.3 (150)
26	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		123104082		3.229E-15		66.1 (151) 19.8 (148) 11.2 (128)
26	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		123121253		3.425E-15		53.1 (152) 24.0 (157) 20.6 (127)
26	153	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		123121853		3.506E-15		100. (153)
26	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		123123222		3.178E-15		53.5 (154) 43.2 (149) 1.81 (126)
26	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		123129541		3.394E-15		54.3 (155) 39.4 (134) 6.32 (166)
26	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		123139721		3.415E-15		67.4 (156) 29.5 (136) 1.94 (168)
26	157	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		123140306		3.414E-15		51.6 (135) 37.4 (157) 8.70 (152)
26	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		123141792		3.445E-15		98.4 (158)
26	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		123146792		3.452E-15		38.7 (159) 34.2 (163) 27.1 (137)
26	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		123149980		3.452E-15		65.8 (160) 34.2 (140)
26	161	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		123154160		3.449E-15		48.4 (139) 33.7 (161) 17.9 (169)
26	162	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		123155320		3.264E-15		74.5 (162)
26	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		123155504		3.452E-15		49.4 (143) 26.1 (163) 24.5 (159)
26	164	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		123156051		3.450E-15		100. (164)
26	165	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		123157432		3.449E-15		68.3 (165) 24.5 (140) 7.18 (160)
26	166	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		123157705		3.305E-15		70.6 (166) 23.8 (155) 5.53 (134)
26	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		123162271		3.451E-15		100. (167)
26	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		123166340		3.401E-15		72.7 (168)
26	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		123166887		3.445E-15		52.5 (169) 46.0 (161) 1.48 (139)
26	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		124475376		1.400E-14		76.8 (170)
26	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		124479832		4.372E-15		49.5 (171) 28.1 (207) 19.4 (181)
26	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		124480891		4.695E-15		72.6 (172)
26	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		124483095		9.803E-15		66.2 (173) 18.8 (182) 15.0 (220)
26	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		124487728		3.756E-15		71.6 (174) 13.3 (208) 8.24 (185)
26	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		124492048		2.384E-14		70.4 (175) 20.3 (181) 2.80 (189)
26	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		124499200		1.072E-14		72.5 (176)
26	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		124499708		1.434E-14		80.9 (177)
26	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		124502131		4.057E-15		44.0 (178) 23.7 (212) 15.7 (184)
26	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		124509366		3.701E-15		72.7 (179)
26	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		124510683		4.177E-15		38.4 (180) 21.4 (211) 16.7 (170)
26	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		124513530		1.125E-14		51.0 (181) 24.0 (175) 19.0 (171)
26	182	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		124515495		4.786E-15		54.0 (182) 32.2 (173) 13.8 (220)
26	183	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		124517253		2.825E-14		90.0 (183)
26	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		124517673		2.147E-14		70.1 (184) 15.7 (192) 4.00 (212)
26	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		124518961		2.216E-14		87.5 (185)
26	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		124520584		3.941E-15		43.7 (186) 23.9 (225) 19.0 (215)
26	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		124525125		4.111E-15		37.5 (187) 28.7 (217) 17.8 (177)
26	188	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		124526781		3.452E-15		73.9 (188)
26	189	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		124526984		3.757E-15		49.5 (189) 24.9 (234) 15.0 (216)
26	190	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		124529684		3.451E-15		41.9 (190) 32.0 (228) 26.1 (221)
26	191	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		124529908		4.944E-15		31.7 (191) 31.7 (192) 20.8 (237)
26	192	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		124530356		8.687E-15		48.4 (192) 13.9 (184) 13.2 (191)
26	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		124530808		3.451E-15		72.4 (193)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
26	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		124531263		3.791E-15		47.3 (194) 27.0 (223) 15.9 (219)
26	195	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		124531377		3.486E-15		42.6 (195) 32.2 (236) 24.2 (229)
26	196	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		124531642		9.014E-15		62.5 (196) 21.4 (199) 10.5 (226)
26	197	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		124531779		3.447E-15		39.6 (197) 33.0 (231) 27.4 (227)
26	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		124532109		4.511E-14		94.2 (198)
26	199	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		124532621		5.458E-15		37.5 (196) 35.4 (199) 16.3 (226)
26	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		124532771		2.209E-14		80.0 (200)
26	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		124535239		2.480E-13		93.3 (201)
26	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		124535419		3.493E-13		62.2 (202) 37.8 (205)
26	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		124535432		3.288E-13		100. (203)
26	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		124536252		5.499E-13		100. (204)
26	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		124536411		4.600E-13		62.5 (205) 37.5 (202)
26	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		124657036		3.512E-15		100. (206)
26	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		124662089		3.544E-15		67.8 (207) 30.8 (171) 1.36 (181)
26	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		124665287		3.316E-15		41.5 (180) 39.4 (208) 15.5 (174)
26	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		124667847		3.323E-15		43.8 (178) 35.2 (209) 21.0 (212)
26	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		124671500		3.325E-15		100. (210)
26	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		124673943		3.341E-15		63.9 (211) 25.1 (208) 9.86 (180)
26	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		124683006		3.320E-15		49.3 (212) 48.9 (209) 1.78 (178)
26	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		124683574		3.464E-15		54.8 (213) 22.3 (217) 21.2 (179)
26	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		124684224		3.496E-15		100. (214)
26	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		124687269		3.452E-15		49.1 (215) 44.3 (186) 6.58 (225)
26	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		124691646		3.454E-15		66.7 (216) 31.5 (189) 1.78 (234)
26	217	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		124692138		3.454E-15		50.6 (187) 39.5 (217) 9.98 (213)
26	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		124692540		3.467E-15		100. (218)
26	219	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		124696001		3.480E-15		40.0 (219) 34.1 (223) 25.9 (188)
26	220	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		124696595		3.358E-15		71.2 (220) 27.3 (182) 1.52 (173)
26	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		124697629		3.479E-15		63.7 (221) 36.3 (190)
26	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		124699601		3.478E-15		50.4 (191) 35.2 (222) 14.4 (237)
26	223	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		124700177		3.479E-15		46.7 (194) 28.2 (223) 25.1 (219)
26	224	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		124700189		3.476E-15		100. (224)
26	225	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		124700260		3.408E-15		65.1 (225) 28.6 (215) 6.22 (186)
26	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		124700416		3.493E-15		38.2 (226) 34.5 (230) 27.3 (193)
26	227	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		124701278		3.493E-15		71.1 (227) 22.9 (197) 5.98 (231)
26	228	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		124701424		3.476E-15		67.9 (228) 21.9 (190) 10.2 (221)
26	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		124701729		3.492E-15		56.8 (195) 22.4 (229) 20.8 (236)
26	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		124702551		3.492E-15		42.8 (199) 31.3 (230) 25.9 (226)
26	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		124702741		3.489E-15		61.1 (231) 37.5 (197) 1.46 (227)
26	232	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		124703284		3.476E-15		100. (232)
26	233	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		124703524		3.489E-15		100. (233)
26	234	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		124704312		3.448E-15		68.9 (234) 15.8 (216) 15.3 (189)
26	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		124704528		3.488E-15		100. (235)
26	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		124705443		3.488E-15		53.1 (229) 46.9 (236)
26	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		124705987		3.474E-15		54.1 (237) 43.6 (222) 2.36 (191)
26	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		125339601		1.126E-14		70.4 (238) 10.7 (287) 8.66 (284)
26	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		125340832		4.221E-15		53.0 (239) 28.1 (283) 15.1 (249)
26	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		125341304		4.418E-15		77.8 (240)
26	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		125343392		8.345E-15		59.8 (241) 24.5 (250) 15.7 (295)
26	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		125345517		3.940E-15		70.7 (242) 11.2 (284) 8.03 (238)
26	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		125349460		2.470E-14		67.5 (243) 22.2 (249) 4.43 (257)
26	244	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		125353440		1.216E-14		74.1 (244)
26	245	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		125353623		1.408E-14		78.0 (245)
26	246	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		125353699		3.979E-15		44.1 (246) 26.4 (288) 13.5 (285)
26	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		125357702		3.722E-15		72.4 (247)
26	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		125358996		4.446E-15		37.4 (248) 21.9 (287) 21.7 (238)
26	249	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		125361804		1.274E-14		48.6 (249) 27.3 (243) 14.6 (239)
26	250	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		125362211		5.539E-15		45.5 (250) 39.6 (241) 14.9 (295)
26	251	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		125363686		1.798E-14		81.9 (251)
26	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		125363854		1.971E-14		71.0 (252) 13.3 (269) 4.81 (259)
26	253	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		125364166		3.796E-15		43.1 (253) 27.3 (299) 20.0 (291)
26	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		125364782		3.107E-14		90.6 (254)
26	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		125367129		4.470E-15		35.9 (255) 26.3 (293) 23.8 (244)
26	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		125367298		3.470E-15		74.5 (256)
26	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		125367951		4.054E-15		44.7 (257) 25.0 (314) 14.2 (249)
26	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		125369033		3.462E-15		41.8 (258) 32.5 (303) 25.6 (297)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
26	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		125369518		3.865E-15		41.2 (259) 28.7 (321) 19.1 (298)
26	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		125369700		3.455E-15		72.8 (260)
26	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		125370096		3.465E-15		42.5 (261) 32.9 (320) 24.7 (305)
26	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		125370281		3.454E-15		39.8 (262) 33.1 (308) 27.1 (304)
26	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		125370345		4.185E-15		44.0 (263) 23.7 (301) 17.9 (251)
26	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		125370395		3.454E-15		71.9 (264) 17.2 (315) 10.9 (306)
26	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		125370505		3.617E-15		54.9 (265) 25.1 (302) 15.5 (307)
26	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		125370630		3.457E-15		40.4 (266) 33.1 (319) 26.5 (310)
26	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		125370749		3.454E-15		38.8 (267) 33.2 (312) 28.0 (309)
26	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		125370981		3.457E-15		59.5 (268) 23.9 (306) 16.5 (315)
26	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		125371085		2.918E-14		79.7 (269)
26	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		125372135		5.791E-14		96.1 (270)
26	271	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		125372243		6.723E-14		96.3 (271)
26	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		125372412		3.348E-14		84.7 (272)
26	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		125374102		4.101E-13		94.1 (273)
26	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		125374203		4.644E-13		100. (274)
26	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		125374218		5.446E-13		66.7 (275) 33.3 (277)
26	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		125374678		9.357E-13		100. (276)
26	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		125374803		7.608E-13		66.9 (277) 33.1 (275)
26	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		125374861		1.317E-12		55.1 (278) 44.9 (281)
26	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		125374872		1.347E-12		100. (279)
26	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		125375215		1.321E-12		100. (280)
26	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		125375224		1.357E-12		55.1 (281) 44.9 (278)
26	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		125515000		3.512E-15		100. (282)
26	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		125517205		3.522E-15		67.6 (283) 32.4 (239)
26	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		125519825		3.402E-15		42.6 (248) 36.7 (284) 15.1 (242)
26	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		125521082		3.402E-15		46.0 (246) 32.6 (285) 21.4 (288)
26	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		125523481		3.402E-15		100. (286)
26	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		125524397		3.406E-15		61.3 (287) 28.9 (284) 8.20 (248)
26	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		125529664		3.400E-15		51.2 (285) 47.2 (288) 1.66 (246)
26	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		125530400		3.486E-15		55.3 (289) 21.8 (293) 21.4 (247)
26	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		125530853		3.501E-15		100. (290)
26	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		125532384		3.479E-15		46.8 (291) 46.4 (253) 6.82 (299)
26	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		125534586		3.473E-15		66.5 (292) 31.9 (257) 1.60 (314)
26	293	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		125534958		3.475E-15		49.7 (255) 39.8 (293) 10.4 (289)
26	294	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		125535009		3.478E-15		100. (294)
26	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		125536283		3.414E-15		69.7 (295) 30.3 (250)
26	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		125537380		3.495E-15		40.5 (296) 34.0 (301) 25.4 (256)
26	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		125538308		3.495E-15		62.3 (297) 37.7 (258)
26	298	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		125539408		3.493E-15		51.1 (259) 36.0 (298) 12.9 (321)
26	299	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		125539482		3.457E-15		62.6 (299) 31.0 (291) 6.37 (253)
26	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		125539621		3.493E-15		100. (300)
26	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		125539723		3.493E-15		45.7 (263) 29.0 (301) 25.3 (296)
26	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		125539938		3.501E-15		38.2 (302) 34.9 (307) 26.9 (260)
26	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		125540432		3.495E-15		67.4 (303) 20.5 (258) 12.1 (297)
26	304	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		125540440		3.501E-15		70.7 (304) 24.6 (262) 4.67 (308)
26	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		125540724		3.500E-15		57.3 (261) 22.4 (305) 20.2 (320)
26	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		125540988		3.501E-15		38.6 (306) 33.6 (315) 27.9 (264)
26	307	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^1G_4$		125541192		3.501E-15		42.2 (265) 31.4 (307) 26.4 (302)
26	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		125541212		3.496E-15		62.2 (308) 35.6 (262) 2.23 (304)
26	309	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		125541319		3.501E-15		69.5 (309) 25.8 (267) 4.71 (312)
26	310	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		125541387		3.503E-15		59.4 (266) 21.1 (310) 19.5 (319)
26	311	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		125541395		3.490E-15		100. (311)
26	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		125541611		3.490E-15		62.1 (312) 35.4 (267) 2.49 (309)
26	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		125541628		3.496E-15		100. (313)
26	314	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		125541641		3.471E-15		67.4 (314) 16.4 (257) 16.2 (292)
26	315	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		125541722		3.503E-15		40.2 (268) 33.0 (315) 26.8 (306)
26	316	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		125541949		3.490E-15		100. (316)
26	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		125542313		3.498E-15		100. (317)
26	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		125542320		3.499E-15		100. (318)
26	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		125542659		3.499E-15		52.5 (310) 47.5 (319)
26	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		125542861		3.498E-15		52.8 (305) 47.2 (320)
26	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		125543047		3.491E-15		54.7 (321) 42.4 (298) 2.87 (259)
27	1	$1s^2_{1/2}(J=0)$	$1s^2^1S_0$	0	0				100. (1)
27	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	57857380	57856745		3.284E-09		100. (2)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
27	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	58102090	58101689		2.647E-09		100. (3)
27	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	58119680	58119277		1.693E-14		90.1 (4)
27	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	58122700	58122140		3.010E-03		100. (5)
27	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	58261180	58260856		9.438E-11		100. (6)
27	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	58411430	58410739		1.902E-15		90.1 (7)
27	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	68560000	68558949		2.854E-13		100. (8)
27	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	68627500	68626450		9.541E-14		100. (9)
27	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	68630600	68628897		2.976E-13		100. (10)
27	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	68632500	68631494		3.617E-14		89.2 (11)
27	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	68674800	68673833		9.863E-14		100. (12)
27	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	68710600	68709509		3.309E-14		65.1 (13) 34.9 (17)
27	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	68711300	68710284		3.306E-14		100. (14)
27	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	68715500	68714344		6.595E-15		89.2 (15)
27	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	68726500	68725454		3.348E-14		100. (16)
27	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	68728900	68727879		3.365E-14		65.1 (17) 34.9 (13)
27	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	72266000	72265543		4.160E-13		100. (18)
27	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	72294300	72293308		1.630E-13		100. (19)
27	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	72295500	72293898		4.315E-13		100. (20)
27	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	72296500	72295410		7.513E-14		88.8 (21)
27	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	72314300	72313304		1.674E-13		100. (22)
27	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	72329400	72328050		7.695E-14		66.6 (23) 33.4 (28)
27	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	72329700	72328285		7.683E-14		100. (24)
27	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	72331500	72329861		1.570E-14		88.8 (25)
27	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	72336100	72334689		7.788E-14		100. (26)
27	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		72335626		1.575E-13		56.8 (27) 43.2 (31)
27	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	72337100	72335888		7.839E-14		66.6 (28) 33.4 (23)
27	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		72335932		1.575E-13		100. (29)
27	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		72339143		1.582E-13		100. (30)
27	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		72339381		1.583E-13		56.8 (31) 43.2 (27)
27	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	73972000	73971310		6.588E-13		100. (32)
27	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	73985370	73985348		2.792E-13		100. (33)
27	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	73987000	73985551		6.703E-13		100. (34)
27	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	73987500	73986418		1.381E-13		88.7 (35)
27	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	73996600	73995581		2.859E-13		100. (36)
27	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		74003058		1.481E-13		67.2 (37) 32.8 (42)
27	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		74003158		1.480E-13		100. (38)
27	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	74005400	74003932		3.067E-14		88.7 (39)
27	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		74006437		1.502E-13		100. (40)
27	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		74006960		3.042E-13		57.0 (41) 43.0 (47)
27	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		74007090		1.507E-13		67.2 (42) 32.8 (37)
27	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		74007115		3.042E-13		100. (43)
27	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		74008759		3.055E-13		100. (44)
27	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		74008782		5.122E-13		55.2 (45) 44.8 (49)
27	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		74008874		5.123E-13		100. (46)
27	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		74008884		3.058E-13		57.0 (47) 43.0 (41)
27	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		74009861		5.133E-13		100. (48)
27	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		74009934		5.133E-13		55.2 (49) 44.8 (45)
27	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		74894495		1.021E-12		100. (50)
27	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		74902555		4.512E-13		100. (51)
27	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		74902650		1.004E-12		100. (52)
27	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		74903171		2.307E-13		88.6 (53)
27	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		74908475		4.613E-13		100. (54)
27	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		74912764		2.532E-13		67.5 (55) 32.5 (60)
27	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		74912817		2.535E-13		100. (56)
27	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		74913269		5.284E-14		88.6 (57)
27	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		74914714		2.574E-13		100. (58)
27	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		74915015		5.197E-13		57.0 (59) 43.0 (65)
27	60	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		74915103		2.570E-13		67.5 (60) 32.5 (55)
27	61	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		74915104		5.196E-13		100. (61)
27	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		74916056		5.219E-13		100. (62)
27	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		74916062		8.785E-13		55.2 (63) 44.8 (69)
27	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		74916115		8.787E-13		100. (64)
27	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		74916130		5.225E-13		57.0 (65) 43.0 (59)
27	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		74916686		1.327E-12		54.2 (66) 45.8 (71)
27	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		74916686		8.804E-13		100. (67)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
27	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		74916721		1.327E-12		100. (68)
27	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		74916729		8.805E-13		55.2 (69) 44.8 (63)
27	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		74917102		1.328E-12		100. (70)
27	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		74917130		1.328E-12		54.2 (71) 45.8 (66)
27	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	118012000	118012525		7.913E-15		79.7 (72)
27	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	118044000	118039794		3.103E-15		100. (73)
27	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	118086000	118082864		3.104E-15		95.5 (74)
27	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	118233000	118231934		3.144E-15		100. (75)
27	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	118322000	118316986		1.698E-15		88.0 (76)
27	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	118418000	118415649		1.554E-15		100. (77)
27	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	118474000	118471547		1.552E-15		63.5 (78) 36.5 (80)
27	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	118525000	118524782		3.063E-15		95.4 (79)
27	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	118659000	118661516		1.559E-15		63.5 (80) 36.5 (78)
27	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	118946000	118946514		1.769E-15		81.0 (81)
27	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		128930809		1.240E-14		83.6 (82)
27	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		128968261		3.963E-15		36.1 (83) 33.7 (105) 26.5 (91)
27	84	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		128995191		1.032E-14		75.9 (84)
27	85	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		128995914		3.754E-15		73.5 (85)
27	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		129001214		2.511E-15		72.7 (86)
27	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		129022487		7.167E-15		73.8 (87)
27	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		129030169		6.112E-15		70.3 (88) 25.8 (85) 3.93 (114)
27	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		129066068		8.470E-15		89.0 (89)
27	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		129079646		2.874E-15		62.9 (90) 22.9 (97) 8.69 (110)
27	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		129092203		4.754E-15		42.5 (91) 34.0 (83) 20.7 (87)
27	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		129113764		2.882E-15		32.3 (92) 25.7 (103) 16.5 (107)
27	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		129124132		2.997E-15		78.4 (93)
27	94	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		129136089		2.743E-15		79.7 (94)
27	95	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		129143850		1.188E-14		89.5 (95)
27	96	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		129154635		9.637E-15		79.6 (96)
27	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		129157090		8.742E-15		63.5 (97) 13.0 (100) 11.8 (110)
27	98	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		129179790		2.907E-15		48.4 (98) 21.9 (113) 14.0 (109)
27	99	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		129182603		2.885E-15		71.8 (99) 16.7 (111) 11.5 (115)
27	100	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		129213908		9.248E-15		64.6 (100) 15.4 (90) 12.8 (97)
27	101	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		129214750		2.724E-15		64.5 (101) 16.2 (117) 14.4 (112)
27	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3d^1D_2$		129225306		3.053E-15		48.5 (98) 18.8 (102) 17.3 (109)
27	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		129251994		2.417E-15		52.1 (103) 32.6 (92) 13.3 (86)
27	104	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		129280086		2.691E-15		89.5 (104)
27	105	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		129283117		3.539E-15		62.4 (105) 23.2 (83) 12.2 (91)
27	106	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		129285508		2.675E-15		60.1 (106) 15.0 (90) 12.5 (110)
27	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		129296355		2.528E-15		67.3 (107) 15.1 (92) 11.4 (103)
27	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		129334811		3.061E-15		100. (108)
27	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^3D_2$		129342962		2.848E-15		45.1 (102) 33.0 (109) 17.3 (93)
27	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		129369331		2.543E-15		60.0 (110) 29.6 (106) 9.35 (100)
27	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		129370448		2.737E-15		68.3 (111) 25.1 (99) 6.59 (115)
27	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		129400532		2.844E-15		70.7 (112) 23.8 (101) 2.66 (87)
27	113	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		129402077		2.844E-15		56.4 (113) 32.6 (109) 6.48 (102)
27	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		129405704		2.899E-15		96.7 (114)
27	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		129459374		2.576E-15		81.9 (115)
27	116	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		129464938		2.566E-15		78.4 (116)
27	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		129480410		2.785E-15		79.1 (117)
27	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		132724074		1.353E-14		80.8 (118)
27	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		132737213		3.805E-15		44.4 (119) 29.6 (147) 24.7 (129)
27	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		132740673		4.123E-15		69.4 (120) 30.6 (124)
27	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		132742947		9.414E-15		71.0 (121) 15.2 (161) 13.9 (130)
27	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		132752128		2.995E-15		72.5 (122)
27	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		132758242		1.481E-14		73.9 (123)
27	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		132770796		7.487E-15		68.1 (124) 30.5 (120) 1.38 (158)
27	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		132777350		1.199E-14		85.0 (125)
27	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		132784746		3.379E-15		46.9 (126) 19.8 (154) 19.6 (132)
27	127	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		132800007		3.126E-15		73.8 (127)
27	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		132800328		3.343E-15		37.8 (128) 20.1 (151) 19.3 (148)
27	129	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		132802013		7.968E-15		50.3 (129) 24.1 (119) 22.2 (123)
27	130	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		132807467		3.555E-15		63.6 (130) 25.5 (121) 10.9 (161)
27	131	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		132813337		2.746E-14		94.3 (131)
27	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		132814374		1.515E-14		68.2 (132) 16.9 (138) 6.58 (154)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
27	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		132815890		1.440E-14		83.8 (133)
27	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		132824056		3.359E-15		48.1 (134) 20.0 (165) 18.3 (155)
27	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		132831950		3.284E-15		36.6 (135) 30.1 (157) 17.9 (152)
27	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		132836256		3.017E-15		55.0 (136) 23.1 (168) 15.5 (156)
27	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		132838736		2.932E-15		72.8 (137)
27	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		132840854		1.542E-14		79.4 (138)
27	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		132843884		3.080E-15		47.6 (139) 28.9 (169) 19.2 (162)
27	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		132844485		2.930E-15		41.6 (140) 31.2 (166) 27.3 (160)
27	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		132845571		3.684E-14		94.7 (141)
27	142	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		132845920		1.251E-13		100. (142)
27	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		132846600		3.073E-15		47.7 (143) 30.2 (163) 17.1 (159)
27	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		132847150		1.857E-14		75.8 (144)
27	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		132851516		1.180E-13		89.6 (145)
27	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		132950006		3.029E-15		100. (146)
27	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		132964592		3.123E-15		68.4 (147) 27.1 (119) 4.57 (129)
27	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		132966925		2.714E-15		43.5 (128) 38.3 (148) 15.3 (122)
27	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		132973450		2.736E-15		39.3 (126) 39.1 (149) 21.6 (154)
27	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		132980993		2.745E-15		98.7 (150)
27	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		132987125		2.764E-15		64.0 (151) 23.3 (148) 9.12 (128)
27	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		133006337		2.946E-15		52.9 (152) 24.4 (157) 20.8 (127)
27	153	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		133007492		3.014E-15		100. (153)
27	154	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		133007785		2.726E-15		51.6 (154) 45.8 (149) 1.54 (126)
27	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		133014923		2.921E-15		52.5 (155) 40.6 (134) 6.88 (165)
27	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		133025133		2.933E-15		67.7 (156) 30.3 (136) 1.99 (168)
27	157	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		133026281		2.933E-15		51.9 (135) 37.3 (157) 9.65 (152)
27	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		133027256		2.958E-15		98.7 (158)
27	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$		133033569		2.971E-15		38.3 (159) 34.9 (163) 26.8 (137)
27	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		133037149		2.971E-15		64.8 (160) 35.2 (140)
27	161	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		133040565		2.791E-15		73.9 (161)
27	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		133041153		2.968E-15		49.0 (139) 33.6 (162) 17.4 (169)
27	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$		133042909		2.971E-15		48.8 (143) 25.8 (163) 25.3 (159)
27	164	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		133043595		2.969E-15		100. (164)
27	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		133044497		2.844E-15		69.2 (165) 25.5 (155) 5.33 (134)
27	166	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		133044796		2.969E-15		68.4 (166) 23.4 (140) 8.23 (160)
27	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		133049632		2.970E-15		100. (167)
27	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		133053524		2.922E-15		71.9 (168) 14.6 (156) 13.5 (136)
27	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		133054821		2.965E-15		52.5 (169) 45.9 (162) 1.57 (139)
27	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		134457245		1.190E-14		76.6 (170)
27	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		134461652		3.686E-15		50.9 (171) 28.3 (207) 18.0 (181)
27	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		134462502		3.985E-15		73.6 (172)
27	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		134465032		8.213E-15		65.4 (173) 19.7 (182) 14.9 (219)
27	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		134469689		3.236E-15		71.4 (174) 13.3 (208) 7.45 (185)
27	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		134474603		2.098E-14		70.4 (175) 20.7 (181) 2.78 (188)
27	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		134481812		9.528E-15		73.5 (176)
27	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		134483704		1.218E-14		80.7 (177)
27	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		134485943		3.444E-15		44.2 (178) 24.4 (212) 14.8 (184)
27	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		134493352		3.176E-15		72.8 (179)
27	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		134494565		3.562E-15		38.8 (180) 22.0 (211) 16.2 (170)
27	181	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		134497851		1.016E-14		51.5 (181) 24.4 (175) 17.1 (171)
27	182	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		134498815		4.183E-15		52.4 (182) 33.3 (173) 14.3 (219)
27	183	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		134502362		2.373E-14		89.7 (183)
27	184	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		134502378		1.916E-14		70.9 (184) 15.5 (192) 3.64 (212)
27	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		134503579		2.032E-14		88.4 (185)
27	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		134505511		3.355E-15		43.5 (186) 24.7 (223) 19.2 (215)
27	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		134510151		3.541E-15		37.8 (187) 28.6 (217) 18.0 (177)
27	188	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		134511632		3.233E-15		48.9 (188) 25.3 (234) 15.0 (216)
27	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		134511818		2.968E-15		74.0 (189)
27	190	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		134515052		2.966E-15		41.9 (190) 32.1 (227) 26.0 (221)
27	191	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		134515121		3.491E-15		39.9 (191) 26.7 (237) 18.2 (222)
27	192	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		134515859		1.237E-14		65.2 (192) 13.2 (184) 6.77 (178)
27	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		134516201		2.966E-15		72.4 (193)
27	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		134516694		3.273E-15		47.4 (194) 26.8 (224) 15.7 (220)
27	195	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		134516780		2.990E-15		42.9 (195) 32.6 (236) 24.5 (229)
27	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		134517330		2.964E-15		39.7 (196) 33.0 (231) 27.3 (228)
27	197	$2p_{1/2}5g_{9/2}(J=4)$	$2s5f^3F_4$		134517358		5.427E-15		45.9 (197) 30.9 (199) 14.8 (226)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
27	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$	134517730			4.125E-14		94.5 (198)
27	199	$2s_{1/2}5f_{7/2}(J=4)$	$2p5g^3F_4$	134518338			6.347E-15		54.1 (197) 26.1 (199) 11.9 (226)
27	200	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$	134518428			2.054E-14		79.6 (200)
27	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$	134521194			2.051E-13		92.0 (201)
27	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$	134521403			3.133E-13		61.7 (202) 38.3 (205)
27	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$	134521419			2.983E-13		100. (203)
27	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$	134522388			4.729E-13		100. (204)
27	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$	134522557			4.063E-13		61.9 (205) 38.1 (202)
27	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$	134666898			3.021E-15		100. (206)
27	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$	134671968			3.043E-15		67.7 (207) 31.2 (171) 1.08 (181)
27	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$	134675715			2.854E-15		43.5 (180) 35.9 (208) 14.9 (174)
27	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$	134678136			2.858E-15		44.6 (178) 33.4 (209) 22.0 (212)
27	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$	134683194			2.859E-15		100. (210)
27	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$	134685382			2.869E-15		61.7 (211) 28.9 (208) 7.72 (180)
27	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$	134695126			2.856E-15		50.6 (209) 47.9 (212) 1.50 (178)
27	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^3D_2$	134695936			2.981E-15		54.0 (213) 23.2 (217) 21.4 (179)
27	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$	134696889			3.009E-15		100. (214)
27	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$	134699766			2.971E-15		47.7 (215) 45.2 (186) 7.15 (223)
27	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$	134704157			2.971E-15		66.3 (216) 31.8 (188) 1.84 (234)
27	217	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$	134704949			2.971E-15		50.6 (187) 38.4 (217) 11.0 (213)
27	218	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$	134705079			2.982E-15		100. (218)
27	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$	134709066			2.883E-15		70.8 (219) 28.0 (182) 1.24 (173)
27	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$	134709186			2.995E-15		39.4 (220) 34.8 (224) 25.8 (189)
27	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$	134711003			2.995E-15		62.5 (221) 37.5 (190)
27	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$	134712901			2.993E-15		50.6 (191) 35.2 (222) 14.1 (237)
27	223	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$	134713454			2.933E-15		64.1 (223) 30.1 (215) 5.87 (186)
27	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$	134713687			2.995E-15		46.4 (194) 27.7 (224) 25.9 (220)
27	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$	134713736			2.992E-15		100. (225)
27	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$	134713972			3.007E-15		38.7 (226) 34.1 (230) 27.2 (193)
27	227	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$	134714922			2.993E-15		67.8 (227) 20.7 (190) 11.5 (221)
27	228	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$	134714973			3.007E-15		70.7 (228) 24.2 (196) 5.07 (231)
27	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$	134715331			3.006E-15		56.9 (195) 22.7 (229) 20.4 (236)
27	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$	134716300			3.006E-15		42.6 (199) 31.9 (230) 25.5 (226)
27	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$	134716414			3.004E-15		61.9 (231) 36.1 (196) 1.99 (228)
27	232	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$	134716743			2.992E-15		100. (232)
27	233	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$	134717333			3.004E-15		100. (233)
27	234	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$	134717704			2.966E-15		68.5 (234) 16.2 (216) 15.3 (188)
27	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$	134718246			3.003E-15		100. (235)
27	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$	134719311			3.003E-15		52.8 (229) 47.2 (236)
27	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$	134719754			2.990E-15		54.1 (237) 43.5 (222) 2.43 (191)
27	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$	135391613			9.294E-15		69.1 (238) 10.4 (287) 9.32 (284)
27	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$	135392669			3.566E-15		54.2 (239) 28.4 (283) 13.9 (250)
27	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$	135393041			3.746E-15		78.9 (240)
27	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$	135395396			6.971E-15		58.6 (241) 25.5 (249) 15.9 (295)
27	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$	135397484			3.431E-15		69.8 (242) 10.8 (284) 9.87 (238)
27	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$	135401924			2.168E-14		67.4 (243) 22.5 (250) 4.38 (257)
27	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$	135406114			1.270E-14		79.1 (244)
27	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$	135406688			3.378E-15		44.4 (245) 26.9 (288) 13.7 (285)
27	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$	135406692			1.010E-14		73.1 (246)
27	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$	135410797			3.205E-15		72.3 (247)
27	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$	135412043			3.791E-15		37.7 (248) 22.3 (287) 21.2 (238)
27	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$	135414978			4.862E-15		44.1 (249) 40.9 (241) 15.0 (295)
27	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$	135415254			1.130E-14		48.8 (250) 28.1 (243) 13.3 (239)
27	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$	135417554			1.686E-14		71.1 (251) 13.1 (269) 5.10 (259)
27	252	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$	135417588			1.437E-14		80.5 (252)
27	253	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$	135417779			3.233E-15		43.2 (253) 27.8 (299) 20.3 (291)
27	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$	135418459			2.897E-14		91.4 (254)
27	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$	135420851			3.868E-15		35.9 (255) 26.1 (294) 24.3 (246)
27	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$	135420972			2.985E-15		74.5 (256)
27	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$	135421428			3.505E-15		44.1 (257) 25.1 (312) 15.1 (250)
27	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$	135422900			2.975E-15		41.8 (258) 32.6 (303) 25.5 (297)
27	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$	135423293			3.345E-15		40.8 (259) 28.7 (321) 19.1 (298)
27	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$	135423583			2.971E-15		72.8 (260)
27	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$	135423984			2.979E-15		42.4 (261) 32.9 (320) 24.7 (305)
27	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$	135424257			2.971E-15		39.8 (262) 33.1 (307) 27.0 (304)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
27	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		135424301		3.662E-15		43.4 (263) 23.3 (301) 19.3 (252)
27	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		135424372		2.972E-15		71.9 (264) 17.3 (315) 10.8 (306)
27	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		135424492		3.066E-15		55.8 (265) 25.5 (302) 15.7 (308)
27	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		135424606		2.974E-15		40.4 (266) 33.1 (319) 26.5 (311)
27	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		135424785		2.972E-15		38.8 (267) 33.2 (313) 28.0 (310)
27	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		135425017		2.974E-15		59.6 (268) 24.0 (306) 16.4 (315)
27	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		135425270		2.652E-14		80.1 (269)
27	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		135426384		5.378E-14		96.4 (270)
27	271	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		135426632		7.930E-14		98.2 (271)
27	272	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		135426681		3.176E-14		84.5 (272)
27	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		135428554		3.411E-13		93.1 (273)
27	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		135428675		4.300E-13		100. (274)
27	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		135428690		4.962E-13		65.8 (275) 34.2 (277)
27	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		135429237		8.068E-13		100. (276)
27	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		135429369		6.763E-13		66.0 (277) 34.0 (275)
27	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		135429426		1.140E-12		55.1 (278) 44.9 (281)
27	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		135429439		1.169E-12		100. (279)
27	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		135429841		1.143E-12		100. (280)
27	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		135429851		1.177E-12		55.1 (281) 44.9 (278)
27	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		135594955		3.022E-15		100. (282)
27	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		135597194		3.028E-15		67.5 (283) 32.5 (239)
27	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		135600077		2.928E-15		44.5 (248) 33.0 (284) 14.5 (242)
27	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		135601284		2.928E-15		46.5 (245) 31.2 (285) 22.3 (288)
27	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		135604507		2.928E-15		100. (286)
27	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		135605307		2.931E-15		58.9 (287) 32.7 (284) 6.23 (248)
27	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		135610923		2.926E-15		52.6 (285) 46.0 (288) 1.41 (245)
27	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		135611796		3.000E-15		54.3 (289) 23.0 (294) 21.6 (247)
27	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		135612430		3.013E-15		100. (290)
27	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		135613853		2.995E-15		47.1 (253) 45.5 (291) 7.41 (299)
27	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		135616064		2.989E-15		66.1 (292) 32.2 (257) 1.68 (312)
27	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		135616503		2.994E-15		100. (293)
27	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		135616613		2.991E-15		49.9 (255) 38.6 (294) 11.5 (289)
27	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		135617750		2.938E-15		69.3 (295) 30.7 (249)
27	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		135619240		3.008E-15		39.9 (296) 34.7 (301) 25.4 (256)
27	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		135620273		3.008E-15		61.0 (297) 39.0 (258)
27	298	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		135621337		3.007E-15		51.2 (259) 36.1 (298) 12.7 (321)
27	299	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		135621347		2.975E-15		61.8 (299) 32.3 (291) 5.94 (253)
27	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		135621683		3.007E-15		100. (300)
27	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		135621772		3.007E-15		45.5 (263) 28.4 (301) 26.0 (296)
27	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		135622013		3.014E-15		38.7 (302) 34.5 (308) 26.9 (260)
27	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		135622475		3.008E-15		67.3 (303) 19.2 (258) 13.5 (297)
27	304	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		135622594		3.014E-15		70.0 (304) 26.3 (262) 3.72 (307)
27	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		135622827		3.013E-15		57.4 (261) 22.8 (305) 19.9 (320)
27	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		135623173		3.015E-15		39.0 (306) 33.2 (315) 27.8 (264)
27	307	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		135623353		3.011E-15		63.1 (307) 33.8 (262) 3.01 (304)
27	308	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		135623379		3.013E-15		42.1 (265) 31.9 (308) 26.0 (302)
27	309	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		135623407		3.004E-15		100. (309)
27	310	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		135623557		3.014E-15		68.1 (310) 28.8 (267) 3.13 (313)
27	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		135623586		3.016E-15		59.5 (266) 21.4 (311) 19.2 (319)
27	312	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		135623620		2.988E-15		67.0 (312) 16.6 (292) 16.4 (257)
27	313	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		135623829		3.007E-15		63.6 (313) 32.4 (267) 3.98 (310)
27	314	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		135623845		3.011E-15		100. (314)
27	315	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		135623979		3.016E-15		40.1 (268) 33.4 (315) 26.5 (306)
27	316	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		135624221		3.007E-15		100. (316)
27	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		135624481		3.011E-15		100. (317)
27	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		135624556		3.013E-15		100. (318)
27	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		135624953		3.013E-15		52.2 (311) 47.8 (319)
27	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		135625117		3.012E-15		52.5 (305) 47.5 (320)
27	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		135625242		3.005E-15		54.7 (321) 42.3 (298) 2.94 (259)
28	1	$1s^2_{1/2}(J=0)$	$1s^2^1S_0$	0	0				100. (1)
28	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	62359670	62358976		2.262E-09		100. (2)
28	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	62615790	62615349		2.494E-09		100. (3)
28	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	62634560	62634115		1.295E-14		88.9 (4)
28	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	62637030	62636412		3.351E-03		100. (5)
28	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	62801690	62801348		7.118E-11		100. (6)

Table 1. continued.

Z	Key	jj -coupling	LS -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
28	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	62956290	62955523		1.662E-15		88.9 (7)
28	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	73903000	73902451		2.450E-13		100. (8)
28	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	73973600	73973089		8.189E-14		100. (9)
28	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	73976800	73975583		2.553E-13		100. (10)
28	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	73978900	73978446		2.900E-14		87.9 (11)
28	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	74028800	74028455		8.488E-14		100. (12)
28	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	74066000	74065498		2.842E-14		64.5 (13) 35.5 (17)
28	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	74066900	74066424		2.841E-14		100. (14)
28	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	74070700	74070165		5.759E-15		87.9 (15)
28	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	74084600	74084140		2.881E-14		100. (16)
28	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	74087200	74086740		2.892E-14		64.5 (17) 35.5 (13)
28	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	77900700	77901008		3.572E-13		100. (18)
28	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	77930200	77930057		1.399E-13		100. (19)
28	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	77931400	77930652		3.702E-13		100. (20)
28	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	77932500	77932287		6.086E-14		87.6 (21)
28	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	77953500	77953421		1.441E-13		100. (22)
28	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	77969200	77968736		6.608E-14		65.9 (23) 34.1 (28)
28	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	77969600	77969029		6.603E-14		100. (24)
28	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	77971200	77970471		1.371E-14		87.6 (25)
28	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	77977100	77976508		6.701E-14		100. (26)
28	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		77977485		1.353E-13		56.8 (27) 43.2 (31)
28	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	77978200	77977787		6.735E-14		65.9 (28) 34.1 (23)
28	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		77977828		1.354E-13		100. (29)
28	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		77981575		1.360E-13		100. (30)
28	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		77981842		1.361E-13		56.8 (31) 43.2 (27)
28	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	79741000	79741131		5.660E-13		100. (32)
28	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	79755910	79755817		2.398E-13		100. (33)
28	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	79756700	79756018		5.747E-13		100. (34)
28	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	79757300	79756951		1.124E-13		87.4 (35)
28	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	79768100	79767773		2.461E-13		100. (36)
28	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		79775538		1.272E-13		66.5 (37) 33.5 (42)
28	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		79775668		1.272E-13		100. (38)
28	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	79777100	79776373		2.678E-14		87.4 (39)
28	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		79779497		1.292E-13		100. (40)
28	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		79780042		2.614E-13		56.9 (41) 43.1 (47)
28	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		79780192		1.294E-13		66.5 (42) 33.5 (37)
28	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		79780215		2.614E-13		100. (43)
28	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		79782135		2.626E-13		100. (44)
28	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		79782159		4.403E-13		55.2 (45) 44.8 (49)
28	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		79782262		4.404E-13		100. (46)
28	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		79782274		2.629E-13		56.9 (47) 43.1 (41)
28	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		79783414		4.413E-13		100. (48)
28	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		79783495		4.413E-13		55.2 (49) 44.8 (45)
28	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		80737006		8.753E-13		100. (50)
28	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		80745436		3.870E-13		100. (51)
28	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		80745530		8.639E-13		100. (52)
28	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		80746090		1.880E-13		87.3 (53)
28	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		80752353		3.963E-13		100. (54)
28	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		80756807		2.173E-13		66.8 (55) 33.2 (61)
28	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		80756877		2.177E-13		100. (56)
28	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		80757290		4.612E-14		87.3 (57)
28	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		80759093		2.213E-13		100. (58)
28	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		80759406		4.466E-13		57.0 (59) 43.0 (65)
28	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		80759506		4.465E-13		100. (60)
28	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		80759507		2.209E-13		66.8 (61) 33.2 (55)
28	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		80760617		4.486E-13		100. (62)
28	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		80760622		7.551E-13		55.2 (63) 44.8 (69)
28	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		80760682		7.553E-13		100. (64)
28	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		80760698		4.491E-13		57.0 (65) 43.0 (59)
28	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		80761348		1.141E-12		54.2 (66) 45.8 (71)
28	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		80761349		7.568E-13		100. (67)
28	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		80761387		1.141E-12		100. (68)
28	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		80761396		7.570E-13		55.2 (69) 44.8 (63)
28	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		80761832		1.142E-12		100. (70)
28	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		80761864		1.142E-12		54.2 (71) 45.8 (66)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
28	72	$2s^2(J=0)$	$2s^2^1S_0$	127111000	127111439		6.766E-15		79.5 (72)
28	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	127143000	127137806		2.679E-15		100. (73)
28	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	127190000	127185838		2.679E-15		94.7 (74)
28	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	127362000	127360732		2.717E-15		100. (75)
28	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	127437000	127432546		1.484E-15		86.2 (76)
28	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	127554000	127551333		1.342E-15		100. (77)
28	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	127614000	127611105		1.341E-15		60.5 (78) 39.5 (80)
28	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	127662000	127661842		2.651E-15		94.7 (79)
28	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	127827000	127828140		1.348E-15		60.5 (80) 39.5 (78)
28	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	128117000	128117679		1.513E-15		80.8 (81)
28	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		138879171		1.107E-14		84.4 (82)
28	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p^1P_1$		138918224		3.383E-15		34.4 (83) 32.9 (104) 28.8 (91)
28	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		138945033		3.221E-15		74.2 (84)
28	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		138945290		8.757E-15		75.6 (85)
28	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		138950841		2.170E-15		72.7 (86)
28	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		138974474		6.225E-15		73.8 (87)
28	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		138981652		5.387E-15		71.4 (88) 25.2 (84) 3.41 (114)
28	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		139025457		7.347E-15		89.2 (89)
28	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		139040233		2.477E-15		61.6 (90) 22.5 (97) 9.73 (110)
28	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s^3P_1$		139054268		4.312E-15		38.9 (91) 37.8 (83) 21.0 (87)
28	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^1P_1$		139074787		2.488E-15		29.3 (92) 27.4 (103) 18.0 (107)
28	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		139084944		2.591E-15		78.3 (93)
28	94	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		139093702		2.407E-15		77.5 (94)
28	95	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		139109766		1.170E-14		91.9 (95)
28	96	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		139116600		8.624E-15		80.5 (96)
28	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		139119702		7.871E-15		64.9 (97) 12.9 (101) 11.1 (110)
28	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		139149476		2.484E-15		69.7 (98) 17.6 (111) 12.8 (115)
28	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3F_2$		139150999		2.511E-15		34.7 (102) 26.1 (99) 18.7 (113)
28	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		139179837		2.353E-15		63.5 (100) 17.3 (117) 14.9 (112)
28	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		139183329		8.931E-15		68.8 (101) 14.1 (90) 11.9 (97)
28	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		139201614		2.644E-15		62.6 (102) 13.3 (109) 13.1 (113)
28	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^3P_1$		139235345		2.081E-15		53.2 (103) 32.0 (92) 13.3 (86)
28	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		139262405		3.007E-15		63.7 (104) 20.8 (83) 13.9 (91)
28	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		139267603		2.271E-15		55.5 (105) 17.7 (90) 16.1 (110)
28	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		139268549		2.264E-15		91.9 (106)
28	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		139283843		2.164E-15		65.9 (107) 18.4 (92) 9.33 (103)
28	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		139329507		2.648E-15		100. (108)
28	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		139335792		2.466E-15		46.6 (109) 31.7 (113) 17.9 (93)
28	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		139360549		2.155E-15		58.6 (110) 34.3 (105) 7.12 (101)
28	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		139364417		2.373E-15		65.6 (111) 27.2 (98) 7.20 (115)
28	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		139394784		2.450E-15		70.7 (112) 25.1 (100) 2.29 (87)
28	113	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		139397711		2.451E-15		55.7 (99) 33.1 (113) 7.22 (109)
28	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		139400122		2.498E-15		97.2 (114)
28	115	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		139457304		2.230E-15		80.0 (115)
28	116	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		139459215		2.197E-15		78.0 (116)
28	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		139479480		2.404E-15		78.1 (117)
28	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		142966804		1.179E-14		81.0 (118)
28	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		142980237		3.227E-15		46.2 (119) 29.5 (147) 23.1 (129)
28	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		142983205		3.528E-15		70.2 (120) 29.8 (124)
28	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		142985976		7.957E-15		70.4 (121) 14.9 (161) 14.7 (130)
28	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		142995253		2.589E-15		72.5 (122)
28	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		143002285		1.307E-14		73.9 (123)
28	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		143014901		6.628E-15		69.1 (124) 29.7 (120) 1.16 (158)
28	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		143024638		1.036E-14		85.1 (125)
28	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		143032059		2.889E-15		46.6 (126) 20.7 (153) 18.7 (132)
28	127	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		143047603		2.698E-15		73.8 (127)
28	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		143047704		2.870E-15		38.3 (128) 20.9 (151) 18.3 (148)
28	129	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		143050037		7.277E-15		52.0 (129) 22.7 (123) 21.7 (119)
28	130	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		143053429		3.119E-15		61.6 (130) 26.6 (121) 11.7 (161)
28	131	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		143062953		2.425E-15		95.5 (131)
28	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		143063003		1.371E-14		69.9 (132) 16.8 (138) 6.10 (153)
28	133	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		143064289		1.305E-14		84.7 (133)
28	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		143073746		2.886E-15		47.4 (134) 20.9 (165) 18.6 (155)
28	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		143081769		2.842E-15		37.1 (135) 30.0 (157) 17.4 (152)
28	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		143085262		2.609E-15		54.1 (136) 23.8 (168) 15.6 (156)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
28	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$	143088628			2.535E-15		73.0 (137)
28	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$	143091366			1.250E-14		77.4 (138)
28	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$	143094028			2.715E-15		45.7 (139) 28.3 (169) 18.8 (162)
28	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$	143095062			2.533E-15		41.6 (140) 31.4 (166) 27.0 (160)
28	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$	143096127			3.325E-14		95.0 (141)
28	142	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$	143097056			1.124E-13		100. (142)
28	143	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$	143097247			2.660E-15		48.1 (143) 29.9 (163) 16.8 (159)
28	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$	143097795			1.667E-14		74.7 (144)
28	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$	143102736			9.918E-14		88.0 (145)
28	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$	143224190			2.618E-15		100. (146)
28	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$	143238616			2.683E-15		68.3 (147) 28.0 (119) 3.70 (129)
28	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$	143242317			2.348E-15		45.2 (128) 35.2 (148) 14.8 (122)
28	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$	143248459			2.362E-15		40.5 (126) 36.6 (149) 22.9 (153)
28	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$	143259089			2.368E-15		99.0 (150)
28	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$	143264651			2.381E-15		62.1 (151) 27.0 (148) 7.27 (128)
28	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$	143285878			2.548E-15		52.5 (152) 25.0 (157) 21.0 (127)
28	153	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$	143286812			2.353E-15		50.2 (153) 48.5 (149) 1.31 (126)
28	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$	143287691			2.606E-15		100. (154)
28	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$	143294757			2.528E-15		50.7 (155) 41.8 (134) 7.47 (165)
28	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$	143304983			2.534E-15		67.2 (156) 30.8 (136) 2.04 (168)
28	157	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$	143306791			2.535E-15		51.8 (135) 36.6 (157) 10.6 (152)
28	158	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$	143307160			2.555E-15		98.9 (158)
28	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$	143314899			2.571E-15		37.8 (159) 35.6 (163) 26.6 (137)
28	160	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$	143318905			2.571E-15		63.7 (160) 36.3 (140)
28	161	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$	143320276			2.402E-15		73.4 (161)
28	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$	143322703			2.569E-15		49.4 (139) 33.6 (162) 17.0 (169)
28	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$	143324931			2.571E-15		48.3 (143) 26.2 (159) 25.5 (163)
28	164	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$	143325748			2.570E-15		100. (164)
28	165	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$	143325822			2.461E-15		67.7 (165) 27.2 (155) 5.08 (134)
28	166	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$	143326735			2.569E-15		68.4 (166) 22.1 (140) 9.47 (160)
28	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$	143331546			2.569E-15		100. (167)
28	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$	143335270			2.526E-15		71.1 (168) 15.2 (156) 13.7 (136)
28	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$	143337370			2.566E-15		52.6 (169) 45.7 (162) 1.65 (139)
28	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$	144835017			1.013E-14		76.3 (170)
28	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$	144839345			3.128E-15		52.3 (171) 28.6 (207) 16.7 (182)
28	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$	144839974			3.401E-15		74.5 (172)
28	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$	144842848			6.922E-15		64.6 (173) 20.6 (181) 14.8 (219)
28	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$	144847519			2.810E-15		71.1 (174) 13.2 (208) 7.26 (170)
28	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$	144853066			1.857E-14		70.4 (175) 21.1 (182) 2.73 (188)
28	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$	144860315			8.516E-15		74.5 (176)
28	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$	144863810			1.040E-14		80.5 (177)
28	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$	144865822			2.940E-15		44.3 (178) 24.9 (212) 13.9 (183)
28	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$	144873402			2.742E-15		72.8 (179)
28	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$	144874480			3.052E-15		39.2 (180) 22.6 (211) 15.7 (170)
28	181	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$	144877999			3.675E-15		50.9 (181) 34.3 (173) 14.7 (219)
28	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$	144878248			9.224E-15		52.3 (182) 25.1 (175) 15.6 (171)
28	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$	144883198			1.720E-14		71.5 (183) 15.4 (192) 3.32 (212)
28	184	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$	144883646			1.999E-14		89.3 (184)
28	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$	144884305			1.876E-14		89.3 (185)
28	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$	144886561			2.873E-15		43.4 (186) 25.4 (223) 19.5 (215)
28	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$	144891292			3.065E-15		38.1 (187) 28.6 (218) 18.1 (177)
28	188	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$	144892325			2.797E-15		48.4 (188) 25.7 (233) 15.1 (216)
28	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$	144892976			2.565E-15		74.1 (189)
28	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$	144896424			2.860E-15		41.6 (190) 28.2 (237) 19.1 (222)
28	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$	144896574			2.563E-15		41.8 (191) 32.2 (227) 25.9 (221)
28	192	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$	144897553			1.372E-14		71.1 (192) 12.6 (183) 6.53 (178)
28	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$	144897746			2.564E-15		72.5 (193)
28	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$	144898280			2.841E-15		47.4 (194) 26.6 (224) 15.4 (220)
28	195	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$	144898334			2.581E-15		42.8 (195) 32.7 (236) 24.5 (229)
28	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$	144899054			2.563E-15		39.7 (196) 33.0 (231) 27.3 (228)
28	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$	144899206			3.634E-15		40.2 (197) 29.8 (200) 19.0 (226)
28	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$	144899528			3.796E-14		94.9 (198)
28	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$	144900264			1.920E-14		79.2 (199)
28	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$	144900305			8.343E-15		70.2 (200) 16.9 (197) 7.71 (226)
28	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$	144903359			1.717E-13		90.8 (201)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
28	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		144903598		2.817E-13		61.2 (202) 38.8 (205)
28	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		144903619		2.709E-13		100. (203)
28	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		144904755		4.088E-13		100. (204)
28	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		144904936		3.594E-13		61.4 (205) 38.6 (202)
28	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		145076016		2.614E-15		100. (206)
28	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		145081116		2.629E-15		68.2 (207) 31.8 (171)
28	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		145085370		2.469E-15		45.2 (180) 32.6 (208) 14.4 (174)
28	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		145087677		2.472E-15		45.2 (178) 31.8 (209) 23.0 (212)
28	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		145094351		2.473E-15		100. (210)
28	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		145096317		2.479E-15		59.3 (211) 32.4 (208) 5.96 (180)
28	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		145106714		2.470E-15		52.2 (209) 46.6 (212) 1.27 (178)
28	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		145107772		2.579E-15		53.1 (213) 24.3 (218) 21.5 (179)
28	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		145109082		2.604E-15		100. (214)
28	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		145111736		2.572E-15		46.2 (215) 46.0 (186) 7.77 (223)
28	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		145116136		2.569E-15		66.0 (216) 32.1 (188) 1.91 (233)
28	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		145117087		2.578E-15		100. (217)
28	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		145117278		2.571E-15		50.7 (187) 37.3 (218) 12.0 (213)
28	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		145121019		2.490E-15		70.4 (219) 28.6 (181) 1.02 (173)
28	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		145121898		2.592E-15		38.8 (220) 35.5 (224) 25.7 (189)
28	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		145123919		2.592E-15		61.1 (221) 38.9 (191)
28	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		145125731		2.591E-15		50.8 (190) 35.3 (222) 13.9 (237)
28	223	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		145126163		2.539E-15		63.0 (223) 31.5 (215) 5.48 (186)
28	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		145126755		2.592E-15		46.2 (194) 27.2 (224) 26.6 (220)
28	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		145126842		2.590E-15		100. (225)
28	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		145127086		2.602E-15		39.2 (226) 33.7 (230) 27.1 (193)
28	227	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3G_4$		145127961		2.590E-15		67.7 (227) 19.3 (191) 13.0 (221)
28	228	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		145128241		2.602E-15		70.0 (228) 26.0 (196) 4.05 (231)
28	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		145128493		2.602E-15		57.0 (195) 23.0 (229) 20.0 (236)
28	230	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		145129627		2.602E-15		42.4 (197) 32.4 (230) 25.2 (226)
28	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		145129648		2.600E-15		62.9 (231) 34.3 (196) 2.76 (228)
28	232	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		145129731		2.590E-15		100. (232)
28	233	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		145130626		2.566E-15		68.0 (233) 16.6 (216) 15.4 (188)
28	234	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		145130719		2.600E-15		100. (234)
28	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		145131524		2.599E-15		100. (235)
28	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		145132758		2.599E-15		52.5 (229) 47.5 (236)
28	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		145133081		2.589E-15		54.2 (237) 43.3 (222) 2.51 (190)
28	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		145842335		7.633E-15		67.5 (238) 10.1 (284) 10.1 (287)
28	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		145843188		3.032E-15		55.4 (239) 28.8 (283) 12.8 (250)
28	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		145843456		3.193E-15		80.1 (240)
28	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		145846099		5.853E-15		57.4 (241) 26.6 (249) 16.1 (295)
28	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		145848149		3.024E-15		68.6 (242) 12.2 (238) 10.3 (284)
28	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		145853117		1.916E-14		67.3 (243) 22.8 (250) 4.32 (257)
28	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		145857322		1.153E-14		80.3 (244)
28	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		145858474		2.885E-15		44.8 (245) 27.4 (288) 13.9 (285)
28	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		145858781		8.381E-15		71.8 (246) 13.8 (255) 7.76 (289)
28	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		145862692		2.781E-15		72.0 (247) 12.6 (289) 7.54 (294)
28	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		145863871		3.248E-15		38.2 (248) 22.7 (287) 20.6 (238)
28	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		145866444		4.299E-15		42.7 (249) 42.2 (241) 15.1 (295)
28	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		145867531		1.001E-14		48.7 (250) 28.9 (243) 12.0 (239)
28	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		145870100		1.441E-14		70.9 (251) 12.9 (269) 5.42 (259)
28	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		145870221		2.770E-15		43.3 (252) 28.4 (298) 20.5 (291)
28	253	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		145870365		1.149E-14		78.8 (253)
28	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		145870981		2.719E-14		92.2 (254)
28	255	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		145873405		3.367E-15		35.8 (255) 26.0 (294) 24.9 (246)
28	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		145873474		2.582E-15		74.6 (256)
28	257	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		145873695		3.051E-15		43.6 (257) 25.2 (310) 16.0 (250)
28	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		145875614		2.572E-15		41.8 (258) 32.7 (303) 25.5 (297)
28	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		145875899		2.914E-15		40.3 (259) 28.5 (321) 19.0 (299)
28	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		145876311		2.569E-15		72.8 (260)
28	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		145876717		2.575E-15		42.3 (261) 33.0 (320) 24.7 (305)
28	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		145877089		2.569E-15		39.8 (262) 33.2 (308) 27.0 (304)
28	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		145877116		3.230E-15		42.6 (263) 22.8 (301) 20.9 (253)
28	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		145877205		2.570E-15		71.9 (264) 17.4 (315) 10.7 (306)
28	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		145877332		2.628E-15		56.3 (265) 25.7 (302) 15.7 (309)
28	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		145877439		2.571E-15		40.3 (266) 33.1 (319) 26.5 (311)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
28	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		145877686		2.570E-15		38.8 (267) 33.3 (313) 28.0 (312)
28	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		145877917		2.571E-15		59.6 (268) 24.1 (306) 16.3 (315)
28	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		145878332		2.425E-14		80.4 (269)
28	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		145879519		5.027E-14		96.7 (270)
28	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		145879836		3.034E-14		84.3 (271)
28	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		145879930		8.999E-14		98.7 (272)
28	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		145881912		2.869E-13		92.0 (273)
28	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		145882054		3.979E-13		100. (274)
28	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		145882067		4.521E-13		65.0 (275) 35.0 (277)
28	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		145882713		6.985E-13		100. (276)
28	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		145882851		6.014E-13		65.2 (277) 34.8 (275)
28	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		145882909		9.901E-13		55.0 (278) 45.0 (281)
28	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		145882923		1.018E-12		100. (279)
28	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		145883390		9.926E-13		100. (280)
28	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		145883402		1.024E-12		55.0 (281) 45.0 (278)
28	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		146076986		2.615E-15		100. (282)
28	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		146079263		2.619E-15		67.4 (283) 32.6 (239)
28	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		146082389		2.534E-15		46.0 (248) 29.8 (284) 13.9 (242)
28	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		146083559		2.533E-15		46.9 (245) 29.9 (285) 23.2 (288)
28	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		146087727		2.533E-15		100. (286)
28	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		146088424		2.536E-15		56.5 (287) 36.0 (284) 4.70 (248)
28	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		146094380		2.532E-15		53.8 (285) 45.0 (288) 1.19 (245)
28	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		146095394		2.596E-15		53.7 (289) 24.4 (294) 21.9 (247)
28	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		146096241		2.608E-15		100. (290)
28	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		146097525		2.592E-15		47.8 (252) 44.1 (291) 8.06 (298)
28	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		146099740		2.587E-15		65.8 (292) 32.4 (257) 1.77 (310)
28	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		146100195		2.591E-15		100. (293)
28	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		146100495		2.589E-15		50.1 (255) 37.2 (294) 12.7 (289)
28	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		146101416		2.542E-15		69.1 (295) 30.9 (249)
28	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^3F_3$		146103333		2.604E-15		39.2 (296) 35.4 (301) 25.3 (256)
28	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		146104479		2.604E-15		59.5 (297) 40.5 (258)
28	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		146105438		2.575E-15		60.9 (298) 33.6 (291) 5.49 (252)
28	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		146105499		2.602E-15		51.3 (259) 36.1 (299) 12.6 (321)
28	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		146105995		2.603E-15		100. (300)
28	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		146106072		2.602E-15		45.4 (263) 27.8 (301) 26.8 (296)
28	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		146106339		2.609E-15		39.1 (302) 34.0 (309) 26.8 (260)
28	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		146106760		2.604E-15		67.1 (303) 17.7 (258) 15.2 (297)
28	304	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		146107006		2.609E-15		68.9 (304) 28.4 (262) 2.70 (308)
28	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		146107181		2.608E-15		57.4 (261) 23.1 (305) 19.5 (320)
28	306	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		146107619		2.610E-15		39.3 (306) 32.9 (315) 27.8 (264)
28	307	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		146107655		2.601E-15		100. (307)
28	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		146107748		2.607E-15		64.1 (308) 31.7 (262) 4.14 (304)
28	309	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^3G_4$		146107829		2.608E-15		42.0 (265) 32.4 (309) 25.6 (302)
28	310	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		146107832		2.586E-15		66.7 (310) 17.0 (292) 16.3 (257)
28	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		146108047		2.611E-15		59.5 (266) 21.6 (311) 18.9 (319)
28	312	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		146108061		2.609E-15		65.5 (312) 33.1 (267) 1.44 (313)
28	313	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		146108311		2.605E-15		65.3 (313) 28.1 (267) 6.61 (312)
28	314	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		146108323		2.607E-15		100. (314)
28	315	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		146108507		2.611E-15		40.1 (268) 33.8 (315) 26.2 (306)
28	316	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		146108761		2.604E-15		100. (316)
28	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		146108901		2.607E-15		100. (317)
28	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		146109055		2.609E-15		100. (318)
28	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		146109517		2.609E-15		51.9 (311) 48.1 (319)
28	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		146109636		2.607E-15		52.2 (305) 47.8 (320)
28	321	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		146109689		2.601E-15		54.8 (321) 42.2 (299) 3.00 (259)
29	1	$1s_{1/2}^2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
29	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	67035380	67034666		1.579E-09		100. (2)
29	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	67303150	67302716		2.351E-09		100. (3)
29	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	67322950	67322508		1.008E-14		87.6 (4)
29	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	67324970	67324336		3.180E-03		100. (5)
29	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	67519170	67518845		5.409E-11		100. (6)
29	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	67678080	67677297		1.460E-15		87.6 (7)
29	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	79453200	79452707		2.114E-13		100. (8)
29	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	79527000	79526546		7.067E-14		100. (9)
29	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	79530300	79529075		2.201E-13		100. (10)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
29	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	79532500	79532173		2.350E-14		86.6 (11)
29	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	79591200	79590877		7.345E-14		100. (12)
29	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	79629700	79629276		2.455E-14		64.0 (13) 36.0 (17)
29	14	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	79630800	79630371		2.455E-14		100. (14)
29	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	79634300	79633789		5.056E-15		86.6 (15)
29	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	79651400	79650939		2.492E-14		100. (16)
29	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	79654200	79653723		2.499E-14		64.0 (17) 36.0 (13)
29	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	83754400	83754729		3.082E-13		100. (18)
29	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	83785300	83785088		1.208E-13		100. (19)
29	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	83786500	83785682		3.192E-13		100. (20)
29	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	83787700	83787427		4.979E-14		86.3 (21)
29	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	83812400	83812233		1.247E-13		100. (22)
29	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	83828600	83828113		5.706E-14		65.3 (23) 34.7 (28)
29	24	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	83829100	83828471		5.706E-14		100. (24)
29	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	83830600	83829780		1.203E-14		86.3 (25)
29	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	83837800	83837155		5.797E-14		100. (26)
29	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		83838171		1.170E-13		56.8 (27) 43.2 (31)
29	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	83838900	83838517		5.818E-14		65.3 (28) 34.7 (23)
29	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		83838554		1.170E-13		100. (29)
29	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		83842903		1.175E-13		100. (30)
29	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		83843199		1.176E-13		56.8 (31) 43.2 (27)
29	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	85734300	85734470		4.887E-13		100. (32)
29	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$		85749817		2.071E-13		100. (33)
29	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	85750700	85750013		4.953E-13		100. (34)
29	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	85751300	85751005		9.232E-14		86.1 (35)
29	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	85763900	85763706		2.130E-13		100. (36)
29	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		85771759		1.098E-13		65.8 (37) 34.2 (42)
29	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		85771920		1.099E-13		100. (38)
29	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	85773200	85772557		2.350E-14		86.1 (39)
29	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		85776367		1.118E-13		100. (40)
29	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		85776933		2.258E-13		56.9 (41) 43.1 (47)
29	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		85777105		1.118E-13		65.8 (42) 34.2 (37)
29	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		85777127		2.259E-13		100. (43)
29	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		85779354		2.270E-13		100. (44)
29	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		85779380		3.806E-13		55.2 (45) 44.8 (49)
29	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		85779495		3.807E-13		100. (46)
29	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		85779509		2.272E-13		56.9 (47) 43.1 (41)
29	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		85780831		3.815E-13		100. (48)
29	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		85780922		3.815E-13		55.2 (49) 44.8 (45)
29	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		86805867		7.539E-13		100. (50)
29	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		86814675		3.336E-13		100. (51)
29	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		86814767		7.473E-13		100. (52)
29	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		86815360		1.546E-13		86.0 (53)
29	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		86822710		3.423E-13		100. (54)
29	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		86827329		1.876E-13		66.1 (55) 33.9 (61)
29	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		86827417		1.880E-13		100. (56)
29	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		86827792		4.048E-14		86.0 (57)
29	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		86829989		1.913E-13		100. (58)
29	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		86830315		3.858E-13		57.0 (59) 43.0 (65)
29	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		86830427		3.857E-13		100. (60)
29	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		86830430		1.909E-13		66.1 (61) 33.9 (55)
29	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		86831716		3.878E-13		100. (62)
29	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		86831722		6.527E-13		55.2 (63) 44.8 (69)
29	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		86831788		6.528E-13		100. (64)
29	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		86831807		3.882E-13		57.0 (65) 43.0 (59)
29	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		86832562		9.860E-13		54.2 (66) 45.8 (71)
29	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		86832562		6.542E-13		100. (67)
29	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		86832605		9.861E-13		100. (68)
29	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		86832615		6.543E-13		55.2 (69) 44.8 (63)
29	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		86833120		9.873E-13		100. (70)
29	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		86833157		9.873E-13		54.2 (71) 45.8 (66)
29	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	136557000	136558087		5.808E-15		79.4 (72)
29	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	136591000	136583492		2.325E-15		100. (73)
29	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	136644000	136636680		2.325E-15		93.9 (74)
29	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	136838000	136840817		2.360E-15		100. (75)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
29	76	$2p_{1/2}^2(J=0)$	$2p^2\ ^3P_0$	136904000	136896100		1.304E-15		84.4 (76)
29	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2\ ^3P_1$	137042000	137038302		1.166E-15		100. (77)
29	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2\ ^3P_2$	137106000	137101821		1.164E-15		57.8 (78) 42.2 (80)
29	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p\ ^1P_1$	137152000	137150023		2.306E-15		93.9 (79)
29	80	$2p_{3/2}^2(J=2)$	$2p^2\ ^1D_2$	137348000	137349742		1.172E-15		57.8 (80) 42.2 (78)
29	81	$2p_{3/2}^2(J=0)$	$2p^2\ ^1S_0$	137639000	137643427		1.301E-15		80.5 (81)
29	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s\ ^3S_1$		149208619		9.903E-15		84.3 (82)
29	83	$2p_{1/2}3s_{1/2}(J=1)$	$2s3p\ ^1P_1$		149249206		2.905E-15		32.7 (83) 32.2 (104) 31.0 (91)
29	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s\ ^3P_0$		149275153		2.779E-15		74.8 (84)
29	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s\ ^1S_0$		149276416		7.469E-15		75.3 (85)
29	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p\ ^3D_1$		149281477		1.885E-15		72.7 (86)
29	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p\ ^3P_1$		149307566		5.423E-15		72.8 (87)
29	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p\ ^3P_0$		149314152		4.767E-15		72.5 (88)
29	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p\ ^3P_2$		149366963		6.407E-15		89.4 (89)
29	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^3D_2$		149382907		2.143E-15		60.4 (90) 22.1 (97) 10.8 (110)
29	91	$2s_{1/2}3p_{3/2}(J=1)$	$2p3s\ ^3P_1$		149398415		3.934E-15		41.4 (83) 35.3 (91) 21.4 (87)
29	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p\ ^3P_1$		149417636		2.155E-15		28.9 (92) 26.9 (103) 19.2 (107)
29	93	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d\ ^3F_2$		149427806		2.252E-15		77.4 (93)
29	94	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p\ ^3P_0$		149432366		2.122E-15		75.4 (94)
29	95	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d\ ^3D_3$		149457916		1.140E-14		93.7 (95)
29	96	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d\ ^3D_1$		149460635		7.737E-15		81.4 (96)
29	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d\ ^3D_2$		149464431		7.114E-15		66.0 (97) 12.9 (101) 10.4 (110)
29	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		149498698		2.150E-15		67.7 (98) 18.3 (111) 14.0 (116)
29	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d\ ^3P_2$		149503435		2.184E-15		29.6 (99) 23.3 (102) 22.8 (113)
29	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d\ ^3D_1$		149526902		2.043E-15		62.6 (100) 18.4 (117) 15.4 (112)
29	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^1D_2$		149534980		8.616E-15		72.3 (101)
29	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s\ ^3P_2$		149563578		2.298E-15		74.9 (102)
29	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p\ ^1P_1$		149603383		1.804E-15		53.9 (92) 30.5 (103) 13.0 (86)
29	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s\ ^1P_1$		149626268		2.570E-15		64.8 (104) 18.4 (83) 15.6 (91)
29	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p\ ^3P_2$		149634172		1.939E-15		51.2 (105) 20.4 (90) 19.5 (110)
29	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p\ ^3D_3$		149642895		1.928E-15		93.7 (106)
29	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p\ ^3S_1$		149657129		1.865E-15		64.4 (107) 22.1 (103) 7.47 (92)
29	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d\ ^3F_4$		149710241		2.302E-15		100. (108)
29	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d\ ^1D_2$		149714506		2.145E-15		47.6 (109) 30.8 (113) 18.4 (93)
29	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p\ ^1D_2$		149737758		1.847E-15		56.5 (110) 38.2 (105) 5.36 (101)
29	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d\ ^3D_3$		149744172		2.068E-15		63.0 (111) 29.2 (98) 7.83 (116)
29	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d\ ^3P_1$		149774773		2.122E-15		70.0 (112) 26.1 (100) 1.96 (87)
29	113	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^3D_2$		149779322		2.125E-15		55.2 (99) 33.3 (113) 8.02 (109)
29	114	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d\ ^3P_0$		149780269		2.165E-15		97.5 (114)
29	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p\ ^1S_0$		149839188		1.893E-15		77.5 (115)
29	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		149841195		1.940E-15		78.1 (116)
29	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d\ ^1P_1$		149864594		2.087E-15		77.1 (117)
29	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s\ ^3S_1$		153602084		1.030E-14		81.1 (118)
29	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s\ ^3P_1$		153615782		2.755E-15		47.8 (119) 29.5 (147) 21.6 (129)
29	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s\ ^3P_0$		153618241		3.035E-15		71.0 (120) 29.0 (124)
29	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s\ ^1S_0$		153621523		6.765E-15		69.8 (121) 15.5 (130) 14.7 (160)
29	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p\ ^3D_1$		153630887		2.251E-15		72.4 (122)
29	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p\ ^3P_1$		153638875		1.156E-14		73.9 (123)
29	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p\ ^3P_0$		153651526		5.894E-15		70.7 (124) 29.3 (120)
29	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		153664918		9.002E-15		85.1 (125)
29	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		153672321		2.482E-15		46.4 (126) 21.4 (153) 17.8 (131)
29	127	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		153687963		2.474E-15		38.8 (127) 21.6 (151) 17.5 (148)
29	128	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		153688141		2.340E-15		73.8 (128)
29	129	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p\ ^1P_1$		153690958		6.669E-15		53.6 (129) 23.3 (123) 19.6 (119)
29	130	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		153691876		2.749E-15		59.8 (130) 27.7 (121) 12.5 (160)
29	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^3D_2$		153704623		1.247E-14		70.8 (131) 16.7 (138) 5.61 (153)
29	132	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		153705661		1.188E-14		85.5 (132)
29	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		153705675		2.141E-14		95.5 (133)
29	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		153716502		2.491E-15		46.8 (134) 21.7 (164) 18.8 (155)
29	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d\ ^3P_2$		153724619		2.469E-15		37.6 (135) 30.0 (158) 16.9 (152)
29	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		153727168		2.268E-15		53.3 (136) 24.4 (168) 15.7 (156)
29	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		153731587		2.203E-15		73.1 (137)
29	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^1D_2$		153734919		9.574E-15		75.3 (138)
29	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		153737258		2.443E-15		43.0 (139) 27.2 (169) 18.0 (162)
29	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3G_4$		153738771		2.201E-15		41.6 (140) 31.6 (166) 26.8 (161)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
29	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$	153739802			3.018E-14		95.3 (141)
29	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$	153741022			2.313E-15		48.5 (142) 29.7 (163) 16.5 (159)
29	143	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$	153741374			1.004E-13		100. (143)
29	144	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$	153741557			1.507E-14		73.7 (144)
29	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$	153747144			8.423E-14		86.4 (145)
29	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$	153894558			2.276E-15		100. (146)
29	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$	153908865			2.320E-15		68.3 (147) 28.7 (119) 3.01 (129)
29	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$	153913827			2.041E-15		46.7 (127) 32.2 (148) 14.2 (122)
29	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$	153919635			2.051E-15		41.5 (126) 34.5 (149) 24.0 (153)
29	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$	153933810			2.054E-15		100. (150)
29	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$	153938856			2.063E-15		60.0 (151) 30.6 (148) 5.69 (127)
29	152	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$	153962059			2.215E-15		51.9 (152) 25.8 (158) 21.2 (128)
29	153	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$	153962480			2.043E-15		50.3 (149) 48.6 (153) 1.11 (126)
29	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$	153964644			2.265E-15		100. (154)
29	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$	153971231			2.199E-15		49.0 (155) 42.9 (134) 8.11 (164)
29	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$	153981456			2.201E-15		66.7 (156) 31.2 (136) 2.09 (168)
29	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$	153983693			2.218E-15		100. (157)
29	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$	153984033			2.203E-15		52.2 (135) 36.1 (158) 11.7 (152)
29	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^1F_3$	153992977			2.236E-15		37.3 (159) 36.3 (163) 26.4 (137)
29	160	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$	153996641			2.080E-15		72.9 (160)
29	161	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$	153997442			2.236E-15		62.3 (161) 37.7 (140)
29	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$	154001005			2.234E-15		49.8 (139) 33.6 (162) 16.6 (169)
29	163	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^3F_3$	154003770			2.236E-15		47.8 (142) 27.0 (159) 25.2 (163)
29	164	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$	154003871			2.141E-15		66.3 (164) 28.9 (155) 4.80 (134)
29	165	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$	154004714			2.235E-15		100. (165)
29	166	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^3G_4$	154005450			2.235E-15		68.4 (166) 20.7 (140) 10.9 (161)
29	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$	154010213			2.235E-15		100. (167)
29	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$	154013774			2.194E-15		70.5 (168) 15.7 (156) 13.8 (136)
29	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$	154016734			2.232E-15		52.7 (169) 45.6 (162) 1.74 (139)
29	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$	155610591			8.616E-15		75.8 (170)
29	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$	155614807			2.671E-15		53.5 (171) 28.9 (207) 15.4 (182)
29	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$	155615211			2.919E-15		75.5 (172)
29	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$	155618446			5.867E-15		63.7 (173) 21.4 (181) 14.8 (219)
29	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$	155623123			2.458E-15		70.6 (174) 13.1 (208) 8.54 (170)
29	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$	155629338			1.653E-14		70.4 (175) 21.5 (182) 2.67 (188)
29	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$	155636608			7.653E-15		75.4 (176)
29	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$	155641947			8.916E-15		80.3 (177)
29	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$	155643690			2.523E-15		44.5 (178) 25.5 (212) 13.1 (209)
29	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$	155651439			2.381E-15		72.8 (179)
29	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$	155652351			2.625E-15		39.7 (180) 23.1 (211) 15.1 (170)
29	181	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$	155654950			3.244E-15		49.6 (181) 35.4 (173) 15.1 (219)
29	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$	155656644			8.403E-15		53.1 (182) 25.7 (175) 14.1 (171)
29	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$	155662056			1.553E-14		72.1 (183) 15.4 (192) 3.02 (212)
29	184	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$	155663026			1.691E-14		88.9 (184)
29	185	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$	155663058			1.741E-14		90.1 (185)
29	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$	155665660			2.473E-15		43.4 (186) 26.0 (223) 19.7 (215)
29	187	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$	155670476			2.665E-15		38.3 (187) 28.6 (218) 18.2 (177)
29	188	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$	155670986			2.432E-15		48.0 (188) 26.1 (233) 15.1 (216)
29	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$	155672183			2.229E-15		74.2 (189)
29	190	$2p_{1/2}5f_{3/2}(J=2)$	$2p5f^3F_2$	155675762			2.435E-15		42.3 (190) 29.0 (237) 19.5 (222)
29	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$	155676177			2.226E-15		41.8 (191) 32.3 (227) 25.8 (221)
29	192	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$	155677342			1.369E-14		74.2 (192)
29	193	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$	155677373			2.228E-15		72.6 (193)
29	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$	155677950			2.480E-15		47.5 (194) 26.4 (224) 15.2 (220)
29	195	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$	155677971			2.240E-15		42.7 (195) 32.8 (236) 24.6 (229)
29	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$	155678880			2.227E-15		39.7 (196) 33.1 (231) 27.2 (228)
29	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$	155679116			2.724E-15		46.7 (197) 22.0 (226) 18.4 (200)
29	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$	155679428			3.514E-14		95.3 (198)
29	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$	155680204			1.803E-14		78.7 (199)
29	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$	155680450			1.146E-14		81.6 (200)
29	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$	155683660			1.454E-13		89.5 (201)
29	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$	155683931			2.537E-13		60.7 (202) 39.3 (205)
29	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$	155683956			2.461E-13		100. (203)
29	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$	155685281			3.550E-13		100. (204)
29	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$	155685473			3.186E-13		60.9 (205) 39.1 (202)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
29	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$	155886568			2.273E-15		100. (206)
29	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$	155891713			2.283E-15		68.0 (207) 32.0 (171)
29	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$	155896432			2.148E-15		46.5 (180) 29.6 (208) 13.8 (174)
29	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$	155898649			2.149E-15		45.7 (178) 30.4 (209) 23.9 (212)
29	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$	155907168			2.150E-15		100. (210)
29	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$	155908939			2.154E-15		57.1 (211) 35.6 (208) 4.56 (180)
29	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$	155919966			2.148E-15		53.5 (209) 45.4 (212) 1.08 (178)
29	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$	155921278			2.243E-15		52.5 (213) 25.7 (218) 21.8 (179)
29	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$	155923005			2.265E-15		100. (214)
29	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$	155925377			2.237E-15		46.8 (186) 44.7 (215) 8.44 (223)
29	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$	155929778			2.234E-15		65.6 (216) 32.4 (188) 1.99 (233)
29	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$	155930761			2.242E-15		100. (217)
29	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$	155931328			2.236E-15		50.8 (187) 36.0 (218) 13.2 (213)
29	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$	155934648			2.162E-15		70.7 (219) 29.3 (181)
29	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$	155936338			2.255E-15		38.2 (220) 36.2 (224) 25.6 (189)
29	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$	155938578			2.255E-15		59.6 (221) 40.4 (191)
29	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$	155940289			2.254E-15		51.0 (190) 35.3 (222) 13.7 (237)
29	223	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$	155940588			2.208E-15		62.0 (223) 33.0 (215) 5.07 (186)
29	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$	155941586			2.255E-15		45.9 (194) 27.4 (220) 26.6 (224)
29	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$	155941708			2.253E-15		100. (225)
29	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$	155941962			2.264E-15		39.7 (226) 33.3 (232) 27.0 (193)
29	227	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$	155942746			2.254E-15		67.5 (227) 17.8 (191) 14.7 (221)
29	228	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$	155943286			2.264E-15		68.9 (228) 28.1 (196) 2.95 (231)
29	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$	155943418			2.263E-15		57.0 (195) 23.3 (229) 19.6 (236)
29	230	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$	155944448			2.253E-15		100. (230)
29	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$	155944650			2.262E-15		64.0 (231) 32.1 (196) 3.87 (228)
29	232	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$	155944738			2.263E-15		42.3 (197) 32.9 (232) 24.8 (226)
29	233	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$	155945280			2.231E-15		67.6 (233) 17.1 (216) 15.3 (188)
29	234	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$	155945887			2.262E-15		100. (234)
29	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$	155946564			2.261E-15		100. (235)
29	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$	155947987			2.261E-15		52.2 (229) 47.8 (236)
29	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$	155948171			2.252E-15		54.2 (237) 43.2 (222) 2.59 (190)
29	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$	156693677			6.224E-15		65.3 (238) 10.9 (284) 9.75 (287)
29	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$	156694302			2.594E-15		56.4 (239) 29.1 (283) 11.7 (250)
29	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$	156694462			2.738E-15		81.2 (240)
29	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$	156697413			4.939E-15		56.1 (241) 27.6 (249) 16.3 (295)
29	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$	156699433			2.699E-15		66.8 (242) 15.0 (238) 9.72 (284)
29	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$	156704956			1.705E-14		67.2 (243) 23.2 (250) 4.22 (255)
29	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$	156709167			1.052E-14		81.3 (244)
29	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$	156710981			2.479E-15		45.1 (245) 27.8 (288) 14.2 (285)
29	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$	156711626			6.945E-15		70.2 (246) 13.9 (256) 8.53 (289)
29	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$	156715315			2.433E-15		71.4 (247) 12.1 (289) 7.97 (294)
29	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$	156716400			2.794E-15		38.6 (248) 23.1 (287) 20.0 (238)
29	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$	156718522			3.825E-15		43.6 (241) 41.4 (249) 15.0 (295)
29	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$	156720558			8.831E-15		48.5 (250) 29.7 (243) 10.9 (239)
29	251	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$	156723417			1.232E-14		70.7 (251) 12.8 (269) 5.77 (259)
29	252	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$	156723420			2.387E-15		43.4 (252) 28.8 (298) 20.6 (291)
29	253	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$	156723939			9.190E-15		76.9 (253)
29	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$	156724272			2.564E-14		92.9 (254)
29	255	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$	156726679			2.673E-15		43.4 (255) 25.4 (307) 17.2 (250)
29	256	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$	156726720			2.945E-15		35.7 (256) 25.8 (294) 25.4 (246)
29	257	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$	156726734			2.246E-15		74.6 (257)
29	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$	156729105			2.234E-15		41.8 (258) 32.8 (303) 25.4 (297)
29	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$	156729263			2.554E-15		39.8 (259) 28.4 (320) 18.9 (299)
29	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$	156729816			2.233E-15		72.8 (260)
29	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$	156730226			2.237E-15		42.2 (261) 33.0 (321) 24.8 (305)
29	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$	156730710			2.233E-15		39.9 (262) 33.2 (309) 27.0 (304)
29	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$	156730721			2.872E-15		41.8 (263) 22.7 (253) 22.2 (301)
29	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$	156730826			2.234E-15		71.9 (264) 17.5 (315) 10.6 (308)
29	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$	156730959			2.270E-15		56.7 (265) 25.9 (302) 15.7 (310)
29	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$	156731060			2.235E-15		40.3 (266) 33.2 (319) 26.5 (311)
29	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$	156731383			2.234E-15		38.8 (267) 33.3 (313) 27.9 (312)
29	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$	156731613			2.235E-15		59.6 (268) 24.2 (308) 16.2 (315)
29	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$	156732198			2.228E-14		80.6 (269)
29	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$	156733465			4.723E-14		97.0 (270)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
29	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		156733806		2.915E-14		83.9 (271)
29	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		156734061		9.830E-14		100. (272)
29	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		156736099		2.441E-13		90.9 (273)
29	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		156736264		3.677E-13		100. (274)
29	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		156736277		4.115E-13		64.3 (275) 35.7 (277)
29	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		156737032		6.072E-13		100. (276)
29	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		156737179		5.354E-13		64.4 (277) 35.6 (275)
29	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		156737235		8.632E-13		55.0 (278) 45.0 (281)
29	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		156737251		8.896E-13		100. (279)
29	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		156737792		8.652E-13		100. (280)
29	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		156737805		8.938E-13		55.0 (281) 45.0 (278)
29	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		156963284		2.275E-15		100. (282)
29	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		156965601		2.278E-15		67.3 (283) 32.7 (239)
29	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		156968953		2.204E-15		47.1 (248) 27.1 (284) 13.4 (242)
29	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		156970098		2.204E-15		47.3 (245) 28.7 (285) 24.0 (288)
29	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		156975343		2.203E-15		100. (286)
29	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		156975951		2.206E-15		54.3 (287) 38.8 (284) 3.54 (248)
29	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		156982233		2.203E-15		55.0 (285) 44.0 (288) 1.01 (245)
29	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^3D_2$		156983393		2.258E-15		52.3 (289) 25.7 (294) 22.0 (247)
29	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		156984488		2.268E-15		100. (290)
29	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		156985598		2.254E-15		48.5 (252) 42.7 (291) 8.77 (298)
29	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		156987813		2.251E-15		65.4 (292) 32.7 (255) 1.86 (307)
29	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		156988286		2.254E-15		100. (293)
29	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		156988809		2.252E-15		50.2 (256) 35.8 (294) 14.0 (289)
29	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		156989480		2.212E-15		68.8 (296) 31.2 (249)
29	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		156991864		2.265E-15		38.6 (295) 36.1 (301) 25.3 (257)
29	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		156993130		2.265E-15		57.8 (297) 42.2 (258)
29	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		156993958		2.239E-15		59.9 (298) 35.0 (291) 5.03 (252)
29	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		156994098		2.264E-15		51.3 (259) 36.2 (299) 12.5 (320)
29	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		156994762		2.264E-15		100. (300)
29	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		156994829		2.264E-15		45.2 (263) 27.6 (296) 27.2 (301)
29	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		156995121		2.270E-15		39.6 (302) 33.6 (310) 26.8 (260)
29	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		156995492		2.265E-15		66.8 (303) 17.0 (297) 16.1 (258)
29	304	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		156995884		2.269E-15		67.3 (304) 31.1 (262) 1.64 (309)
29	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		156995993		2.269E-15		57.4 (261) 23.4 (305) 19.2 (321)
29	306	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		156996340		2.263E-15		100. (306)
29	307	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		156996481		2.250E-15		66.5 (307) 17.4 (292) 16.1 (255)
29	308	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		156996534		2.271E-15		39.7 (308) 32.6 (315) 27.8 (264)
29	309	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		156996601		2.268E-15		65.2 (309) 29.0 (262) 5.77 (304)
29	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^1G_4$		156996748		2.269E-15		41.9 (265) 32.9 (310) 25.2 (302)
29	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		156996977		2.271E-15		59.5 (266) 21.9 (311) 18.6 (319)
29	312	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		156997035		2.270E-15		60.8 (312) 39.2 (267)
29	313	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		156997264		2.267E-15		66.6 (313) 22.0 (267) 11.4 (312)
29	314	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		156997267		2.268E-15		100. (314)
29	315	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		156997510		2.271E-15		40.0 (268) 34.1 (315) 25.9 (308)
29	316	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^1I_7$		156997775		2.267E-15		100. (316)
29	317	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		156997778		2.268E-15		100. (317)
29	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		156998022		2.270E-15		100. (318)
29	319	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		156998558		2.270E-15		51.7 (311) 48.3 (319)
29	320	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		156998593		2.263E-15		54.9 (320) 42.1 (299) 3.06 (259)
29	321	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		156998623		2.268E-15		51.9 (305) 48.1 (321)
30	1	$1s^2_2(J=0)$	$1s^2^1S_0$	0	0	0			100. (1)
30	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	71886300	71884381	71882079	1.116E-09	1.124E-09	100. (2)
30	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	72166200	72164351	72162008	2.218E-09	2.218E-09	100. (3)
30	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	72186600	72184995	72182687	7.979E-15	7.986E-15	86.4 (4)
30	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	72188400	72186487	72184197	2.694E-03	2.737E-03	100. (5)
30	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	72415600	72414176	72411849	4.141E-11	4.141E-11	100. (6)
30	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	72579000	72576915	72574805	1.289E-15	1.289E-15	86.4 (7)
30	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	85212700	85210482	85208263	1.833E-13	1.833E-13	100. (8)
30	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	85289800	85287583	85285376	6.129E-14	6.129E-14	100. (9)
30	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	85293200	85290138	85288023	1.907E-13	1.907E-13	100. (10)
30	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	85295600	85293430	85291237	1.925E-14	1.926E-14	85.4 (11)
30	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	85364000	85361942	85359741	6.390E-14	6.389E-14	100. (12)
30	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	85403900	85401688	85399521	2.131E-14	2.130E-14	63.6 (13) 36.4 (17)
30	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	85405200	85402966	85400795	2.132E-14	2.131E-14	100. (14)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
30	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	85408300	85406067	85403942	4.462E-15	4.458E-15	85.4 (15)
30	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	85428900	85426721	85424549	2.167E-14	2.166E-14	100. (16)
30	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	85431900	85429699	85427538	2.171E-14	2.170E-14	63.6 (17) 36.4 (13)
30	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	89828600	89827530	89825360	2.673E-13	2.675E-13	100. (18)
30	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	89860800	89859223	89857050	1.048E-13	1.048E-13	100. (19)
30	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	89862000	89859812	89857671	2.766E-13	2.767E-13	100. (20)
30	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	89863300	89861650	89859483	4.112E-14	4.112E-14	85.0 (21)
30	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	89892100	89890595	89888424	1.084E-13	1.084E-13	100. (22)
30	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	89908900	89907038	89904878	4.952E-14	4.950E-14	64.8 (23) 35.2 (28)
30	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	89909400	89907468	89905308	4.955E-14	4.953E-14	100. (24)
30	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	89910900	89908645	89906504	1.061E-14	1.060E-14	85.0 (25)
30	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	89918900	89917497	89915337	5.041E-14	5.040E-14	100. (26)
30	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		89918554	89916399	1.016E-13	1.016E-13	56.8 (27) 43.2 (31)
30	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	89920800	89918948	89916790	5.052E-14	5.050E-14	64.8 (28) 35.2 (23)
30	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		89918979	89916823	1.016E-13	1.016E-13	100. (29)
30	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		89923999	89921843	1.021E-13	1.021E-13	100. (30)
30	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		89924327	89922172	1.022E-13	1.022E-13	56.8 (31) 43.2 (27)
30	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	91953400	91952173	91950014	4.240E-13	4.210E-13	100. (32)
30	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	91969900	91968192	91966029	1.798E-13	1.788E-13	100. (33)
30	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	91970500	91968383	91966243	4.290E-13	4.343E-13	100. (34)
30	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	91971200	91969424	91967265	7.651E-14	7.636E-14	84.9 (35)
30	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	91985900	91984242	91982081	1.853E-13	1.843E-13	100. (36)
30	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$	91994500	91992582	91990425	9.526E-14	9.520E-14	65.2 (37) 34.8 (42)
30	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$	91994800	91992779	91990622	9.547E-14	9.522E-14	100. (38)
30	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	91994500	91993350	91991208	2.073E-14	2.068E-14	84.9 (39)
30	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$	91995600	91997914	91995757	9.723E-14	9.697E-14	100. (40)
30	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		91998503	91996348	1.961E-13	1.961E-13	56.9 (41) 43.1 (47)
30	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$	92000500	91998699	91996543	9.706E-14	9.714E-14	65.2 (42) 34.8 (37)
30	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		91998719	91996563	1.961E-13	1.961E-13	100. (43)
30	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		92001290	91999134	1.972E-13	1.972E-13	100. (44)
30	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		92001317	91999163	3.306E-13	3.306E-13	55.2 (45) 44.8 (49)
30	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		92001444	91999290	3.307E-13	3.307E-13	100. (46)
30	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		92001461	91999307	1.974E-13	1.973E-13	56.9 (47) 43.1 (41)
30	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		92002986	92000832	3.315E-13	3.314E-13	100. (48)
30	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		92003088	92000933	3.315E-13	3.315E-13	55.2 (49) 44.8 (45)
30	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		93101935	93099728	6.525E-13	6.456E-13	100. (50)
30	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		93111128	93108923	2.891E-13	2.874E-13	100. (51)
30	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		93111215	93109042	6.496E-13	6.607E-13	100. (52)
30	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		93111838	93109638	1.283E-13	1.279E-13	84.8 (53)
30	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		93120412	93118207	2.972E-13	2.959E-13	100. (54)
30	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		93125195	93123007	1.627E-13	1.626E-13	65.5 (55) 34.5 (61)
30	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		93125303	93123114	1.631E-13	1.625E-13	100. (56)
30	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		93125641	93123459	3.570E-14	3.545E-14	84.8 (57)
30	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		93128275	93126086	1.662E-13	1.657E-13	100. (58)
30	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		93128612	93126442	3.350E-13	3.350E-13	57.0 (59) 43.0 (65)
30	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		93128737	93126566	3.350E-13	3.349E-13	100. (60)
30	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		93128741	93126554	1.658E-13	1.659E-13	65.5 (61) 34.5 (55)
30	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		93130225	93128054	3.369E-13	3.370E-13	100. (62)
30	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		93130231	93128072	5.670E-13	5.669E-13	55.2 (63) 44.8 (69)
30	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		93130305	93128145	5.671E-13	5.669E-13	100. (64)
30	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		93130325	93128155	3.372E-13	3.370E-13	57.0 (65) 43.0 (59)
30	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		93131197	93129043	8.567E-13	8.566E-13	54.3 (66) 45.7 (71)
30	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		93131197	93129038	5.684E-13	5.684E-13	100. (67)
30	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		93131245	93129090	8.568E-13	8.567E-13	100. (68)
30	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		93131256	93129097	5.685E-13	5.684E-13	55.2 (69) 44.8 (63)
30	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		93131840	93129686	8.579E-13	8.578E-13	100. (70)
30	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		93131881	93129725	8.579E-13	8.578E-13	54.3 (71) 45.7 (66)
30	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	146350000	146353609		5.003E-15		79.2 (72)
30	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	146390000	146377996		2.028E-15		100. (73)
30	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	146445000	146436504		2.027E-15		93.0 (74)
30	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	146676000	146673614		2.061E-15		100. (75)
30	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	146721000	146708711		1.152E-15		82.5 (76)
30	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	146885000	146877967		1.017E-15		100. (77)
30	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	146952000	146945112		1.016E-15		55.4 (78) 44.6 (80)
30	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	146995000	146990785		2.015E-15		93.0 (79)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
30	80	$2p_{3/2}^2(J=2)$	$2p^2\ ^1D_2$	147224000	147228017		1.024E-15		55.4 (80) 44.6 (78)
30	81	$2p_{3/2}^2(J=0)$	$2p^2\ ^1S_0$	147526000	147525547		1.125E-15		80.2 (81)
30	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s\ ^3S_1$		159920495		8.874E-15		84.7 (82)
30	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s\ ^3P_1$		159962543		2.509E-15		33.1 (83) 31.5 (104) 31.1 (91)
30	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s\ ^3P_0$		159987620		2.410E-15		75.5 (84)
30	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s\ ^1S_0$		159989919		6.399E-15		74.9 (85)
30	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p\ ^3D_1$		159994458		1.647E-15		72.6 (86)
30	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p\ ^3P_1$		160023105		4.738E-15		72.4 (87)
30	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p\ ^3P_0$		160029016		4.235E-15		73.4 (88)
30	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p\ ^3P_2$		160092022		5.614E-15		89.6 (89)
30	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p\ ^3D_2$		160109086		1.862E-15		59.3 (90) 21.6 (97) 11.8 (110)
30	91	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p\ ^1P_1$		160126033		3.606E-15		44.7 (91) 31.9 (83) 21.9 (87)
30	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p\ ^3P_1$		160143766		1.873E-15		30.2 (92) 24.8 (103) 20.3 (107)
30	93	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p\ ^3P_0$		160153399		1.879E-15		73.3 (93)
30	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d\ ^3F_2$		160154137		1.966E-15		77.3 (94)
30	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d\ ^3D_1$		160188176		6.962E-15		82.2 (95)
30	96	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d\ ^3D_3$		160189789		1.098E-14		95.0 (96)
30	97	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d\ ^3D_2$		160192712		6.456E-15		67.0 (97) 12.9 (101) 9.75 (110)
30	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		160231706		1.870E-15		65.8 (98) 18.9 (111) 15.3 (116)
30	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d\ ^3P_2$		160238623		1.908E-15		32.2 (99) 25.8 (114) 16.8 (109)
30	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d\ ^3D_1$		160257362		1.783E-15		61.7 (100) 19.4 (117) 15.8 (112)
30	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d\ ^1D_2$		160270280		8.266E-15		75.2 (101)
30	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s\ ^3P_2$		160312766		2.005E-15		82.9 (102)
30	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p\ ^1P_1$		160357657		1.573E-15		55.2 (92) 29.0 (103) 12.8 (86)
30	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s\ ^1P_1$		160376403		2.208E-15		66.2 (104) 17.5 (83) 16.3 (91)
30	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p\ ^3P_2$		160386915		1.667E-15		47.4 (105) 23.0 (90) 22.3 (110)
30	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p\ ^3D_3$		160404810		1.658E-15		95.0 (106)
30	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p\ ^3S_1$		160417979		1.616E-15		62.7 (107) 25.8 (103) 5.83 (92)
30	108	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d\ ^3F_4$		160478742		2.012E-15		100. (108)
30	109	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d\ ^1D_2$		160480792		1.874E-15		48.2 (109) 30.4 (114) 18.9 (94)
30	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p\ ^1D_2$		160502636		1.596E-15		54.4 (110) 41.6 (105) 4.06 (101)
30	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d\ ^3D_3$		160511421		1.811E-15		60.5 (111) 31.0 (98) 8.49 (116)
30	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d\ ^3P_1$		160542210		1.848E-15		69.3 (112) 27.0 (100) 2.00 (117)
30	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d\ ^3P_0$		160547862		1.886E-15		97.9 (113)
30	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d\ ^3D_2$		160548646		1.852E-15		54.8 (99) 33.3 (114) 8.88 (109)
30	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p\ ^1S_0$		160606597		1.641E-15		77.0 (115)
30	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d\ ^3F_3$		160612793		1.696E-15		76.2 (116)
30	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d\ ^1P_1$		160637487		1.820E-15		76.2 (117)
30	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s\ ^1S_1$		164631324		9.002E-15		81.2 (118)
30	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s\ ^3P_1$		164645251		2.365E-15		49.8 (119) 29.9 (147) 20.4 (130)
30	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s\ ^3P_0$		164647186		2.623E-15		71.8 (120) 28.2 (124)
30	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s\ ^1S_0$		164651002		5.781E-15		69.2 (121) 16.3 (129) 14.5 (160)
30	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p\ ^3D_1$		164660433		1.970E-15		72.1 (122) 15.6 (148) 6.40 (118)
30	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p\ ^3P_1$		164669425		1.026E-14		73.8 (123)
30	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p\ ^3P_0$		164682080		5.264E-15		71.6 (124) 28.4 (120)
30	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p\ ^3P_2$		164699636		7.861E-15		85.2 (125)
30	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p\ ^3D_2$		164706966		2.143E-15		46.3 (126) 22.1 (152) 16.9 (131)
30	127	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p\ ^3P_1$		164722547		2.140E-15		39.3 (127) 22.3 (151) 16.8 (148)
30	128	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d\ ^3F_2$		164723056		2.041E-15		73.8 (128)
30	129	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p\ ^3P_0$		164724216		2.432E-15		58.2 (129) 28.7 (121) 13.1 (160)
30	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p\ ^1P_1$		164726234		6.130E-15		54.9 (130) 23.9 (123) 17.6 (119)
30	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d\ ^3D_2$		164740683		1.141E-14		72.3 (131)
30	132	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d\ ^3D_1$		164741454		1.087E-14		86.4 (132)
30	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d\ ^3D_3$		164742966		1.891E-14		95.4 (133)
30	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d\ ^3F_3$		164753769		2.161E-15		46.3 (134) 22.5 (163) 19.1 (155)
30	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d\ ^3P_2$		164761954		2.155E-15		38.1 (135) 30.0 (158) 16.5 (153)
30	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d\ ^3D_1$		164763413		1.979E-15		52.7 (136) 25.0 (168) 15.8 (156)
30	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f\ ^3G_3$		164769059		1.923E-15		73.3 (137)
30	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d\ ^1D_2$		164772961		6.812E-15		70.9 (138) 7.95 (139) 5.51 (126)
30	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f\ ^3F_2$		164775039		2.276E-15		39.4 (139) 25.4 (169) 16.7 (162)
30	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f\ ^3G_4$		164777066		1.922E-15		41.6 (140) 31.7 (166) 26.7 (161)
30	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f\ ^3F_2$		164778056		2.754E-14		95.6 (141)
30	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f\ ^3D_3$		164779377		2.021E-15		48.9 (142) 29.5 (159) 16.3 (164)
30	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f\ ^3F_3$		164779896		1.372E-14		72.8 (143)
30	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f\ ^3F_4$		164780342		8.953E-14		100. (144)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
30	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$	164786207			7.225E-14		84.9 (145)
30	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$	164962794			1.988E-15		100. (146)
30	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$	164977021			2.018E-15		68.2 (147) 29.4 (119) 2.46 (130)
30	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$	164983136			1.784E-15		47.8 (127) 29.5 (148) 13.7 (122)
30	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$	164988664			1.789E-15		42.4 (126) 32.7 (149) 24.9 (152)
30	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$	165006873			1.792E-15		100. (150)
30	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$	165011463			1.798E-15		57.9 (151) 33.7 (148) 4.41 (127)
30	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$	165036507			1.783E-15		52.4 (149) 47.6 (152)
30	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$	165036601			1.935E-15		51.6 (153) 26.9 (158) 21.5 (128)
30	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$	165040081			1.978E-15		100. (154)
30	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$	165046062			1.922E-15		47.3 (155) 44.0 (134) 8.79 (163)
30	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$	165056274			1.921E-15		66.2 (156) 31.6 (136) 2.16 (168)
30	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$	165058573			1.936E-15		100. (157)
30	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$	165059740			1.924E-15		52.1 (135) 35.0 (158) 12.8 (153)
30	159	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$	165069536			1.954E-15		37.0 (159) 36.8 (164) 26.3 (137)
30	160	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$	165071382			1.811E-15		72.4 (160)
30	161	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$	165074492			1.954E-15		60.7 (161) 39.3 (140)
30	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$	165077790			1.953E-15		50.1 (139) 33.6 (162) 16.3 (169)
30	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$	165080381			1.871E-15		65.0 (163) 30.5 (155) 4.48 (134)
30	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$	165081164			1.954E-15		47.4 (142) 27.8 (164) 24.8 (159)
30	165	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$	165082229			1.953E-15		100. (165)
30	166	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$	165082681			1.953E-15		68.3 (166) 19.1 (140) 12.7 (161)
30	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$	165087363			1.953E-15		100. (167)
30	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$	165090766			1.916E-15		69.9 (168) 16.2 (156) 14.0 (136)
30	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$	165094651			1.951E-15		52.8 (169) 45.4 (162) 1.82 (139)
30	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$	166785399			7.311E-15		75.1 (170)
30	171	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$	166789466			2.295E-15		54.7 (171) 29.2 (207) 14.2 (182)
30	172	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$	166789637			2.518E-15		76.5 (172)
30	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$	166793260			4.996E-15		62.9 (173) 22.3 (181) 14.9 (219)
30	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$	166797928			2.168E-15		69.9 (174) 13.0 (208) 10.0 (170)
30	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$	166804858			1.479E-14		70.3 (175) 22.0 (182) 2.59 (187)
30	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$	166812131			6.916E-15		76.4 (176)
30	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$	166819568			7.669E-15		79.2 (177)
30	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$	166820988			2.177E-15		44.8 (178) 26.0 (212) 13.4 (209)
30	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$	166828904			2.079E-15		72.8 (179)
30	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$	166829623			2.268E-15		40.2 (180) 23.6 (211) 14.5 (208)
30	181	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$	166831099			2.878E-15		48.3 (181) 36.4 (173) 15.3 (219)
30	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$	166834497			7.675E-15		53.7 (182) 26.4 (175) 12.8 (171)
30	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$	166840406			1.411E-14		72.7 (183)
30	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$	166841293			1.626E-14		90.9 (184)
30	185	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$	166841965			1.434E-14		88.5 (185)
30	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$	166844256			2.140E-15		43.4 (186) 26.6 (223) 19.9 (215)
30	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$	166849057			2.124E-15		47.7 (187) 26.4 (233) 15.1 (216)
30	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$	166849149			2.328E-15		38.5 (188) 28.6 (218) 18.3 (177)
30	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$	166850885			1.946E-15		74.2 (189)
30	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$	166854589			2.104E-15		42.6 (190) 29.4 (237) 19.8 (222)
30	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$	166855313			1.943E-15		41.8 (191) 32.4 (227) 25.8 (221)
30	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$	166856531			1.945E-15		72.6 (192)
30	193	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$	166856681			1.318E-14		76.2 (193)
30	194	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$	166857138			1.954E-15		42.6 (194) 32.8 (236) 24.6 (228)
30	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$	166857155			2.175E-15		47.4 (195) 26.3 (224) 15.0 (220)
30	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$	166858259			1.945E-15		39.8 (196) 33.1 (231) 27.2 (229)
30	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$	166858552			2.193E-15		50.8 (197) 23.8 (226) 14.0 (232)
30	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$	166858890			3.271E-14		96.6 (198)
30	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$	166859705			1.703E-14		78.2 (199)
30	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$	166860223			1.559E-14		88.6 (200)
30	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$	166863562			1.246E-13		88.2 (201)
30	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$	166863866			2.289E-13		60.3 (202) 39.7 (205)
30	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$	166863897			2.238E-13		100. (203)
30	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$	166865430			3.098E-13		100. (204)
30	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$	166865635			2.828E-13		60.4 (205) 39.6 (202)
30	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$	167100264			1.987E-15		100. (206)
30	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$	167105464			1.993E-15		67.9 (207) 32.1 (171)
30	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$	167110610			1.877E-15		47.5 (180) 27.1 (208) 13.3 (174)
30	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$	167112759			1.878E-15		46.2 (178) 29.1 (209) 24.7 (212)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
30	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		167123371		1.878E-15		100. (210)
30	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		167124975		1.880E-15		54.9 (211) 38.3 (208) 3.49 (180)
30	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		167136609		1.876E-15		55.2 (209) 44.8 (212)
30	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		167138177		1.960E-15		51.3 (213) 26.9 (218) 21.9 (179)
30	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		167140387		1.979E-15		100. (214)
30	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		167142415		1.955E-15		47.6 (186) 43.2 (215) 9.16 (223)
30	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		167146809		1.952E-15		65.2 (216) 32.7 (187) 2.07 (233)
30	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		167147828		1.958E-15		100. (217)
30	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		167148833		1.954E-15		50.8 (188) 34.7 (218) 14.5 (213)
30	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		167151678		1.887E-15		70.3 (219) 29.7 (181)
30	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^1F_3$		167154241		1.971E-15		37.6 (220) 36.9 (224) 25.5 (189)
30	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		167156713		1.971E-15		57.8 (221) 42.2 (191)
30	222	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		167158309		1.970E-15		51.1 (190) 35.4 (222) 13.5 (237)
30	223	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		167158463		1.930E-15		60.9 (223) 34.5 (215) 4.65 (186)
30	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		167159915		1.971E-15		45.7 (195) 28.2 (220) 26.1 (224)
30	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		167160071		1.970E-15		100. (225)
30	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		167160336		1.979E-15		40.2 (226) 32.9 (232) 26.9 (192)
30	227	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^1G_4$		167161012		1.970E-15		67.2 (227) 16.6 (221) 16.2 (191)
30	228	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		167161842		1.978E-15		57.1 (194) 23.6 (228) 19.3 (236)
30	229	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		167161843		1.979E-15		67.3 (229) 30.8 (196) 1.81 (231)
30	230	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		167162630		1.969E-15		100. (230)
30	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		167163155		1.977E-15		65.1 (231) 29.4 (196) 5.50 (229)
30	232	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		167163368		1.978E-15		42.1 (197) 33.4 (232) 24.5 (226)
30	233	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		167163398		1.950E-15		67.2 (233) 17.5 (216) 15.3 (187)
30	234	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		167164573		1.977E-15		100. (234)
30	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		167165102		1.977E-15		100. (235)
30	236	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		167166737		1.977E-15		51.9 (228) 48.1 (236)
30	237	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		167166760		1.969E-15		54.3 (237) 43.1 (222) 2.66 (190)
30	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		167947075		5.034E-15		62.5 (238) 11.9 (284) 11.2 (242)
30	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		167947446		2.232E-15		57.4 (239) 29.5 (283) 10.6 (250)
30	240	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		167947501		2.360E-15		82.3 (240)
30	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		167950779		4.185E-15		54.8 (241) 28.7 (249) 16.6 (295)
30	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		167952780		2.446E-15		64.4 (242) 18.6 (238) 8.96 (284)
30	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		167958886		1.528E-14		67.2 (243) 23.6 (250) 4.12 (255)
30	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		167963089		9.668E-15		82.4 (244)
30	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		167965655		2.141E-15		45.5 (245) 28.3 (288) 14.4 (285)
30	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		167966682		5.715E-15		68.2 (246) 14.1 (257) 9.51 (289)
30	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		167970113		2.149E-15		70.5 (247) 11.3 (289) 8.51 (294)
30	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		167971080		2.414E-15		39.0 (248) 23.4 (287) 19.4 (238)
30	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		167972656		3.423E-15		45.0 (241) 40.1 (249) 14.9 (295)
30	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		167975793		7.727E-15		47.5 (250) 30.1 (243) 9.68 (239)
30	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		167978824		2.068E-15		43.5 (251) 29.3 (298) 20.8 (291)
30	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		167978961		1.051E-14		70.2 (252) 12.8 (269) 6.17 (259)
30	253	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		167979766		7.322E-15		74.7 (253)
30	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		167979791		2.432E-14		93.6 (254)
30	255	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		167981830		2.359E-15		42.6 (255) 25.1 (307) 18.4 (250)
30	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		167982201		1.966E-15		74.7 (256)
30	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		167982246		2.589E-15		35.5 (257) 26.0 (246) 25.6 (294)
30	258	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		167984820		1.950E-15		41.8 (258) 32.8 (303) 25.4 (297)
30	259	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		167984838		2.252E-15		39.3 (259) 28.1 (319) 18.7 (299)
30	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		167985545		1.950E-15		72.8 (260)
30	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		167985962		1.953E-15		42.2 (261) 33.0 (321) 24.8 (305)
30	262	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		167986568		2.576E-15		40.7 (262) 24.8 (253) 21.6 (301)
30	263	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		167986569		1.950E-15		39.9 (263) 33.2 (308) 26.9 (304)
30	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		167986685		1.951E-15		71.9 (264) 17.6 (315) 10.5 (309)
30	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		167986823		1.974E-15		57.0 (265) 26.1 (302) 15.7 (310)
30	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		167986921		1.952E-15		40.3 (266) 33.2 (320) 26.5 (311)
30	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		167987326		1.951E-15		38.8 (267) 33.3 (314) 27.9 (312)
30	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		167987556		1.952E-15		59.6 (268) 24.3 (309) 16.1 (315)
30	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		167988329		2.059E-14		80.7 (269)
30	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		167989685		4.461E-14		97.2 (270)
30	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		167990049		2.818E-14		83.4 (271)
30	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		167990489		1.046E-13		100. (272)
30	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		167992581		2.099E-13		89.7 (273)
30	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		167992770		3.394E-13		100. (274)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
30	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		167992783		3.746E-13		63.6 (275) 36.4 (277)
30	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		167993661		5.300E-13		100. (276)
30	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		167993815		4.768E-13		63.7 (277) 36.3 (275)
30	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		167993869		7.553E-13		54.9 (278) 45.1 (281)
30	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		167993888		7.799E-13		100. (279)
30	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		167994510		7.570E-13		100. (280)
30	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		167994525		7.831E-13		54.9 (281) 45.1 (278)
30	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		168255569		1.988E-15		100. (282)
30	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		168257927		1.991E-15		67.2 (283) 32.8 (239)
30	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		168261490		1.926E-15		47.9 (248) 24.8 (284) 14.4 (287)
30	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		168262621		1.926E-15		47.6 (245) 27.6 (285) 24.8 (288)
30	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		168269085		1.926E-15		100. (286)
30	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		168269615		1.928E-15		52.3 (287) 41.2 (284) 3.79 (242)
30	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		168276215		1.925E-15		56.5 (285) 43.5 (288)
30	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		168277523		1.973E-15		50.9 (289) 27.1 (294) 22.0 (247)
30	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		168278904		1.983E-15		100. (290)
30	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		168279803		1.970E-15		49.2 (291) 41.3 (291) 9.52 (298)
30	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		168282013		1.967E-15		65.1 (252) 33.0 (255) 1.96 (307)
30	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		168282503		1.971E-15		100. (293)
30	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		168283289		1.969E-15		50.4 (257) 34.3 (294) 15.3 (289)
30	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		168283669		1.933E-15		68.6 (295) 31.4 (249)
30	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^1F_3$		168286564		1.980E-15		37.9 (296) 36.9 (301) 25.2 (256)
30	297	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^3F_4$		168287957		1.980E-15		55.9 (297) 44.1 (258)
30	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		168288640		1.957E-15		59.0 (298) 36.4 (291) 4.56 (251)
30	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		168288867		1.979E-15		51.4 (259) 36.3 (299) 12.3 (319)
30	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		168289719		1.979E-15		100. (300)
30	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		168289777		1.979E-15		45.1 (262) 28.3 (296) 26.6 (301)
30	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		168290093		1.984E-15		40.0 (302) 33.2 (310) 26.7 (260)
30	303	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^1G_4$		168290406		1.980E-15		66.4 (303) 19.1 (297) 14.5 (258)
30	304	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		168290957		1.984E-15		65.4 (304) 34.6 (263)
30	305	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		168290997		1.984E-15		57.4 (261) 23.8 (305) 18.8 (321)
30	306	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		168291197		1.978E-15		100. (306)
30	307	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		168291300		1.967E-15		66.2 (307) 17.8 (292) 16.0 (255)
30	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^1H_5$		168291650		1.983E-15		66.1 (308) 25.7 (263) 8.17 (304)
30	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		168291651		1.985E-15		40.0 (309) 32.3 (315) 27.7 (264)
30	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^1G_4$		168291871		1.984E-15		41.8 (265) 33.4 (310) 24.9 (302)
30	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		168292112		1.986E-15		59.5 (266) 22.2 (311) 18.3 (320)
30	312	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^3H_6$		168292212		1.985E-15		52.8 (312) 47.2 (267)
30	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		168292413		1.983E-15		100. (313)
30	314	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^1I_6$		168292426		1.983E-15		66.1 (314) 19.6 (312) 14.2 (267)
30	315	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		168292726		1.986E-15		39.9 (268) 34.5 (315) 25.6 (309)
30	316	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		168292847		1.983E-15		100. (316)
30	317	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		168292998		1.983E-15		100. (317)
30	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		168293194		1.984E-15		100. (318)
30	319	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		168293689		1.978E-15		54.9 (319) 42.0 (299) 3.12 (259)
30	320	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		168293812		1.984E-15		51.4 (311) 48.6 (320)
30	321	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		168293815		1.983E-15		51.6 (305) 48.4 (321)
31	1	$1s^2_{1/2}(J=0)$	$1s^2^1S_0$	0	0				100. (1)
31	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	76911150	76909013		7.972E-10		100. (2)
31	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	77202880	77201170		2.093E-09		100. (3)
31	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	77224190	77222470		6.406E-15		85.2 (4)
31	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	77225860	77223766		2.168E-03		100. (5)
31	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	77490090	77488545		3.193E-11		100. (6)
31	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	77657700	77655589		1.144E-15		85.2 (7)
31	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	91177480	91176921		1.595E-13		100. (8)
31	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	91257860	91257354		5.341E-14		100. (9)
31	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	91261400	91259923		1.660E-13		100. (10)
31	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	91263800	91263365		1.592E-14		84.2 (11)
31	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	91343230	91342887		5.585E-14		100. (12)
31	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	91384440	91383969		1.858E-14		63.3 (13) 36.7 (17)
31	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	91385930	91385449		1.861E-14		100. (14)
31	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	91388810	91388239		3.955E-15		84.2 (15)
31	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	91413210	91412746		1.893E-14		100. (16)
31	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	91416400	91415928		1.894E-14		63.3 (17) 36.7 (13)
31	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	96120300	96120631		2.327E-13		100. (18)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
31	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	96153900	96153685		9.135E-14		100. (19)
31	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	96155100	96154266		2.407E-13		100. (20)
31	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	96156500	96156178		3.426E-14		83.8 (21)
31	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	96189900	96189768		9.474E-14		100. (22)
31	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$	96207300	96206769		4.317E-14		64.3 (23) 35.7 (28)
31	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$	96207900	96207279		4.323E-14		100. (24)
31	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	96209200	96208327		9.404E-15		83.8 (25)
31	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$	96219400	96218805		4.404E-14		100. (26)
31	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		96219900		8.864E-14		56.8 (27) 43.2 (31)
31	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$	96220800	96220347		4.408E-14		64.3 (28) 35.7 (23)
31	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		96220371		8.866E-14		100. (29)
31	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		96226137		8.914E-14		100. (30)
31	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		96226500		8.920E-14		56.8 (31) 43.2 (27)
31	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	98395400	98395490		3.694E-13		100. (32)
31	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$		98412193		1.568E-13		100. (33)
31	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	98413100	98412377		3.733E-13		100. (34)
31	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	98413800	98413458		6.396E-14		83.7 (35)
31	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	98430900	98430653		1.619E-13		100. (36)
31	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		98439276		8.304E-14		64.7 (37) 35.3 (42)
31	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		98439513		8.330E-14		100. (38)
31	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	98440800	98440018		1.836E-14		83.7 (39)
31	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		98445415		8.495E-14		100. (40)
31	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		98446025		1.711E-13		56.9 (41) 43.1 (47)
31	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		98446248		8.467E-14		64.7 (42) 35.3 (37)
31	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		98446264		1.711E-13		100. (43)
31	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		98449217		1.721E-13		100. (44)
31	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		98449246		2.886E-13		55.2 (45) 44.8 (49)
31	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		98449387		2.887E-13		100. (46)
31	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		98449407		1.723E-13		56.9 (47) 43.1 (41)
31	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		98451158		2.894E-13		100. (48)
31	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		98451270		2.894E-13		55.2 (49) 44.8 (45)
31	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		99626473		5.672E-13		100. (50)
31	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		99636058		2.517E-13		100. (51)
31	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		99636140		5.670E-13		100. (52)
31	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		99636785		1.074E-13		83.6 (53)
31	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		99646735		2.593E-13		100. (54)
31	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		99651680		1.418E-13		64.9 (55) 35.1 (61)
31	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		99651811		1.422E-13		100. (56)
31	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		99652112		3.162E-14		83.6 (57)
31	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		99655226		1.451E-13		100. (58)
31	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		99655576		2.923E-13		57.0 (59) 43.0 (65)
31	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		99655714		2.923E-13		100. (60)
31	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		99655721		1.447E-13		64.9 (61) 35.1 (55)
31	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		99657423		2.940E-13		100. (62)
31	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		99657429		4.949E-13		55.2 (63) 44.8 (69)
31	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		99657511		4.950E-13		100. (64)
31	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		99657534		2.943E-13		57.0 (65) 43.0 (59)
31	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		99658536		7.479E-13		54.3 (66) 45.7 (71)
31	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		99658536		4.962E-13		100. (67)
31	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		99658589		7.480E-13		100. (68)
31	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		99658601		4.963E-13		55.2 (69) 44.8 (63)
31	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		99659272		7.490E-13		100. (70)
31	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		99659316		7.490E-13		54.3 (71) 45.7 (66)
31	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	156500000	156499821		4.325E-15		78.9 (72)
31	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	156530000	156523155		1.776E-15		100. (73)
31	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	156600000	156587119		1.775E-15		92.1 (74)
31	75	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	156860000	156861256		1.807E-15		100. (75)
31	76	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	156880000	156872157		1.022E-15		80.7 (76)
31	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	157080000	157072472		8.918E-16		100. (77)
31	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$	157150000	157143123		8.905E-16		53.3 (78) 46.7 (80)
31	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	157190000	157186286		1.769E-15		92.1 (79)
31	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$	157460000	157465396		8.980E-16		53.3 (80) 46.7 (78)
31	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	157760000	157766557		9.779E-16		79.7 (81)
31	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		171016869		7.960E-15		85.1 (82)
31	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		171060314		2.179E-15		34.9 (83) 31.0 (104) 29.5 (91)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
31	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		171084521		2.099E-15		76.2 (84)
31	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		171087879		5.508E-15		74.5 (85)
31	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		171091872		1.447E-15		72.5 (86)
31	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		171123162		4.152E-15		71.9 (87) 17.7 (83) 7.31 (91)
31	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		171128322		3.775E-15		74.4 (88)
31	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		171202807		4.941E-15		89.9 (89)
31	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		171220940		1.624E-15		58.3 (90) 21.1 (96) 12.8 (110)
31	91	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		171239261		3.318E-15		47.8 (91) 28.6 (83) 22.4 (87)
31	92	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		171255382		1.632E-15		31.4 (92) 23.0 (103) 21.3 (107)
31	93	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		171258870		1.669E-15		71.3 (93) 20.1 (85) 8.54 (115)
31	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		171266123		1.724E-15		77.1 (94)
31	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		171301401		6.284E-15		83.0 (95)
31	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		171306721		5.882E-15		67.9 (96) 13.0 (101) 9.17 (110)
31	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		171307606		1.047E-14		96.1 (97)
31	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		171350698		1.634E-15		64.1 (98) 19.5 (111) 16.4 (116)
31	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3F_2$		171359007		1.675E-15		34.0 (99) 27.8 (114) 17.4 (108)
31	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		171373389		1.563E-15		60.8 (100) 20.4 (117) 16.1 (112)
31	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		171391409		7.867E-15		77.5 (101)
31	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		171451341		1.757E-15		89.0 (102)
31	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		171500508		1.379E-15		55.7 (92) 27.0 (103) 12.4 (86)
31	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		171515249		1.909E-15		66.8 (104) 19.0 (83) 14.2 (91)
31	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		171528280		1.444E-15		44.0 (105) 25.4 (90) 24.7 (110)
31	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		171556743		1.437E-15		96.1 (106)
31	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		171568904		1.408E-15		60.6 (107) 29.2 (103) 4.48 (92)
31	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		171637112		1.645E-15		48.4 (108) 30.2 (114) 19.2 (94)
31	109	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		171637519		1.765E-15		100. (109)
31	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		171657627		1.390E-15		52.4 (110) 44.5 (105) 3.10 (101)
31	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		171668642		1.592E-15		58.0 (111) 32.8 (98) 9.18 (116)
31	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		171699575		1.618E-15		68.7 (112) 27.8 (100) 2.06 (117)
31	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		171705383		1.651E-15		98.2 (113)
31	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		171708191		1.623E-15		54.5 (99) 33.1 (114) 9.82 (108)
31	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		171763946		1.429E-15		76.5 (115)
31	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		171774606		1.489E-15		74.4 (116)
31	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		171800671		1.595E-15		75.3 (117)
31	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		176056677		7.869E-15		81.1 (118)
31	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		176070800		2.043E-15		51.1 (119) 29.9 (147) 19.0 (130)
31	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		176072201		2.278E-15		72.5 (120)
31	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		176076566		4.965E-15		68.6 (121) 17.0 (127) 14.4 (159)
31	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		176086053		1.734E-15		71.8 (122) 15.6 (148) 7.28 (118)
31	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		176096091		9.127E-15		73.7 (123)
31	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		176108723		4.721E-15		72.4 (124)
31	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		176130988		6.896E-15		85.2 (125)
31	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		176138196		1.858E-15		46.3 (126) 22.8 (152) 16.1 (131)
31	127	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		176152611		2.159E-15		56.7 (127) 29.6 (121) 13.7 (159)
31	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		176153660		1.859E-15		39.8 (128) 22.9 (151) 16.1 (148)
31	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		176154549		1.787E-15		73.8 (129)
31	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		176158069		5.648E-15		56.1 (130) 24.5 (123) 15.8 (119)
31	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		176173379		1.049E-14		73.0 (131)
31	132	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		176173865		9.992E-15		87.1 (132)
31	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		176177034		1.674E-14		95.4 (133)
31	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		176187760		1.882E-15		45.9 (134) 23.2 (163) 19.3 (155)
31	135	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		176195986		1.887E-15		38.5 (135) 30.1 (158) 16.1 (153)
31	136	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		176196199		1.735E-15		52.1 (136) 25.5 (168) 15.8 (156)
31	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		176203257		1.687E-15		73.4 (137)
31	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		176207676		4.577E-15		63.1 (138) 13.0 (139) 8.32 (169)
31	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		176209604		2.235E-15		34.2 (139) 22.4 (169) 17.7 (138)
31	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		176212163		1.685E-15		41.6 (140) 31.9 (166) 26.5 (161)
31	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		176213095		2.525E-14		95.8 (141)
31	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		176214531		1.773E-15		49.2 (142) 29.4 (160) 16.1 (164)
31	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		176215015		1.255E-14		71.9 (143) 16.8 (145) 5.00 (134)
31	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		176216169		7.975E-14		100. (144)
31	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		176222133		6.256E-14		83.4 (145)
31	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		176431356		1.744E-15		100. (146)
31	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		176445543		1.765E-15		68.1 (147) 29.9 (119) 2.02 (130)
31	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		176452710		1.565E-15		48.7 (128) 27.1 (148) 13.2 (122)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
31	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		176458010		1.569E-15		43.2 (126) 31.1 (149) 25.7 (152)
31	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		176480779		1.570E-15		100. (150)
31	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		176484972		1.574E-15		56.3 (151) 36.9 (148) 3.44 (128)
31	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		176511388		1.564E-15		53.8 (149) 46.2 (152)
31	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		176511998		1.698E-15		50.5 (153) 27.9 (158) 21.6 (129)
31	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		176516514		1.736E-15		100. (154)
31	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		176521752		1.687E-15		45.6 (155) 44.9 (134) 9.51 (163)
31	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		176531936		1.685E-15		65.8 (156) 32.0 (136) 2.23 (168)
31	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		176534306		1.698E-15		100. (157)
31	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		176536426		1.688E-15		52.0 (135) 33.9 (158) 14.0 (153)
31	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		176546998		1.585E-15		71.9 (159) 26.3 (127) 1.75 (121)
31	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		176547087		1.716E-15		37.7 (160) 36.2 (164) 26.1 (137)
31	161	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		176552565		1.716E-15		58.9 (161) 41.1 (140)
31	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		176555570		1.714E-15		50.4 (139) 33.7 (162) 15.9 (169)
31	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		176557863		1.642E-15		63.7 (163) 32.2 (155) 4.14 (134)
31	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$		176559630		1.715E-15		47.0 (142) 28.6 (164) 24.4 (160)
31	165	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		176560810		1.715E-15		100. (165)
31	166	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^1G_4$		176560947		1.715E-15		68.0 (166) 17.3 (140) 14.7 (161)
31	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		176565509		1.714E-15		100. (167)
31	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		176568759		1.681E-15		69.3 (168) 16.7 (156) 14.0 (136)
31	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		176573639		1.713E-15		52.9 (169) 45.2 (162) 1.91 (139)
31	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		178361623		6.183E-15		74.2 (170)
31	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		178365444		2.182E-15		77.4 (171)
31	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		178365508		1.982E-15		55.8 (172) 29.4 (207) 13.1 (182)
31	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		178369475		4.275E-15		62.0 (173) 23.1 (181) 14.9 (219)
31	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		178374130		1.928E-15		68.9 (174) 12.7 (208) 11.8 (170)
31	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		178381811		1.330E-14		70.3 (175) 22.4 (182) 2.50 (187)
31	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		178389070		6.280E-15		77.4 (176)
31	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		178398879		6.615E-15		78.8 (177)
31	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		178399926		1.887E-15		45.0 (178) 26.5 (212) 13.6 (209)
31	179	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		178408009		1.825E-15		72.7 (179)
31	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		178408505		1.967E-15		40.7 (180) 24.0 (211) 14.1 (208)
31	181	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		178408639		2.564E-15		47.1 (181) 37.4 (173) 15.5 (219)
31	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		178414016		7.021E-15		54.2 (182) 27.0 (175) 11.6 (172)
31	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		178420453		1.287E-14		73.1 (183)
31	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		178421217		1.525E-14		91.6 (184)
31	185	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		178422672		1.220E-14		88.1 (185)
31	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		178424565		1.861E-15		43.4 (186) 27.1 (222) 20.1 (215)
31	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		178428752		1.864E-15		47.8 (187) 26.9 (231) 15.3 (216)
31	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		178429530		2.041E-15		38.3 (188) 28.3 (218) 18.1 (177)
31	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		178431300		1.707E-15		74.3 (189)
31	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		178435122		1.834E-15		42.7 (190) 29.8 (236) 20.0 (223)
31	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		178436199		1.704E-15		41.8 (191) 32.5 (227) 25.7 (221)
31	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		178437440		1.706E-15		72.6 (192)
31	193	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		178437780		1.248E-14		77.5 (193)
31	194	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		178438057		1.713E-15		42.5 (194) 32.9 (237) 24.7 (228)
31	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		178438115		1.916E-15		47.4 (195) 26.1 (220) 14.8 (224)
31	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		178439412		1.706E-15		39.8 (196) 33.1 (232) 27.1 (229)
31	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		178439746		1.841E-15		53.2 (197) 24.8 (226) 14.6 (233)
31	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		178440125		3.059E-14		96.8 (198)
31	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		178440980		1.616E-14		77.6 (199)
31	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		178441826		2.011E-14		92.6 (200)
31	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		178445277		1.078E-13		86.9 (201)
31	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		178445614		2.068E-13		59.9 (202) 40.1 (205)
31	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		178445652		2.035E-13		100. (203)
31	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		178447418		2.715E-13		100. (204)
31	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		178447634		2.516E-13		60.0 (205) 40.0 (202)
31	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		178719598		1.744E-15		100. (206)
31	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		178724863		1.748E-15		67.7 (207) 32.3 (172)
31	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		178730403		1.648E-15		48.3 (180) 24.9 (208) 14.0 (211)
31	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		178732503		1.648E-15		46.6 (178) 28.0 (209) 25.4 (212)
31	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		178745472		1.648E-15		100. (210)
31	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		178746933		1.649E-15		53.0 (211) 40.6 (208) 3.78 (174)
31	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		178759153		1.647E-15		56.2 (209) 43.8 (212)
31	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		178760982		1.721E-15		50.0 (213) 28.1 (218) 21.9 (179)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
31	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		178763750		1.737E-15		100. (214)
31	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		178765360		1.717E-15		48.4 (186) 41.7 (215) 9.92 (222)
31	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		178769742		1.713E-15		64.9 (216) 33.0 (187) 2.17 (231)
31	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		178770799		1.719E-15		100. (217)
31	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		178772310		1.715E-15		50.9 (188) 33.3 (218) 15.8 (213)
31	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^3S_0$		178774622		1.655E-15		69.9 (219) 30.1 (181)
31	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		178778122		1.731E-15		37.6 (220) 37.0 (224) 25.4 (189)
31	221	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^3F_4$		178780838		1.730E-15		55.9 (221) 44.1 (191)
31	222	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		178782306		1.695E-15		59.8 (222) 35.9 (215) 4.22 (186)
31	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		178782308		1.730E-15		51.2 (190) 35.5 (223) 13.3 (236)
31	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		178784264		1.730E-15		45.5 (195) 28.9 (224) 25.5 (220)
31	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		178784451		1.729E-15		100. (225)
31	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		178784727		1.737E-15		40.6 (226) 32.6 (233) 26.9 (192)
31	227	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3G_4$		178785282		1.730E-15		66.7 (227) 18.8 (221) 14.5 (191)
31	228	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		178786284		1.737E-15		57.1 (194) 24.0 (228) 18.9 (237)
31	229	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		178786430		1.737E-15		65.5 (229) 34.5 (196)
31	230	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		178786792		1.729E-15		100. (230)
31	231	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^3P_1$		178787498		1.711E-15		66.9 (231) 17.9 (216) 15.2 (187)
31	232	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3H_5$		178787690		1.736E-15		66.1 (232) 26.0 (196) 7.91 (229)
31	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		178788041		1.737E-15		42.0 (197) 33.9 (233) 24.1 (226)
31	234	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		178789300		1.736E-15		100. (234)
31	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		178789659		1.736E-15		100. (235)
31	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^3D_2$		178791368		1.728E-15		54.4 (236) 42.9 (223) 2.73 (190)
31	237	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		178791528		1.736E-15		51.5 (228) 48.5 (237)
31	238	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		179604721		4.040E-15		59.0 (238) 14.5 (242) 13.1 (284)
31	239	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		179604773		2.044E-15		83.4 (239)
31	240	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		179604823		1.932E-15		58.3 (240) 29.8 (283) 9.67 (250)
31	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		179608398		3.561E-15		53.4 (241) 29.8 (249) 16.9 (295)
31	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		179610405		2.254E-15		61.2 (242) 23.0 (238) 8.06 (284)
31	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		179617108		1.378E-14		67.1 (243) 24.0 (250) 3.99 (255)
31	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		179621292		8.934E-15		83.5 (244)
31	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		179624711		1.858E-15		45.8 (245) 28.7 (288) 14.6 (285)
31	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		179626153		4.652E-15		65.4 (246) 14.2 (257) 10.8 (289)
31	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		179629310		1.923E-15		69.0 (247) 10.3 (289) 9.21 (294)
31	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		179630124		2.094E-15		39.5 (248) 23.8 (287) 18.6 (238)
31	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		179631053		3.082E-15		46.4 (241) 38.8 (249) 14.8 (295)
31	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^3P_1$		179635443		6.686E-15		46.6 (250) 30.7 (243) 8.65 (240)
31	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		179638654		1.802E-15		43.6 (251) 29.6 (298) 21.0 (291)
31	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		179638945		8.950E-15		69.6 (252) 12.8 (269) 6.60 (258)
31	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		179639749		2.315E-14		94.2 (253)
31	254	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		179640059		5.807E-15		72.0 (254) 15.6 (262) 6.97 (301)
31	255	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		179641367		2.098E-15		41.6 (255) 24.8 (307) 19.9 (250)
31	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		179642096		1.732E-15		73.7 (256)
31	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		179642201		2.287E-15		35.4 (257) 26.6 (246) 25.4 (294)
31	258	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		179644841		1.997E-15		38.8 (258) 27.9 (319) 18.5 (299)
31	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		179644983		1.710E-15		41.8 (259) 32.9 (303) 25.4 (297)
31	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		179645722		1.710E-15		72.8 (260)
31	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		179646143		1.712E-15		42.1 (261) 33.1 (320) 24.8 (304)
31	262	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		179646882		2.332E-15		39.5 (262) 27.2 (254) 20.9 (296)
31	263	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		179646889		1.710E-15		39.9 (263) 33.2 (308) 26.9 (306)
31	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		179647005		1.711E-15		71.9 (264) 17.6 (316) 10.4 (309)
31	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		179647147		1.727E-15		57.8 (265) 26.4 (302) 15.8 (310)
31	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		179647241		1.712E-15		40.3 (266) 33.2 (321) 26.6 (311)
31	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		179647739		1.711E-15		38.8 (267) 33.3 (314) 27.9 (312)
31	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		179647969		1.712E-15		59.7 (268) 24.3 (309) 16.0 (316)
31	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^3D_2$		179648939		1.912E-14		80.7 (269)
31	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		179650391		4.231E-14		97.5 (270)
31	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		179650781		2.736E-14		82.8 (271)
31	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		179651429		1.083E-13		100. (272)
31	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^3F_3$		179653572		1.823E-13		88.5 (273)
31	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		179653786		3.129E-13		100. (274)
31	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		179653798		3.408E-13		63.0 (275) 37.0 (277)
31	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		179654813		4.644E-13		100. (276)
31	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^3G_4$		179654975		4.252E-13		63.0 (277) 37.0 (275)
31	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		179655027		6.631E-13		54.9 (278) 45.1 (281)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
31	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		179655048		6.860E-13		100. (279)
31	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		179655762		6.644E-13		100. (280)
31	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		179655778		6.884E-13		54.9 (281) 45.1 (278)
31	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		179956347		1.746E-15		100. (282)
31	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		179958747		1.748E-15		67.2 (283) 32.8 (240)
31	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		179962510		1.691E-15		48.5 (248) 22.9 (284) 16.2 (287)
31	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^3P_2$		179963635		1.691E-15		47.9 (245) 26.7 (285) 25.4 (288)
31	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		179971471		1.690E-15		100. (286)
31	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		179971930		1.693E-15		50.5 (287) 43.2 (284) 4.22 (242)
31	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^1D_2$		179978842		1.690E-15		57.3 (285) 42.7 (288)
31	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		179980301		1.732E-15		49.5 (289) 28.5 (294) 22.0 (247)
31	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		179982013		1.741E-15		100. (290)
31	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		179982659		1.730E-15		49.8 (251) 39.9 (291) 10.3 (298)
31	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		179984856		1.727E-15		64.7 (292) 33.2 (255) 2.07 (307)
31	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		179985366		1.731E-15		100. (293)
31	294	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^3D_2$		179986456		1.729E-15		50.4 (257) 32.9 (294) 16.7 (289)
31	295	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		179986499		1.698E-15		68.4 (295) 31.6 (249)
31	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^3F_3$		179989956		1.738E-15		37.6 (296) 37.3 (301) 25.2 (256)
31	297	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^3F_4$		179991481		1.738E-15		53.2 (297) 45.4 (259) 1.42 (303)
31	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^1F_3$		179992007		1.718E-15		58.0 (298) 37.9 (291) 4.10 (251)
31	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		179992328		1.738E-15		51.4 (258) 36.3 (299) 12.2 (319)
31	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		179993387		1.738E-15		100. (300)
31	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^1F_3$		179993439		1.738E-15		44.9 (262) 29.1 (301) 26.0 (296)
31	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		179993779		1.742E-15		40.5 (302) 32.9 (310) 26.7 (260)
31	303	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^1G_4$		179994025		1.738E-15		65.7 (303) 21.5 (297) 12.8 (259)
31	304	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		179994715		1.742E-15		57.4 (261) 24.1 (304) 18.5 (320)
31	305	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		179994746		1.737E-15		100. (305)
31	306	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		179994750		1.742E-15		61.5 (306) 38.5 (263)
31	307	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		179994810		1.727E-15		66.0 (307) 18.2 (292) 15.8 (255)
31	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^3H_5$		179995419		1.741E-15		66.7 (308) 21.6 (263) 11.7 (306)
31	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		179995496		1.743E-15		40.3 (309) 32.0 (316) 27.7 (264)
31	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^1G_4$		179995723		1.742E-15		41.7 (265) 33.8 (310) 24.5 (302)
31	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		179995976		1.743E-15		59.5 (266) 22.5 (311) 18.1 (321)
31	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^3H_6$		179996109		1.743E-15		54.7 (267) 40.6 (312) 4.64 (314)
31	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		179996284		1.741E-15		100. (313)
31	314	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^1I_6$		179996330		1.742E-15		62.1 (314) 31.5 (312) 6.42 (267)
31	315	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		179996631		1.741E-15		100. (315)
31	316	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		179996680		1.743E-15		39.9 (268) 34.8 (316) 25.3 (309)
31	317	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^1I_7$		179996956		1.742E-15		100. (317)
31	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		179997094		1.743E-15		100. (318)
31	319	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		179997501		1.737E-15		55.0 (319) 41.9 (299) 3.18 (258)
31	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		179997735		1.741E-15		51.3 (304) 48.7 (320)
31	321	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		179997802		1.743E-15		51.1 (311) 48.9 (321)
32	1	$1s^2_{1/2}(J=0)$	$1s^2^1S_0$	0	0				100. (1)
32	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	82118000	82109244		5.756E-10		100. (2)
32	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	82414220	82413855		1.977E-09		100. (3)
32	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	82444310	82435595		5.213E-15		84.0 (4)
32	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	82437350	82436861		1.711E-03		100. (5)
32	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	82742690	82742924		2.480E-11		100. (6)
32	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	82914880	82914309		1.019E-15		84.0 (7)
32	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	97353380	97352930		1.395E-13		100. (8)
32	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	97437160	97436761		4.674E-14		100. (9)
32	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	97440830	97439335		1.450E-13		100. (10)
32	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	97443200	97442878		1.329E-14		83.0 (11)
32	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	97534920	97534705		4.903E-14		100. (12)
32	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$	97577460	97577112		1.627E-14		62.9 (13) 37.1 (17)
32	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$	97579170	97578810		1.631E-14		100. (14)
32	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	97581770	97581301		3.520E-15		83.0 (15)
32	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	97610380	97610035		1.661E-14		100. (16)
32	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	97613790	97613431		1.661E-14		62.9 (17) 37.1 (13)
32	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$		102635004		2.035E-13		100. (18)
32	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$		102669446		7.998E-14		100. (19)
32	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$		102670014		2.103E-13		100. (20)
32	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$		102671979		2.880E-14		82.7 (21)
32	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$		102710760		8.316E-14		100. (22)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
32	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$		102728314		3.780E-14		63.9 (23) 36.1 (28)
32	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$		102728911		3.789E-14		100. (24)
32	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$		102729835		8.366E-15		82.7 (25)
32	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$		102742097		3.864E-14		100. (26)
32	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		102743232		7.769E-14		56.8 (27) 43.2 (31)
32	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$		102743735		3.863E-14		63.9 (28) 36.1 (23)
32	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		102743751		7.772E-14		100. (29)
32	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		102750343		7.817E-14		100. (30)
32	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		102750742		7.822E-14		56.8 (31) 43.2 (27)
32	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$		105065417		3.231E-13		100. (32)
32	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$		105082818		1.373E-13		100. (33)
32	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$		105082994		3.261E-13		100. (34)
32	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$		105084103		5.391E-14		82.6 (35)
32	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$		105103953		1.421E-13		100. (36)
32	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		105112858		7.271E-14		64.3 (37) 35.7 (42)
32	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		105113138		7.300E-14		100. (38)
32	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$		105113580		1.633E-14		82.6 (39)
32	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		105119889		7.454E-14		100. (40)
32	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		105120522		1.500E-13		56.9 (41) 43.1 (47)
32	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		105120772		7.419E-14		64.3 (42) 35.7 (37)
32	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		105120785		1.500E-13		100. (43)
32	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		105124162		1.509E-13		100. (44)
32	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		105124192		2.531E-13		55.2 (45) 44.8 (49)
32	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		105124347		2.531E-13		100. (46)
32	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		105124371		1.511E-13		56.9 (47) 43.1 (41)
32	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		105126372		2.538E-13		100. (48)
32	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		105126496		2.538E-13		55.2 (49) 44.8 (45)
32	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		106380489		4.952E-13		100. (50)
32	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		106390473		2.201E-13		100. (51)
32	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		106390551		4.970E-13		100. (52)
32	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		106391213		9.062E-14		82.5 (53)
32	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		106402697		2.272E-13		100. (54)
32	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		106407804		1.242E-13		64.5 (55) 35.5 (61)
32	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		106407959		1.246E-13		100. (56)
32	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		106408225		2.812E-14		82.5 (57)
32	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		106411866		1.272E-13		100. (58)
32	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		106412228		2.561E-13		57.0 (59) 43.0 (65)
32	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		106412379		2.561E-13		100. (60)
32	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		106412391		1.268E-13		64.5 (61) 35.5 (55)
32	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		106414334		2.578E-13		100. (62)
32	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		106414341		4.338E-13		55.2 (63) 44.8 (69)
32	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		106414430		4.339E-13		100. (64)
32	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		106414456		2.580E-13		57.0 (65) 43.0 (59)
32	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		106415602		6.559E-13		54.3 (66) 45.7 (71)
32	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		106415603		4.351E-13		100. (67)
32	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		106415661		6.559E-13		100. (68)
32	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		106415674		4.352E-13		55.2 (69) 44.8 (63)
32	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		106416442		6.568E-13		100. (70)
32	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		106416490		6.569E-13		54.3 (71) 45.7 (66)
32	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		166998092		3.753E-15		78.7 (72)
32	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		167020344		1.563E-15		100. (73)
32	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		167089874		1.561E-15		91.2 (74)
32	75	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		167387753		9.098E-16		78.8 (75)
32	76	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		167405430		1.592E-15		100. (76)
32	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		167623495		7.851E-16		100. (77)
32	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^3P_2$		167697538		7.839E-16		51.4 (78) 48.6 (80)
32	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		167738242		1.560E-15		91.1 (79)
32	80	$2p_{3/2}^2(J=2)$	$2p^2^1D_2$		168063861		7.911E-16		51.4 (80) 48.6 (78)
32	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		168368517		8.542E-16		79.3 (81)
32	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		182499344		7.141E-15		85.5 (82)
32	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		182544115		1.902E-15		36.6 (83) 30.5 (104) 28.0 (91)
32	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		182567459		1.837E-15		76.8 (84)
32	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		182571902		4.761E-15		74.1 (85)
32	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		182575314		1.277E-15		72.3 (86)
32	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		182609338		3.649E-15		71.3 (87) 17.6 (83) 7.92 (91)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
32	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		182613677		3.377E-15		75.2 (88)
32	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		182701017		4.368E-15		89.1 (89)
32	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		182720157		1.421E-15		57.4 (90) 20.5 (96) 13.8 (110)
32	91	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		182739776		3.058E-15		51.0 (91) 25.8 (83) 23.2 (87)
32	92	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		182750370		1.488E-15		69.4 (92) 21.2 (85) 9.36 (115)
32	93	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		182754199		1.428E-15		32.4 (93) 22.2 (107) 21.6 (103)
32	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		182765451		1.519E-15		77.0 (94)
32	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		182802013		5.690E-15		83.7 (95)
32	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		182808160		5.380E-15		68.8 (96) 13.2 (101) 8.62 (110)
32	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		182813120		9.895E-15		96.9 (97)
32	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		182857388		1.435E-15		62.6 (98) 19.9 (111) 17.5 (116)
32	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		182866533		1.476E-15		35.4 (99) 29.2 (114) 17.6 (108)
32	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		182876676		1.376E-15		59.9 (100) 21.3 (117) 16.3 (112)
32	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		182900091		7.424E-15		80.1 (101)
32	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		182981002		1.547E-15		92.0 (102)
32	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		183033829		1.214E-15		56.0 (93) 25.1 (103) 12.0 (86)
32	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		183044760		1.661E-15		67.2 (104) 20.5 (83) 12.3 (91)
32	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		183060218		1.258E-15		41.0 (105) 27.5 (90) 26.6 (110)
32	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		183100679		1.254E-15		96.9 (106)
32	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		183111917		1.234E-15		58.6 (107) 32.4 (103) 3.41 (93)
32	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		183185453		1.449E-15		48.4 (108) 30.4 (114) 19.6 (94)
32	109	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		183188599		1.556E-15		100. (109)
32	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		183204700		1.218E-15		50.6 (110) 47.0 (105) 2.38 (101)
32	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		183217840		1.406E-15		55.6 (111) 34.5 (98) 9.89 (116)
32	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		183248871		1.422E-15		68.2 (112) 28.5 (100) 2.12 (117)
32	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		183254841		1.452E-15		98.4 (113)
32	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		183259994		1.428E-15		54.2 (99) 32.7 (114) 10.8 (108)
32	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		183313256		1.252E-15		76.0 (115)
32	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		183328671		1.313E-15		72.5 (116)
32	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^3P_1$		183356177		1.404E-15		74.5 (117)
32	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		187879819		6.873E-15		81.0 (118)
32	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		187894097		1.773E-15		52.4 (119) 30.0 (147) 17.6 (130)
32	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		187894958		1.987E-15		73.3 (120)
32	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		187899896		4.285E-15		68.0 (121) 17.7 (127) 14.2 (159)
32	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		187909415		1.534E-15		71.4 (122) 15.6 (148) 8.24 (118)
32	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		187920550		8.144E-15		73.5 (123)
32	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		187933133		4.252E-15		73.2 (124)
32	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		187960693		6.076E-15		85.3 (125)
32	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		187967716		1.619E-15		46.3 (126) 23.5 (152) 15.2 (131)
32	127	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		187978738		1.924E-15		55.3 (127) 30.5 (121) 14.2 (159)
32	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		187983013		1.621E-15		40.3 (128) 23.4 (151) 15.6 (148)
32	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		187984327		1.573E-15		73.8 (129)
32	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		187988187		5.216E-15		57.2 (130) 25.1 (123) 14.2 (119)
32	131	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		188004430		9.691E-15		73.6 (131)
32	132	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		188004613		9.222E-15		87.9 (132)
32	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		188009609		1.486E-14		94.5 (133)
32	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		188020194		1.646E-15		45.6 (134) 23.9 (163) 19.5 (155)
32	135	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		188027235		1.526E-15		51.7 (135) 26.0 (168) 15.9 (156)
32	136	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		188028438		1.659E-15		39.3 (136) 30.4 (158) 15.9 (153)
32	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		188035899		1.485E-15		73.5 (137)
32	138	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		188040770		3.058E-15		52.5 (138) 19.8 (139) 12.9 (169)
32	139	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		188042700		2.344E-15		28.7 (138) 27.1 (139) 18.0 (169)
32	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		188045783		1.484E-15		41.6 (140) 32.0 (165) 26.4 (161)
32	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		188046646		2.326E-14		96.1 (141)
32	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		188048207		1.562E-15		49.5 (142) 29.2 (160) 15.9 (164)
32	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		188048644		1.155E-14		71.1 (143) 18.2 (145) 4.74 (134)
32	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		188050590		7.106E-14		100. (144)
32	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		188056658		5.465E-14		82.0 (145)
32	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		188302228		1.537E-15		100. (146)
32	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		188316408		1.552E-15		68.0 (147) 30.3 (119) 1.67 (130)
32	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		188324535		1.379E-15		49.4 (128) 25.0 (148) 12.9 (151)
32	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		188329654		1.382E-15		43.8 (126) 29.7 (149) 26.5 (152)
32	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		188357542		1.383E-15		100. (150)
32	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		188361393		1.385E-15		54.3 (151) 39.3 (148) 3.76 (122)
32	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		188389141		1.378E-15		55.0 (149) 45.0 (152)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
32	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		188390268		1.496E-15		49.4 (153) 28.9 (158) 21.6 (129)
32	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		188395971		1.530E-15		100. (154)
32	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		188400317		1.488E-15		45.9 (134) 43.9 (155) 10.3 (163)
32	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		188410462		1.484E-15		65.4 (156) 32.3 (135) 2.31 (168)
32	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		188412907		1.495E-15		100. (157)
32	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		188416125		1.488E-15		52.0 (136) 32.8 (158) 15.3 (153)
32	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		188425506		1.394E-15		71.5 (159) 27.0 (127) 1.48 (121)
32	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		188427662		1.513E-15		38.3 (160) 35.7 (164) 26.0 (137)
32	161	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^3F_4$		188433686		1.512E-15		56.9 (161) 43.1 (140)
32	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		188436376		1.511E-15		50.6 (139) 33.8 (162) 15.6 (169)
32	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		188438348		1.448E-15		62.4 (163) 33.8 (155) 3.79 (134)
32	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$		188441203		1.512E-15		46.7 (142) 29.4 (164) 23.9 (160)
32	165	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^3G_4$		188442288		1.512E-15		67.6 (165) 17.0 (161) 15.4 (140)
32	166	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		188442494		1.512E-15		100. (166)
32	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		188446682		1.511E-15		100. (167)
32	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		188449784		1.481E-15		68.8 (168) 17.2 (156) 14.1 (135)
32	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		188455734		1.510E-15		53.0 (169) 45.0 (162) 2.00 (139)
32	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		190340964		5.203E-15		73.0 (170)
32	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		190344317		1.899E-15		78.3 (171)
32	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		190344627		1.721E-15		56.8 (172) 29.7 (207) 12.0 (182)
32	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		190348792		3.674E-15		61.1 (173) 23.9 (179) 15.1 (219)
32	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		190353428		1.729E-15		67.7 (174) 13.8 (170) 12.5 (208)
32	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		190361902		1.202E-14		70.2 (175) 22.9 (182) 2.40 (187)
32	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		190369141		5.727E-15		78.3 (176)
32	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		190381602		5.712E-15		78.3 (177)
32	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		190382218		1.644E-15		45.3 (178) 27.0 (212) 13.8 (209)
32	179	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		190389272		2.295E-15		45.9 (179) 38.4 (173) 15.7 (219)
32	180	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		190390471		1.611E-15		72.4 (180)
32	181	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		190390716		1.713E-15		41.2 (181) 24.5 (211) 13.8 (208)
32	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		190396926		6.425E-15		54.7 (182) 27.6 (175) 10.4 (172)
32	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		190403922		1.180E-14		74.2 (183)
32	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		190404553		1.437E-14		92.3 (184)
32	185	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		190406877		1.040E-14		87.6 (185)
32	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		190408308		1.625E-15		43.5 (186) 27.6 (222) 20.3 (215)
32	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		190411785		1.642E-15		47.4 (187) 27.1 (231) 15.2 (216)
32	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		190413337		1.797E-15		38.4 (188) 28.3 (218) 18.1 (177)
32	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		190415148		1.504E-15		74.3 (189)
32	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		190419086		1.608E-15		42.7 (190) 30.0 (236) 20.1 (223)
32	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		190420560		1.500E-15		41.8 (191) 32.6 (227) 25.6 (221)
32	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		190421824		1.502E-15		72.7 (192)
32	193	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		190422368		1.175E-14		77.8 (193)
32	194	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		190422449		1.507E-15		42.4 (194) 32.9 (237) 24.7 (228)
32	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		190422552		1.695E-15		47.3 (195) 26.0 (220) 14.6 (224)
32	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		190424066		1.502E-15		39.8 (196) 33.1 (232) 27.1 (230)
32	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		190424427		1.581E-15		54.6 (197) 25.4 (226) 14.9 (233)
32	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		190424864		2.873E-14		97.1 (198)
32	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		190425758		1.541E-14		77.1 (199)
32	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		190426988		2.467E-14		95.8 (200)
32	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		190430538		9.420E-14		85.6 (201)
32	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		190430909		1.870E-13		59.6 (202) 40.4 (205)
32	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		190430955		1.852E-13		100. (203)
32	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		190432977		2.388E-13		100. (204)
32	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		190433207		2.242E-13		59.7 (205) 40.3 (202)
32	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		190746576		1.537E-15		100. (206)
32	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		190751914		1.540E-15		67.6 (207) 32.4 (172)
32	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		190757819		1.452E-15		48.8 (181) 23.1 (208) 15.7 (211)
32	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^3P_2$		190759886		1.453E-15		47.0 (178) 27.0 (209) 26.0 (212)
32	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		190775495		1.453E-15		100. (210)
32	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		190776835		1.453E-15		51.2 (211) 42.5 (208) 4.18 (174)
32	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^1D_2$		190789625		1.452E-15		57.1 (209) 42.9 (212)
32	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		190791717		1.517E-15		48.6 (213) 29.4 (218) 22.0 (180)
32	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		190795122		1.532E-15		100. (214)
32	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		190796240		1.514E-15		49.1 (186) 40.2 (215) 10.7 (222)
32	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		190800603		1.510E-15		64.5 (216) 33.2 (187) 2.27 (231)
32	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		190801701		1.515E-15		100. (217)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
32	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		190803795		1.512E-15		50.9 (188) 31.9 (218) 17.2 (213)
32	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		190805503		1.458E-15		69.6 (219) 30.4 (179)
32	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		190810015		1.526E-15		38.3 (220) 36.4 (224) 25.3 (189)
32	221	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3F_4$		190812985		1.526E-15		53.1 (221) 45.5 (191) 1.39 (227)
32	222	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		190814149		1.494E-15		58.8 (222) 37.5 (215) 3.79 (186)
32	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		190814320		1.525E-15		51.3 (190) 35.5 (223) 13.2 (236)
32	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^1F_3$		190816667		1.525E-15		45.3 (195) 29.7 (224) 25.0 (220)
32	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		190816883		1.525E-15		100. (225)
32	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		190817172		1.532E-15		41.0 (226) 32.2 (233) 26.8 (192)
32	227	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^1G_4$		190817593		1.525E-15		66.0 (227) 21.3 (221) 12.7 (191)
32	228	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		190818781		1.532E-15		57.1 (194) 24.3 (228) 18.6 (237)
32	229	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		190818968		1.524E-15		100. (229)
32	230	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		190819078		1.532E-15		61.6 (230) 38.4 (196)
32	231	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		190819612		1.509E-15		66.6 (231) 18.3 (216) 15.1 (187)
32	232	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		190820293		1.531E-15		66.8 (232) 21.8 (196) 11.4 (230)
32	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		190820793		1.532E-15		41.9 (197) 34.3 (233) 23.8 (226)
32	234	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		190822104		1.531E-15		100. (234)
32	235	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		190822271		1.531E-15		100. (235)
32	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		190824031		1.524E-15		54.4 (236) 42.8 (223) 2.80 (190)
32	237	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		190824399		1.531E-15		51.2 (228) 48.8 (237)
32	238	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		191667984		1.779E-15		84.4 (238)
32	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		191668141		1.680E-15		59.2 (239) 30.1 (283) 8.76 (250)
32	240	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		191668316		3.221E-15		54.6 (240) 18.6 (242) 14.3 (284)
32	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		191671981		3.042E-15		51.9 (241) 30.9 (249) 17.2 (294)
32	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		191674029		2.119E-15		57.3 (242) 28.2 (240) 7.03 (284)
32	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		191681340		1.250E-14		67.0 (243) 24.5 (250) 3.86 (255)
32	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		191685496		8.300E-15		84.5 (244)
32	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		191689866		1.620E-15		46.1 (245) 29.0 (285) 14.7 (288)
32	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		191691755		3.714E-15		61.5 (246) 14.2 (257) 12.4 (289)
32	247	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		191694634		1.751E-15		66.4 (247) 12.0 (246) 10.1 (295)
32	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		191695253		1.823E-15		40.0 (248) 24.1 (287) 17.9 (240)
32	249	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		191695424		2.790E-15		47.9 (249) 37.5 (249) 14.6 (294)
32	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		191701236		5.697E-15		45.2 (250) 31.3 (243) 7.69 (239)
32	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		191704630		1.577E-15		43.7 (251) 30.0 (298) 21.1 (291)
32	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		191705093		7.596E-15		68.8 (252) 12.8 (269) 7.09 (258)
32	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		191705873		2.207E-14		94.7 (253)
32	254	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		191706540		4.547E-15		67.9 (254) 16.9 (262) 8.50 (301)
32	255	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		191707011		1.884E-15		40.5 (255) 24.4 (305) 21.7 (250)
32	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		191708143		1.540E-15		73.0 (256)
32	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		191708309		2.028E-15		35.2 (257) 27.2 (246) 25.2 (295)
32	258	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		191710994		1.781E-15		38.2 (258) 27.6 (319) 18.3 (299)
32	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		191711317		1.505E-15		41.8 (259) 32.9 (303) 25.3 (297)
32	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		191712069		1.506E-15		72.9 (260)
32	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		191712496		1.508E-15		42.1 (261) 33.1 (320) 24.8 (306)
32	262	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		191713389		2.131E-15		38.1 (262) 29.9 (254) 20.1 (296)
32	263	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		191713394		1.506E-15		39.9 (263) 33.2 (308) 26.9 (307)
32	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		191713510		1.507E-15		71.9 (264) 17.7 (316) 10.4 (309)
32	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		191713655		1.517E-15		57.8 (265) 26.5 (302) 15.7 (310)
32	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		191713746		1.508E-15		40.2 (266) 33.2 (321) 26.6 (311)
32	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		191714347		1.507E-15		38.8 (267) 33.3 (314) 27.9 (312)
32	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		191714577		1.508E-15		59.7 (268) 24.4 (309) 15.9 (316)
32	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		191715762		1.784E-14		80.6 (269)
32	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		191717317		4.030E-14		97.7 (270)
32	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		191717733		2.666E-14		82.2 (271)
32	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		191718612		1.099E-13		100. (272)
32	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		191720807		1.597E-13		87.3 (273)
32	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		191721047		2.881E-13		100. (274)
32	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		191721057		3.100E-13		62.4 (275) 37.6 (277)
32	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		191722224		4.084E-13		100. (276)
32	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		191722393		3.796E-13		62.5 (277) 37.5 (275)
32	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		191722445		5.841E-13		54.9 (278) 45.1 (281)
32	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		191722467		6.054E-13		100. (279)
32	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		191723283		5.852E-13		100. (280)
32	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		191723300		6.072E-13		54.9 (281) 45.1 (278)
32	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		192067637		1.539E-15		100. (282)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
32	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		192070078		1.541E-15		67.1 (283) 32.9 (239)
32	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		192074032		1.491E-15		48.9 (248) 21.3 (284) 17.7 (287)
32	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^1D_2$		192075158		1.490E-15		48.1 (245) 26.1 (285) 25.8 (288)
32	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		192084530		1.490E-15		100. (286)
32	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^3S_1$		192084923		1.493E-15		49.0 (287) 44.9 (284) 4.59 (242)
32	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^3P_2$		192092144		1.490E-15		58.1 (288) 41.9 (285)
32	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		192093756		1.526E-15		48.0 (289) 29.9 (295) 22.1 (247)
32	290	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		192095846		1.535E-15		100. (290)
32	291	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		192096193		1.525E-15		50.4 (251) 38.4 (291) 11.2 (298)
32	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		192098375		1.523E-15		64.3 (292) 33.5 (255) 2.18 (305)
32	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		192098903		1.526E-15		100. (293)
32	294	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		192099998		1.498E-15		68.2 (294) 31.8 (249)
32	295	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d^1D_2$		192100345		1.524E-15		50.5 (257) 31.4 (295) 18.2 (289)
32	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f^3F_3$		192104073		1.532E-15		38.2 (296) 36.7 (301) 25.1 (256)
32	297	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f^3F_4$		192105735		1.532E-15		50.6 (297) 47.2 (259) 2.24 (303)
32	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		192106093		1.514E-15		57.0 (298) 39.3 (291) 3.64 (251)
32	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f^3D_2$		192106514		1.532E-15		51.5 (258) 36.4 (299) 12.1 (319)
32	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f^3G_5$		192107804		1.532E-15		100. (300)
32	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f^3F_3$		192107852		1.532E-15		44.8 (262) 29.8 (301) 25.4 (296)
32	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g^3G_4$		192108215		1.536E-15		40.9 (302) 32.5 (310) 26.6 (260)
32	303	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f^1G_4$		192108386		1.533E-15		64.9 (303) 24.1 (297) 11.0 (259)
32	304	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f^3D_1$		192109021		1.531E-15		100. (304)
32	305	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d^1P_1$		192109043		1.523E-15		65.7 (305) 18.6 (292) 15.7 (255)
32	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g^3F_3$		192109183		1.536E-15		57.4 (261) 24.4 (306) 18.2 (320)
32	307	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g^3G_5$		192109291		1.536E-15		56.6 (307) 43.4 (263)
32	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g^3H_5$		192109947		1.536E-15		66.6 (308) 16.8 (263) 16.6 (307)
32	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h^3H_5$		192110104		1.537E-15		40.6 (309) 31.7 (316) 27.7 (264)
32	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g^1G_4$		192110339		1.536E-15		41.6 (265) 34.2 (310) 24.2 (302)
32	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h^3G_4$		192110603		1.537E-15		59.5 (266) 22.7 (311) 17.8 (321)
32	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h^3H_6$		192110758		1.537E-15		59.7 (267) 28.2 (312) 12.1 (314)
32	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g^3H_6$		192110915		1.535E-15		100. (313)
32	314	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h^1I_6$		192111013		1.537E-15		54.6 (314) 43.9 (312) 1.50 (267)
32	315	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g^3F_2$		192111164		1.535E-15		100. (315)
32	316	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h^1H_5$		192111408		1.537E-15		39.8 (268) 35.1 (316) 25.1 (309)
32	317	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h^3I_7$		192111680		1.536E-15		100. (317)
32	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h^3G_3$		192111759		1.537E-15		100. (318)
32	319	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f^1D_2$		192112062		1.531E-15		55.0 (319) 41.7 (299) 3.24 (258)
32	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g^1F_3$		192112420		1.535E-15		50.9 (306) 49.1 (320)
32	321	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h^1G_4$		192112568		1.537E-15		50.9 (311) 49.1 (321)
33	1	$1s^2_2(J=0)$	$1s^2^1S_0$	0	0				100. (1)
33	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s^3S_1$	87498590	87485900		4.198E-10		100. (2)
33	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p^3P_0$	87818560	87803245		1.867E-09		100. (3)
33	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p^3P_1$	87841400	87825192		4.293E-15		82.9 (4)
33	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s^1S_0$	87837590	87826611		1.340E-03		100. (5)
33	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p^3P_2$	88180530	88178466		1.939E-11		100. (6)
33	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p^1P_1$	88357310	88354234		9.110E-16		82.9 (7)
33	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s^3S_1$	103745200	103739591		1.224E-13		100. (8)
33	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p^3P_0$	103833400	103826894		4.108E-14		100. (9)
33	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s^1S_0$	103834800	103829462		1.272E-13		100. (10)
33	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p^3P_1$	103839000	103833051		1.120E-14		81.9 (11)
33	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p^3P_2$	103942800	103938573		4.323E-14		100. (12)
33	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d^3D_2$		103982296		1.431E-14		62.6 (13) 37.4 (17)
33	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d^3D_1$		103984230		1.435E-14		100. (14)
33	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p^1P_1$	103989900	103986432		3.144E-15		81.9 (15)
33	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d^3D_3$	104033700	104019794		1.463E-14		100. (16)
33	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d^1D_2$	104037400	104023413		1.462E-14		62.6 (17) 37.4 (13)
33	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s^3S_1$	109374900	109371807		1.786E-13		100. (18)
33	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p^3P_0$	109411700	109407665		7.031E-14		100. (19)
33	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s^1S_0$	109411200	109408217		1.845E-13		100. (20)
33	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p^3P_1$	109414000	109410213		2.440E-14		81.6 (21)
33	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p^3P_2$	109457100	109454769		7.330E-14		100. (22)
33	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d^3D_2$		109472872		3.323E-14		63.5 (23) 36.5 (28)
33	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d^3D_1$		109473564		3.334E-14		100. (24)
33	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p^1P_1$	109477100	109474369		7.469E-15		81.6 (25)
33	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d^3D_3$		109488583		3.405E-14		100. (26)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
33	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f^3F_3$		109489757		6.838E-14		56.8 (27) 43.2 (31)
33	28	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d^1D_2$		109490321		3.399E-14		63.5 (28) 36.5 (23)
33	29	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f^3F_2$		109490329		6.840E-14		100. (29)
33	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f^3F_4$		109497833		6.883E-14		100. (30)
33	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		109498271		6.887E-14		56.8 (31) 43.2 (27)
33	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	111965800	111963142		2.837E-13		100. (32)
33	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	111984400	111981256		1.207E-13		100. (33)
33	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	111983800	111981420		2.861E-13		100. (34)
33	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	111985500	111982548		4.579E-14		81.5 (35)
33	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	112007600	112005350		1.253E-13		100. (36)
33	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		112014535		6.392E-14		63.9 (37) 36.1 (42)
33	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		112014862		6.423E-14		100. (38)
33	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	112017700	112015244		1.457E-14		81.5 (39)
33	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		112022552		6.569E-14		100. (40)
33	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		112023206		1.320E-13		56.9 (41) 43.1 (47)
33	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		112023488		6.528E-14		63.9 (42) 36.1 (37)
33	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		112023496		1.320E-13		100. (43)
33	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		112027341		1.329E-13		100. (44)
33	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		112027373		2.228E-13		55.2 (45) 44.8 (49)
33	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		112027543		2.228E-13		100. (46)
33	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		112027569		1.330E-13		56.9 (47) 43.1 (41)
33	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		112029848		2.235E-13		100. (48)
33	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		112029983		2.235E-13		55.2 (49) 44.8 (45)
33	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		113365185		4.340E-13		100. (50)
33	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		113375577		1.933E-13		100. (51)
33	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		113375648		4.373E-13		100. (52)
33	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		113376320		7.706E-14		81.4 (53)
33	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		113389511		2.000E-13		100. (54)
33	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		113394779		1.091E-13		64.1 (55) 35.9 (61)
33	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		113394960		1.095E-13		100. (56)
33	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		113395192		2.510E-14		81.4 (57)
33	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		113399411		1.120E-13		100. (58)
33	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		113399784		2.254E-13		57.0 (59) 43.0 (65)
33	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		113399952		2.254E-13		100. (60)
33	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		113399966		1.116E-13		64.1 (61) 35.9 (55)
33	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		113402177		2.269E-13		100. (62)
33	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		113402184		3.819E-13		55.2 (63) 44.8 (69)
33	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		113402282		3.820E-13		100. (64)
33	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		113402310		2.272E-13		57.0 (65) 43.0 (59)
33	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		113403616		5.775E-13		54.3 (66) 45.7 (71)
33	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		113403617		3.831E-13		100. (67)
33	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		113403681		5.776E-13		100. (68)
33	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		113403695		3.832E-13		55.2 (69) 44.8 (63)
33	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		113404569		5.784E-13		100. (70)
33	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		113404623		5.785E-13		54.3 (71) 45.7 (66)
33	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		177850115		3.268E-15		78.4 (72)
33	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		177871254		1.380E-15		100. (73)
33	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		177946434		1.379E-15		90.2 (74)
33	75	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		178257133		8.130E-16		77.0 (75)
33	76	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		178308150		1.407E-15		100. (76)
33	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		178533049		6.939E-16		100. (77)
33	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$		178610378		6.928E-16		50.3 (78) 49.7 (80)
33	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		178648696		1.381E-15		90.2 (79)
33	80	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$		179025744		6.998E-16		50.3 (80) 49.7 (78)
33	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		179333826		7.496E-16		78.8 (81)
33	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		194369857		6.403E-15		85.7 (82)
33	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		194415889		1.668E-15		38.1 (83) 30.0 (104) 26.6 (91)
33	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		194438383		1.614E-15		77.4 (84)
33	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		194443936		4.133E-15		73.7 (85)
33	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		194446726		1.132E-15		72.1 (86) 18.3 (103) 5.91 (82)
33	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		194483573		3.218E-15		70.6 (87) 17.6 (83) 8.54 (91)
33	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		194487027		3.031E-15		76.1 (88)
33	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		194588698		3.877E-15		89.4 (89)
33	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		194608777		1.248E-15		56.6 (90) 19.9 (96) 14.8 (110)
33	91	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		194629606		2.825E-15		53.3 (91) 23.8 (87) 23.0 (83)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
33	92	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		194629837		1.331E-15		67.7 (92) 22.2 (85) 10.1 (115)
33	93	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		194642283		1.253E-15		33.4 (93) 22.9 (107) 20.3 (103)
33	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		194654166		1.343E-15		76.8 (94)
33	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		194692060		5.167E-15		84.4 (95)
33	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		194699078		4.939E-15		69.5 (96) 13.4 (101) 8.12 (110)
33	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		194708419		9.283E-15		97.5 (97)
33	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		194753843		1.265E-15		61.1 (98) 20.3 (111) 18.6 (116)
33	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		194763438		1.304E-15		36.6 (99) 30.1 (114) 17.5 (108)
33	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		194769265		1.215E-15		59.0 (100) 22.1 (117) 16.4 (112)
33	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		194798410		6.950E-15		81.1 (101)
33	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		194903862		1.367E-15		94.0 (102)
33	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		194959885		1.073E-15		56.2 (93) 23.3 (103) 11.7 (86)
33	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		194967237		1.452E-15		67.6 (104) 21.9 (83) 10.6 (91)
33	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		194985027		1.103E-15		38.4 (105) 29.5 (90) 28.2 (110)
33	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		195038966		1.101E-15		97.5 (106)
33	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		195049380		1.087E-15		56.5 (107) 35.2 (103) 3.58 (86)
33	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		195128169		1.282E-15		48.2 (108) 30.7 (114) 19.9 (94)
33	109	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		195134380		1.377E-15		100. (109)
33	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		195146194		1.074E-15		49.2 (105) 49.0 (110) 1.85 (101)
33	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		195161378		1.246E-15		53.3 (111) 36.1 (98) 10.6 (116)
33	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		195192469		1.256E-15		67.7 (112) 29.1 (100) 2.19 (117)
33	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		195198609		1.282E-15		98.6 (113)
33	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		195206457		1.262E-15		54.5 (99) 32.4 (114) 12.0 (108)
33	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		195256910		1.102E-15		75.5 (115)
33	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		195277390		1.162E-15		70.8 (116) 26.4 (111) 2.82 (98)
33	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^3P_1$		195306404		1.241E-15		74.4 (117)
33	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		200102768		5.994E-15		80.8 (118)
33	119	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		200117159		1.547E-15		53.5 (119) 30.1 (147) 16.4 (130)
33	120	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		200117480		1.740E-15		74.1 (120)
33	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		200123013		3.713E-15		67.4 (121) 18.4 (127) 14.2 (159)
33	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		200132541		1.365E-15		70.9 (122) 15.6 (148) 9.29 (118)
33	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		200144827		7.290E-15		73.2 (123)
33	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		200157333		3.844E-15		74.0 (124)
33	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		200190814		5.373E-15		85.4 (125)
33	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		200197589		1.415E-15		46.3 (126) 24.1 (152) 14.4 (132)
33	127	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		200204621		1.721E-15		54.0 (127) 31.3 (121) 14.7 (159)
33	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		200212674		1.419E-15		40.8 (128) 24.0 (151) 15.1 (148)
33	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		200214453		1.390E-15		73.8 (129)
33	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		200218661		4.826E-15		58.1 (130) 25.7 (123) 12.7 (119)
33	131	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		200235763		8.545E-15		88.6 (131)
33	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		200235898		8.997E-15		74.1 (132)
33	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		200242769		1.321E-14		94.5 (133)
33	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		200253144		1.446E-15		45.3 (134) 24.6 (163) 19.7 (155)
33	135	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		200258585		1.348E-15		51.7 (135) 26.7 (168) 16.1 (156)
33	136	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		200261384		1.464E-15		39.7 (136) 30.5 (158) 15.6 (153)
33	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		200269057		1.313E-15		73.6 (137)
33	138	$2p_{1/2}4f_{5/2}(J=2)$	$2s4d^1D_2$		200274303		2.159E-15		40.4 (138) 26.5 (139) 17.5 (169)
33	139	$2s_{1/2}4d_{5/2}(J=2)$	$2p4f^3F_2$		200276419		2.586E-15		40.6 (138) 20.1 (139) 13.6 (169)
33	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		200280009		1.312E-15		41.6 (140) 32.1 (165) 26.2 (161)
33	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		200280787		2.150E-14		96.3 (141)
33	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		200282484		1.381E-15		49.8 (142) 29.1 (160) 15.7 (164)
33	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		200282859		1.069E-14		70.3 (143) 19.5 (145) 4.48 (134)
33	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		200285689		6.337E-14		100. (144)
33	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		200291863		4.812E-14		80.6 (145)
33	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		200577755		1.360E-15		100. (146)
33	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		200591960		1.370E-15		67.9 (147) 30.7 (119) 1.38 (130)
33	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		200600966		1.220E-15		49.8 (128) 23.1 (148) 14.6 (151)
33	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^3P_2$		200605944		1.222E-15		44.4 (126) 28.5 (149) 27.1 (152)
33	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		200639550		1.222E-15		100. (150)
33	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		200643106		1.224E-15		52.4 (151) 41.4 (148) 4.17 (122)
33	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^1D_2$		200672150		1.219E-15		56.0 (149) 44.0 (152)
33	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		200673795		1.323E-15		48.3 (153) 30.1 (158) 21.7 (129)
33	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		200680854		1.354E-15		100. (154)
33	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		200684145		1.317E-15		46.7 (134) 42.2 (155) 11.1 (163)
33	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		200694239		1.312E-15		65.0 (156) 32.6 (135) 2.40 (168)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
33	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d\ ^3P_0$		200696767		1.322E-15		100. (157)
33	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d\ ^3D_2$		200701240		1.316E-15		51.9 (136) 31.6 (158) 16.6 (153)
33	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p\ ^1S_0$		200709296		1.231E-15		71.2 (159) 27.6 (127) 1.26 (121)
33	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f\ ^3F_3$		200713659		1.339E-15		39.0 (160) 35.2 (164) 25.8 (137)
33	161	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f\ ^3F_4$		200720253		1.338E-15		54.7 (161) 45.3 (140)
33	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f\ ^3D_2$		200722609		1.338E-15		50.8 (139) 33.9 (162) 15.3 (169)
33	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d\ ^1F_3$		200724239		1.281E-15		61.1 (163) 35.5 (155) 3.43 (134)
33	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f\ ^1F_3$		200728290		1.338E-15		46.4 (142) 30.1 (164) 23.5 (160)
33	165	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f\ ^1G_4$		200729114		1.338E-15		66.9 (165) 19.6 (161) 13.4 (140)
33	166	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f\ ^3G_5$		200729687		1.338E-15		100. (166)
33	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f\ ^3D_1$		200733282		1.337E-15		100. (167)
33	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d\ ^1P_1$		200736241		1.310E-15		68.3 (168) 17.6 (156) 14.1 (135)
33	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f\ ^3D_2$		200743343		1.337E-15		53.1 (169) 44.8 (162) 2.08 (139)
33	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s\ ^3S_1$		202725467		4.353E-15		71.4 (170) 8.84 (208) 8.77 (174)
33	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s\ ^3P_0$		202728336		1.659E-15		79.3 (171)
33	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s\ ^3P_1$		202728872		1.502E-15		57.8 (172) 30.0 (207) 11.0 (182)
33	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s\ ^1S_0$		202733262		3.169E-15		60.1 (173) 24.7 (179) 15.2 (219)
33	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p\ ^3D_1$		202737877		1.564E-15		66.2 (174) 16.2 (170) 12.1 (208)
33	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p\ ^3P_1$		202747184		1.092E-14		70.8 (175) 23.6 (182) 2.31 (187)
33	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p\ ^3P_0$		202754369		5.254E-15		79.3 (176)
33	177	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p\ ^3P_2$		202769809		4.930E-15		77.6 (177)
33	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p\ ^3D_2$		202769936		1.438E-15		45.6 (178) 27.4 (209) 14.1 (212)
33	179	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p\ ^3P_0$		202775052		2.063E-15		44.8 (179) 39.4 (173) 15.8 (219)
33	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p\ ^3P_1$		202778327		1.497E-15		41.7 (180) 24.8 (211) 13.5 (208)
33	181	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d\ ^3F_2$		202778362		1.430E-15		72.1 (181) 13.7 (213) 6.59 (218)
33	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p\ ^1P_1$		202785306		5.875E-15		55.0 (182) 28.2 (175) 9.37 (172)
33	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d\ ^3D_2$		202792887		1.087E-14		74.4 (183)
33	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d\ ^3D_1$		202793379		1.358E-14		92.9 (184)
33	185	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d\ ^3D_3$		202796660		8.879E-15		87.1 (185)
33	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d\ ^3F_3$		202797560		1.426E-15		43.5 (186) 28.1 (222) 20.4 (215)
33	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d\ ^3D_1$		202800231		1.454E-15		47.0 (187) 27.2 (230) 15.2 (216)
33	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d\ ^3P_2$		202802649		1.588E-15		38.6 (188) 28.3 (218) 18.1 (177)
33	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f\ ^3G_3$		202804506		1.330E-15		74.4 (189)
33	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f\ ^3F_2$		202808555		1.417E-15		42.7 (190) 30.2 (236) 20.2 (223)
33	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f\ ^3G_4$		202810475		1.326E-15		41.8 (191) 32.6 (227) 25.6 (221)
33	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g\ ^3H_4$		202811760		1.328E-15		72.7 (192)
33	193	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g\ ^3G_3$		202812395		1.332E-15		42.3 (193) 32.9 (237) 24.7 (229)
33	194	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d\ ^1D_2$		202812527		1.105E-14		77.9 (194)
33	195	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f\ ^3D_3$		202812547		1.507E-15		47.1 (195) 25.8 (220) 14.4 (224)
33	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g\ ^3H_5$		202814299		1.328E-15		39.8 (196) 33.1 (232) 27.0 (231)
33	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g\ ^3F_4$		202814682		1.376E-15		55.5 (197) 25.8 (226) 15.1 (233)
33	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f\ ^3F_2$		202815187		2.710E-14		97.3 (198)
33	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f\ ^3F_3$		202816120		1.476E-14		76.5 (199)
33	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f\ ^3F_4$		202817786		2.887E-14		97.9 (200)
33	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f\ ^1F_3$		202821428		8.303E-14		84.3 (201)
33	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g\ ^3G_4$		202821834		1.693E-13		59.3 (202) 40.7 (205)
33	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g\ ^3G_3$		202821887		1.685E-13		100. (203)
33	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g\ ^3G_5$		202824193		2.109E-13		100. (204)
33	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g\ ^1G_4$		202824437		2.002E-13		59.4 (205) 40.6 (202)
33	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s\ ^3P_2$		203183574		1.360E-15		100. (206)
33	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s\ ^1P_1$		203188995		1.362E-15		67.5 (207) 32.5 (172)
33	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p\ ^1P_1$		203195240		1.285E-15		49.2 (180) 21.5 (208) 17.2 (211)
33	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p\ ^1D_2$		203197286		1.286E-15		47.3 (178) 26.6 (209) 26.1 (212)
33	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p\ ^3D_3$		203215841		1.285E-15		100. (210)
33	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p\ ^3S_1$		203217077		1.286E-15		49.7 (211) 44.2 (208) 4.54 (174)
33	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p\ ^3P_2$		203230422		1.285E-15		57.9 (212) 42.1 (209)
33	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d\ ^1D_2$		203232779		1.342E-15		47.3 (213) 30.8 (218) 22.0 (181)
33	214	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d\ ^3F_4$		203236910		1.356E-15		100. (214)
33	215	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d\ ^3D_3$		203237451		1.340E-15		49.7 (186) 38.7 (215) 11.6 (222)
33	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d\ ^3P_1$		203241789		1.336E-15		64.1 (216) 33.5 (187) 2.38 (230)
33	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d\ ^3P_0$		203242933		1.340E-15		100. (217)
33	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d\ ^3D_2$		203245693		1.338E-15		50.9 (188) 30.6 (218) 18.6 (213)
33	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p\ ^1S_0$		203246720		1.289E-15		69.3 (219) 30.7 (179)
33	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f\ ^3F_3$		203252323		1.351E-15		38.9 (220) 35.8 (224) 25.3 (189)
33	221	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f\ ^3F_4$		203255556		1.350E-15		50.5 (221) 47.3 (191) 2.23 (227)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
33	222	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		203256398		1.322E-15		57.7 (222) 39.0 (215) 3.37 (186)
33	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		203256748		1.350E-15		51.4 (190) 35.6 (223) 13.0 (236)
33	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^1F_3$		203259530		1.350E-15		45.2 (195) 30.4 (224) 24.5 (220)
33	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		203259774		1.350E-15		100. (225)
33	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		203260078		1.356E-15		41.4 (226) 31.9 (233) 26.7 (192)
33	227	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^1G_4$		203260354		1.350E-15		65.1 (227) 24.0 (221) 10.9 (191)
33	228	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		203261561		1.349E-15		100. (228)
33	229	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		203261738		1.356E-15		57.2 (193) 24.6 (229) 18.3 (237)
33	230	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		203262144		1.335E-15		66.3 (230) 18.8 (216) 15.0 (187)
33	231	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		203262191		1.356E-15		56.7 (231) 43.3 (196)
33	232	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		203263379		1.355E-15		66.7 (232) 16.9 (196) 16.4 (231)
33	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^3G_4$		203264034		1.356E-15		41.8 (197) 34.7 (233) 23.5 (226)
33	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		203265345		1.355E-15		100. (234)
33	235	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		203265396		1.355E-15		100. (235)
33	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		203267157		1.349E-15		54.5 (236) 42.6 (223) 2.87 (190)
33	237	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^3F_3$		203267759		1.355E-15		50.9 (229) 49.1 (237)
33	238	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		204139200		1.555E-15		85.4 (238)
33	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		204139460		1.469E-15		59.9 (239) 30.4 (283) 7.93 (250)
33	240	$2s_{1/2}6s_{1/2}(J=1)$	$2s6s^3S_1$		204139911		2.561E-15		49.4 (240) 23.4 (242) 15.6 (284)
33	241	$2s_{1/2}6s_{1/2}(J=0)$	$2s6s^1S_0$		204143591		2.606E-15		50.4 (241) 32.0 (247) 17.6 (294)
33	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		204145732		2.034E-15		52.6 (242) 34.3 (240) 5.90 (284)
33	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		204153648		1.140E-14		67.0 (243) 24.9 (250) 3.71 (254)
33	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		204157766		7.749E-15		85.5 (244)
33	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		204163196		1.420E-15		46.5 (245) 29.4 (285) 14.9 (288)
33	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		204165547		2.889E-15		55.7 (246) 14.5 (289) 13.9 (257)
33	247	$2p_{1/2}6p_{1/2}(J=0)$	$2p6p^3P_0$		204167841		2.541E-15		49.4 (241) 36.2 (247) 14.3 (294)
33	248	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		204168181		1.637E-15		61.4 (248) 17.2 (246) 11.2 (295)
33	249	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		204168543		1.593E-15		40.5 (249) 24.4 (287) 17.1 (240)
33	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		204175245		4.762E-15		43.3 (250) 31.6 (243) 7.87 (254)
33	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		204178831		1.386E-15		43.8 (251) 30.3 (298) 21.2 (290)
33	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		204179486		6.431E-15		69.2 (252) 13.1 (269) 7.80 (258)
33	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		204180245		2.114E-14		95.2 (253)
33	254	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		204180848		1.712E-15		39.2 (254) 24.0 (250) 23.7 (304)
33	255	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		204181278		3.432E-15		62.1 (255) 18.3 (263) 11.2 (301)
33	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		204182433		1.399E-15		70.8 (256) 12.9 (296) 11.3 (301)
33	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		204182649		1.807E-15		34.9 (257) 27.8 (246) 25.0 (295)
33	258	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		204185379		1.597E-15		37.6 (258) 27.2 (319) 18.1 (299)
33	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		204185901		1.330E-15		41.8 (259) 32.9 (303) 25.3 (297)
33	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		204186667		1.331E-15		72.9 (260)
33	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		204187100		1.333E-15		42.0 (261) 33.1 (320) 24.8 (306)
33	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		204188164		1.331E-15		39.9 (262) 33.2 (308) 26.9 (307)
33	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		204188175		1.969E-15		36.4 (263) 33.0 (255) 19.2 (296)
33	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		204188281		1.333E-15		71.9 (264) 17.7 (316) 10.3 (309)
33	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		204188429		1.339E-15		57.8 (265) 26.5 (302) 15.6 (310)
33	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		204188518		1.333E-15		40.2 (266) 33.2 (321) 26.6 (311)
33	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		204189231		1.333E-15		38.8 (312) 33.3 (267) 27.9 (315)
33	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		204189462		1.333E-15		59.7 (268) 24.4 (309) 15.9 (316)
33	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		204190878		1.673E-14		80.5 (269)
33	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		204192543		3.851E-14		97.9 (270)
33	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		204192986		2.608E-14		81.4 (271)
33	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		204194123		1.095E-13		100. (272)
33	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		204196368		1.410E-13		86.0 (273)
33	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		204196635		2.649E-13		100. (274)
33	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		204196643		2.819E-13		61.9 (275) 38.1 (277)
33	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		204197977		3.605E-13		100. (276)
33	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		204198155		3.394E-13		61.9 (277) 38.1 (275)
33	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		204198204		5.161E-13		54.9 (278) 45.1 (281)
33	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		204198230		5.358E-13		100. (279)
33	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		204199156		5.170E-13		100. (280)
33	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		204199175		5.373E-13		54.9 (281) 45.1 (278)
33	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		204591832		1.362E-15		100. (282)
33	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		204594311		1.364E-15		67.1 (283) 32.9 (239)
33	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^1P_1$		204598449		1.320E-15		49.3 (249) 19.9 (284) 19.0 (287)
33	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^1D_2$		204599582		1.319E-15		48.3 (245) 26.6 (285) 25.1 (288)
33	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		204610665		1.319E-15		100. (286)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
33	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p\ ^3S_1$		204610995		1.321E-15		47.6 (287) 46.3 (284) 4.92 (242)
33	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p\ ^3P_2$		204618525		1.319E-15		58.8 (288) 41.2 (285)
33	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d\ ^1D_2$		204620290		1.351E-15		46.6 (289) 31.3 (295) 22.1 (248)
33	290	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d\ ^3D_3$		204622810		1.350E-15		51.0 (251) 36.9 (290) 12.1 (298)
33	291	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		204622811		1.358E-15		100. (291)
33	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		204624968		1.348E-15		64.0 (292) 33.7 (254) 2.29 (304)
33	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		204625516		1.351E-15		100. (293)
33	294	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		204626563		1.326E-15		68.1 (294) 31.9 (247)
33	295	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^1D_2$		204627362		1.349E-15		50.5 (257) 29.9 (295) 19.6 (289)
33	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^3F_3$		204631321		1.356E-15		38.9 (296) 36.0 (301) 25.1 (256)
33	297	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^3F_4$		204633123		1.356E-15		48.9 (259) 47.8 (297) 3.30 (303)
33	298	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^3F_3$		204633303		1.340E-15		56.0 (298) 40.8 (290) 3.19 (251)
33	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		204633832		1.356E-15		51.5 (258) 36.5 (299) 12.0 (319)
33	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		204635375		1.356E-15		100. (300)
33	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^1F_3$		204635422		1.356E-15		44.7 (263) 30.5 (301) 24.8 (296)
33	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		204635807		1.360E-15		41.2 (302) 32.2 (310) 26.6 (260)
33	303	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^1G_4$		204635899		1.357E-15		63.8 (303) 26.9 (297) 9.31 (259)
33	304	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		204636405		1.348E-15		65.5 (304) 19.0 (292) 15.5 (254)
33	305	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		204636429		1.356E-15		100. (305)
33	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		204636810		1.359E-15		57.4 (261) 24.8 (306) 17.8 (320)
33	307	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^3G_5$		204636987		1.359E-15		49.9 (307) 48.5 (262) 1.64 (308)
33	308	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^1H_5$		204637646		1.359E-15		65.1 (308) 23.3 (307) 11.6 (262)
33	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$		204637883		1.361E-15		40.9 (309) 31.5 (316) 27.6 (264)
33	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^1G_4$		204638129		1.359E-15		41.5 (265) 34.6 (310) 23.9 (302)
33	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		204638404		1.361E-15		59.4 (266) 23.0 (311) 17.6 (321)
33	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		204638565		1.361E-15		61.1 (312) 20.0 (267) 18.8 (315)
33	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		204638715		1.359E-15		100. (313)
33	314	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		204638856		1.359E-15		100. (314)
33	315	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		204638887		1.361E-15		53.4 (315) 46.6 (267)
33	316	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^1H_5$		204639320		1.361E-15		39.8 (268) 35.3 (316) 24.9 (309)
33	317	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		204639583		1.360E-15		100. (317)
33	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		204639598		1.360E-15		100. (318)
33	319	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		204639782		1.356E-15		55.1 (319) 41.6 (299) 3.29 (258)
33	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^1F_3$		204640279		1.359E-15		50.6 (306) 49.4 (320)
33	321	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^1G_4$		204640518		1.360E-15		50.6 (311) 49.4 (321)
34	1	$1s_{1/2}^2(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
34	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	93052920	93039890		3.090E-10		100. (2)
34	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	93386400	93370266		1.765E-09		100. (3)
34	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	93409410	93392168		3.574E-15		81.8 (4)
34	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	93405000	93393930		1.042E-03		100. (5)
34	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	93796560	93796415		1.526E-11		100. (6)
34	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	93977800	93976615		8.175E-16		81.8 (7)
34	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	110342500	110338082		1.077E-13		100. (8)
34	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	110434400	110428932		3.624E-14		100. (9)
34	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	110435500	110431480		1.119E-13		100. (10)
34	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	110439900	110435061		9.509E-15		80.9 (11)
34	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	110556100	110555770		3.827E-14		100. (12)
34	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$		110600796		1.263E-14		62.4 (13) 37.6 (17)
34	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	110614590	110602984		1.268E-14		100. (14)
34	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	110606500	110604912		2.817E-15		80.9 (15)
34	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	110654500	110643326		1.294E-14		100. (16)
34	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	110658400	110647180		1.292E-14		62.4 (17) 37.6 (13)
34	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	116333800	116332296		1.574E-13		100. (18)
34	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	116372100	116369599		6.205E-14		100. (19)
34	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	116371400	116370132		1.624E-13		100. (20)
34	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	116374300	116372134		2.083E-14		80.6 (21)
34	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	116423400	116423093		6.487E-14		100. (22)
34	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$		116441742		2.933E-14		63.2 (23) 36.8 (29)
34	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$		116442536		2.945E-14		100. (24)
34	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	116444000	116443227		6.690E-15		80.6 (25)
34	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$		116459573		3.012E-14		100. (26)
34	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		116460786		6.042E-14		56.8 (27) 43.2 (31)
34	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		116461413		6.044E-14		100. (28)
34	29	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$		116461417		3.003E-14		63.2 (29) 36.8 (23)
34	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		116469921		6.084E-14		100. (30)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
34	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f^1F_3$		116470400		6.088E-14		56.8 (31) 43.2 (27)
34	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s^3S_1$	119090700	119089952		2.500E-13		100. (32)
34	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p^3P_0$	119110100	119108793		1.066E-13		100. (33)
34	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s^1S_0$	119109500	119108944		2.519E-13		100. (34)
34	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	119111300	119110078		3.918E-14		80.4 (35)
34	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	119136400	119136152		1.108E-13		100. (36)
34	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		119145614		5.640E-14		63.5 (37) 36.5 (42)
34	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d^3D_1$		119145993		5.674E-14		100. (38)
34	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	119146800	119146318		1.305E-14		80.4 (39)
34	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		119154717		5.810E-14		100. (40)
34	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		119155393		1.166E-13		56.9 (41) 43.1 (47)
34	42	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		119155708		5.766E-14		63.5 (42) 36.5 (37)
34	43	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		119155712		1.166E-13		100. (43)
34	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		119160070		1.174E-13		100. (44)
34	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		119160103		1.969E-13		55.2 (45) 44.8 (49)
34	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		119160290		1.970E-13		100. (46)
34	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		119160320		1.175E-13		56.9 (47) 43.1 (41)
34	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		119162904		1.975E-13		100. (48)
34	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		119163051		1.976E-13		55.2 (49) 44.8 (45)
34	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		120581863		3.817E-13		100. (50)
34	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		120592669		1.704E-13		100. (51)
34	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		120592733		3.862E-13		100. (52)
34	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		120593409		6.600E-14		80.4 (53)
34	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		120608491		1.767E-13		100. (54)
34	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		120613917		9.629E-14		63.7 (55) 36.3 (61)
34	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		120614128		9.671E-14		100. (56)
34	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		120614329		2.248E-14		80.4 (57)
34	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		120619177		9.900E-14		100. (58)
34	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		120619563		1.991E-13		56.9 (59) 43.1 (65)
34	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		120619747		1.991E-13		100. (60)
34	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		120619765		9.864E-14		63.7 (61) 36.3 (55)
34	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		120622270		2.006E-13		100. (62)
34	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		120622276		3.376E-13		55.3 (63) 44.7 (69)
34	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		120622384		3.376E-13		100. (64)
34	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		120622416		2.008E-13		56.9 (65) 43.1 (59)
34	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		120623897		5.105E-13		54.3 (66) 45.7 (71)
34	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		120623897		3.387E-13		100. (67)
34	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		120623967		5.106E-13		100. (68)
34	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		120623983		3.387E-13		55.3 (69) 44.7 (63)
34	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		120624975		5.114E-13		100. (70)
34	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		120625034		5.114E-13		54.3 (71) 45.7 (66)
34	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		189057725		2.855E-15		78.1 (72)
34	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		189077737		1.223E-15		100. (73)
34	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		189158627		1.222E-15		89.2 (74)
34	75	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		189482112		7.288E-16		75.3 (75)
34	76	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		189571605		1.249E-15		100. (76)
34	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		189803327		6.156E-16		100. (77)
34	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$		189883838		6.146E-16		51.8 (78) 48.2 (80)
34	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		189919860		1.227E-15		89.2 (79)
34	80	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$		190353568		6.213E-16		51.8 (80) 48.2 (78)
34	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		190665067		6.608E-16		78.3 (81)
34	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		206630519		5.737E-15		85.8 (82)
34	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		206677750		1.470E-15		39.5 (83) 29.6 (104) 25.3 (92)
34	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		206699412		1.423E-15		78.0 (84)
34	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		206706099		3.602E-15		73.3 (85)
34	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		206708228		1.008E-15		71.8 (86) 18.3 (103) 6.54 (82)
34	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		206747978		2.847E-15		70.6 (87) 17.7 (83) 9.28 (92)
34	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		206750490		2.730E-15		76.9 (88)
34	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		206868071		3.454E-15		89.6 (89)
34	90	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		206889016		1.100E-15		55.9 (90) 19.2 (96) 15.7 (110)
34	91	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		206899386		1.194E-15		66.0 (91) 23.1 (85) 10.9 (115)
34	92	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		206910967		2.612E-15		55.3 (92) 24.3 (87) 20.4 (83)
34	93	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		206921870		1.103E-15		34.2 (93) 23.6 (107) 19.3 (103)
34	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		206934491		1.192E-15		76.6 (94)
34	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		206973766		4.706E-15		85.1 (95)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
34	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		206981695		4.551E-15		70.2 (96) 13.6 (101) 7.64 (110)
34	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		206995770		8.658E-15		98.0 (97)
34	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		207042312		1.119E-15		59.8 (98) 20.6 (111) 19.6 (116)
34	99	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		207052085		1.157E-15		37.5 (99) 30.8 (114) 17.3 (108)
34	100	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		207053380		1.078E-15		58.1 (100) 22.8 (117) 16.5 (112)
34	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		207088625		6.465E-15		81.8 (101)
34	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		207222277		1.213E-15		96.2 (102)
34	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		207281148		9.518E-16		56.3 (93) 21.7 (103) 11.4 (86)
34	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		207285159		1.277E-15		67.8 (104) 23.1 (83) 9.08 (92)
34	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		207305183		9.725E-16		36.2 (105) 31.2 (90) 29.4 (110)
34	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		207374153		9.723E-16		98.0 (106)
34	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		207383841		9.610E-16		54.6 (107) 37.7 (103) 4.01 (86)
34	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		207467809		1.138E-15		48.2 (108) 31.5 (114) 20.3 (94)
34	109	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		207477455		1.223E-15		100. (109)
34	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		207484646		9.507E-16		51.1 (105) 47.5 (110) 1.45 (101)
34	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		207501818		1.108E-15		51.1 (111) 37.5 (98) 11.4 (116)
34	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		207532930		1.113E-15		67.8 (112) 29.9 (100) 2.28 (117)
34	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		207539251		1.136E-15		98.8 (113)
34	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		207550177		1.120E-15		54.8 (99) 32.0 (114) 13.3 (108)
34	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		207597480		9.736E-16		75.0 (115)
34	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		207623359		1.032E-15		69.0 (116) 28.3 (111) 2.66 (98)
34	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		207653945		1.101E-15		73.5 (117)
34	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		212727723		5.217E-15		80.4 (118)
34	119	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		212741965		1.530E-15		74.8 (119)
34	120	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		212742183		1.356E-15		54.6 (120) 30.2 (147) 15.2 (130)
34	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		212748117		3.231E-15		66.8 (121) 19.1 (127) 14.1 (159)
34	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		212757634		1.221E-15		70.2 (122) 15.6 (148) 10.4 (118)
34	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		212771120		6.545E-15		73.0 (123)
34	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		212783528		3.488E-15		74.7 (124)
34	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		212823594		4.768E-15		85.6 (125)
34	126	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		212830056		1.243E-15		46.4 (126) 24.6 (149) 13.6 (132)
34	127	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		212832464		1.544E-15		52.8 (127) 32.1 (121) 15.1 (159)
34	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		212844888		1.246E-15		41.3 (128) 24.4 (151) 14.7 (148)
34	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		212847169		1.233E-15		73.7 (129)
34	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		212851742		4.471E-15		58.9 (130) 26.3 (123) 11.4 (120)
34	131	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		212869559		7.943E-15		89.3 (131)
34	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		212870029		8.387E-15		74.5 (132)
34	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		212878771		1.179E-15		94.5 (133)
34	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		212888866		1.275E-15		45.1 (134) 25.1 (163) 19.8 (155)
34	135	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		212892495		1.195E-15		51.3 (135) 27.1 (168) 16.1 (156)
34	136	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		212897081		1.295E-15		40.0 (136) 30.5 (158) 15.4 (153)
34	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		212904986		1.165E-15		73.7 (137)
34	138	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		212910537		1.645E-15		31.9 (138) 30.6 (139) 21.4 (169)
34	139	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		212913010		2.883E-15		50.0 (139) 14.4 (138) 12.8 (132)
34	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		212917099		1.164E-15		41.7 (140) 32.2 (165) 26.1 (161)
34	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		212917773		1.995E-14		97.5 (141)
34	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		212919624		1.225E-15		50.0 (142) 29.0 (160) 15.6 (164)
34	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		212919914		9.929E-15		69.5 (143) 20.8 (145) 4.23 (134)
34	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		212923726		5.659E-14		100. (144)
34	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		212930008		4.268E-14		79.3 (145)
34	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		213260477		1.208E-15		100. (146)
34	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		213274737		1.215E-15		67.8 (147) 31.0 (120) 1.15 (130)
34	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		213284552		1.084E-15		50.2 (128) 21.6 (148) 16.2 (151)
34	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^1D_2$		213289421		1.084E-15		44.9 (126) 27.7 (149) 27.4 (152)
34	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		213329386		1.085E-15		100. (150)
34	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		213332690		1.086E-15		50.8 (151) 43.1 (148) 4.52 (122)
34	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		213362998		1.082E-15		57.0 (152) 43.0 (149)
34	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		213365161		1.175E-15		47.1 (153) 31.2 (158) 21.7 (129)
34	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		213373757		1.202E-15		100. (154)
34	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		213375818		1.170E-15		47.5 (134) 40.5 (155) 11.9 (163)
34	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		213385851		1.165E-15		64.6 (156) 32.9 (135) 2.49 (168)
34	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		213388468		1.174E-15		100. (157)
34	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^1D_2$		213394371		1.169E-15		51.8 (136) 30.3 (158) 17.9 (153)
34	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		213400946		1.091E-15		70.8 (159) 28.1 (127) 1.07 (121)
34	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		213407677		1.189E-15		39.6 (160) 34.7 (164) 25.7 (137)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
34	161	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^3F_4$		213414854		1.189E-15		51.3 (161) 46.9 (140) 1.79 (165)
34	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		213416864		1.188E-15		50.9 (138) 34.0 (162) 15.0 (169)
34	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		213418131		1.138E-15		59.8 (163) 37.1 (155) 3.07 (134)
34	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$		213423493		1.189E-15		46.1 (142) 30.8 (164) 23.1 (160)
34	165	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^1G_4$		213424035		1.189E-15		66.0 (165) 22.6 (161) 11.4 (140)
34	166	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		213424991		1.189E-15		100. (166)
34	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		213427907		1.188E-15		100. (167)
34	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		213430726		1.163E-15		67.9 (168) 18.1 (156) 14.0 (135)
34	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		213439069		1.187E-15		53.2 (169) 44.6 (162) 2.16 (138)
34	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		215517356		3.620E-15		69.4 (170) 10.7 (174) 9.47 (208)
34	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		215519707		1.456E-15		80.2 (171)
34	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		215520473		1.317E-15		58.6 (172) 30.3 (207) 10.1 (182)
34	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		215525118		2.744E-15		59.2 (173) 25.5 (179) 15.3 (219)
34	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		215529716		1.429E-15		64.3 (174) 19.0 (170) 11.6 (208)
34	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		215539890		9.958E-15		70.6 (175) 24.1 (182) 2.20 (187)
34	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		215547011		4.839E-15		80.2 (176)
34	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		215565329		1.263E-15		45.9 (177) 27.8 (209) 14.3 (212)
34	178	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		215565752		4.244E-15		76.7 (178)
34	179	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		215568212		1.862E-15		43.8 (179) 40.4 (173) 15.8 (219)
34	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		215573593		1.314E-15		42.2 (180) 25.2 (211) 13.2 (208)
34	181	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		215573939		1.277E-15		71.6 (181) 13.4 (213) 6.80 (218)
34	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		215581410		5.361E-15		55.2 (182) 28.7 (175) 8.41 (172)
34	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		215589602		1.005E-14		74.5 (183)
34	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		215589946		1.288E-14		93.5 (184)
34	185	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		215594281		7.591E-15		86.6 (185)
34	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		215594582		1.256E-15		43.6 (186) 28.5 (222) 20.6 (214)
34	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		215596343		1.292E-15		46.6 (187) 27.3 (229) 15.2 (216)
34	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		215599725		1.407E-15		38.7 (188) 28.3 (218) 18.0 (178)
34	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		215601635		1.181E-15		74.4 (189)
34	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		215605790		1.255E-15		42.7 (190) 30.3 (236) 20.3 (223)
34	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		215608206		1.176E-15		41.8 (191) 32.7 (227) 25.5 (221)
34	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		215609514		1.178E-15		72.7 (192)
34	193	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		215610158		1.181E-15		42.3 (193) 33.0 (237) 24.7 (230)
34	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		215610364		1.344E-15		47.0 (194) 25.7 (220) 14.3 (224)
34	195	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		215610516		1.039E-14		78.0 (195)
34	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		215612379		1.178E-15		39.8 (196) 33.2 (232) 27.0 (231)
34	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		215612780		1.209E-15		56.1 (197) 26.1 (226) 15.2 (233)
34	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		215613353		2.564E-14		97.5 (198)
34	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		215614326		1.418E-14		75.8 (199)
34	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		215616480		3.233E-14		98.5 (200)
34	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		215620210		7.375E-14		83.0 (201)
34	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		215620650		1.535E-13		59.0 (202) 41.0 (205)
34	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		215620713		1.534E-13		100. (203)
34	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		215623330		1.869E-13		100. (204)
34	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		215623587		1.791E-13		59.1 (205) 40.9 (202)
34	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		216033169		1.209E-15		100. (206)
34	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		216038678		1.210E-15		67.4 (207) 32.6 (172)
34	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^1P_1$		216045242		1.142E-15		49.5 (180) 20.2 (208) 18.5 (211)
34	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^1D_2$		216047276		1.142E-15		47.5 (177) 27.1 (209) 25.3 (212)
34	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		216069103		1.142E-15		100. (210)
34	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^3S_1$		216070249		1.142E-15		48.4 (211) 45.5 (208) 4.85 (174)
34	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		216084140		1.141E-15		58.6 (212) 41.4 (209)
34	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		216086761		1.192E-15		45.9 (213) 32.1 (218) 22.0 (181)
34	214	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		216091586		1.190E-15		50.3 (186) 37.2 (214) 12.5 (222)
34	215	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		216091715		1.204E-15		100. (215)
34	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		216095895		1.186E-15		63.7 (216) 33.8 (187) 2.49 (229)
34	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		216097087		1.190E-15		100. (217)
34	218	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		216100605		1.189E-15		50.8 (188) 29.2 (218) 20.0 (213)
34	219	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		216100864		1.145E-15		69.1 (219) 30.9 (179)
34	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		216107647		1.200E-15		39.6 (220) 35.2 (224) 25.2 (189)
34	221	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3F_4$		216111151		1.200E-15		49.1 (191) 47.6 (221) 3.32 (227)
34	222	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		216111655		1.175E-15		56.6 (222) 40.5 (214) 2.96 (186)
34	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		216112194		1.199E-15		51.4 (190) 35.7 (223) 12.9 (236)
34	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^1F_3$		216115460		1.200E-15		45.0 (194) 31.1 (224) 24.0 (220)
34	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		216115729		1.199E-15		100. (225)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
34	226	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		216116048		1.205E-15		41.8 (226) 31.6 (233) 26.7 (192)
34	227	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^1G_4$		216116172		1.199E-15		64.0 (227) 26.9 (221) 9.15 (191)
34	228	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		216117174		1.199E-15		100. (228)
34	229	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		216117696		1.186E-15		66.0 (229) 19.2 (216) 14.8 (187)
34	230	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		216117762		1.204E-15		57.2 (193) 24.9 (230) 17.9 (237)
34	231	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^3G_5$		216118365		1.204E-15		50.1 (231) 48.4 (196) 1.53 (232)
34	232	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^1H_5$		216119561		1.204E-15		65.3 (232) 22.9 (231) 11.8 (196)
34	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		216120368		1.204E-15		41.7 (197) 35.1 (233) 23.2 (226)
34	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		216121484		1.204E-15		100. (234)
34	235	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		216121780		1.204E-15		100. (235)
34	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		216123349		1.199E-15		54.6 (236) 42.5 (223) 2.93 (190)
34	237	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		216124212		1.204E-15		50.6 (230) 49.4 (237)
34	238	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		217020665		1.365E-15		86.4 (238)
34	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		217021027		1.290E-15		60.7 (239) 30.7 (283) 7.16 (250)
34	240	$2p_{1/2}6p_{1/2}(J=1)$	$2s6s^3S_1$		217021739		2.045E-15		43.7 (240) 28.9 (242) 16.9 (287)
34	241	$2p_{1/2}6p_{1/2}(J=0)$	$2s6s^1S_0$		217025472		2.242E-15		48.8 (241) 33.2 (247) 18.0 (294)
34	242	$2p_{1/2}6p_{1/2}(J=1)$	$2p6p^3D_1$		217027774		1.996E-15		47.3 (242) 40.9 (240) 4.88 (249)
34	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		217036277		1.046E-14		67.0 (243) 25.3 (250) 3.55 (254)
34	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		217040348		7.265E-15		86.5 (244)
34	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		217046959		1.249E-15		46.8 (245) 29.7 (285) 15.1 (288)
34	246	$2s_{1/2}6p_{3/2}(J=2)$	$2s6p^3P_2$		217049761		2.191E-15		47.5 (246) 21.1 (248) 17.0 (289)
34	247	$2s_{1/2}6s_{1/2}(J=0)$	$2p6p^3P_0$		217050550		2.326E-15		51.0 (241) 34.9 (247) 14.0 (294)
34	248	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		217052237		1.589E-15		54.0 (248) 24.8 (246) 12.4 (295)
34	249	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		217052251		1.396E-15		41.0 (249) 24.7 (284) 16.2 (240)
34	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		217059720		3.895E-15		40.8 (250) 31.7 (243) 9.68 (254)
34	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		217063520		1.223E-15		43.9 (251) 30.6 (297) 21.3 (290)
34	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		217064379		5.433E-15		67.9 (252) 13.1 (269) 8.40 (258)
34	253	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		217065119		2.030E-14		95.7 (253)
34	254	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		217065142		1.577E-15		37.6 (254) 27.0 (250) 22.9 (304)
34	255	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		217066493		2.304E-15		49.5 (255) 18.0 (263) 16.8 (301)
34	256	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		217067264		1.372E-15		60.8 (256) 16.2 (296) 14.2 (255)
34	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		217067483		1.616E-15		34.7 (257) 28.5 (246) 24.9 (295)
34	258	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		217070258		1.441E-15		36.9 (258) 26.8 (318) 17.8 (299)
34	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		217071001		1.180E-15		41.8 (259) 33.0 (303) 25.3 (298)
34	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		217071780		1.181E-15		72.9 (260)
34	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		217072218		1.182E-15		42.0 (261) 33.1 (320) 24.9 (306)
34	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		217073468		1.181E-15		39.9 (262) 33.2 (308) 26.9 (307)
34	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		217073509		1.839E-15		36.5 (255) 34.6 (263) 18.2 (296)
34	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		217073585		1.183E-15		71.9 (264) 17.8 (316) 10.3 (309)
34	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		217073735		1.187E-15		57.9 (265) 26.6 (302) 15.6 (310)
34	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		217073823		1.183E-15		40.2 (266) 33.2 (321) 26.6 (311)
34	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		217074660		1.183E-15		38.8 (267) 33.3 (312) 27.9 (315)
34	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		217074890		1.183E-15		59.7 (268) 24.5 (309) 15.8 (316)
34	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		217076551		1.575E-14		80.4 (269)
34	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		217078332		3.690E-14		98.1 (270)
34	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		217078801		2.556E-14		81.4 (271)
34	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		217080225		1.073E-13		100. (272)
34	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		217082519		1.255E-13		84.8 (273)
34	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		217082813		2.434E-13		100. (274)
34	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		217082820		2.564E-13		61.4 (275) 38.6 (277)
34	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		217084338		3.192E-13		100. (276)
34	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		217084524		3.039E-13		61.5 (277) 38.5 (275)
34	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		217084571		4.573E-13		54.8 (278) 45.2 (281)
34	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		217084599		4.757E-13		100. (279)
34	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		217085648		4.582E-13		100. (280)
34	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		217085668		4.768E-13		54.8 (281) 45.2 (278)
34	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		217531517		1.210E-15		100. (282)
34	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		217534031		1.212E-15		67.0 (283) 33.0 (239)
34	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		217538347		1.172E-15		49.5 (249) 20.2 (284) 18.8 (287)
34	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^1D_2$		217539494		1.172E-15		48.5 (245) 27.1 (285) 24.4 (288)
34	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		217552477		1.171E-15		100. (286)
34	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		217552742		1.174E-15		47.9 (287) 46.8 (284) 5.26 (242)
34	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^3P_2$		217560583		1.171E-15		59.4 (288) 40.6 (285)
34	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^1D_2$		217562503		1.200E-15		45.2 (289) 32.8 (295) 22.1 (248)
34	290	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		217565107		1.199E-15		51.5 (251) 35.5 (290) 13.0 (297)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
34	291	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d\ ^3F_4$		217565510		1.207E-15		100. (291)
34	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d\ ^3P_1$		217567236		1.198E-15		63.6 (292) 34.0 (254) 2.41 (304)
34	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d\ ^3P_0$		217567802		1.201E-15		100. (293)
34	294	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p\ ^1S_0$		217568787		1.179E-15		67.9 (294) 32.1 (247)
34	295	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		217570111		1.199E-15		50.4 (257) 28.5 (295) 21.1 (289)
34	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^3F_3$		217574304		1.205E-15		39.5 (296) 35.4 (301) 25.0 (256)
34	297	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		217576242		1.191E-15		55.0 (297) 42.3 (290) 2.77 (251)
34	298	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^3F_4$		217576248		1.205E-15		50.6 (259) 44.8 (298) 4.61 (303)
34	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		217576886		1.205E-15		51.5 (258) 36.6 (299) 11.9 (318)
34	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		217578706		1.205E-15		100. (300)
34	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^1F_3$		217578756		1.205E-15		44.6 (263) 31.2 (301) 24.3 (296)
34	302	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		217579160		1.208E-15		41.6 (302) 31.9 (310) 26.5 (260)
34	303	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^1G_4$		217579168		1.205E-15		62.4 (303) 30.0 (298) 7.62 (259)
34	304	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		217579499		1.198E-15		65.3 (304) 19.4 (292) 15.3 (254)
34	305	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		217579573		1.205E-15		100. (305)
34	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		217580201		1.208E-15		57.4 (261) 25.1 (306) 17.5 (320)
34	307	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^3G_5$		217580436		1.208E-15		53.3 (262) 41.9 (307) 4.77 (308)
34	308	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^1H_5$		217581127		1.208E-15		62.0 (308) 31.3 (307) 6.75 (262)
34	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^1H_5$		217581440		1.209E-15		41.1 (309) 31.3 (316) 27.6 (264)
34	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^1G_4$		217581700		1.208E-15		41.4 (265) 35.0 (310) 23.6 (302)
34	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		217581986		1.209E-15		59.4 (266) 23.3 (311) 17.3 (321)
34	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		217582136		1.209E-15		60.7 (267) 26.5 (312) 12.7 (315)
34	313	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		217582288		1.208E-15		100. (313)
34	314	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		217582313		1.207E-15		100. (314)
34	315	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		217582555		1.209E-15		59.7 (315) 40.3 (312)
34	316	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^1H_5$		217583024		1.209E-15		39.7 (268) 35.6 (316) 24.7 (309)
34	317	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		217583218		1.209E-15		100. (317)
34	318	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		217583266		1.204E-15		55.2 (318) 41.5 (299) 3.34 (258)
34	319	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		217583267		1.209E-15		100. (319)
34	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		217583918		1.207E-15		50.3 (306) 49.7 (320)
34	321	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^1G_4$		217584258		1.209E-15		50.3 (311) 49.7 (321)
35	1	$1s^2_1(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
35	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	98785120	98772008		2.297E-10		100. (2)
35	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	99132150	99115713		1.668E-09		100. (3)
35	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	99155410	99137309		3.006E-15		80.8 (4)
35	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	99150500	99139625		7.978E-04		100. (5)
35	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	99595470	99597906		1.208E-11		100. (6)
35	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	99781210	99782597		7.358E-16		80.8 (7)
35	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	117152100	117149459		9.514E-14		100. (8)
35	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	117247800	117243932		3.208E-14		100. (9)
35	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	117248600	117246450		9.881E-14		100. (10)
35	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	117253200	117249961		8.135E-15		79.9 (11)
35	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	117385200	117387454		3.400E-14		100. (12)
35	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$		117433770		1.119E-14		62.1 (13) 37.9 (17)
35	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$		117436233		1.124E-14		100. (14)
35	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	117437000	117437901		2.532E-15		79.9 (15)
35	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$		117481820		1.149E-14		100. (16)
35	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$		117485918		1.145E-14		62.1 (17) 37.9 (13)
35	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	123516800	123517606		1.390E-13		100. (18)
35	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	123556700	123556384		5.495E-14		100. (19)
35	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	123555800	123556893		1.434E-13		100. (20)
35	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	123558800	123558877		1.790E-14		79.6 (21)
35	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	123614600	123616907		5.761E-14		100. (22)
35	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$		123636097		2.598E-14		62.9 (23) 37.1 (29)
35	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$		123637002		2.610E-14		100. (24)
35	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	123635800	123637587		6.010E-15		79.6 (25)
35	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$		123656257		2.674E-14		100. (26)
35	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		123657508		5.357E-14		56.8 (27) 43.2 (31)
35	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		123658193		5.359E-14		100. (28)
35	29	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$		123658209		2.662E-14		62.9 (29) 37.1 (23)
35	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		123667803		5.397E-14		100. (30)
35	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		123668327		5.401E-14		56.8 (31) 43.2 (27)
35	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	126445300	126447011		2.209E-13		100. (32)
35	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$	126465400	126466592		9.438E-14		100. (33)
35	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	126464800	126466728		2.225E-13		100. (34)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
35	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p^3P_1$	126466600	126467855		3.374E-14		79.5 (35)
35	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p^3P_2$	126495200	126497544		9.843E-14		100. (36)
35	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d^3D_2$		126507282		4.995E-14		63.2 (37) 36.8 (43)
35	38	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		126507717		5.029E-14		100. (38)
35	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	126505900	126507986		1.172E-14		79.5 (39)
35	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		126517576		5.158E-14		100. (40)
35	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		126518273		1.034E-13		56.9 (41) 43.1 (47)
35	42	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		126518622		1.034E-13		100. (42)
35	43	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		126518625		5.111E-14		63.2 (43) 36.8 (37)
35	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		126523545		1.042E-13		100. (44)
35	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		126523580		1.747E-13		55.3 (45) 44.7 (49)
35	46	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		126523784		1.747E-13		100. (46)
35	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		126523817		1.043E-13		56.9 (47) 43.1 (41)
35	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		126526734		1.753E-13		100. (48)
35	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		126526897		1.753E-13		55.3 (49) 44.7 (45)
35	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		128031697		3.368E-13		100. (50)
35	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		128042927		1.507E-13		100. (51)
35	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		128042982		3.420E-13		100. (52)
35	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		128043654		5.690E-14		79.4 (53)
35	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		128060825		1.567E-13		100. (54)
35	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		128066409		8.527E-14		63.3 (55) 36.7 (61)
35	56	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		128066652		8.568E-14		100. (56)
35	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		128066823		2.019E-14		79.4 (57)
35	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		128072358		8.783E-14		100. (58)
35	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		128072756		1.765E-13		56.9 (59) 43.1 (65)
35	60	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		128072957		1.765E-13		100. (60)
35	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		128072979		8.747E-14		63.3 (61) 36.7 (55)
35	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		128075807		1.779E-13		100. (62)
35	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		128075814		2.994E-13		55.3 (63) 44.7 (69)
35	64	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		128075932		2.995E-13		100. (64)
35	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		128075966		1.781E-13		56.9 (65) 43.1 (59)
35	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		128077640		4.529E-13		54.3 (66) 45.7 (71)
35	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		128077640		3.005E-13		100. (67)
35	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		128077717		4.530E-13		100. (68)
35	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		128077734		3.005E-13		55.3 (69) 44.7 (63)
35	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		128078855		4.538E-13		100. (70)
35	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		128078919		4.538E-13		54.3 (71) 45.7 (66)
35	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$		200622542		2.503E-15		77.8 (72)
35	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$		200641407		1.088E-15		100. (73)
35	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$		200728046		1.087E-15		88.3 (74)
35	75	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$		201064266		6.552E-16		73.6 (75)
35	76	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$		201197762		1.113E-15		100. (76)
35	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$		201436287		5.479E-16		100. (77)
35	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$		201519886		5.471E-16		53.1 (78) 46.9 (80)
35	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$		201553724		1.093E-15		88.3 (79)
35	80	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$		202049634		5.535E-16		53.1 (80) 46.9 (78)
35	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$		202364591		5.849E-16		77.7 (81)
35	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		219283207		5.133E-15		85.9 (82)
35	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		219331572		1.300E-15		41.2 (83) 29.6 (104) 24.3 (92)
35	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		219352426		1.259E-15		78.6 (84)
35	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		219360275		3.151E-15		72.9 (85)
35	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		219361691		9.012E-16		71.5 (86) 18.3 (103) 7.20 (82)
35	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		219404427		2.526E-15		69.7 (87) 17.6 (83) 9.92 (92)
35	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		219405949		2.465E-15		77.6 (88)
35	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		219541121		3.088E-15		89.8 (89)
35	90	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		219560890		1.074E-15		64.4 (90) 24.0 (85) 11.6 (115)
35	91	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		219562850		9.719E-16		55.3 (91) 18.5 (96) 16.6 (110)
35	92	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		219585847		2.416E-15		57.1 (92) 24.9 (87) 18.0 (83)
35	93	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		219594957		9.746E-16		35.1 (93) 24.2 (107) 18.3 (103)
35	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		219608403		1.062E-15		76.5 (94)
35	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		219649121		4.297E-15		85.7 (95)
35	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		219658000		4.207E-15		70.7 (96) 13.9 (101) 7.19 (110)
35	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		219677203		8.035E-15		98.3 (97)
35	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		219724801		9.937E-16		58.6 (98) 20.9 (111) 20.5 (116)
35	99	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		219731002		9.589E-16		57.9 (99) 23.7 (117) 16.8 (112)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
35	100	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		219734558		1.029E-15		38.3 (100) 31.2 (114) 17.1 (108)
35	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		219772770		5.984E-15		82.4 (101)
35	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		219938409		1.081E-15		97.0 (102)
35	103	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		219999857		8.474E-16		56.2 (93) 20.4 (103) 12.4 (107)
35	104	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		220000765		1.128E-15		68.0 (104) 24.2 (83) 7.80 (92)
35	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		220022921		8.615E-16		34.3 (105) 32.8 (91) 30.4 (110)
35	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		220108557		8.622E-16		98.3 (106)
35	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		220117611		8.535E-16		52.9 (107) 39.8 (103) 4.40 (86)
35	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		220206691		1.013E-15		47.5 (108) 32.1 (114) 20.4 (94)
35	109	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		220220183		1.090E-15		100. (109)
35	110	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		220222368		8.453E-16		52.6 (105) 46.2 (110) 1.15 (101)
35	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		220241485		9.886E-16		48.9 (111) 38.9 (98) 12.2 (116)
35	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		220272585		9.899E-16		67.2 (112) 30.4 (99) 2.36 (117)
35	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		220279101		1.011E-15		99.0 (113)
35	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		220293525		9.978E-16		54.4 (100) 31.1 (114) 14.5 (108)
35	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		220337306		8.639E-16		74.5 (115)
35	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^1F_3$		220368944		9.203E-16		67.3 (116) 30.2 (111) 2.47 (98)
35	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		220401162		9.805E-16		72.8 (117)
35	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		225756638		4.527E-15		79.9 (118)
35	119	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		225770368		1.349E-15		75.6 (119)
35	120	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		225771120		1.194E-15		55.5 (120) 30.3 (147) 14.1 (130)
35	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		225777170		2.822E-15		66.2 (121) 19.7 (126) 14.1 (159)
35	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		225786646		1.098E-15		69.5 (122) 15.5 (148) 11.7 (118)
35	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		225801391		5.894E-15		72.7 (123)
35	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		225813677		3.176E-15		75.5 (124)
35	125	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		225861038		4.242E-15		84.8 (125)
35	126	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		225864226		1.390E-15		51.7 (126) 32.8 (121) 15.4 (159)
35	127	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		225867112		1.095E-15		46.6 (127) 25.2 (149) 13.2 (152)
35	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		225881657		1.098E-15		41.8 (128) 24.9 (151) 14.3 (148)
35	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		225884474		1.098E-15		73.6 (129)
35	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		225889442		4.144E-15		59.7 (130) 26.9 (123) 10.2 (120)
35	131	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		225908009		7.407E-15		90.0 (131)
35	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		225908827		7.849E-15		74.8 (132)
35	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		225919634		1.054E-14		94.4 (133)
35	134	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		225929368		1.127E-15		44.9 (134) 25.7 (163) 20.0 (155)
35	135	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		225930962		1.063E-15		50.9 (135) 27.4 (168) 16.1 (156)
35	136	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3P_2$		225937537		1.150E-15		40.3 (136) 30.6 (158) 15.1 (153)
35	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		225945697		1.037E-15		73.7 (137)
35	138	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		225951501		1.329E-15		35.8 (138) 24.3 (169) 23.3 (139)
35	139	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		225954475		3.157E-15		57.2 (139) 13.6 (132) 10.5 (138)
35	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		225959069		1.036E-15		41.7 (140) 32.3 (165) 26.0 (161)
35	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		225959622		1.858E-14		97.7 (141)
35	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		225961640		1.091E-15		50.2 (142) 29.0 (160) 15.4 (164)
35	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		225961829		9.264E-15		68.9 (143) 22.0 (145) 3.99 (134)
35	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		225966725		5.062E-14		100. (144)
35	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		225973118		3.810E-14		78.1 (145)
35	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		226352702		1.076E-15		100. (146)
35	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		226367042		1.081E-15		68.4 (147) 31.6 (120)
35	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		226377605		9.654E-16		50.4 (128) 20.3 (148) 17.5 (151)
35	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^1D_2$		226382394		9.658E-16		45.4 (127) 28.1 (149) 26.5 (152)
35	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		226429399		9.662E-16		100. (150)
35	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		226432486		9.665E-16		49.4 (151) 44.5 (148) 4.83 (122)
35	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		226464033		9.639E-16		57.8 (152) 42.2 (149)
35	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		226466710		1.047E-15		45.8 (153) 32.4 (158) 21.7 (129)
35	154	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		226477043		1.072E-15		100. (154)
35	155	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		226477683		1.043E-15		48.3 (134) 38.9 (155) 12.8 (163)
35	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		226487647		1.038E-15		64.2 (156) 33.2 (135) 2.59 (168)
35	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		226490361		1.045E-15		100. (157)
35	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		226497882		1.042E-15		51.6 (136) 29.1 (158) 19.3 (153)
35	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		226502808		9.711E-16		71.2 (159) 28.8 (126)
35	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		226512077		1.060E-15		40.2 (160) 34.2 (164) 25.6 (137)
35	161	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^3F_4$		226519849		1.060E-15		48.9 (140) 48.2 (161) 2.93 (165)
35	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		226521505		1.059E-15		51.1 (138) 34.1 (162) 14.8 (169)
35	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^1F_3$		226522392		1.014E-15		58.5 (163) 38.7 (155) 2.72 (134)
35	164	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$		226529182		1.060E-15		45.8 (142) 31.5 (164) 22.7 (160)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
35	165	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^1G_4$		226529425		1.060E-15		64.8 (165) 25.8 (161) 9.43 (140)
35	166	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		226530776		1.060E-15		100. (166)
35	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		226532918		1.059E-15		100. (167)
35	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		226535602		1.036E-15		67.5 (168) 18.5 (156) 14.0 (135)
35	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		226545278		1.058E-15		53.4 (169) 44.4 (162) 2.25 (138)
35	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		228718613		2.991E-15		67.0 (170) 13.0 (174) 10.2 (211)
35	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		228720419		1.282E-15		81.2 (171)
35	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		228721409		1.160E-15		59.9 (172) 30.8 (207) 9.27 (182)
35	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		228726345		2.383E-15		58.1 (173) 26.3 (178) 15.5 (218)
35	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		228730935		1.320E-15		62.0 (174) 22.3 (170) 11.1 (211)
35	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		228742009		9.117E-15		70.5 (175) 24.6 (182) 2.08 (187)
35	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		228749053		4.475E-15		81.1 (176)
35	177	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		228770404		1.114E-15		46.2 (177) 28.2 (209) 14.4 (212)
35	178	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		228770742		1.687E-15		42.7 (178) 41.5 (173) 15.8 (218)
35	179	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		228771439		3.634E-15		75.6 (179)
35	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		228778520		1.157E-15		42.7 (180) 25.6 (208) 13.0 (211)
35	181	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		228779211		1.148E-15		70.8 (181) 12.9 (213) 7.05 (219)
35	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		228787253		4.874E-15		55.3 (182) 29.2 (175) 7.54 (172)
35	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		228796081		9.318E-15		74.6 (183)
35	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		228796269		1.225E-14		94.0 (184)
35	185	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		228801385		1.111E-15		43.6 (185) 28.9 (222) 20.7 (214)
35	186	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		228801756		6.487E-15		85.9 (186)
35	187	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		228802127		1.153E-15		46.2 (187) 27.4 (229) 15.1 (216)
35	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		228806574		1.251E-15		38.9 (188) 28.4 (219) 18.0 (179)
35	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		228808544		1.053E-15		74.5 (189)
35	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		228812801		1.114E-15		42.7 (190) 30.5 (236) 20.4 (223)
35	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		228815768		1.047E-15		41.8 (191) 32.8 (226) 25.5 (221)
35	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		228817096		1.049E-15		72.7 (192)
35	193	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		228817750		1.051E-15		42.2 (193) 33.0 (237) 24.8 (230)
35	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		228818016		1.204E-15		46.8 (194) 25.5 (220) 14.1 (224)
35	195	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		228818357		9.788E-15		77.9 (195)
35	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		228820319		1.049E-15		39.8 (196) 33.2 (232) 27.0 (231)
35	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		228820734		1.070E-15		56.5 (197) 26.3 (227) 15.3 (233)
35	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		228821382		2.434E-14		97.7 (198)
35	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		228822394		1.367E-14		75.2 (199)
35	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		228825092		3.503E-14		98.9 (200)
35	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		228828906		6.597E-14		81.8 (201)
35	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		228829381		1.393E-13		58.7 (202) 41.3 (205)
35	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		228829453		1.397E-13		100. (203)
35	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		228832413		1.662E-13		100. (204)
35	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		228832685		1.605E-13		58.8 (205) 41.2 (202)
35	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		229297694		1.077E-15		100. (206)
35	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		229303298		1.078E-15		67.3 (207) 32.7 (172)
35	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		229310162		1.018E-15		49.7 (180) 19.6 (208) 19.2 (211)
35	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^1D_2$		229312193		1.018E-15		47.8 (177) 27.6 (209) 24.6 (212)
35	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		229337639		1.017E-15		100. (210)
35	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		229338708		1.017E-15		47.2 (208) 46.7 (211) 5.12 (174)
35	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		229353135		1.017E-15		59.2 (212) 40.8 (209)
35	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		229356020		1.062E-15		44.6 (213) 33.5 (219) 22.0 (181)
35	214	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		229361004		1.061E-15		50.9 (185) 35.7 (214) 13.4 (222)
35	215	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		229361900		1.073E-15		100. (215)
35	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		229365280		1.057E-15		63.4 (216) 34.0 (187) 2.60 (229)
35	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		229366524		1.061E-15		100. (217)
35	218	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		229370296		1.020E-15		68.9 (218) 31.1 (178)
35	219	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		229370900		1.060E-15		50.7 (188) 27.8 (219) 21.4 (213)
35	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		229378354		1.069E-15		40.2 (220) 34.7 (224) 25.1 (189)
35	221	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3F_4$		229382130		1.069E-15		50.8 (191) 44.6 (221) 4.66 (226)
35	222	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		229382287		1.047E-15		55.5 (222) 42.0 (214) 2.57 (185)
35	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		229383021		1.069E-15		51.4 (190) 35.8 (223) 12.7 (236)
35	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		229386823		1.069E-15		44.8 (194) 31.7 (224) 23.5 (220)
35	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		229387116		1.069E-15		100. (225)
35	226	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^1G_4$		229387417		1.069E-15		62.6 (226) 30.0 (221) 7.46 (191)
35	227	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		229387452		1.074E-15		42.1 (227) 31.3 (233) 26.6 (192)
35	228	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		229388170		1.069E-15		100. (228)
35	229	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		229388633		1.057E-15		65.7 (229) 19.6 (216) 14.7 (187)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
35	230	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		229389220		1.074E-15		57.2 (193) 25.2 (230) 17.6 (237)
35	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3G_5$		229389960		1.074E-15		53.1 (196) 42.5 (231) 4.42 (232)
35	232	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^1H_5$		229391217		1.074E-15		62.4 (232) 30.5 (231) 7.09 (196)
35	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		229392168		1.074E-15		41.6 (197) 35.5 (233) 23.0 (227)
35	234	$2p_{3/2}5g_{7/2}(J=2)$	$2p5g^3F_2$		229393057		1.073E-15		100. (234)
35	235	$2p_{3/2}5g_{9/2}(J=6)$	$2p5g^3H_6$		229393625		1.073E-15		100. (235)
35	236	$2p_{3/2}5f_{7/2}(J=2)$	$2p5f^1D_2$		229394974		1.068E-15		54.7 (236) 42.3 (223) 3.00 (190)
35	237	$2p_{3/2}5g_{9/2}(J=3)$	$2p5g^1F_3$		229396129		1.073E-15		50.3 (230) 49.7 (237)
35	238	$2p_{1/2}6s_{1/2}(J=0)$	$2p6s^3P_0$		230314377		1.202E-15		87.3 (238)
35	239	$2p_{1/2}6s_{1/2}(J=1)$	$2p6s^3P_1$		230314836		1.138E-15		61.3 (239) 30.9 (283) 6.46 (250)
35	240	$2p_{1/2}6p_{1/2}(J=1)$	$2s6s^3S_1$		230315787		1.648E-15		37.3 (240) 34.3 (242) 18.0 (287)
35	241	$2p_{1/2}6p_{1/2}(J=0)$	$2s6s^1S_0$		230319623		1.935E-15		47.2 (241) 34.3 (246) 18.5 (294)
35	242	$2s_{1/2}6s_{1/2}(J=1)$	$2p6p^3D_1$		230322167		1.999E-15		47.9 (240) 41.7 (242) 5.08 (248)
35	243	$2s_{1/2}6p_{1/2}(J=1)$	$2s6p^3P_1$		230331235		9.646E-15		66.9 (243) 25.7 (250) 3.39 (253)
35	244	$2s_{1/2}6p_{1/2}(J=0)$	$2s6p^3P_0$		230335250		6.841E-15		87.4 (244)
35	245	$2p_{1/2}6p_{3/2}(J=2)$	$2p6p^3D_2$		230343164		1.104E-15		47.0 (245) 30.0 (285) 15.2 (288)
35	246	$2s_{1/2}6s_{1/2}(J=0)$	$2p6p^3P_0$		230345557		2.141E-15		52.7 (241) 33.6 (246) 13.7 (294)
35	247	$2p_{1/2}6d_{3/2}(J=2)$	$2s6p^3P_2$		230346376		1.647E-15		37.2 (247) 31.5 (249) 19.7 (289)
35	248	$2p_{1/2}6p_{3/2}(J=1)$	$2p6p^3P_1$		230348388		1.228E-15		41.5 (248) 25.0 (284) 15.4 (240)
35	249	$2p_{1/2}6d_{3/2}(J=2)$	$2p6d^3F_2$		230348847		1.611E-15		44.0 (249) 34.7 (247) 13.6 (295)
35	250	$2s_{1/2}6p_{3/2}(J=1)$	$2s6p^1P_1$		230356668		3.112E-15		37.5 (250) 31.5 (243) 12.0 (253)
35	251	$2p_{1/2}6d_{5/2}(J=3)$	$2p6d^3F_3$		230360709		1.084E-15		44.0 (251) 30.8 (297) 21.4 (290)
35	252	$2s_{1/2}6d_{3/2}(J=2)$	$2s6d^3D_2$		230361791		4.573E-15		66.3 (252) 13.1 (269) 9.09 (258)
35	253	$2p_{1/2}6d_{3/2}(J=1)$	$2p6d^3D_1$		230361918		1.481E-15		35.6 (253) 30.8 (250) 21.7 (304)
35	254	$2s_{1/2}6d_{3/2}(J=1)$	$2s6d^3D_1$		230362518		1.952E-14		96.1 (254)
35	255	$2p_{1/2}6f_{5/2}(J=3)$	$2p6f^3G_3$		230364073		1.349E-15		42.8 (255) 23.4 (301) 22.5 (256)
35	256	$2s_{1/2}6d_{5/2}(J=3)$	$2s6d^3D_3$		230364775		1.664E-15		37.5 (256) 31.7 (255) 19.4 (296)
35	257	$2p_{1/2}6d_{5/2}(J=2)$	$2p6d^3P_2$		230364824		1.451E-15		34.4 (257) 29.1 (247) 24.7 (295)
35	258	$2p_{1/2}6f_{5/2}(J=2)$	$2p6f^3F_2$		230367644		1.307E-15		36.2 (258) 26.3 (316) 17.5 (299)
35	259	$2p_{1/2}6f_{7/2}(J=4)$	$2p6f^3G_4$		230368630		1.051E-15		41.7 (259) 33.0 (302) 25.3 (298)
35	260	$2p_{1/2}6g_{7/2}(J=4)$	$2p6g^3H_4$		230369422		1.052E-15		72.9 (260)
35	261	$2p_{1/2}6g_{7/2}(J=3)$	$2p6g^3G_3$		230369865		1.052E-15		42.0 (261) 33.1 (320) 24.9 (306)
35	262	$2p_{1/2}6g_{9/2}(J=5)$	$2p6g^3H_5$		230371317		1.052E-15		39.9 (262) 33.2 (308) 26.8 (307)
35	263	$2p_{1/2}6f_{7/2}(J=3)$	$2p6f^3D_3$		230371410		1.740E-15		40.3 (256) 32.5 (263) 17.1 (296)
35	264	$2p_{1/2}6h_{9/2}(J=5)$	$2p6h^3I_5$		230371435		1.053E-15		71.9 (264) 17.8 (317) 10.2 (309)
35	265	$2p_{1/2}6g_{9/2}(J=4)$	$2p6g^3F_4$		230371588		1.056E-15		57.9 (265) 26.6 (303) 15.5 (310)
35	266	$2p_{1/2}6h_{9/2}(J=4)$	$2p6h^3H_4$		230371674		1.053E-15		40.2 (266) 33.2 (321) 26.6 (311)
35	267	$2p_{1/2}6h_{11/2}(J=6)$	$2p6h^3I_6$		230372646		1.053E-15		38.8 (267) 33.3 (312) 27.9 (315)
35	268	$2p_{1/2}6h_{11/2}(J=5)$	$2p6h^3G_5$		230372878		1.053E-15		59.7 (268) 24.5 (309) 15.7 (317)
35	269	$2s_{1/2}6d_{5/2}(J=2)$	$2s6d^1D_2$		230374804		1.488E-14		80.1 (269)
35	270	$2s_{1/2}6f_{5/2}(J=2)$	$2s6f^3F_2$		230376706		3.545E-14		98.3 (270)
35	271	$2s_{1/2}6f_{5/2}(J=3)$	$2s6f^3F_3$		230377203		2.511E-14		80.5 (271)
35	272	$2s_{1/2}6f_{7/2}(J=4)$	$2s6f^3F_4$		230378941		1.040E-13		100. (272)
35	273	$2s_{1/2}6f_{7/2}(J=3)$	$2s6f^1F_3$		230381284		1.124E-13		83.6 (273)
35	274	$2s_{1/2}6g_{7/2}(J=3)$	$2s6g^3G_3$		230381607		2.234E-13		100. (274)
35	275	$2s_{1/2}6g_{7/2}(J=4)$	$2s6g^3G_4$		230381610		2.332E-13		61.0 (275) 39.0 (277)
35	276	$2s_{1/2}6g_{9/2}(J=5)$	$2s6g^3G_5$		230383330		2.835E-13		100. (276)
35	277	$2s_{1/2}6g_{9/2}(J=4)$	$2s6g^1G_4$		230383526		2.726E-13		61.0 (277) 39.0 (275)
35	278	$2s_{1/2}6h_{9/2}(J=5)$	$2s6h^3H_5$		230383571		4.064E-13		54.8 (278) 45.2 (281)
35	279	$2s_{1/2}6h_{9/2}(J=4)$	$2s6h^3H_4$		230383601		4.234E-13		100. (279)
35	280	$2s_{1/2}6h_{11/2}(J=6)$	$2s6h^3H_6$		230384784		4.071E-13		100. (280)
35	281	$2s_{1/2}6h_{11/2}(J=5)$	$2s6h^1H_5$		230384806		4.244E-13		54.8 (281) 45.2 (278)
35	282	$2p_{3/2}6s_{1/2}(J=2)$	$2p6s^3P_2$		230889043		1.079E-15		100. (282)
35	283	$2p_{3/2}6s_{1/2}(J=1)$	$2p6s^1P_1$		230891585		1.081E-15		67.0 (283) 33.0 (239)
35	284	$2p_{3/2}6p_{1/2}(J=1)$	$2p6p^3S_1$		230896077		1.045E-15		49.7 (248) 21.3 (284) 17.8 (287)
35	285	$2p_{3/2}6p_{1/2}(J=2)$	$2p6p^1D_2$		230897244		1.044E-15		48.6 (245) 27.6 (285) 23.8 (288)
35	286	$2p_{3/2}6p_{3/2}(J=3)$	$2p6p^3D_3$		230912328		1.044E-15		100. (286)
35	287	$2p_{3/2}6p_{3/2}(J=1)$	$2p6p^1P_1$		230912522		1.047E-15		48.8 (287) 45.7 (284) 5.50 (242)
35	288	$2p_{3/2}6p_{3/2}(J=2)$	$2p6p^3P_2$		230920682		1.044E-15		60.0 (288) 40.0 (285)
35	289	$2p_{3/2}6d_{3/2}(J=2)$	$2p6d^3D_2$		230922757		1.069E-15		43.8 (289) 34.2 (295) 22.1 (249)
35	290	$2p_{3/2}6d_{3/2}(J=3)$	$2p6d^3D_3$		230925447		1.069E-15		52.1 (251) 34.0 (290) 13.9 (297)
35	291	$2p_{3/2}6d_{5/2}(J=4)$	$2p6d^3F_4$		230926311		1.076E-15		100. (291)
35	292	$2p_{3/2}6d_{3/2}(J=1)$	$2p6d^3P_1$		230927539		1.068E-15		63.2 (292) 34.2 (253) 2.53 (304)
35	293	$2p_{3/2}6d_{3/2}(J=0)$	$2p6d^3P_0$		230928121		1.071E-15		100. (293)
35	294	$2p_{3/2}6p_{3/2}(J=0)$	$2p6p^1S_0$		230929020		1.053E-15		67.8 (294) 32.2 (246)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
35	295	$2p_{3/2}6d_{5/2}(J=2)$	$2p6d\ ^3D_2$		230930958		1.069E-15		50.3 (257) 27.1 (295) 22.6 (289)
35	296	$2p_{3/2}6f_{5/2}(J=3)$	$2p6f\ ^3F_3$		230935387		1.074E-15		40.1 (296) 34.9 (301) 25.0 (255)
35	297	$2p_{3/2}6d_{5/2}(J=3)$	$2p6d\ ^1F_3$		230937277		1.061E-15		53.9 (297) 43.7 (290) 2.36 (251)
35	298	$2p_{3/2}6f_{5/2}(J=4)$	$2p6f\ ^3F_4$		230937470		1.074E-15		52.2 (259) 41.6 (298) 6.16 (302)
35	299	$2p_{3/2}6f_{5/2}(J=2)$	$2p6f\ ^3D_2$		230938042		1.074E-15		51.5 (258) 36.7 (299) 11.8 (316)
35	300	$2p_{3/2}6f_{7/2}(J=5)$	$2p6f\ ^3G_5$		230940162		1.074E-15		100. (300)
35	301	$2p_{3/2}6f_{7/2}(J=3)$	$2p6f\ ^1F_3$		230940222		1.074E-15		44.4 (263) 31.8 (301) 23.8 (296)
35	302	$2p_{3/2}6f_{7/2}(J=4)$	$2p6f\ ^1G_4$		230940563		1.074E-15		60.8 (302) 33.1 (298) 6.03 (259)
35	303	$2p_{3/2}6g_{7/2}(J=4)$	$2p6g\ ^3G_4$		230940643		1.077E-15		41.9 (303) 31.6 (310) 26.5 (260)
35	304	$2p_{3/2}6d_{5/2}(J=1)$	$2p6d\ ^1P_1$		230940689		1.068E-15		65.1 (304) 19.8 (292) 15.1 (253)
35	305	$2p_{3/2}6f_{5/2}(J=1)$	$2p6f\ ^3D_1$		230940820		1.074E-15		100. (305)
35	306	$2p_{3/2}6g_{7/2}(J=3)$	$2p6g\ ^3F_3$		230941724		1.076E-15		57.3 (261) 25.4 (306) 17.3 (320)
35	307	$2p_{3/2}6g_{7/2}(J=5)$	$2p6g\ ^3G_5$		230941999		1.077E-15		57.0 (262) 33.6 (307) 9.42 (308)
35	308	$2p_{3/2}6g_{9/2}(J=5)$	$2p6g\ ^1H_5$		230942762		1.077E-15		57.3 (308) 39.6 (307) 3.05 (262)
35	309	$2p_{3/2}6h_{9/2}(J=5)$	$2p6h\ ^3H_5$		230943144		1.078E-15		41.3 (309) 31.1 (317) 27.6 (264)
35	310	$2p_{3/2}6g_{9/2}(J=4)$	$2p6g\ ^3G_4$		230943420		1.077E-15		41.4 (265) 35.3 (310) 23.3 (303)
35	311	$2p_{3/2}6h_{9/2}(J=4)$	$2p6h\ ^3G_4$		230943719		1.078E-15		59.4 (266) 23.5 (311) 17.1 (321)
35	312	$2p_{3/2}6h_{9/2}(J=6)$	$2p6h\ ^1I_6$		230943840		1.079E-15		59.6 (267) 31.4 (312) 8.96 (315)
35	313	$2p_{3/2}6g_{7/2}(J=2)$	$2p6g\ ^3F_2$		230943902		1.076E-15		100. (313)
35	314	$2p_{3/2}6g_{9/2}(J=6)$	$2p6g\ ^3H_6$		230944000		1.077E-15		100. (314)
35	315	$2p_{3/2}6h_{11/2}(J=6)$	$2p6h\ ^3H_6$		230944383		1.078E-15		63.2 (315) 35.3 (312) 1.53 (267)
35	316	$2p_{3/2}6f_{7/2}(J=2)$	$2p6f\ ^1D_2$		230944882		1.074E-15		55.2 (316) 41.4 (299) 3.40 (258)
35	317	$2p_{3/2}6h_{11/2}(J=5)$	$2p6h\ ^3H_5$		230944889		1.078E-15		39.7 (268) 35.8 (317) 24.5 (309)
35	318	$2p_{3/2}6h_{9/2}(J=3)$	$2p6h\ ^3G_3$		230944988		1.077E-15		100. (318)
35	319	$2p_{3/2}6h_{11/2}(J=7)$	$2p6h\ ^3I_7$		230945097		1.079E-15		100. (319)
35	320	$2p_{3/2}6g_{9/2}(J=3)$	$2p6g\ ^3F_3$		230945708		1.076E-15		50.0 (306) 50.0 (320)
35	321	$2p_{3/2}6h_{11/2}(J=4)$	$2p6h\ ^1G_4$		230946162		1.077E-15		50.1 (311) 49.9 (321)
36	1	$1s^2_{1/2}(J=0)$	$1s^2\ ^1S_0$	0	0				100. (1)
36	2	$1s_{1/2}2s_{1/2}(J=1)$	$1s2s\ ^3S_1$	104685170	104683260		1.720E-10		100. (2)
36	3	$1s_{1/2}2p_{1/2}(J=0)$	$1s2p\ ^3P_0$	105042090	105040612		1.577E-09		100. (3)
36	4	$1s_{1/2}2p_{1/2}(J=1)$	$1s2p\ ^3P_1$	105063130	105061627		2.551E-15		79.8 (4)
36	5	$1s_{1/2}2s_{1/2}(J=0)$	$1s2s\ ^1S_0$	105066500	105064711		5.942E-04		100. (5)
36	6	$1s_{1/2}2p_{3/2}(J=2)$	$1s2p\ ^3P_2$	105585410	105584317		9.627E-12		100. (6)
36	7	$1s_{1/2}2p_{3/2}(J=1)$	$1s2p\ ^1P_1$	105775630	105773556		6.643E-16		79.8 (7)
36	8	$1s_{1/2}3s_{1/2}(J=1)$	$1s3s\ ^3S_1$	124175700	124175026		8.430E-14		100. (8)
36	9	$1s_{1/2}3p_{1/2}(J=0)$	$1s3p\ ^3P_0$	124273800	124273201		2.850E-14		100. (9)
36	10	$1s_{1/2}3s_{1/2}(J=0)$	$1s3s\ ^1S_0$	124278000	124275677		8.753E-14		100. (10)
36	11	$1s_{1/2}3p_{1/2}(J=1)$	$1s3p\ ^3P_1$	124279600	124279059		7.009E-15		79.0 (11)
36	12	$1s_{1/2}3p_{3/2}(J=2)$	$1s3p\ ^3P_2$	124435300	124435036		3.031E-14		100. (12)
36	13	$1s_{1/2}3d_{3/2}(J=2)$	$1s3d\ ^3D_2$	124483100	124482631		9.948E-15		61.9 (13) 38.1 (17)
36	14	$1s_{1/2}3d_{3/2}(J=1)$	$1s3d\ ^3D_1$	124485900	124485386		9.996E-15		100. (14)
36	15	$1s_{1/2}3p_{3/2}(J=1)$	$1s3p\ ^1P_1$	124487500	124486812		2.283E-15		79.0 (15)
36	16	$1s_{1/2}3d_{5/2}(J=3)$	$1s3d\ ^3D_3$	124537200	124536719		1.023E-14		100. (16)
36	17	$1s_{1/2}3d_{5/2}(J=2)$	$1s3d\ ^1D_2$	124541600	124541072		1.019E-14		61.9 (17) 38.1 (13)
36	18	$1s_{1/2}4s_{1/2}(J=1)$	$1s4s\ ^3S_1$	130928700	130929127		1.233E-13		100. (18)
36	19	$1s_{1/2}4p_{1/2}(J=0)$	$1s4p\ ^3P_0$	130969500	130969412		4.883E-14		100. (19)
36	20	$1s_{1/2}4s_{1/2}(J=0)$	$1s4s\ ^1S_0$	130970800	130969892		1.271E-13		100. (20)
36	21	$1s_{1/2}4p_{1/2}(J=1)$	$1s4p\ ^3P_1$	130972200	130971832		1.549E-14		78.7 (21)
36	22	$1s_{1/2}4p_{3/2}(J=2)$	$1s4p\ ^3P_2$	131037700	131037651		5.135E-14		100. (22)
36	23	$1s_{1/2}4d_{3/2}(J=2)$	$1s4d\ ^3D_2$	131057800	131057376		2.309E-14		62.6 (23) 37.4 (29)
36	24	$1s_{1/2}4d_{3/2}(J=1)$	$1s4d\ ^3D_1$	131059000	131058400		2.322E-14		100. (24)
36	25	$1s_{1/2}4p_{3/2}(J=1)$	$1s4p\ ^1P_1$	131059600	131058885		5.415E-15		78.7 (25)
36	26	$1s_{1/2}4d_{5/2}(J=3)$	$1s4d\ ^3D_3$	131080700	131080082		2.382E-14		100. (26)
36	27	$1s_{1/2}4f_{5/2}(J=3)$	$1s4f\ ^3F_3$		131081373		4.767E-14		56.9 (27) 43.1 (31)
36	28	$1s_{1/2}4f_{5/2}(J=2)$	$1s4f\ ^3F_2$		131082121		4.769E-14		100. (28)
36	29	$1s_{1/2}4d_{5/2}(J=2)$	$1s4d\ ^1D_2$	131082500	131082150		2.368E-14		62.6 (29) 37.4 (23)
36	30	$1s_{1/2}4f_{7/2}(J=4)$	$1s4f\ ^3F_4$		131092936		4.805E-14		100. (30)
36	31	$1s_{1/2}4f_{7/2}(J=3)$	$1s4f\ ^1F_3$		131093506		4.808E-14		56.9 (31) 43.1 (27)
36	32	$1s_{1/2}5s_{1/2}(J=1)$	$1s5s\ ^3S_1$	134035500	134035743		1.959E-13		100. (32)
36	33	$1s_{1/2}5p_{1/2}(J=0)$	$1s5p\ ^3P_0$		134056080		8.388E-14		100. (33)
36	34	$1s_{1/2}5s_{1/2}(J=0)$	$1s5s\ ^1S_0$	134056900	134056201		1.972E-13		100. (34)
36	35	$1s_{1/2}5p_{1/2}(J=1)$	$1s5p\ ^3P_1$	134057600	134057307		2.925E-14		78.6 (35)
36	36	$1s_{1/2}5p_{3/2}(J=2)$	$1s5p\ ^3P_2$	134091100	134090976		8.771E-14		100. (36)
36	37	$1s_{1/2}5d_{3/2}(J=2)$	$1s5d\ ^3D_2$		134100986		4.439E-14		62.9 (37) 37.1 (43)
36	38	$1s_{1/2}5d_{3/2}(J=1)$	$1s5d\ ^3D_1$		134101481		4.473E-14		100. (38)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
36	39	$1s_{1/2}5p_{3/2}(J=1)$	$1s5p^1P_1$	134102400	134101699		1.055E-14		78.6 (39)
36	40	$1s_{1/2}5d_{5/2}(J=3)$	$1s5d^3D_3$		134112583		4.595E-14		100. (40)
36	41	$1s_{1/2}5f_{5/2}(J=3)$	$1s5f^3F_3$		134113303		9.197E-14		56.9 (41) 43.1 (47)
36	42	$1s_{1/2}5f_{5/2}(J=2)$	$1s5f^3F_2$		134113682		9.200E-14		100. (42)
36	43	$1s_{1/2}5d_{5/2}(J=2)$	$1s5d^1D_2$		134113691		4.547E-14		62.9 (43) 37.1 (37)
36	44	$1s_{1/2}5f_{7/2}(J=4)$	$1s5f^3F_4$		134119224		9.274E-14		100. (44)
36	45	$1s_{1/2}5g_{7/2}(J=4)$	$1s5g^3G_4$		134119261		1.555E-13		55.3 (45) 44.7 (49)
36	46	$1s_{1/2}5g_{7/2}(J=3)$	$1s5g^3G_3$		134119482		1.555E-13		100. (46)
36	47	$1s_{1/2}5f_{7/2}(J=3)$	$1s5f^1F_3$		134119520		9.281E-14		56.9 (47) 43.1 (41)
36	48	$1s_{1/2}5g_{9/2}(J=5)$	$1s5g^3G_5$		134122803		1.561E-13		100. (48)
36	49	$1s_{1/2}5g_{9/2}(J=4)$	$1s5g^1G_4$		134122980		1.561E-13		55.3 (49) 44.7 (45)
36	50	$1s_{1/2}6s_{1/2}(J=1)$	$1s6s^3S_1$		135716132		2.983E-13		100. (50)
36	51	$1s_{1/2}6p_{1/2}(J=0)$	$1s6p^3P_0$		135727793		1.338E-13		100. (51)
36	52	$1s_{1/2}6s_{1/2}(J=0)$	$1s6s^1S_0$		135727839		3.039E-13		100. (52)
36	53	$1s_{1/2}6p_{1/2}(J=1)$	$1s6p^3P_1$		135728499		4.937E-14		78.5 (53)
36	54	$1s_{1/2}6p_{3/2}(J=2)$	$1s6p^3P_2$		135747970		1.394E-13		100. (54)
36	55	$1s_{1/2}6d_{3/2}(J=2)$	$1s6d^3D_2$		135753710		7.576E-14		63.0 (55) 37.0 (61)
36	56	$1s_{1/2}6d_{3/2}(J=1)$	$1s6d^3D_1$		135753987		7.618E-14		100. (56)
36	57	$1s_{1/2}6p_{3/2}(J=1)$	$1s6p^1P_1$		135754130		1.818E-14		78.5 (57)
36	58	$1s_{1/2}6d_{5/2}(J=3)$	$1s6d^3D_3$		135760413		7.819E-14		100. (58)
36	59	$1s_{1/2}6f_{5/2}(J=3)$	$1s6f^3F_3$		135760822		1.570E-13		56.9 (59) 43.1 (65)
36	60	$1s_{1/2}6f_{5/2}(J=2)$	$1s6f^3F_2$		135761041		1.571E-13		100. (60)
36	61	$1s_{1/2}6d_{5/2}(J=2)$	$1s6d^1D_2$		135761069		7.784E-14		63.0 (61) 37.0 (55)
36	62	$1s_{1/2}6f_{7/2}(J=4)$	$1s6f^3F_4$		135764249		1.584E-13		100. (62)
36	63	$1s_{1/2}6g_{7/2}(J=4)$	$1s6g^3G_4$		135764257		2.665E-13		55.3 (63) 44.7 (69)
36	64	$1s_{1/2}6g_{7/2}(J=3)$	$1s6g^3G_3$		135764385		2.666E-13		100. (64)
36	65	$1s_{1/2}6f_{7/2}(J=3)$	$1s6f^1F_3$		135764422		1.585E-13		56.9 (65) 43.1 (59)
36	66	$1s_{1/2}6h_{9/2}(J=5)$	$1s6h^3H_5$		135766307		4.033E-13		54.3 (66) 45.7 (71)
36	67	$1s_{1/2}6g_{9/2}(J=5)$	$1s6g^3G_5$		135766308		2.675E-13		100. (67)
36	68	$1s_{1/2}6h_{9/2}(J=4)$	$1s6h^3H_4$		135766391		4.033E-13		100. (68)
36	69	$1s_{1/2}6g_{9/2}(J=4)$	$1s6g^1G_4$		135766409		2.676E-13		55.3 (69) 44.7 (63)
36	70	$1s_{1/2}6h_{11/2}(J=6)$	$1s6h^3H_6$		135767672		4.040E-13		100. (70)
36	71	$1s_{1/2}6h_{11/2}(J=5)$	$1s6h^1H_5$		135767741		4.041E-13		54.3 (71) 45.7 (66)
36	72	$2s_{1/2}^2(J=0)$	$2s^2^1S_0$	212560000	212546607		2.202E-15		77.5 (72)
36	73	$2s_{1/2}2p_{1/2}(J=0)$	$2s2p^3P_0$	212602000	212564319		9.712E-16		100. (73)
36	74	$2s_{1/2}2p_{1/2}(J=1)$	$2s2p^3P_1$	212693000	212656726		9.695E-16		87.3 (74)
36	75	$2p_{1/2}^2(J=0)$	$2p^2^3P_0$	213049000	213005627		5.908E-16		72.0 (75) 18.1 (72) 9.87 (81)
36	76	$2s_{1/2}2p_{3/2}(J=2)$	$2s2p^3P_2$	213198000	213189041		9.944E-16		100. (76)
36	77	$2p_{1/2}2p_{3/2}(J=1)$	$2p^2^3P_1$	213458000	213434354		4.894E-16		100. (77)
36	78	$2p_{1/2}2p_{3/2}(J=2)$	$2p^2^1D_2$	213548000	213520948		4.887E-16		54.2 (78) 45.8 (80)
36	79	$2s_{1/2}2p_{3/2}(J=1)$	$2s2p^1P_1$	213563000	213552728		9.780E-16		87.3 (79)
36	80	$2p_{3/2}^2(J=2)$	$2p^2^3P_2$	214116000	214116731		4.947E-16		54.3 (80) 45.7 (78)
36	81	$2p_{3/2}^2(J=0)$	$2p^2^1S_0$	214433000	214435222		5.198E-16		77.2 (81)
36	82	$2s_{1/2}3s_{1/2}(J=1)$	$2s3s^3S_1$		232330260		4.585E-15		85.9 (82)
36	83	$2p_{1/2}3s_{1/2}(J=1)$	$2p3s^3P_1$		232379701		1.155E-15		42.2 (83) 29.2 (103) 23.1 (92)
36	84	$2p_{1/2}3s_{1/2}(J=0)$	$2p3s^3P_0$		232399774		1.118E-15		79.2 (84)
36	85	$2s_{1/2}3s_{1/2}(J=0)$	$2s3s^1S_0$		232408814		2.768E-15		72.5 (85)
36	86	$2p_{1/2}3p_{1/2}(J=1)$	$2p3p^3D_1$		232409463		8.088E-16		71.1 (86) 18.3 (104) 7.89 (82)
36	87	$2s_{1/2}3p_{1/2}(J=1)$	$2s3p^3P_1$		232455263		2.249E-15		68.9 (87) 17.6 (83) 10.6 (92)
36	88	$2s_{1/2}3p_{1/2}(J=0)$	$2s3p^3P_0$		232455754		2.233E-15		78.3 (88)
36	89	$2s_{1/2}3p_{3/2}(J=2)$	$2s3p^3P_2$		232610309		2.770E-15		90.0 (89)
36	90	$2p_{1/2}3p_{1/2}(J=0)$	$2p3p^3P_0$		232616701		9.687E-16		63.0 (90) 24.8 (85) 12.2 (115)
36	91	$2p_{1/2}3p_{3/2}(J=2)$	$2p3p^3D_2$		232632738		8.616E-16		54.7 (91) 17.8 (96) 17.5 (109)
36	92	$2s_{1/2}3p_{3/2}(J=1)$	$2s3p^1P_1$		232656711		2.237E-15		58.6 (92) 25.5 (87) 15.9 (83)
36	93	$2p_{1/2}3p_{3/2}(J=1)$	$2p3p^3P_1$		232664016		8.638E-16		35.8 (93) 24.7 (107) 17.5 (104)
36	94	$2p_{1/2}3d_{3/2}(J=2)$	$2p3d^3F_2$		232678367		9.490E-16		76.3 (94)
36	95	$2s_{1/2}3d_{3/2}(J=1)$	$2s3d^3D_1$		232720587		3.935E-15		86.3 (95)
36	96	$2s_{1/2}3d_{3/2}(J=2)$	$2s3d^3D_2$		232730453		3.902E-15		71.3 (96) 14.2 (101) 6.76 (109)
36	97	$2s_{1/2}3d_{5/2}(J=3)$	$2s3d^3D_3$		232755217		7.434E-15		98.6 (97)
36	98	$2p_{1/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		232803803		8.855E-16		57.5 (98) 21.4 (116) 21.1 (111)
36	99	$2p_{1/2}3d_{3/2}(J=1)$	$2p3d^3D_1$		232804596		8.560E-16		57.1 (99) 24.3 (117) 16.8 (112)
36	100	$2p_{1/2}3d_{5/2}(J=2)$	$2p3d^3P_2$		232813401		9.177E-16		39.0 (100) 31.6 (114) 16.8 (108)
36	101	$2s_{1/2}3d_{5/2}(J=2)$	$2s3d^1D_2$		232853354		5.523E-15		82.7 (101)
36	102	$2p_{3/2}3s_{1/2}(J=2)$	$2p3s^3P_2$		233054934		9.657E-16		97.7 (102)
36	103	$2p_{3/2}3s_{1/2}(J=1)$	$2p3s^1P_1$		233116781		1.001E-15		68.1 (103) 25.2 (83) 6.69 (92)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
36	104	$2p_{3/2}3p_{1/2}(J=1)$	$2p3p^1P_1$		233118749		7.570E-16		56.0 (93) 19.2 (104) 13.9 (107)
36	105	$2p_{3/2}3p_{1/2}(J=2)$	$2p3p^3P_2$		233140965		7.667E-16		34.2 (91) 32.6 (105) 31.1 (109)
36	106	$2p_{3/2}3p_{3/2}(J=3)$	$2p3p^3D_3$		233245000		7.679E-16		98.6 (106)
36	107	$2p_{3/2}3p_{3/2}(J=1)$	$2p3p^3S_1$		233253503		7.611E-16		51.3 (107) 41.6 (104) 4.73 (86)
36	108	$2p_{3/2}3d_{3/2}(J=2)$	$2p3d^1D_2$		233347635		9.051E-16		46.7 (108) 32.8 (114) 20.6 (94)
36	109	$2p_{3/2}3p_{3/2}(J=2)$	$2p3p^1D_2$		233362174		7.546E-16		54.5 (105) 45.5 (109)
36	110	$2p_{3/2}3d_{5/2}(J=4)$	$2p3d^3F_4$		233365429		9.742E-16		100. (110)
36	111	$2p_{3/2}3d_{3/2}(J=3)$	$2p3d^3D_3$		233383207		8.851E-16		46.8 (111) 40.2 (98) 13.0 (116)
36	112	$2p_{3/2}3d_{3/2}(J=1)$	$2p3d^3P_1$		233414267		8.838E-16		66.7 (112) 30.9 (99) 2.44 (117)
36	113	$2p_{3/2}3d_{3/2}(J=0)$	$2p3d^3P_0$		233420993		9.028E-16		100. (113)
36	114	$2p_{3/2}3d_{5/2}(J=2)$	$2p3d^3D_2$		233439371		8.920E-16		54.2 (100) 30.1 (114) 15.7 (108)
36	115	$2p_{3/2}3p_{3/2}(J=0)$	$2p3p^1S_0$		233479222		7.696E-16		74.0 (115)
36	116	$2p_{3/2}3d_{5/2}(J=3)$	$2p3d^3F_3$		233517012		8.231E-16		65.6 (116) 32.1 (111) 2.27 (98)
36	117	$2p_{3/2}3d_{5/2}(J=1)$	$2p3d^1P_1$		233550920		8.761E-16		72.0 (117) 15.7 (112) 12.3 (99)
36	118	$2s_{1/2}4s_{1/2}(J=1)$	$2s4s^3S_1$		239191948		3.916E-15		79.2 (118)
36	119	$2p_{1/2}4s_{1/2}(J=0)$	$2p4s^3P_0$		239205119		1.194E-15		76.4 (119)
36	120	$2p_{1/2}4s_{1/2}(J=1)$	$2p4s^3P_1$		239206403		1.056E-15		56.4 (120) 30.5 (147) 13.1 (130)
36	121	$2s_{1/2}4s_{1/2}(J=0)$	$2s4s^1S_0$		239212607		2.473E-15		65.6 (121) 20.3 (125) 14.1 (159)
36	122	$2p_{1/2}4p_{1/2}(J=1)$	$2p4p^3D_1$		239222019		9.927E-16		68.6 (122) 15.3 (148) 13.1 (118)
36	123	$2s_{1/2}4p_{1/2}(J=1)$	$2s4p^3P_1$		239238078		5.324E-15		72.4 (123)
36	124	$2s_{1/2}4p_{1/2}(J=0)$	$2s4p^3P_0$		239250232		2.901E-15		76.3 (124)
36	125	$2p_{1/2}4p_{1/2}(J=0)$	$2p4p^3P_0$		239302349		1.255E-15		50.7 (125) 33.6 (121) 15.7 (159)
36	126	$2s_{1/2}4p_{3/2}(J=2)$	$2s4p^3P_2$		239305631		3.784E-15		84.7 (126)
36	127	$2p_{1/2}4p_{3/2}(J=2)$	$2p4p^3D_2$		239311242		9.685E-16		46.7 (127) 25.7 (149) 13.4 (152)
36	128	$2p_{1/2}4p_{3/2}(J=1)$	$2p4p^3P_1$		239325468		9.714E-16		42.3 (128) 25.3 (151) 14.0 (148)
36	129	$2p_{1/2}4d_{3/2}(J=2)$	$2p4d^3F_2$		239328851		9.815E-16		73.5 (129)
36	130	$2s_{1/2}4p_{3/2}(J=1)$	$2s4p^1P_1$		239334251		3.845E-15		59.7 (130) 27.2 (123) 9.03 (120)
36	131	$2s_{1/2}4d_{3/2}(J=1)$	$2s4d^3D_1$		239353596		6.926E-15		90.6 (131)
36	132	$2s_{1/2}4d_{3/2}(J=2)$	$2s4d^3D_2$		239354779		7.372E-15		75.1 (132)
36	133	$2s_{1/2}4d_{5/2}(J=3)$	$2s4d^3D_3$		239367855		9.457E-15		94.5 (133)
36	134	$2p_{1/2}4d_{3/2}(J=1)$	$2p4d^3D_1$		239376473		9.482E-16		50.6 (134) 27.7 (168) 16.1 (156)
36	135	$2p_{1/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		239377149		1.001E-15		44.8 (135) 26.2 (163) 20.2 (154)
36	136	$2p_{1/2}4d_{5/2}(J=2)$	$2p4d^3F_2$		239385254		1.024E-15		40.7 (136) 30.7 (158) 14.9 (153)
36	137	$2p_{1/2}4f_{5/2}(J=3)$	$2p4f^3G_3$		239393685		9.267E-16		73.8 (137)
36	138	$2p_{1/2}4f_{5/2}(J=2)$	$2p4f^3F_2$		239399708		1.116E-15		38.1 (138) 26.1 (169) 18.1 (139)
36	139	$2s_{1/2}4d_{5/2}(J=2)$	$2s4d^1D_2$		239403301		3.360E-15		62.1 (139) 14.2 (132) 7.88 (138)
36	140	$2p_{1/2}4f_{7/2}(J=4)$	$2p4f^3G_4$		239408423		9.252E-16		41.7 (140) 32.4 (164) 26.0 (161)
36	141	$2s_{1/2}4f_{5/2}(J=2)$	$2s4f^3F_2$		239408832		1.735E-14		97.8 (141)
36	142	$2p_{1/2}4f_{7/2}(J=3)$	$2p4f^3D_3$		239411038		9.744E-16		50.4 (142) 28.9 (160) 15.3 (165)
36	143	$2s_{1/2}4f_{5/2}(J=3)$	$2s4f^3F_3$		239411099		8.677E-15		68.3 (143) 23.2 (145) 3.76 (135)
36	144	$2s_{1/2}4f_{7/2}(J=4)$	$2s4f^3F_4$		239417191		4.537E-14		100. (144)
36	145	$2s_{1/2}4f_{7/2}(J=3)$	$2s4f^1F_3$		239423697		3.421E-14		76.9 (145)
36	146	$2p_{3/2}4s_{1/2}(J=2)$	$2p4s^3P_2$		239857241		9.625E-16		100. (146)
36	147	$2p_{3/2}4s_{1/2}(J=1)$	$2p4s^1P_1$		239871684		9.657E-16		68.2 (147) 31.8 (120)
36	148	$2p_{3/2}4p_{1/2}(J=1)$	$2p4p^1P_1$		239882941		8.631E-16		50.6 (128) 19.2 (148) 18.7 (151)
36	149	$2p_{3/2}4p_{1/2}(J=2)$	$2p4p^1D_2$		239887671		8.633E-16		45.8 (127) 28.6 (149) 25.7 (152)
36	150	$2p_{3/2}4p_{3/2}(J=3)$	$2p4p^3D_3$		239942445		8.635E-16		100. (150)
36	151	$2p_{3/2}4p_{3/2}(J=1)$	$2p4p^3S_1$		239945345		8.636E-16		48.6 (151) 46.3 (148) 5.16 (122)
36	152	$2p_{3/2}4p_{3/2}(J=2)$	$2p4p^3P_2$		239978110		8.617E-16		58.5 (152) 41.5 (149)
36	153	$2p_{3/2}4d_{3/2}(J=2)$	$2p4d^1D_2$		239981299		9.356E-16		44.6 (153) 33.6 (158) 21.8 (129)
36	154	$2p_{3/2}4d_{3/2}(J=3)$	$2p4d^3D_3$		239992595		9.325E-16		49.0 (135) 37.3 (154) 13.7 (163)
36	155	$2p_{3/2}4d_{5/2}(J=4)$	$2p4d^3F_4$		239993583		9.583E-16		100. (155)
36	156	$2p_{3/2}4d_{3/2}(J=1)$	$2p4d^3P_1$		240002484		9.274E-16		63.8 (156) 33.5 (134) 2.69 (168)
36	157	$2p_{3/2}4d_{3/2}(J=0)$	$2p4d^3P_0$		240005303		9.345E-16		100. (157)
36	158	$2p_{3/2}4d_{5/2}(J=2)$	$2p4d^3D_2$		240014646		9.320E-16		51.5 (136) 27.8 (158) 20.7 (153)
36	159	$2p_{3/2}4p_{3/2}(J=0)$	$2p4p^1S_0$		240017735		8.673E-16		70.8 (159) 29.2 (125)
36	160	$2p_{3/2}4f_{5/2}(J=3)$	$2p4f^3F_3$		240029728		9.479E-16		40.8 (160) 33.7 (165) 25.5 (137)
36	161	$2p_{3/2}4f_{5/2}(J=4)$	$2p4f^3F_4$		240038098		9.478E-16		50.8 (140) 44.8 (161) 4.37 (164)
36	162	$2p_{3/2}4f_{5/2}(J=2)$	$2p4f^3D_2$		240039400		9.473E-16		51.2 (138) 34.3 (162) 14.5 (169)
36	163	$2p_{3/2}4d_{5/2}(J=3)$	$2p4d^3F_3$		240039891		9.071E-16		57.3 (163) 40.3 (154) 2.38 (135)
36	164	$2p_{3/2}4f_{7/2}(J=4)$	$2p4f^1G_4$		240048168		9.476E-16		63.2 (164) 29.2 (161) 7.53 (140)
36	165	$2p_{3/2}4f_{7/2}(J=3)$	$2p4f^1F_3$		240048232		9.477E-16		45.6 (142) 32.1 (165) 22.3 (160)
36	166	$2p_{3/2}4f_{7/2}(J=5)$	$2p4f^3G_5$		240049916		9.477E-16		100. (166)
36	167	$2p_{3/2}4f_{5/2}(J=1)$	$2p4f^3D_1$		240051187		9.469E-16		100. (167)
36	168	$2p_{3/2}4d_{5/2}(J=1)$	$2p4d^1P_1$		240053740		9.265E-16		67.1 (168) 19.0 (156) 13.9 (134)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
36	169	$2p_{3/2}4f_{7/2}(J=2)$	$2p4f^1D_2$		240064850		9.466E-16		53.5 (169) 44.2 (162) 2.33 (138)
36	170	$2s_{1/2}5s_{1/2}(J=1)$	$2s5s^3S_1$		242331699		2.458E-15		64.1 (170) 15.7 (174) 11.0 (211)
36	171	$2p_{1/2}5s_{1/2}(J=0)$	$2p5s^3P_0$		242332945		1.133E-15		82.1 (171)
36	172	$2p_{1/2}5s_{1/2}(J=1)$	$2p5s^3P_1$		242334153		1.026E-15		60.6 (172) 31.0 (207) 8.44 (182)
36	173	$2s_{1/2}5s_{1/2}(J=0)$	$2s5s^1S_0$		242339414		2.077E-15		57.1 (173) 27.1 (177) 15.7 (218)
36	174	$2p_{1/2}5p_{1/2}(J=1)$	$2p5p^3D_1$		242344019		1.234E-15		59.3 (174) 26.0 (170) 10.4 (211)
36	175	$2s_{1/2}5p_{1/2}(J=1)$	$2s5p^3P_1$		242356016		8.379E-15		70.3 (175) 25.0 (182) 1.96 (185)
36	176	$2s_{1/2}5p_{1/2}(J=0)$	$2s5p^3P_0$		242362969		4.156E-15		82.1 (176)
36	177	$2p_{1/2}5p_{1/2}(J=0)$	$2p5p^3P_0$		242385117		1.535E-15		42.6 (173) 41.7 (177) 15.7 (218)
36	178	$2p_{1/2}5p_{3/2}(J=2)$	$2p5p^3D_2$		242387655		9.861E-16		46.4 (178) 28.6 (209) 14.6 (212)
36	179	$2s_{1/2}5p_{3/2}(J=2)$	$2s5p^3P_2$		242389361		3.085E-15		73.9 (179)
36	180	$2p_{1/2}5p_{3/2}(J=1)$	$2p5p^3P_1$		242395607		1.022E-15		43.2 (180) 25.9 (208) 12.8 (211)
36	181	$2p_{1/2}5d_{3/2}(J=2)$	$2p5d^3F_2$		242396680		1.041E-15		69.7 (181) 12.3 (213) 8.26 (179)
36	182	$2s_{1/2}5p_{3/2}(J=1)$	$2s5p^1P_1$		242405331		4.409E-15		55.3 (182) 29.6 (175) 6.75 (172)
36	183	$2s_{1/2}5d_{3/2}(J=2)$	$2s5d^3D_2$		242414820		8.672E-15		74.7 (183)
36	184	$2s_{1/2}5d_{3/2}(J=1)$	$2s5d^3D_1$		242414845		1.167E-14		94.5 (184)
36	185	$2p_{1/2}5d_{3/2}(J=1)$	$2p5d^3D_1$		242420085		1.034E-15		45.8 (185) 27.4 (229) 15.0 (216)
36	186	$2p_{1/2}5d_{5/2}(J=3)$	$2p5d^3F_3$		242420471		9.863E-16		43.7 (186) 29.3 (221) 20.9 (214)
36	187	$2s_{1/2}5d_{5/2}(J=3)$	$2s5d^3D_3$		242421591		5.537E-15		85.3 (187)
36	188	$2p_{1/2}5d_{5/2}(J=2)$	$2p5d^3P_2$		242425701		1.116E-15		39.0 (188) 28.4 (219) 17.9 (179)
36	189	$2p_{1/2}5f_{5/2}(J=3)$	$2p5f^3G_3$		242427739		9.424E-16		74.5 (189)
36	190	$2p_{1/2}5f_{5/2}(J=2)$	$2p5f^3F_2$		242432093		9.935E-16		42.7 (190) 30.6 (236) 20.5 (223)
36	191	$2p_{1/2}5f_{7/2}(J=4)$	$2p5f^3G_4$		242435667		9.347E-16		41.8 (191) 32.8 (226) 25.4 (222)
36	192	$2p_{1/2}5g_{7/2}(J=4)$	$2p5g^3H_4$		242437016		9.371E-16		72.7 (192)
36	193	$2p_{1/2}5g_{7/2}(J=3)$	$2p5g^3G_3$		242437679		9.388E-16		42.2 (193) 33.0 (237) 24.8 (230)
36	194	$2p_{1/2}5f_{7/2}(J=3)$	$2p5f^3D_3$		242438012		1.082E-15		46.6 (194) 25.3 (220) 14.2 (187)
36	195	$2s_{1/2}5d_{5/2}(J=2)$	$2s5d^1D_2$		242438553		9.242E-15		77.8 (195)
36	196	$2p_{1/2}5g_{9/2}(J=5)$	$2p5g^3H_5$		242440629		9.371E-16		39.9 (196) 33.2 (232) 27.0 (231)
36	197	$2p_{1/2}5g_{9/2}(J=4)$	$2p5g^3F_4$		242441056		9.511E-16		56.8 (197) 26.4 (227) 15.3 (233)
36	198	$2s_{1/2}5f_{5/2}(J=2)$	$2s5f^3F_2$		242441777		2.316E-14		97.9 (198)
36	199	$2s_{1/2}5f_{5/2}(J=3)$	$2s5f^3F_3$		242442828		1.321E-14		74.6 (199)
36	200	$2s_{1/2}5f_{7/2}(J=4)$	$2s5f^3F_4$		242446128		3.681E-14		100. (200)
36	201	$2s_{1/2}5f_{7/2}(J=3)$	$2s5f^1F_3$		242450024		5.938E-14		80.6 (201)
36	202	$2s_{1/2}5g_{7/2}(J=4)$	$2s5g^3G_4$		242450533		1.265E-13		58.5 (202) 41.5 (205)
36	203	$2s_{1/2}5g_{7/2}(J=3)$	$2s5g^3G_3$		242450617		1.273E-13		100. (203)
36	204	$2s_{1/2}5g_{9/2}(J=5)$	$2s5g^3G_5$		242453950		1.483E-13		100. (204)
36	205	$2s_{1/2}5g_{9/2}(J=4)$	$2s5g^1G_4$		242454237		1.442E-13		58.5 (205) 41.5 (202)
36	206	$2p_{3/2}5s_{1/2}(J=2)$	$2p5s^3P_2$		242979997		9.634E-16		100. (206)
36	207	$2p_{3/2}5s_{1/2}(J=1)$	$2p5s^1P_1$		242985701		9.638E-16		67.3 (207) 32.7 (172)
36	208	$2p_{3/2}5p_{1/2}(J=1)$	$2p5p^3S_1$		242992849		9.101E-16		49.9 (180) 20.6 (208) 18.2 (211)
36	209	$2p_{3/2}5p_{1/2}(J=2)$	$2p5p^1D_2$		242994882		9.101E-16		48.0 (178) 28.0 (209) 24.0 (212)
36	210	$2p_{3/2}5p_{3/2}(J=3)$	$2p5p^3D_3$		243024318		9.098E-16		100. (210)
36	211	$2p_{3/2}5p_{3/2}(J=1)$	$2p5p^1P_1$		243025320		9.097E-16		48.1 (211) 46.5 (208) 5.39 (174)
36	212	$2p_{3/2}5p_{3/2}(J=2)$	$2p5p^3P_2$		243040278		9.096E-16		59.8 (212) 40.2 (209)
36	213	$2p_{3/2}5d_{3/2}(J=2)$	$2p5d^1D_2$		243043425		9.497E-16		43.2 (213) 34.8 (219) 22.0 (181)
36	214	$2p_{3/2}5d_{3/2}(J=3)$	$2p5d^3D_3$		243048572		9.488E-16		51.5 (186) 34.3 (214) 14.3 (221)
36	215	$2p_{3/2}5d_{5/2}(J=4)$	$2p5d^3F_4$		243050342		9.601E-16		100. (215)
36	216	$2p_{3/2}5d_{3/2}(J=1)$	$2p5d^3P_1$		243052812		9.454E-16		63.0 (216) 34.3 (185) 2.72 (229)
36	217	$2p_{3/2}5d_{3/2}(J=0)$	$2p5d^3P_0$		243054111		9.485E-16		100. (217)
36	218	$2p_{3/2}5p_{3/2}(J=0)$	$2p5p^1S_0$		243057881		9.117E-16		68.7 (218) 31.3 (177)
36	219	$2p_{3/2}5d_{5/2}(J=2)$	$2p5d^3D_2$		243059452		9.479E-16		50.6 (188) 26.5 (219) 22.9 (213)
36	220	$2p_{3/2}5f_{5/2}(J=3)$	$2p5f^3F_3$		243067317		9.566E-16		40.8 (220) 34.2 (224) 25.1 (189)
36	221	$2p_{3/2}5d_{5/2}(J=3)$	$2p5d^1F_3$		243071167		9.365E-16		54.4 (221) 43.4 (214) 2.20 (186)
36	222	$2p_{3/2}5f_{5/2}(J=4)$	$2p5f^3F_4$		243071367		9.564E-16		52.3 (191) 41.5 (222) 6.21 (226)
36	223	$2p_{3/2}5f_{5/2}(J=2)$	$2p5f^3D_2$		243072108		9.562E-16		51.5 (190) 36.0 (223) 12.6 (236)
36	224	$2p_{3/2}5f_{7/2}(J=3)$	$2p5f^3F_3$		243076500		9.564E-16		44.7 (194) 32.3 (224) 23.0 (220)
36	225	$2p_{3/2}5f_{7/2}(J=5)$	$2p5f^3G_5$		243076813		9.563E-16		100. (225)
36	226	$2p_{3/2}5f_{7/2}(J=4)$	$2p5f^1G_4$		243076971		9.564E-16		61.0 (226) 33.1 (222) 5.90 (191)
36	227	$2p_{3/2}5g_{7/2}(J=4)$	$2p5g^3G_4$		243077166		9.605E-16		42.4 (227) 31.0 (233) 26.6 (192)
36	228	$2p_{3/2}5f_{5/2}(J=1)$	$2p5f^3D_1$		243077427		9.558E-16		100. (228)
36	229	$2p_{3/2}5d_{5/2}(J=1)$	$2p5d^1P_1$		243077830		9.451E-16		65.5 (229) 20.0 (216) 14.5 (185)
36	230	$2p_{3/2}5g_{7/2}(J=3)$	$2p5g^3F_3$		243078990		9.603E-16		57.1 (193) 25.5 (230) 17.3 (237)
36	231	$2p_{3/2}5g_{7/2}(J=5)$	$2p5g^3G_5$		243079851		9.602E-16		56.6 (196) 34.8 (231) 8.57 (232)
36	232	$2p_{3/2}5g_{9/2}(J=5)$	$2p5g^1H_5$		243081231		9.603E-16		58.2 (232) 38.2 (231) 3.53 (196)
36	233	$2p_{3/2}5g_{9/2}(J=4)$	$2p5g^1G_4$		243082311		9.603E-16		41.5 (197) 35.8 (233) 22.7 (227)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
36	234	$2p_{3/2} 5g_{7/2}(J = 2)$	$2p5g^3 F_2$		243082943		9.598E-16		100. (234)
36	235	$2p_{3/2} 5g_{9/2}(J = 6)$	$2p5g^3 H_6$		243083814		9.600E-16		100. (235)
36	236	$2p_{3/2} 5f_{7/2}(J = 2)$	$2p5f^1 D_2$		243084914		9.556E-16		54.7 (236) 42.2 (223) 3.06 (190)
36	237	$2p_{3/2} 5g_{9/2}(J = 3)$	$2p5g^1 F_3$		243086392		9.598E-16		50.0 (230) 50.0 (237)
36	238	$2p_{1/2} 6s_{1/2}(J = 0)$	$2p6s^3 P_0$		244022823		1.064E-15		88.2 (238)
36	239	$2p_{1/2} 6s_{1/2}(J = 1)$	$2p6s^3 P_1$		244023376		1.008E-15		61.9 (239) 31.2 (283) 5.82 (250)
36	240	$2p_{1/2} 6p_{1/2}(J = 1)$	$2p6p^3 D_1$		244024534		1.347E-15		39.9 (240) 31.5 (242) 19.0 (287)
36	241	$2p_{1/2} 6p_{1/2}(J = 0)$	$2s6s^1 S_0$		244028530		1.675E-15		45.5 (241) 35.5 (246) 18.9 (294)
36	242	$2s_{1/2} 6s_{1/2}(J = 1)$	$2s6s^3 S_1$		244031411		2.036E-15		54.6 (242) 36.1 (240) 5.19 (248)
36	243	$2s_{1/2} 6p_{1/2}(J = 1)$	$2s6p^3 P_1$		244041007		8.939E-15		66.9 (243) 26.1 (250) 3.22 (252)
36	244	$2s_{1/2} 6p_{1/2}(J = 0)$	$2s6p^3 P_0$		244044959		6.465E-15		88.2 (244)
36	245	$2p_{1/2} 6p_{3/2}(J = 2)$	$2p6p^3 D_2$		244054313		9.787E-16		47.3 (245) 30.3 (285) 15.3 (288)
36	246	$2s_{1/2} 6s_{1/2}(J = 0)$	$2p6p^3 P_0$		244055353		1.981E-15		54.4 (241) 32.3 (246) 13.3 (294)
36	247	$2p_{1/2} 6d_{3/2}(J = 2)$	$2p6d^3 F_2$		244057863		1.271E-15		42.1 (247) 26.1 (249) 21.2 (289)
36	248	$2p_{1/2} 6p_{3/2}(J = 1)$	$2p6p^3 P_1$		244059456		1.084E-15		42.0 (248) 25.3 (284) 14.5 (242)
36	249	$2s_{1/2} 6p_{3/2}(J = 2)$	$2s6p^3 P_2$		244060548		1.674E-15		45.4 (249) 33.8 (247) 14.5 (295)
36	250	$2s_{1/2} 6p_{3/2}(J = 1)$	$2s6p^1 P_1$		244068575		2.438E-15		33.3 (250) 30.7 (243) 15.0 (252)
36	251	$2p_{1/2} 6d_{5/2}(J = 3)$	$2p6d^3 F_3$		244072906		9.645E-16		44.0 (251) 31.1 (297) 21.5 (290)
36	252	$2p_{1/2} 6d_{3/2}(J = 1)$	$2p6d^3 D_1$		244073693		1.425E-15		35.1 (250) 32.6 (252) 19.9 (302)
36	253	$2s_{1/2} 6d_{3/2}(J = 2)$	$2s6d^3 D_2$		244074222		3.841E-15		64.6 (253) 13.1 (269) 9.85 (258)
36	254	$2s_{1/2} 6d_{3/2}(J = 1)$	$2s6d^3 D_1$		244074941		1.879E-14		97.4 (254)
36	255	$2p_{1/2} 6f_{5/2}(J = 3)$	$2p6f^3 G_3$		244076451		1.007E-15		62.4 (255) 23.2 (301) 6.97 (257)
36	256	$2p_{1/2} 6d_{5/2}(J = 2)$	$2p6d^3 P_2$		244077180		1.307E-15		34.2 (256) 29.8 (249) 24.4 (295)
36	257	$2s_{1/2} 6d_{5/2}(J = 3)$	$2s6d^3 D_3$		244077542		1.804E-15		48.7 (257) 19.6 (264) 18.5 (296)
36	258	$2p_{1/2} 6f_{5/2}(J = 2)$	$2p6f^3 F_2$		244080045		1.192E-15		35.4 (258) 25.8 (316) 17.1 (299)
36	259	$2p_{1/2} 6f_{7/2}(J = 4)$	$2p6f^3 G_4$		244081298		9.382E-16		41.7 (259) 33.0 (303) 25.2 (298)
36	260	$2p_{1/2} 6g_{7/2}(J = 4)$	$2p6g^3 H_4$		244082102		9.394E-16		72.9 (260)
36	261	$2p_{1/2} 6g_{7/2}(J = 3)$	$2p6g^3 G_3$		244082551		9.400E-16		42.0 (261) 33.2 (320) 24.9 (306)
36	262	$2p_{1/2} 6g_{9/2}(J = 5)$	$2p6g^3 H_5$		244084224		9.394E-16		39.9 (262) 33.2 (308) 26.8 (307)
36	263	$2p_{1/2} 6h_{9/2}(J = 5)$	$2p6h^3 I_5$		244084342		9.406E-16		71.9 (263) 17.9 (318) 10.2 (309)
36	264	$2p_{1/2} 6f_{7/2}(J = 3)$	$2p6f^3 D_3$		244084393		1.668E-15		44.5 (257) 30.3 (264) 15.9 (296)
36	265	$2p_{1/2} 6g_{9/2}(J = 4)$	$2p6g^3 F_4$		244084498		9.426E-16		57.9 (265) 26.6 (305) 15.5 (310)
36	266	$2p_{1/2} 6h_{9/2}(J = 4)$	$2p6h^3 H_4$		244084581		9.406E-16		40.2 (266) 33.2 (321) 26.6 (311)
36	267	$2p_{1/2} 6h_{11/2}(J = 6)$	$2p6h^3 I_6$		244085702		9.406E-16		38.8 (267) 33.3 (313) 27.9 (315)
36	268	$2p_{1/2} 6h_{11/2}(J = 5)$	$2p6h^3 G_5$		244085934		9.406E-16		59.7 (268) 24.6 (309) 15.7 (318)
36	269	$2s_{1/2} 6d_{5/2}(J = 2)$	$2s6d^1 D_2$		244088142		1.412E-14		80.6 (269)
36	270	$2s_{1/2} 6f_{5/2}(J = 2)$	$2s6f^3 F_2$		244090170		3.412E-14		98.4 (270)
36	271	$2s_{1/2} 6f_{5/2}(J = 3)$	$2s6f^3 F_3$		244090695		2.469E-14		79.6 (271)
36	272	$2s_{1/2} 6f_{7/2}(J = 4)$	$2s6f^3 F_4$		244092781		9.967E-14		100. (272)
36	273	$2s_{1/2} 6f_{7/2}(J = 3)$	$2s6f^1 F_3$		244095171		1.013E-13		82.4 (273)
36	274	$2s_{1/2} 6g_{7/2}(J = 3)$	$2s6g^3 G_3$		244095522		2.050E-13		100. (274)
36	275	$2s_{1/2} 6g_{7/2}(J = 4)$	$2s6g^3 G_4$		244095523		2.120E-13		60.6 (275) 39.4 (277)
36	276	$2s_{1/2} 6g_{9/2}(J = 5)$	$2s6g^3 G_5$		244097464		2.526E-13		100. (276)
36	277	$2s_{1/2} 6g_{9/2}(J = 4)$	$2s6g^1 G_4$		244097669		2.450E-13		60.6 (277) 39.4 (275)
36	278	$2s_{1/2} 6h_{9/2}(J = 5)$	$2s6h^3 H_5$		244097712		3.620E-13		54.8 (278) 45.2 (281)
36	279	$2s_{1/2} 6h_{9/2}(J = 4)$	$2s6h^3 H_4$		244097744		3.780E-13		100. (279)
36	280	$2s_{1/2} 6h_{11/2}(J = 6)$	$2s6h^3 H_6$		244099074		3.627E-13		100. (280)
36	281	$2s_{1/2} 6h_{11/2}(J = 5)$	$2s6h^1 H_5$		244099097		3.788E-13		54.8 (281) 45.2 (278)
36	282	$2p_{3/2} 6s_{1/2}(J = 2)$	$2p6s^3 P_2$		244667273		9.650E-16		100. (282)
36	283	$2p_{3/2} 6s_{1/2}(J = 1)$	$2p6s^1 P_1$		244669828		9.674E-16		66.9 (283) 33.1 (239)
36	284	$2p_{3/2} 6p_{1/2}(J = 1)$	$2p6p^3 S_1$		244674498		9.350E-16		49.8 (248) 22.2 (284) 17.0 (287)
36	285	$2p_{3/2} 6p_{1/2}(J = 2)$	$2p6p^1 D_2$		244675691		9.342E-16		48.8 (245) 28.0 (285) 23.2 (288)
36	286	$2p_{3/2} 6p_{3/2}(J = 3)$	$2p6p^3 D_3$		244693091		9.337E-16		100. (286)
36	287	$2p_{3/2} 6p_{3/2}(J = 1)$	$2p6p^1 P_1$		244693201		9.370E-16		49.7 (287) 44.6 (284) 5.73 (240)
36	288	$2p_{3/2} 6p_{3/2}(J = 2)$	$2p6p^3 P_2$		244701696		9.337E-16		60.5 (288) 39.5 (285)
36	289	$2p_{3/2} 6d_{3/2}(J = 2)$	$2p6d^1 D_2$		244703928		9.562E-16		42.4 (289) 35.5 (295) 22.1 (247)
36	290	$2p_{3/2} 6d_{3/2}(J = 3)$	$2p6d^3 D_3$		244706704		9.559E-16		52.5 (251) 32.6 (290) 14.9 (297)
36	291	$2p_{3/2} 6d_{5/2}(J = 4)$	$2p6d^3 F_4$		244708093		9.619E-16		100. (291)
36	292	$2p_{3/2} 6d_{3/2}(J = 1)$	$2p6d^3 P_1$		244708746		9.556E-16		62.9 (292) 34.5 (252) 2.64 (302)
36	293	$2p_{3/2} 6d_{3/2}(J = 0)$	$2p6d^3 P_0$		244709341		9.584E-16		100. (293)
36	294	$2p_{3/2} 6p_{3/2}(J = 0)$	$2p6p^1 S_0$		244710113		9.436E-16		67.7 (294) 32.3 (246)
36	295	$2p_{3/2} 6d_{5/2}(J = 2)$	$2p6d^3 D_2$		244712779		9.566E-16		50.2 (256) 25.7 (295) 24.1 (289)
36	296	$2p_{3/2} 6f_{5/2}(J = 3)$	$2p6f^3 F_3$		244717450		9.608E-16		40.7 (296) 34.3 (301) 24.9 (255)
36	297	$2p_{3/2} 6d_{5/2}(J = 3)$	$2p6d^1 F_3$		244719285		9.492E-16		52.8 (297) 45.2 (290) 1.99 (251)
36	298	$2p_{3/2} 6f_{5/2}(J = 4)$	$2p6f^3 F_4$		244719669		9.608E-16		53.7 (259) 38.4 (298) 7.96 (303)

Table 1. continued.

Z	Key	<i>jj</i> -coupling	<i>LS</i> -coupling	E_{NIST}	E_{MBPT}	E_{MCDHF}	τ_{MBPT}	τ_{MCDHF}	Composition(%)
36	299	$2p_{3/2} 6f_{5/2}(J=2)$	$2p6f \ ^3D_2$		244720179		9.606E-16		51.5 (258) 36.8 (299) 11.7 (316)
36	300	$2p_{3/2} 6f_{7/2}(J=5)$	$2p6f \ ^3G_5$		244722622		9.608E-16		100. (300)
36	301	$2p_{3/2} 6f_{7/2}(J=3)$	$2p6f \ ^1F_3$		244722700		9.607E-16		44.3 (264) 32.4 (301) 23.3 (296)
36	302	$2p_{3/2} 6d_{5/2}(J=1)$	$2p6d \ ^1P_1$		244722849		9.557E-16		64.9 (302) 20.2 (292) 14.9 (252)
36	303	$2p_{3/2} 6f_{7/2}(J=4)$	$2p6f \ ^1G_4$		244722963		9.611E-16		59.0 (303) 36.4 (298) 4.58 (259)
36	304	$2p_{3/2} 6f_{5/2}(J=1)$	$2p6f \ ^3D_1$		244723049		9.606E-16		100. (304)
36	305	$2p_{3/2} 6g_{7/2}(J=4)$	$2p6g \ ^3G_4$		244723134		9.632E-16		42.2 (305) 31.3 (310) 26.5 (260)
36	306	$2p_{3/2} 6g_{7/2}(J=3)$	$2p6g \ ^3F_3$		244724260		9.628E-16		57.3 (261) 25.7 (306) 17.0 (320)
36	307	$2p_{3/2} 6g_{7/2}(J=5)$	$2p6g \ ^3G_5$		244724551		9.634E-16		59.2 (262) 25.9 (307) 14.9 (308)
36	308	$2p_{3/2} 6g_{9/2}(J=5)$	$2p6g \ ^1H_5$		244725431		9.633E-16		52.3 (308) 47.7 (307)
36	309	$2p_{3/2} 6h_{9/2}(J=5)$	$2p6h \ ^3H_5$		244725872		9.646E-16		41.4 (309) 31.0 (318) 27.6 (263)
36	310	$2p_{3/2} 6g_{9/2}(J=4)$	$2p6g \ ^3G_4$		244726173		9.629E-16		41.3 (265) 35.6 (310) 23.1 (305)
36	311	$2p_{3/2} 6h_{9/2}(J=4)$	$2p6h \ ^3G_4$		244726482		9.640E-16		59.4 (266) 23.8 (311) 16.8 (321)
36	312	$2p_{3/2} 6g_{7/2}(J=2)$	$2p6g \ ^3F_2$		244726504		9.626E-16		100. (312)
36	313	$2p_{3/2} 6h_{9/2}(J=6)$	$2p6h \ ^1I_6$		244726548		9.656E-16		58.4 (267) 35.1 (313) 6.47 (315)
36	314	$2p_{3/2} 6g_{9/2}(J=6)$	$2p6g \ ^3H_6$		244726726		9.636E-16		100. (314)
36	315	$2p_{3/2} 6h_{11/2}(J=6)$	$2p6h \ ^3H_6$		244727252		9.647E-16		65.7 (315) 31.5 (313) 2.77 (267)
36	316	$2p_{3/2} 6f_{7/2}(J=2)$	$2p6f \ ^1D_2$		244727511		9.604E-16		55.3 (316) 41.3 (299) 3.45 (258)
36	317	$2p_{3/2} 6h_{9/2}(J=3)$	$2p6h \ ^3G_3$		244727790		9.637E-16		100. (317)
36	318	$2p_{3/2} 6h_{11/2}(J=5)$	$2p6h \ ^1H_5$		244727799		9.640E-16		39.7 (268) 35.9 (318) 24.4 (309)
36	319	$2p_{3/2} 6h_{11/2}(J=7)$	$2p6h \ ^3I_7$		244727947		9.657E-16		100. (319)
36	320	$2p_{3/2} 6g_{9/2}(J=3)$	$2p6g \ ^1F_3$		244728529		9.626E-16		50.3 (320) 49.7 (306)
36	321	$2p_{3/2} 6h_{11/2}(J=4)$	$2p6h \ ^1G_4$		244729109		9.637E-16		50.2 (321) 49.8 (311)