Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 110,2815 (2009)	30-Sep-2009

Q(β^-)=890.6 *24*; S(n)=8760 *4*; S(p)=7057.9 *23*; Q(α)=−6295 *3* 2012Wa38
Note: Current evaluation has used the following Q record 896 3 *8754* 4 *7052* 3 −6289 3 2009AuZZ.
Values in 2003Au03 are: Q(β^-)=894 *3*, S(n)=8747 *7*, S(p)=7057.3 *23*, Q(α)=−6285 *3*.
^{84}Rb evaluated by F.G. Kondev .

Atomic mass measurements: 1994Ot01 and 1992Bo31 (Penning-trap system).
Re-evaluation of atomic mass: 2007Ke09.
The level schemes presented in the ^{76}Ge(^{11}B,3nγ) (2002Sc35) and ^{70}Zn(^{18}O,p3nγ) (1999Ha37) datasets are different at high spin. Above the (8$^+$) level at 703 keV, the evaluator gives preference to the ^{76}Ge(^{11}B,3nγ) (2002Sc35) data, due to the utilization of state-of-the art equipment in this work and the better quality of data. The reader should consult both datasets for details.

^{84}Rb Levels

Cross Reference (XREF) Flags

A	^{84}Rb IT decay	D	^{81}Br(α,nγ)
B	^{70}Zn(^{18}O,p3nγ)	E	^{85}Rb(p,d)
C	^{76}Ge(^{11}B,3nγ)	F	^{86}Sr(d,α)

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
0[b]	2$^-$	32.82 d *7*	ABCDEF	%β^-=3.9 *20*; %ε+%β^+=96.1 *20* μ=−1.324116 *2* (1962Kh03,1989Ra17) Q=−0.015 *35* (1981Th04,1989Ra17) <r^2>$^{1/2}$=4.1992 fm *22* (2004An14 evaluation). Measured Δ<r^2>(^{84}Rb−^{87}Rb)=0.0078 fm^2 *32* (1981Th04). %β^-: deduced by the evaluator from Iβ^-(g.s.)/Iβ^+(g.s.)=0.29 *15* (an estimate by 1958Be81 with a 50% uncertainty assumed by the evaluator) and Iβ^+(g.s.)=13.6% *9*, calculated by the evaluator using the following information: Iβ^+(882)/Iβ^+(g.s.)=0.97 *5* (average of 0.92 and 1.008 *12* as deduced from β^+ spectra (1971Bo01) and $\gamma^\pm\gamma^\pm$ and $\gamma^\pm\gamma^\pm$882γ triple coincidences (1971Ge10), respectively), ε(g.s.)/Iβ^+(g.s.)=1.026 *12* (from theory, deduced using Q(ε)=2686 keV *3* (2009AuZZ)), and ε(882)/Iβ^+(882)=4.43 *18* (1970Go44). %ε+%β^+=100 − %β^-. J$^\pi$: from atomic beam (1956Ho52); L(p,d)=4 (J$^\pi$=5/2$^-$ for the target); $\gamma\gamma(\theta)$ in ^{84}Rb IT decay (1958Co67). T$_{1/2}$: weighted average of 32.77 d *14* (1976Gi14) and 32.84 d *8* (2000Hu20). Both work used Ge detectors to detect 881.6γ as a function of time and followed the decay for a time period of approximately three half-lives. Other: 33.2 d *4* (1976Bo19), 34.5 d *2* (1971Ge10), 33.0 d *2* (1955We40). μ: from atomic beam (1962Kh03). Others: −1.3246 *16* using the high-resolution LASER spectroscopy on atomic beam technique (1981Th04), −1.296 *11* using the optical double resonance technique (1973Ac02), −1.33 *2* (atomic beam,1957Hu75). See also 2005St24 compilation. Q: using the high-resolution LASER spectroscopy on atomic beam technique (1981Th04). Other: +0.005 *1* using the optical double resonance technique (1973Ac02). See also 2005St24 and 1989Ra17 compilations.
248.06[c] *8*	3$^-$	0.31 ns *6*	ABCDEF	J$^\pi$: 248.02γ E2(+M1) to 2$^-$; 215.61γ M3+E4 from 6$^-$; $\gamma\gamma(\theta)$ in ^{84}Rb IT decay (1958Co67). T$_{1/2}$: From 216ce-248γ(t) centroid shift in ^{84}Rb IT decay (1968Se02).
463.59[b] *8*	6$^-$	20.26 min *4*	ABCDef	%IT=100

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Adopted Levels, Gammas (continued)

^{84}Rb Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				μ=+0.2129331 *10* (1981Th04); Q=0.57 *27* (1981Th04) XREF: e(468)f(470). Measured Δ<r²>(^{84}Rb–^{87m}Rb)=0.004 fm² *16* (1981Th04). A small ε+β⁺ branch (%ε+%β⁺≤0.0012) seems possible, but not definitely established (1979Er03, see ^{84}Rb IT decay). Jπ: From atomic beam (1978Ek04); L(p,d)=4 (J^π=5/2⁻ for the target); γγ(θ) in ^{84}Rb IT decay (1958Co67). $T_{1/2}$: From 1982Gr07; the uncertainty is statistical only. Others: 20.6 min *8* (1976Sl07), 21.2 min *5* (1976Bo19), 20.0 min *5* (1970Pa09), 20.5 min *2* (1969Kn05), and 19.8 min *7* (1958Co67). μ,Q: Using the high-resolution LASER spectroscopy on atomic beam technique (1981Th04). See also 2005St24 and 1989Ra17 compilations.
466.64[c] *16*	5⁻	9 ns *2*	BCDef	XREF: e(468)f(470). 218.3γ E2 to 3⁻; (3.4γ) to 6⁻. $T_{1/2}$: From γ(t) in ^{81}Br(α,nγ), but the gating transitions were not provided by the authors (1991Do04).
472.40[c] *12*	(4⁻)		BCDef	XREF: e(468)f(470). Jπ: 224.3γ to 3⁻.
543.28[a] *12*	(5⁺)	11 ns *1*	BCD F	XREF: F(534). Jπ: 70.7γ to (4⁻); 76.4γ to 5⁻; 79.8γ to 6⁻; comparison with π=+ sequence in several odd-odd Br nuclides. $T_{1/2}$: From γ(t) in ^{81}Br(α,nγ) (1991Do04). Possible configuration=((π $g_{9/2}$)(ν $g_{9/2}$)).
564[&] *3*	(2,3,4)⁺		E	Jπ: L(p,d)=1 (J^π=5/2⁻ for the target).
572.9[a] *6*	(6⁺)		D	Jπ: 29.2γ (M1) to (5⁺); 110γ to 6⁻; band structure.
602.1 *6*	4⁻,5,6		B D F	Jπ: 135.5γ to 5⁻; 139.0γ to 6⁻; the weak population of this state in ^{81}Br(α,nγ) and the non-observation in ^{76}Ge(^{11}B,3nγ) would argue against J^π=7⁻.
613.6 *4*	(4,5)⁻		B DE	Jπ: L(p,d)=4 (J^π=5/2⁻ for the target); 141.3γ to (4⁻); 146.9γ to (5⁻); 150.4γ to 6⁻; the weak population of this state in ^{81}Br(α,nγ) and the non-observation in ^{76}Ge(^{11}B,3nγ) would argue against J^π=6⁻.
619.7[a] *4*	(7⁺)		BCD	Jπ: 46.6γ (M1) to (6⁺); band structure.
677.99[b] *13*	(7⁻)		CDEF	Jπ: L(p,d)=4 (J^π=5/2⁻ for the target); 214.4γ (M1) to 6⁻.
702.8[a] *4*	(8⁺)		BCD	Jπ: 83.1γ (M1) to (7⁺); band structure.
718[&] *8*			E	
768[&] *5*	2⁻,3⁻		E	Jπ: L(p,d)=0+2 (J^π=5/2⁻ for the target) and the assumption that the (p,d) peak corresponds to a single level.
797[&] *6*			E	
832[&] *3*	(2,3,4)⁺		E	Jπ: L(p,d)=1 (J^π=5/2⁻ for the target).
890[&] *5*	(2,3,4)⁺		E	Jπ: L(p,d)=1 (J^π=5/2⁻ for the target).
929[&] *4*	(2,3,4)⁺		E	Jπ: L(p,d)=1 (J^π=5/2⁻ for the target).
941[@] *7*	(2,3,4)⁻		F	Jπ: L(d,α)=3 (J^π=0⁺ for the target).
957[&] *8*			E	
1007[&] *6*	(1)⁺		EF	XREF: F(990). Jπ: L(d,α)=0 (J^π=0⁺ for the target).
1066[@] *7*	(1⁺,2⁺,3⁺)		F	Jπ: L(d,α)=(2) (J^π=0⁺ for the target).
1136[&] *5*	(2,3,4)⁺		E	Jπ: L(p,d)=1 (J^π=5/2⁻ for the target).
1156.9 *8*	(6⁺,7,8⁺)		Def	XREF: e(1165)f(1160). Jπ: 453.8γ to (8⁺); 584.2γ to (6⁺).
1167.1 *12*			B ef	XREF: e(1165)f(1160).
1218[@] *7*	(1⁺)		F	Jπ: L(d,α)=(0) (J^π=0⁺ for the target).

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Adopted Levels, Gammas (continued)

^{84}Rb Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
1286[&] *3*	$(2,3,4)^+$		E	Jπ: L(p,d)=1 ($J^\pi=5/2^-$ for the target).
1333.6[a] *4*	(9^+)	0.59 ps *10*	BCDE	XREF: E(1335). Jπ: 630.9γ M1 to (8^+).
1397.8[d] *3*	(8^-)		C	Jπ: 719.7γ (M1) to 7^-.
1662.3 *4*	(8^-)		C	Jπ: 959.0γ to (8^+); 984.8γ to (7^-).
1745.1 *10*	(7^-)		C	Jπ: 1278.2γ to 5^-.
1757.9[a] *4*	(10^+)	1.11 ps *14*	BCD	Jπ: 424.4γ M1 to (9^+); 1054.6γ E2 to (8^+).
1871.7 *6*	(9^+)		BC	Jπ: 1169.0γ to (8^+); assignment is tentative.
2068.0[d] *5*	(9^-)		C	Jπ: 1390.0γ to $(7)^-$; assignment is tentative.
2428.7 *4*	(10^+)		C	Jπ: 1095.3γ (M1) to (9^+).
2461.8 *4*	(9^-)		C	Jπ: 1063.8γ (M1) to $(8)^-$.
2469.3 *6*	(10^-)		C	Jπ: 401.3γ to (9^-); assignment is tentative.
2476.6[a] *4*	(11^+)	0.194 ps *21*	C	Jπ: 718.8γ M1 to (10^+).
2710.6 *4*	(10^-)		BC	Jπ: 1376.5γ (E1) to (9^+).
2917.9[e] *5*	(11^+)		C	Jπ: 489.3γ to (10^+); assignment is tentative.
2936.8 *4*	(10^-)		C	Jπ: 474.9γ (M1) to (9^-); 1181.0γ to (10^+); 1274.0γ to (8^-).
2972.4 *5*	(9^-)		C	Jπ: 1227.1γ to (7^-); assignment is tentative.
3028.2 *4*	(10^-)		C	Jπ: 1365.4γ to (8^-); assignment is tentative.
3107.9 *5*	(10^-)		C	Jπ: 135.5γ to (9^-), 1445.5γ to (8^-), 1771.9γ to (9^+); assignment is tentative.
3122.1 *4*	(11^-)		C	Jπ: 185.5γ (M1) to (10^-), 411.4γ (M1) to (10^-).
3166.9[a] *4*	(12^+)	<0.83 ps	C	Jπ: 690.5γ M1 to (11^+), 1408.8γ E2 to (10^+). $T_{1/2}$: Effective value, not corrected for side-feeding.
3394.9[g] *4*	(11^-)		C	Jπ: 286.8γ (M1) to (10^-), 1636.4γ (E1) to (10^+).
3408.2[e] *5*	(12^+)		C	Jπ: 490.4γ to (11^+); 1649.8γ to (10^+); assignment is tentative.
3561.2 *4*	(12^-)		C	Jπ: 439.1γ (M1) to (11^-);
3680.8[f] *4*	(12^-)		C	Jπ: 558.9γ (M1) to (11^-);
3721.5[g] *4*	(12^-)		C	Jπ: 326.6γ (M1) to (11^-), 1252.6γ to (10^-).
3786.1 *4*	(13^-)		C	Jπ: 225.0γ to (12^-); 618.7γ to (12^+); assignment is tentative.
4131.0[f] *4*	(13^-)	0.28 ps *5*	C	Jπ: 450.3γ M1 to (12^-).
4166.7[g] *4*	(13^-)	0.57 ps *8*	C	Jπ: 445.1γ M1 to (12^-); 771.3γ to (11^-).
4246.4[e] *6*			C	
4714.8[g] *4*	(14^-)	0.263 ps *21*	C	Jπ: 548.0γ M1 to (13^-); 994.8γ to (12^-).
4801.4[f] *4*	(14^-)	0.049 ps *14*	C	Jπ: 670.6γ M1 to (13^-); 1239.1γ to (12^-).
4824.7[a] *7*	(14^+)		C	Jπ: 1657.7γ E2 to (12^+).
5254.5[f] *5*	(15^-)	0.44 ps *6*	C	Jπ: 453.1γ M1 to (14^-).
5371.8[g] *5*	(15^-)	0.173 ps *28*	C	Jπ: 656.9γ M1 to (14^-); 1205.4γ to (13^-).
5933.3[f] *5*	(16^-)	0.076 ps *14*	C	Jπ: 678.8γ M1 to (15^-).
6094.8[g] *5*	(16^-)	0.111 ps *28*	C	Jπ: 722.6γ to (15^-); 1380.7γ to (14^-); band assignment.
6471.7[f] *5*	(17^-)	<0.36 ps	C	Jπ: 538.4γ M1 to (16^-). $T_{1/2}$: Effective value, not corrected for side-feeding.
6861.2[g] *7*	(17^-)	<0.31 ps	C	Jπ: 766.4γ to (16^-); 1489.3γ to (15^-); band assignment. $T_{1/2}$: Effective value, not corrected for side-feeding.
7382.7[f] *6*	(18^-)		C	Jπ: 911.0γ to (17^-).

[†] From a least-squares fit to Eγ, unless otherwise stated.
[‡] Based on γγ(θ)(DCO) in ^{76}Ge(^{11}B,3nγ), unless otherwise stated.
[#] From DSAM (lineshape analysis) in ^{76}Ge(^{11}B,3nγ) (2002Sc35), unless otherwise stated. The uncertainties of the electronic and nuclear stopping power, which may be of the order of 10 %, are not included.
[@] From ^{86}Sr(d,α).
[&] From ^{85}Rb(p,d).

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Adopted Levels, Gammas (continued)

^{84}Rb Levels (continued)

[a] Band(A): $\pi(g_{9/2})\nu(g_{9/2})$ at $J^\pi < 9^+$, but $\pi(g_{9/2})\nu(g^3_{9/2})$ at higher spin.

[b] Band(B): Dominated by $\pi(f_{5/2})\nu(g_{9/2})$.

[c] Band(C): Dominated by $\pi(p_{3/2})\nu(g_{9/2})$.

[d] Band(D): Band based on 1398, (8^-). Dominated by $\pi(p_{1/2},p_{3/2},f_{5/2})\nu(g_{9/2})$.

[e] Band(E): $\pi(p_{3/2},f_{5/2},g_{9/2})\nu(g_{9/2})$.

[f] Band(F): Magnetic dipole rotational band-1. The band is based on $\pi(p_{3/2},g^2_{9/2})\nu(g_{9/2})$.

[g] Band(G): Magnetic dipole rotational band-2. The band is based on $\pi(p_{3/2},g^2_{9/2})\nu(g_{9/2})$.

Adopted Levels, Gammas (continued)

$\gamma(^{84}Rb)$

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
248.06	3^-	248.02[#] *10*	100[#]	0	2^-	E2(+M1)[#]	≈4.6	≈0.0343	α(K)≈0.0300; α(L)≈0.00361; α(M)≈0.000594; α(N+..)≈6.76×10^{-5} α(N)≈6.51×10^{-5}; α(O)≈2.46×10^{-6} B(M1)(W.u.)≈(0.00020); B(E2)(W.u.)≈(82) Mult.,δ: From α(K)exp=0.033 *3* in ^{84}Rb IT decay (1984La02).
463.59	6^-	215.61[#] *10*	95[#] *3*	248.06	3^-	M3+E4[#]	1.18 *4*	1.08 *4*	α(K)=0.855 *17*; α(L)=0.194 *5*; α(M)=0.0327 *8*; α(N+..)=0.00333 *8* α(N)=0.00326 *8*; α(O)=7.07×10^{-5} *12* B(M3)(W.u.)=0.00091 *6*; B(E4)(W.u.)=72 *5* δ: From α(exp) as deduced from the intensity balance in ^{84}Rb IT decay. α: From intensity balance in ^{84}Rb IT decay.
		463.62[#] *10*	100[#] *3*	0	2^-	E4[#]		0.0391	α(K)=0.0333 *5*; α(L)=0.00491 *7*; α(M)=0.000817 *12*; α(N+..)=8.95×10^{-5} *13* α(N)=8.67×10^{-5} *13*; α(O)=2.81×10^{-6} *4* B(E4)(W.u.)=0.132 *6*
466.64	5^-	(3.4)	0.23 *8*	463.59	6^-	[M1]		361	α(L)=304 *5*; α(M)=50.5 *7*; α(N+..)=5.86 *9* α(N)=5.63 *8*; α(O)=0.231 *4* B(M1)(W.u.)≈0.08 I_γ: From ^{81}Br(α,nγ).
		218.3 *2*	100	248.06	3^-	E2		0.0556	α(K)=0.0486 *7*; α(L)=0.00597 *9*; α(M)=0.000984 *15*; α(N+..)=0.0001110 *16* α(N)=0.0001071 *16*; α(O)=3.95×10^{-6} *6* B(E2)(W.u.)=3.1 *9* I_γ: From ^{81}Br(α,nγ). Mult.: From $\gamma(\theta)$ in ^{81}Br(α,nγ) (1991Do04).
472.40	(4^-)	224.3 *1*	100	248.06	3^-				
543.28	(5^+)	70.7 *2*	100 *9*	472.40	(4^-)	[E1]		0.266 *5*	α(K)=0.235 *4*; α(L)=0.0261 *5*; α(M)=0.00426 *7*; α(N+..)=0.000485 *8* α(N)=0.000467 *8*; α(O)=1.80×10^{-5} *3* B(E1)(W.u.)=5.1×10^{-5} *8*
		76.4 *2*	41 *9*	466.64	5^-	[E1]		0.212 *4*	α(K)=0.187 *3*; α(L)=0.0207 *4*; α(M)=0.00338 *6*; α(N+..)=0.000386 *7* α(N)=0.000372 *6*; α(O)=1.446×10^{-5} *23* B(E1)(W.u.)=1.7×10^{-5} *5*
		79.8 *1*		463.59	6^-	[E1]		0.186	α(K)=0.1649 *24*; α(L)=0.0182 *3*; α(M)=0.00297 *5*; α(N+..)=0.000340 *5* α(N)=0.000327 *5*; α(O)=1.278×10^{-5} *19*
572.9	(6^+)	29.2 *9*	100	543.28	(5^+)	(M1)		4.9 *5*	α(K)=4.3 *5*; α(L)=0.50 *5*; α(M)=0.083 *8*; α(N+..)=0.0097 *10* α(N)=0.0093 *9*; α(O)=0.00039 *4* Mult.: From ^{81}Br(α,nγ).

Adopted Levels, Gammas (continued)

γ(^{84}Rb) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	α†	Comments
572.9	(6$^+$)	110@ *1*		463.59	6$^-$			
602.1	4$^-$,5,6	135.5@ *5*	100	466.64	5$^-$			
		139.0@a *5*		463.59	6$^-$			
613.6	(4,5)$^-$	141.3@ *5*		472.40	(4$^-$)			
		146.9@ *5*		466.64	5$^-$			
		150.4@a *5*		463.59	6$^-$			
619.7	(7$^+$)	46.6 *9*	100	572.9	(6$^+$)	(M1)	1.26 *8*	α(K)=1.11 *7*; α(L)=0.127 *8*; α(M)=0.0210 *13*; α(N+..)=0.00246 *15* α(N)=0.00236 *15*; α(O)=9.9×10^{-5} *6* Mult.: From ^{81}Br(α,nγ).
677.99	(7$^-$)	214.4 *1*	100	463.59	6$^-$	(M1)	0.0189	α(K)=0.01673 *24*; α(L)=0.00185 *3*; α(M)=0.000306 *5*; α(N+..)=3.61×10^{-5} *5* α(N)=3.47×10^{-5} *5*; α(O)=1.486×10^{-6} *21* Mult.: From ^{81}Br(α,nγ).
702.8	(8$^+$)	83.1 *1*	100	619.7	(7$^+$)	(M1)	0.242	α(K)=0.213 *3*; α(L)=0.0242 *4*; α(M)=0.00401 *6*; α(N+..)=0.000471 *7* α(N)=0.000452 *7*; α(O)=1.91×10^{-5} *3* Mult.: From ^{81}Br(α,nγ).
1156.9	(6$^+$,7,8$^+$)	453.8@		702.8	(8$^+$)			
		584.2@		572.9	(6$^+$)			
1167.1		565&	100&	602.1	4$^-$,5,6			
1333.6	(9$^+$)	630.9 *1*	100	702.8	(8$^+$)	M1	0.001392 *20*	B(M1)(W.u.)=0.15 *3* α(K)=0.001235 *18*; α(L)=0.0001329 *19*; α(M)=2.19×10^{-5} *3*; α(N+..)=2.60×10^{-6} α(N)=2.49×10^{-6} *4*; α(O)=1.086×10^{-7} *16* Mult.: E2 admixtures are possible, but δ is not known.
1397.8	(8$^-$)	719.7 *3*	100	677.99	(7$^-$)	(M1)	0.001037 *15*	α(K)=0.000920 *13*; α(L)=9.88×10^{-5} *14*; α(M)=1.629×10^{-5} *23*; α(N+..)=1.93×10^{-6} α(N)=1.85×10^{-6} *3*; α(O)=8.09×10^{-8} *12*
1662.3	(8$^-$)	959.0 *3*	100	702.8	(8$^+$)			
		984.8 *5*	58 *5*	677.99	(7$^-$)			
1745.1	(7$^-$)	1278.2 *13*	100	466.64	5$^-$			
1757.9	(10$^+$)	424.4 *1*	92 *5*	1333.6	(9$^+$)	M1	0.00349 *5*	α(K)=0.00309 *5*; α(L)=0.000336 *5*; α(M)=5.54×10^{-5} *8*; α(N+..)=6.56×10^{-6} *10* α(N)=6.29×10^{-6} *9*; α(O)=2.73×10^{-7} *4* B(M1)(W.u.)=0.124 *18*
		1054.9 *2*	100 *5*	702.8	(8$^+$)	E2		B(E2)(W.u.)=9.3 *13*
1871.7	(9$^+$)	1169.0 *6*	100	702.8	(8$^+$)			
2068.0	(9$^-$)	1390.0 *5*	100	677.99	(7$^-$)			
2428.7	(10$^+$)	557.1 *5*	14.8 *16*	1871.7	(9$^+$)			

$^{84}_{37}Rb_{47}$-6

Adopted Levels, Gammas (continued)

γ(^{84}Rb) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2428.7	(10$^+$)	1095.3 *2*	100 *5*	1333.6	(9$^+$)	(M1)		
2461.8	(9$^-$)	1063.8 *3*	100	1397.8	(8$^-$)	(M1)		
2469.3	(10$^-$)	401.3 *5*	100	2068.0	(9$^-$)			
2476.6	(11$^+$)	718.8 *2*	100	1757.9	(10$^+$)	M1	0.001040 *15*	α(K)=0.000923 *13*; α(L)=9.90×10^{-5} *14*; α(M)=1.634×10^{-5} *23*; α(N+..)=1.94×10^{-6} α(N)=1.86×10^{-6} *3*; α(O)=8.11×10^{-8} *12* B(M1)(W.u.)=0.31 *4*
2710.6	(10$^-$)	1376.5 *3*	100	1333.6	(9$^+$)	(E1)		
2917.9	(11$^+$)	489.3 *2*	100 *6*	2428.7	(10$^+$)			
		1158.2 *8*	31 *4*	1757.9	(10$^+$)			
2936.8	(10$^-$)	474.9 *2*	77 *4*	2461.8	(9$^-$)	(M1)	0.00268 *4*	α(K)=0.00237 *4*; α(L)=0.000257 *4*; α(M)=4.24×10^{-5} *6*; α(N+..)=5.02×10^{-6} *7* α(N)=4.81×10^{-6} *7*; α(O)=2.09×10^{-7} *3*
		868.0 *14*	21.1 *22*	2068.0	(9$^-$)			
		1181.0 *3*	100 *7*	1757.9	(10$^+$)			
		1274.0 *4*	77 *7*	1662.3	(8$^-$)			
2972.4	(9$^-$)	1227.1 *12*	100	1745.1	(7$^-$)			
3028.2	(10$^-$)	1365.4 *5*	100	1662.3	(8$^-$)			
3107.9	(10$^-$)	135.5 *2*	49 *4*	2972.4	(9$^-$)			
		1445.5 *15*	62 *9*	1662.3	(8$^-$)			
		1771.9 *9*	100 *9*	1333.6	(9$^+$)			
3122.1	(11$^-$)	185.5 *1*	100 *5*	2936.8	(10$^-$)	(M1)	0.0275	α(K)=0.0243 *4*; α(L)=0.00271 *4*; α(M)=0.000447 *7*; α(N+..)=5.28×10^{-5} *8* α(N)=5.06×10^{-5} *8*; α(O)=2.16×10^{-6} *3*
		411.4 *1*	41.8 *21*	2710.6	(10$^-$)	(M1)	0.00376 *6*	α(K)=0.00333 *5*; α(L)=0.000362 *5*; α(M)=5.97×10^{-5} *9*; α(N+..)=7.07×10^{-6} *10* α(N)=6.78×10^{-6} *10*; α(O)=2.94×10^{-7} *5*
3166.9	(12$^+$)	690.5 *3*	37.6 *22*	2476.6	(11$^+$)	M1	0.001137 *16*	α(K)=0.001009 *15*; α(L)=0.0001084 *16*; α(M)=1.79×10^{-5} *3*; α(N+..)=2.12×10^{-6} α(N)=2.03×10^{-6} *3*; α(O)=8.87×10^{-8} *13* B(M1)(W.u.)>0.022
		1408.8 *2*	100 *6*	1757.9	(10$^+$)	E2		B(E2)(W.u.)>4.1
3394.9	(11$^-$)	286.8 *2*	76 *6*	3107.9	(10$^-$)	(M1)	0.00906 *13*	α(K)=0.00802 *12*; α(L)=0.000880 *13*; α(M)=0.0001454 *21*; α(N+..)=1.719×10^{-5} α(N)=1.648×10^{-5} *24*; α(O)=7.10×10^{-7} *10*
		366.6 *2*	72 *6*	3028.2	(10$^-$)	(M1)	0.00496 *7*	α(K)=0.00439 *7*; α(L)=0.000479 *7*; α(M)=7.90×10^{-5} *12*; α(N+..)=9.35×10^{-6} *14* α(N)=8.97×10^{-6} *13*; α(O)=3.88×10^{-7} *6*
		1636.4 *4*	100 *8*	1757.9	(10$^+$)	(E1)		
3408.2	(12$^+$)	490.4 *2*	100 *9*	2917.9	(11$^+$)			
		1649.8 *6*	53 *4*	1757.9	(10$^+$)			
3561.2	(12$^-$)	439.1 *1*	100	3122.1	(11$^-$)	(M1)	0.00322 *5*	α(K)=0.00285 *4*; α(L)=0.000310 *5*; α(M)=5.11×10^{-5} *8*; α(N+..)=6.05×10^{-6} *9* α(N)=5.80×10^{-6} *9*; α(O)=2.52×10^{-7} *4*

$^{84}_{37}Rb_{47}$-7

Adopted Levels, Gammas (continued)

γ(^{84}Rb) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
3680.8	(12$^-$)	558.9 *2*	100	3122.1	(11$^-$)	(M1)	0.00183 *3*	α(K)=0.001626 *23*; α(L)=0.0001755 *25*; α(M)=2.90×10^{-5} *4*; α(N+..)=3.43×10^{-6} *5* α(N)=3.29×10^{-6} *5*; α(O)=1.432×10^{-7} *20*
3721.5	(12$^-$)	326.6 *1*	100 *7*	3394.9	(11$^-$)	(M1)	0.00657 *10*	α(K)=0.00582 *9*; α(L)=0.000636 *9*; α(M)=0.0001051 *15*; α(N+..)=1.243×10^{-5} *1* α(N)=1.191×10^{-5} *17*; α(O)=5.14×10^{-7} *8*
		599.8 *2*	82 *4*	3122.1	(11$^-$)	(M1)	0.001561 *22*	α(K)=0.001385 *20*; α(L)=0.0001491 *21*; α(M)=2.46×10^{-5} *4*; α(N+..)=2.92×10^{-6} α(N)=2.80×10^{-6} *4*; α(O)=1.218×10^{-7} *17*
		1252.6 *11*	12.1 *14*	2469.3	(10$^-$)			
3786.1	(13$^-$)	225.0 *1*	95 *5*	3561.2	(12$^-$)			
		618.7 *3*	100 *5*	3166.9	(12$^+$)			
4131.0	(13$^-$)	344.9 *2*	26.1 *17*	3786.1	(13$^-$)			
		450.3 *2*	100 *4*	3680.8	(12$^-$)	M1	0.00303 *5*	α(K)=0.00269 *4*; α(L)=0.000291 *4*; α(M)=4.81×10^{-5} *7*; α(N+..)=5.70×10^{-6} *8* α(N)=5.46×10^{-6} *8*; α(O)=2.37×10^{-7} *4* B(M1)(W.u.)=0.44 *9*
		569.7 *2*	69 *4*	3561.2	(12$^-$)	(M1)	0.001756 *25*	α(K)=0.001557 *22*; α(L)=0.0001679 *24*; α(M)=2.77×10^{-5} *4*; α(N+..)=3.28×10^{-6} α(N)=3.15×10^{-6} *5*; α(O)=1.370×10^{-7} *20* B(M1)(W.u.)=0.15 *3*
4166.7	(13$^-$)	445.1 *1*	100 *5*	3721.5	(12$^-$)	M1	0.00312 *5*	α(K)=0.00276 *4*; α(L)=0.000300 *5*; α(M)=4.95×10^{-5} *7*; α(N+..)=5.86×10^{-6} *9* α(N)=5.61×10^{-6} *8*; α(O)=2.44×10^{-7} *4* B(M1)(W.u.)=0.40 *7*
		771.3 *12*	10.9 *19*	3394.9	(11$^-$)	[E2]	0.001014 *15*	α(K)=0.000897 *13*; α(L)=9.80×10^{-5} *15*; α(M)=1.615×10^{-5} *24*; α(N+..)=1.90×10^{-6} α(N)=1.82×10^{-6} *3*; α(O)=7.75×10^{-8} *12* B(E2)(W.u.)=16 *4*
4246.4		838.2 *3*	100	3408.2	(12$^+$)			
4714.8	(14$^-$)	548.0 *1*	100 *6*	4166.7	(13$^-$)	M1	0.00192 *3*	α(K)=0.001702 *24*; α(L)=0.000184 *3*; α(M)=3.03×10^{-5} *5*; α(N+..)=3.59×10^{-6} *5* α(N)=3.44×10^{-6} *5*; α(O)=1.498×10^{-7} *21* B(M1)(W.u.)=0.36 *4*
		994.8 *5*	43 *3*	3721.5	(12$^-$)	[E2]		B(E2)(W.u.)=30 *4*
4801.4	(14$^-$)	670.6 *2*	100 *6*	4131.0	(13$^-$)	M1	0.001214 *17*	α(K)=0.001077 *15*; α(L)=0.0001157 *17*; α(M)=1.91×10^{-5} *3*; α(N+..)=2.27×10^{-6} α(N)=2.17×10^{-6} *3*; α(O)=9.47×10^{-8} *14* B(M1)(W.u.)=0.82 *24*
		1015.2 *3*	64 *3*	3786.1	(13$^-$)	(M1)		B(M1)(W.u.)=0.15 *5*
		1239.1 *8*	18.8 *18*	3561.2	(12$^-$)	[E2]		B(E2)(W.u.)=19 *6*

$^{84}_{37}Rb_{47}$-8

Adopted Levels, Gammas (continued)

γ(^{84}Rb) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
4824.7	(14$^+$)	1657.7 *5*	100	3166.9	(12$^+$)	E2		
5254.5	(15$^-$)	453.1 *1*	100	4801.4	(14$^-$)	M1	0.00299 *5*	α(K)=0.00265 *4*; α(L)=0.000287 *4*; α(M)=4.74×10^{-5} *7*; α(N+..)=5.61×10^{-6} *8* α(N)=5.38×10^{-6} *8*; α(O)=2.33×10^{-7} *4* B(M1)(W.u.)=0.54 *8*
5371.8	(15$^-$)	656.9 *2*	100 *6*	4714.8	(14$^-$)	M1	0.001272 *18*	α(K)=0.001128 *16*; α(L)=0.0001213 *17*; α(M)=2.00×10^{-5} *3*; α(N+..)=2.37×10^{-6} α(N)=2.27×10^{-6} *4*; α(O)=9.92×10^{-8} *14* B(M1)(W.u.)=0.25 *5*
		1205.4 *5*	81 *5*	4166.7	(13$^-$)	[E2]		B(E2)(W.u.)=26 *5*
5933.3	(16$^-$)	678.8 *2*	100	5254.5	(15$^-$)	M1	0.001182 *17*	α(K)=0.001048 *15*; α(L)=0.0001126 *16*; α(M)=1.86×10^{-5} *3*; α(N+..)=2.20×10^{-6} α(N)=2.11×10^{-6} *3*; α(O)=9.21×10^{-8} *13* B(M1)(W.u.)=0.93 *17*
6094.8	(16$^-$)	722.6 *4*	100 *7*	5371.8	(15$^-$)	[M1]	0.001028 *15*	α(K)=0.000912 *13*; α(L)=9.79×10^{-5} *14*; α(M)=1.615×10^{-5} *23*; α(N+..)=1.92×10^{-6} α(N)=1.84×10^{-6} *3*; α(O)=8.02×10^{-8} *12* B(M1)(W.u.)=0.28 *8*
		1380.7 *5*	90 *6*	4714.8	(14$^-$)	[E2]		B(E2)(W.u.)=22 *6*
6471.7	(17$^-$)	538.4 *2*	100	5933.3	(16$^-$)	M1	0.00200 *3*	α(K)=0.001772 *25*; α(L)=0.000191 *3*; α(M)=3.16×10^{-5} *5*; α(N+..)=3.74×10^{-6} *6* α(N)=3.59×10^{-6} *5*; α(O)=1.560×10^{-7} *22* B(M1)(W.u.)>0.39
6861.2	(17$^-$)	766.4 *5*	100 *10*	6094.8	(16$^-$)	[M1]		B(M1)(W.u.)>0.083
		1489.3 *9*	89 *10*	5371.8	(15$^-$)	[E2]		B(E2)(W.u.)>5.4
7382.7	(18$^-$)	911.0 *3*	100	6471.7	(17$^-$)	(M1)		

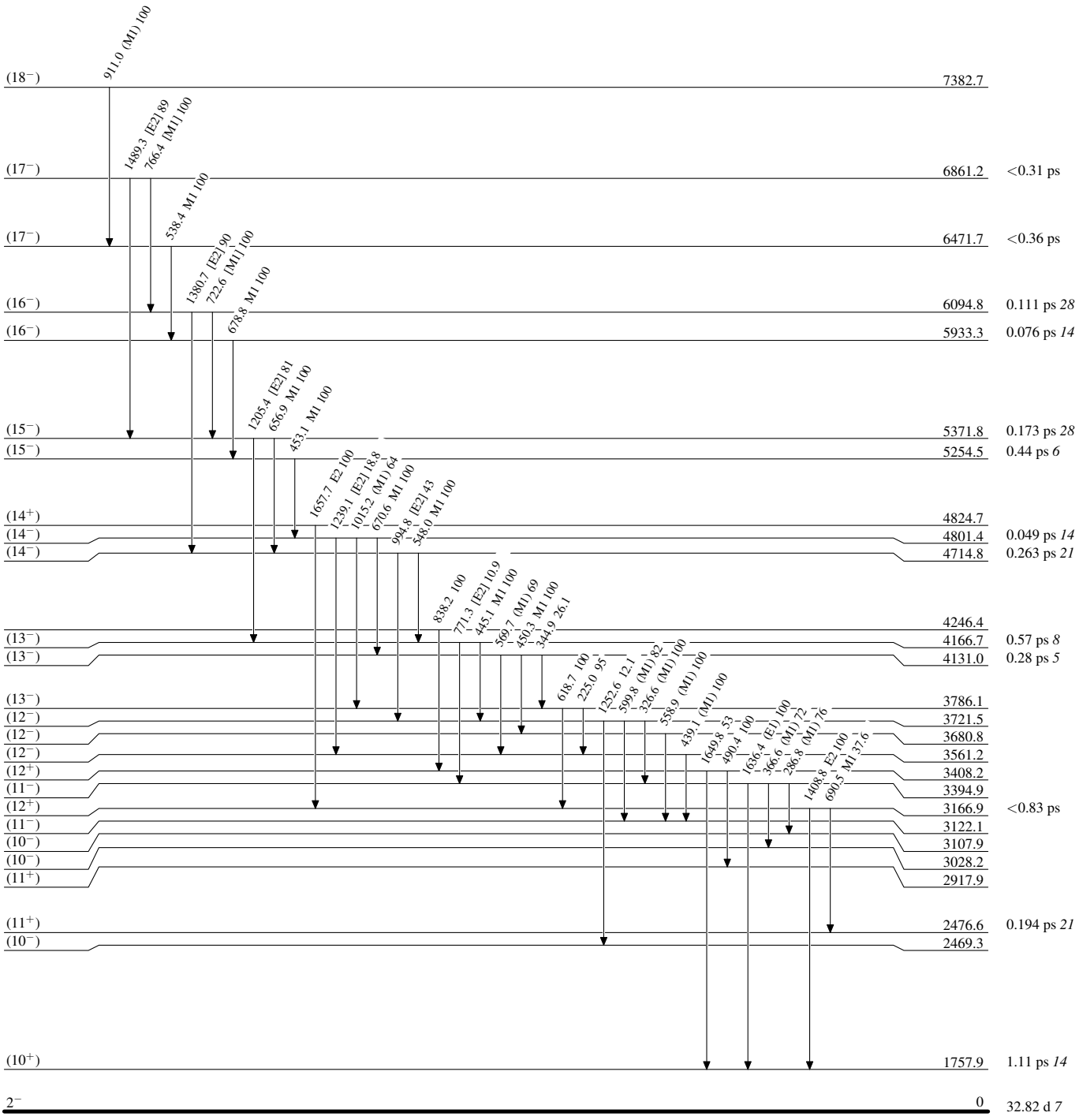
[†] Additional information 1.
[‡] From ^{76}Ge(^{11}B,3nγ), unless otherwise specified.
[#] From ^{84}Rb IT decay.
[@] From ^{81}Br(α,nγ).
[&] From ^{70}Zn(^{18}O,p3nγ).
[a] Placement of transition in the level scheme is uncertain.

$^{84}_{37}Rb_{47}$-9

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

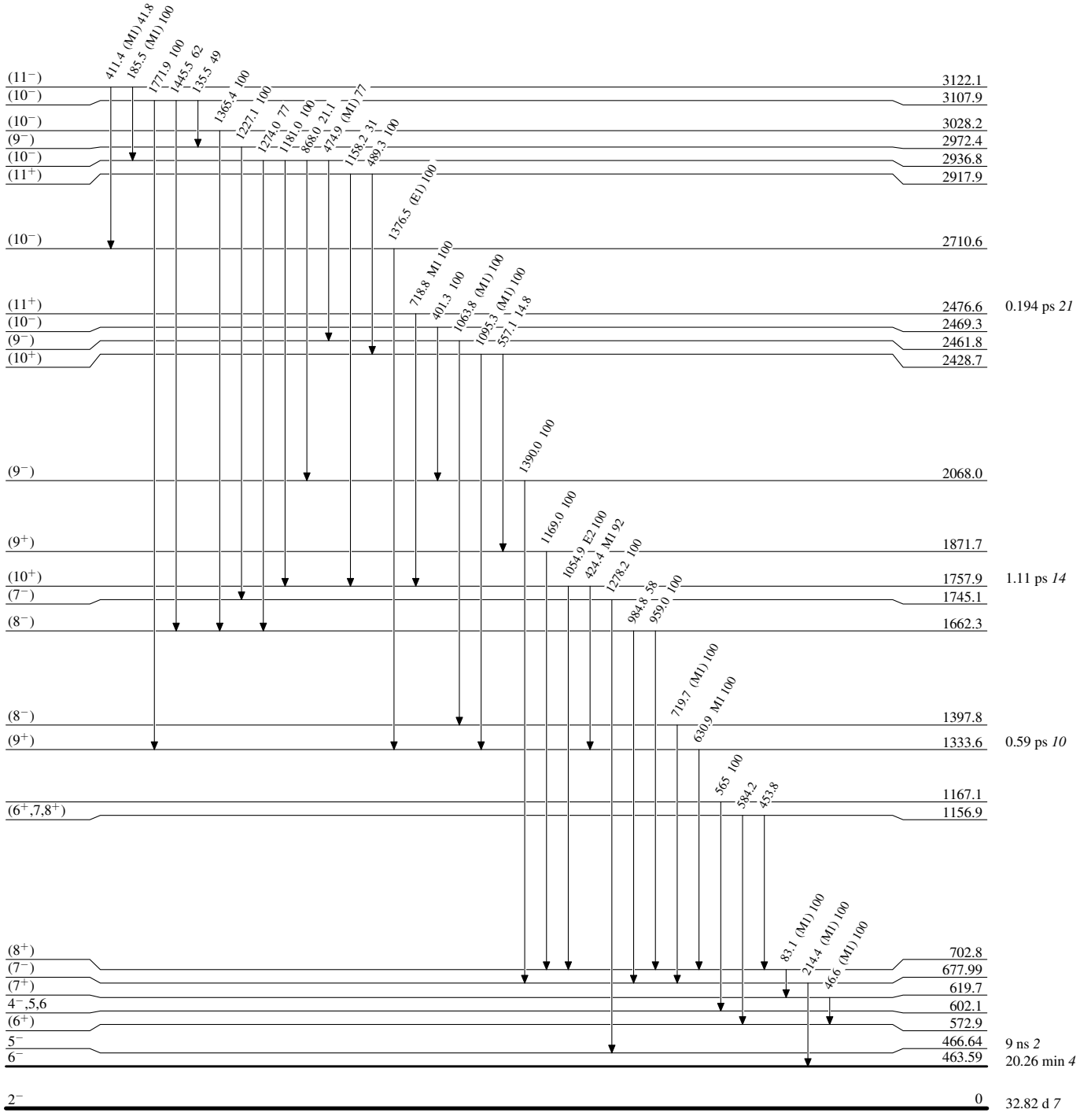


$^{84}_{37}Rb_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{84}_{37}Rb_{47}$

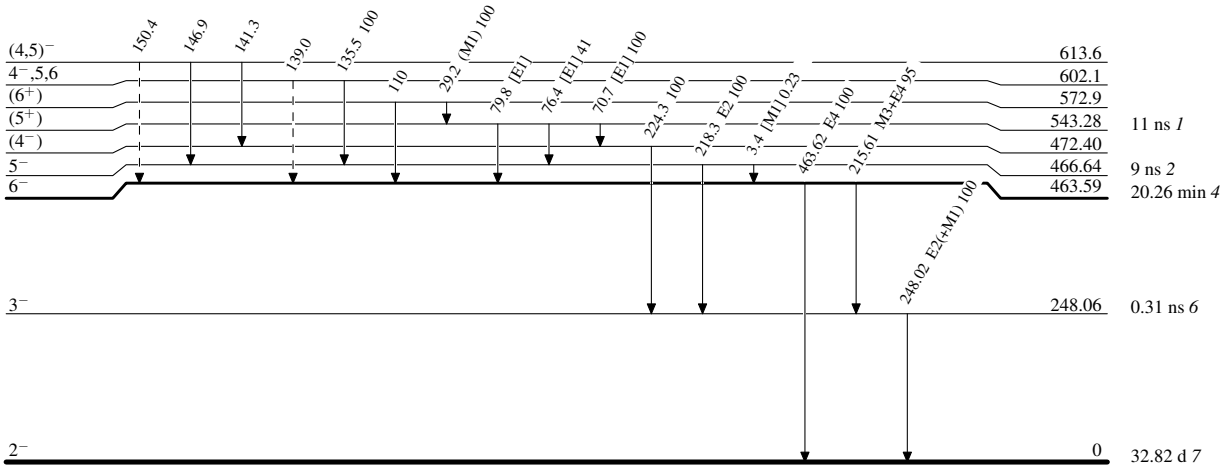
Adopted Levels, Gammas

Legend

Level Scheme (continued)

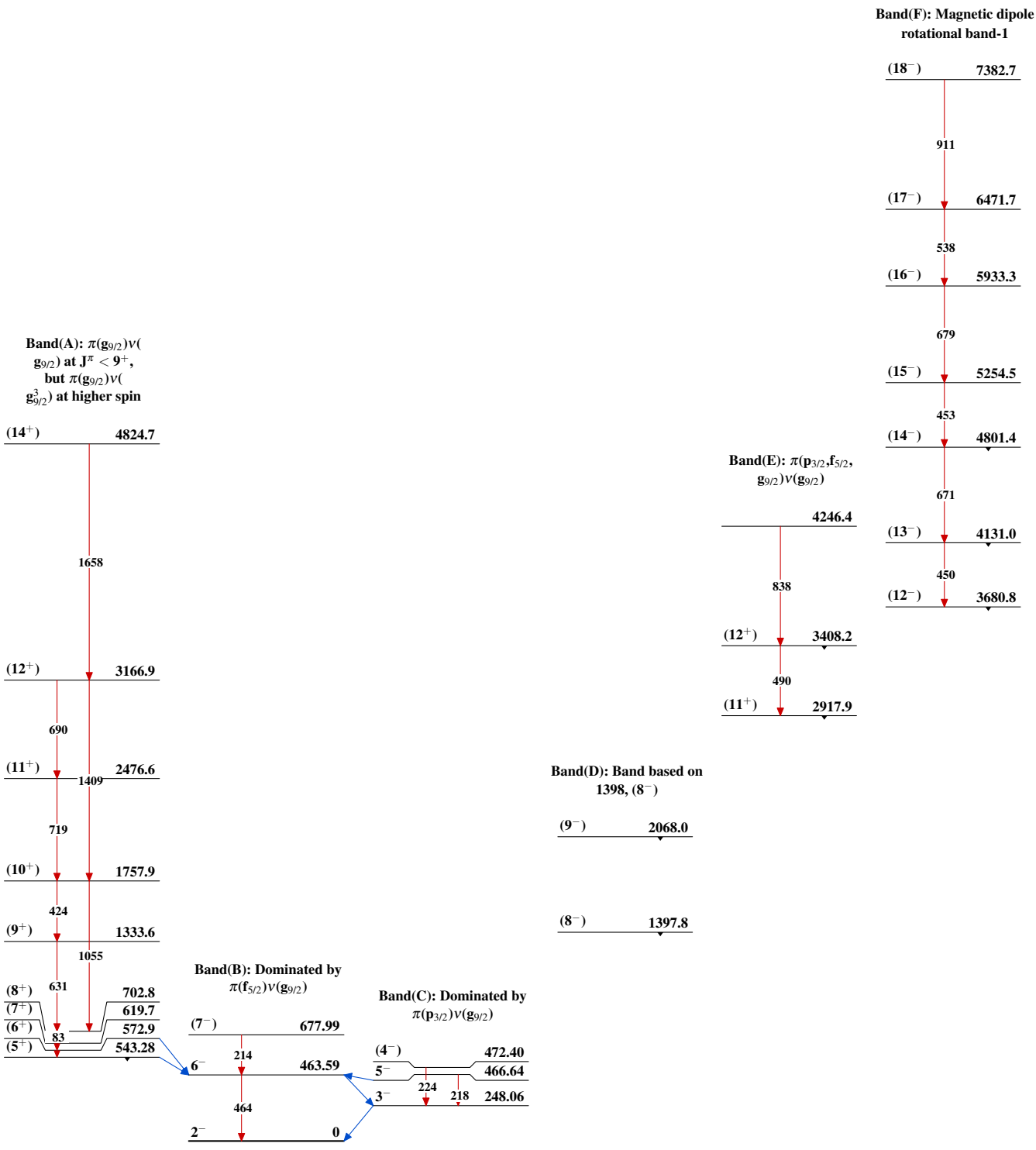
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



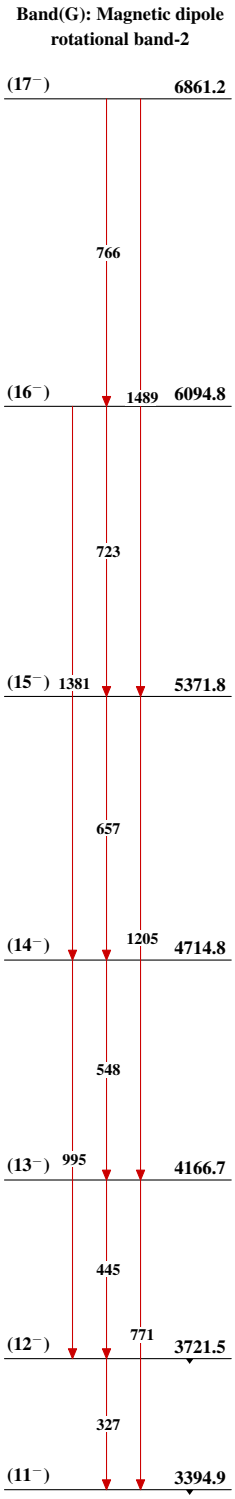
$^{84}_{37}Rb_{47}$

Adopted Levels, Gammas



$^{84}_{37}Rb_{47}$

Adopted Levels, Gammas (continued)



$^{84}_{37}Rb_{47}$