Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan	NDS 194,3 (2024)	8-Jan-2024

Q(β^-)=−6230 *30*; S(n)=11331.7 *15*; S(p)=3444 *8*; Q(α)=−3842.3 *14* 2021Wa16
Q(ε)=8535 *4*, S(2n)=24706 *3*, S(2p)=9769 *6*, Q(εp)=1339 *4* (2021Wa16).
Search for delayed proton decay from ^{77}Y formed in ^{40}Ca(^{40}Ca,p2n) reaction: 1989HoZK. No definite results are reported.
Mass measurement: 2015Ma30, 2011Et01, 2008Go23, 2007Ke09, 2005Ch60, 2002He23, 1994Ot01, 1982Au01, 1982Mo10, 1979Ep01.
Hyperfine structure measurements: 2011Ma66, 1986Du16, 1981Th04.
Additional information 1.
Structure calculations: 2003Pa03 (rotational bands, B(M1), B(E2)) 2001Zh16 (analyzed rotational bands), 1992Ta01 (moment of inertia vs. angular frequency); 1990Be32 (mass defect); 1987My01 (rms charge radii).

^{76}Rb Levels

Cross Reference (XREF) Flags

A ^{76}Rb IT decay (3.050 μs)
B ^{76}Sr $\varepsilon+\beta^+$ decay (7.89 s)
C ^{40}Ca(^{39}K,n2pγ)
D ^{40}Ca(^{40}Ca,3pnγ):E=128 MeV
E ^{40}Ca(^{40}Ca,3pnγ):E=165 MeV

E(level)†	J$^\pi$‡	$T_{1/2}$	XREF	Comments
0.0[c]	1$^-$	36.5 s *6*	ABCDE	%ε+%β^+=100; %$\varepsilon\alpha$=3.8×10^{-7} *10* (1978Ha54) μ=−0.372552 *11* (1981Th04,1986Du16,2019StZV) Q=+0.41 *9* (2015Pr03,2011Ma66,2021StZZ) RMS charge radius (<r^2>)$^{1/2}$=4.2273 fm *70* (2013An02 evaluation). <r^2>(relative to ^{87}Rb)=0.220 *27* (1981Th04). J$^\pi$: spin from $\beta(\theta)$ measurement from oriented ensemble of nuclei (1978Fi01,1978Bo38) and hyperfine structure studies (1981Th04). Parity is from allowed β feedings to π=− states in ^{76}Kr; agreement of μ and Nilsson configurations suggested by 1984Mo22. $T_{1/2}$: weighted average of 36.2 s *2* (1993Al03), 39.1 s *6* (1975Bo52), 36.8 s *15* (1975Ra03). A 1.5-min activity reported by 1972Ve02 has not been confirmed by 1975Bo52. μ: hyperfine structure studies (1981Th04). Other: −0.372 *4* (deduced by 2015Pr03 from hyperfine coupling constants measured by 2011Ma66). Q: value deduced by 2015Pr03 from hyperfine coupling constants measured by 2011Ma66. Measured value of +0.340 *74* is re−evaluated to +0.41 *9* in 2021StZZ. Other: +0.46 *20* (1981Th04,2016St14) from hyperfine structure studies. Possible configuration=π3/2[431]⊗ν5/2[303] (1984Mo22). Isotope shift=−494 MHz *17* (1981Th04). Isotope shift $\delta\nu$(^{76}Rb,^{78}Rb)=−24.3 MHz *12* (2011Ma66, hyperfine structure measurements). Additional information 2.
101.29[b] *4*	2$^{(-)}$		ABCDE	J$^\pi$: 101.3γ ΔJ=1 to 1$^-$; 145.1γ ΔJ=1 from J=3; band assignment.
246.39[c] *6*	3$^{(-)}$		ABCDE	J$^\pi$: 246.3γ ΔJ=2 to 1$^-$; band assignment.
316.96[@] *8*	(4$^+$)	3.050 μs *7*	A CDE	%IT=100 $T_{1/2}$: from γ(t) (2000Ch07). Other: 3.20 μs *10* (1986Ho22). Weighted average of the two results is 3.051 μs *10*. J$^\pi$: syst of Rb-Kr-Br isotones with N=41, 39 (1988Ga13). Similar 4$^+$ bands in ^{76}Br, ^{78}Rb and ^{74}Br. Proposed configuration=$\pi g_{9/2}\otimes\nu g_{9/2}$ (1986Ho22).
421.27[e] *11*	(4$^-$)		CDE	
454.73[b] *9*	4$^{(-)}$		CDE	J$^\pi$: 353.4γ Q, ΔJ=2 to 2$^{(-)}$; 208.4γ ΔJ=1 to 3$^{(-)}$; band assignment.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{76}Rb Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
476.78 *12*	(1+)[#]	B	
497.14[&] *12*	(5+)	CDE	
515.88 *13*	(1+)[#]	B	
629.0[a] *5*	(4)	DE	
663.03[f] *13*	(5−)	CDE	
689.87[c] *10*	5(−)	CDE	Jπ: 443.5γ Q, ΔJ=2 to 3(−), 235.1γ ΔJ=1 to 4(−); band assignment.
693.0[g] *15*		DE	
707.19[@] *14*	(6+)	CDE	
708.4 *3*		B	
953.95[e] *14*	(6−)	CDE	
968.9 *4*		B	
977.92[&] *15*	(7+)	CDE	
982.85 *14*	(1+)[#]	B	
989.8[g] *9*		DE	
1010.37[b] *11*	6(−)	CDE	Jπ: 555.7γ Q, ΔJ=2 to 4(−), 320.5γ ΔJ=1 to 5(−); band assignment.
1013.35[a] *23*	(6)	DE	
1250.1[g] *3*	(6)	DE	
1256.75[@] *16*	(8+)	CDE	
1287.33[f] *15*	(7−)	CDE	
1289.0 *3*	(1+)[#]	B	
1333.25[c] *14*	(7−)	CDE	
1412.3 *4*		B	
1525.1 *5*		DE	
1532.9 *6*	(1+)[#]	B	
1577.2[h] *3*	(7)	DE	
1620.85[&] *18*	(9+)	CDE	
1640.0 *4*	(1+)[#]	B	
1658.7[a] *4*	(8)	DE	
1679.59[e] *15*	(8−)	CDE	
1761.66[b] *20*	(8−)	DE	
1940.0[g] *3*	(8)	DE	
1948.0 *4*	(1+)[#]	B	
2019.88[@] *19*	(10+)	CDE	
2061.8 *4*	(1+)[#]	B	
2090.6 *4*	(1+)[#]	B	
2095.00[f] *19*	9(−)	DE	
2140.1 *3*	(1+)[#]	B	
2170.71[c] *19*	(9−)	DE	
2172.6 *3*	(1+)[#]	B	
2281.8 *6*	(1+)[#]	B	
2350.0[h] *5*	(9)	DE	
2441.05[&] *19*	(11+)	DE	
2548.0[a] *9*	(10)	DE	
2588.85[e] *18*	(10−)	DE	
2698.70[b] *24*	(10−)	DE	
2805.7[g] *4*	(10)	DE	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{76}Rb Levels (continued)

E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF
2881.7 *6*	(1$^+$)#	B	6312.6[b] *16*	(16$^-$)	E	11400.7[b] *23*	(22$^-$)	E
2905.1 *10*		D	6448[a] *4*	(16)	E	11584.5 *18*	(23$^-$)	E
3007.74[@] *23*	(12$^+$)	DE	6744.3[f] *13*	(17$^-$)	DE	11732.5[c] *18*	(23$^-$)	E
3068.30[f] *23*	(11$^-$)	DE	6835.6[c] *14*	(17$^-$)	E	11763[a] *4*	(22)	E
3187.8[c] *4*	(11$^-$)	DE	7188.1[@] *15*	(18$^+$)	DE	11948.5[f] *18*	(23$^-$)	E
3277.8[h] *6*	(11)	DE	7336.9[d] *18*	(17$^-$)	E	12679.0[e] *25*	(24$^-$)	E
3442.5[&] *3*	(13$^+$)	DE	7497.2[&] *12*	(19$^+$)	DE	13223.2[@] *23*	(24$^+$)	E
3656.0[a] *22*	(12)	DE	7615.0[e] *18*	(18$^-$)	DE	13367.3[&] *21*	(25$^+$)	E
3665.9[e] *3*	(12$^-$)	DE	7815.7[b] *19*	(18$^-$)	E	13524[b] *3*	(24$^-$)	E
3792.6[b] *6*	(12$^-$)	DE	8087[a] *4*	(18)	E	13665.5[c] *21*	(25$^-$)	E
3841.7[g] *8*	(12)	DE	8254.4[f] *14*	(19$^-$)	DE	14127.6[f] *21*	(25$^-$)	E
4180.1[f] *5*	(13$^-$)	DE	8309.5[c] *14*	(19$^-$)	E	14770[e] *3*	(26$^-$)	E
4207.5[@] *4*	(14$^+$)	DE	8982.2[@] *18*	(20$^+$)	E	15511.3[@] *25*	(26$^+$)	E
4305.8[c] *8*	(13$^-$)	DE	8996.9[d] *21*	(19$^-$)	E	15824.4[&] *24*	(27$^+$)	E
4421.8[d] *11*	(13$^-$)	E	9144.0[e] *21*	(20$^-$)	E	15899.6[c] *23*	(27$^-$)	E
4622.7[&] *4*	(15$^+$)	DE	9218.3[&] *16*	(21$^+$)	DE	16497.6[f] *23*	(27$^-$)	E
4884.9[e] *11*	(14$^-$)	DE	9488.7[b] *21*	(20$^-$)	E	17158[e] *3*	(28$^-$)	E
4963[a] *3*	(14)	DE	9786.5 *15*	(21$^-$)	E	17805[@] *3*	(28$^+$)	E
4978.6[b] *12*	(14$^-$)	E	9870[a] *4*	(20)	E	18461.6[c] *25*	(29$^-$)	E
5402.2[f] *10*	(15$^-$)	DE	9940.5[c] *15*	(21$^-$)	E	18574[&] *3*	(29$^+$)	E
5503.7[c] *12*	(15$^-$)	DE	9999.5[f] *15*	(21$^-$)	E	19197.6[f] *25*	(29$^-$)	E
5602.1[@] *11*	(16$^+$)	DE	10753.9[d] *23*	(21$^-$)	E	19937[e] *3*	(30$^-$)	E
5793.9[d] *15*	(15$^-$)	E	10805.0[e] *23*	(22$^-$)	E	20258[@] *3*	(30$^+$)	E
5973.2[&] *7*	(17$^+$)	DE	10999.2[@] *21*	(22$^+$)	E	21440[c] *3*	(31$^-$)	E
6198.9[e] *15*	(16$^-$)	DE	11169.3[&] *19*	(23$^+$)	E	21664[&] *3*	(31$^+$)	E

† From least-squares fit to Eγ data, assuming 1 keV uncertainty in Eγ when not stated.

‡ For high-spin (J>3), assignments are based on band assignments and generally supported by multipolarity assignments from DCO and γ(θ) data. Assignments are given in parentheses where arguments for firm assignments are lacking.

Probable allowed ε,β$^+$ feeding from 0$^+$.

@ Band(A): Band based on 4$^{(+)}$,α=0. Possible configuration=π3/2[431]⊗ν5/2[422] (1988Ga13).

& Band(a): Band based on 5$^{(+)}$,α=1. Possible configuration=π3/2[431]⊗ν5/2[422] (1988Ga13).

[a] Band(B): Band based on (4).

[b] Band(C): Band based on 2$^{(-)}$,α=0. Possible configuration=$\pi g^3_{9/2}\otimes\nu g^4_{9/2}$ (2011Wa12).

[c] Band(c): Band based on 1$^-$,α=1. Possible configuration=$\pi g^3_{9/2}\otimes\nu g^4_{9/2}$ (2011Wa12).

[d] Band(D): Band based on (13$^-$).

[e] Band(E): Band based on 4$^{(-)}$,α=0. Possible configuration=$\pi g^3_{9/2}\otimes\nu g^4_{9/2}$ (2011Wa12).

[f] Band(e): Band based on 5$^{(-)}$,α=1. Possible configuration=$\pi g^3_{9/2}\otimes\nu g^4_{9/2}$ (2011Wa12).

[g] Band(F): Band based on 693 level,α=0.

[h] Band(f): Band based on (7),α=1.

Adopted Levels, Gammas (continued)

$\gamma(^{76}Rb)$

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[a]	Comments
101.29	$2^{(-)}$	101.30[#] *4*	100	0.0	1^-	(M1)[&]	0.1397	Mult.: D, ΔJ=1 from γ(DCO) in (^{40}Ca,3pnγ); $\Delta\pi$=no from level scheme.
246.39	$3^{(-)}$	145.11[#] *5*	100 *8*	101.29	$2^{(-)}$	(M1)[&]	0.0527	I_γ: from (^{40}Ca,3pnγ):E=128 MeV. Others: 100 *15* from ^{76}Sr ε decay and 100 *10* from (^{39}K,n2pγ). Mult.: D, ΔJ=1 from γ(DCO) in (^{40}Ca,3pnγ); $\Delta\pi$=no from level scheme.
		246.32[#] *10*	43 *10*	0.0	1^-	(E2)[&]	0.0361	I_γ: unweighted average of 33 *5* from ^{76}Sr ε decay, and 52 *4* from (^{40}Ca,3pnγ):E=128 MeV. Others: 17 (ratio of cross sections for 145 and 246 γ rays in delayed γ spectrum from IT decay), 6 *1* from ^{40}Ca(^{39}K,n2pγ). Mult.: Q, ΔJ=2 from γ(DCO) in (^{40}Ca,3pnγ); π=(no) from level scheme.
316.96	(4^+)	70.55[#] *5*	100	246.39	$3^{(-)}$	(E1)[&]	0.268	B(E1)(W.u.)=2.777×10^{-7} *6*
421.27	(4^-)	104.2 *1*	100 *10*	316.96	(4^+)	D		
		175.8 *5*	5 *5*	246.39	$3^{(-)}$			
		320 *1*	24 *5*	101.29	$2^{(-)}$			
454.73	$4^{(-)}$	208.4 *1*	100 *14*	246.39	$3^{(-)}$	D+Q		
		353.4 *3*	74 *6*	101.29	$2^{(-)}$	Q		I_γ: other: 13 *6* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
476.78	(1^+)	230.3 *3*	7.1 *13*	246.39	$3^{(-)}$	[M2]		
		375.4 *2*	30 *4*	101.29	$2^{(-)}$			
		476.8 *2*	100	0.0	1^-			
497.14	(5^+)	180.2 *1*	100	316.96	(4^+)	D+Q		
515.88	(1^+)	39.0 *5*	100 *17*	476.78	(1^+)	[M1]	2.11 *9*	
		414.6 *2*	52 *5*	101.29	$2^{(-)}$			
		515.8 *5*	23.5 *28*	0.0	1^-			
629.0	(4)	132 *1*	33 *11*	497.14	(5^+)			
		312 *1*	100 *11*	316.96	(4^+)			
		383 *2*	78 *44*	246.39	$3^{(-)}$			
663.03	(5^-)	208.4 *2*	1.6 *16*	454.73	$4^{(-)}$			
		241.7 *1*	100 *6*	421.27	(4^-)	D+Q		
689.87	$5^{(-)}$	235.1 *1*	92 *8*	454.73	$4^{(-)}$	D+Q		I_γ: Iγ(235γ)/Iγ(443γ)=3.0 *12* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
		269 *2*	4 *4*	421.27	(4^-)			
		443.5 *1*	100 *8*	246.39	$3^{(-)}$	Q		
693.0		271 *2*	100	421.27	(4^-)			
707.19	(6^+)	210.1 *1*	100 *11*	497.14	(5^+)	D+Q		
		390.1 *2*	50 *3*	316.96	(4^+)			I_γ: Iγ(390γ)/Iγ(210γ)=0.13 *4* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
708.4		192.4 *5*	100 *19*	515.88	(1^+)			
		608.0 *5*	30 *4*	101.29	$2^{(-)}$			
		707.8 *5*	70 *15*	0.0	1^-			
953.95	(6^-)	264.3 *5*	5.1 *26*	689.87	$5^{(-)}$			
		290.9 *1*	100 *8*	663.03	(5^-)	D+Q		
		532.4 *5*	28 *3*	421.27	(4^-)			
968.9		453.0 *5*	100	515.88	(1^+)			
977.92	(7^+)	270.7 *1*	100 *6*	707.19	(6^+)	D+Q		
		480.7 *2*	94 *11*	497.14	(5^+)	Q		I_γ: Iγ(481γ)/Iγ(271γ)=0.20 *8* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
982.85	(1^+)	466.9 *2*	12.6 *14*	515.88	(1^+)			

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{76}Rb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[@]	Comments
982.85	(1$^+$)	506.1 *5*	54 *6*	476.78	(1$^+$)		
		881.6 *3*	50 *6*	101.29	2$^{(-)}$		
		982.9 *2*	100 *12*	0.0	1$^-$		
989.8		296 *2*	50 *50*	693.0			
		568 *2*	100 *50*	421.27	(4$^-$)		
1010.37	6$^{(-)}$	320.5 *1*	73 *8*	689.87	5$^{(-)}$	D+Q	I_γ: other: Iγ(320γ)/Iγ(556γ)=1.5 *9* from ^{40}Ca(^{39}K,n2pγ).
		555.7 *1*	100 *12*	454.73	4$^{(-)}$	Q	
1013.35	(6)	306.1 *2*	20 *5*	707.19	(6$^+$)	(D)	
		324 *1*	5 *5*	689.87	5$^{(-)}$		
		384.5 *7*	100 *25*	629.0	(4)	(Q)	
1250.1	(6)	260 *1*	17 *17*	989.8			
		296.2 *5*	17 *17*	953.95	(6$^-$)		
		587.4 *4*	100 *17*	663.03	(5$^-$)		
1256.75	(8$^+$)	278.8 *1*	36 *4*	977.92	(7$^+$)	D+Q	I_γ: Iγ(279γ)/Iγ(550γ)=2.0 *6* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
		549.6 *1*	100 *6*	707.19	(6$^+$)	Q	
1287.33	(7$^-$)	277.1 *5*	7 *4*	1010.37	6$^{(-)}$		
		333.4 *1*	93 *7*	953.95	(6$^-$)	D+Q	I_γ: Iγ(333γ)/Iγ(624γ)=3.5 *20* from ^{40}Ca(^{39}K,n2pγ) is in disagreement.
		597.7 *5*		689.87	5$^{(-)}$		
		624.2 *2*	100 *15*	663.03	(5$^-$)		
1289.0	(1$^+$)	580.8 *5*	100 *12*	708.4			
		812.8 *5*	39 *4*	476.78	(1$^+$)		
		1187.0 *5*	8.2 *11*	101.29	2$^{(-)}$		
1333.25	(7$^-$)	322.9 *1*	57 *7*	1010.37	6$^{(-)}$	D+Q	I_γ: other: Iγ(323γ)/Iγ(643γ)=2.0 *14* from ^{40}Ca(^{39}K,n2pγ).
		379.1 *5*	3 *3*	953.95	(6$^-$)		
		643.1 *3*	100 *17*	689.87	5$^{(-)}$		
1412.3		935.9 *5*	100	476.78	(1$^+$)		
1525.1		511.8 *6*	100	1013.35	(6)		
1532.9	(1$^+$)	550.1 *5*	100	982.85	(1$^+$)		
1577.2	(7)	327.1 *2*	100 *20*	1250.1	(6)		
		623.1 *5*	80 *20*	953.95	(6$^-$)		
1620.85	(9$^+$)	364.1 *1*	69 *8*	1256.75	(8$^+$)	D+Q	I_γ: other: Iγ(364γ)/Iγ(643γ)=1.5 *9* from ^{40}Ca(^{39}K,n2pγ).
		642.8 *3*	100 *10*	977.92	(7$^+$)		
1640.0	(1$^+$)	657.3 *5*	71 *12*	982.85	(1$^+$)		
		1124.0 *5*	100 *12*	515.88	(1$^+$)		
1658.7	(8)	133.7 *5*	13 *6*	1525.1			
		645.2 *5*	100 *50*	1013.35	(6)		
		680.9 *4*	25 *6*	977.92	(7$^+$)	(D)	
1679.59	(8$^-$)	346.2 *5*	15 *8*	1333.25	(7$^-$)		
		392.3 *1*	100 *8*	1287.33	(7$^-$)	D+Q	I_γ: other: Iγ(392γ)/Iγ(726γ)=2.0 *14* from ^{40}Ca(^{39}K,n2pγ).
		725.6 *1*	100 *8*	953.95	(6$^-$)	Q	
1761.66	(8$^-$)	428.6 *3*	35 *5*	1333.25	(7$^-$)		
		751.6 *3*	100 *15*	1010.37	6$^{(-)}$	Q	
1940.0	(8)	362.8 *3*	60 *20*	1577.2	(7)		
		652.6 *5*	40 *20*	1287.33	(7$^-$)		
		690.0 *3*	100 *20*	1250.1	(6)		
1948.0	(1$^+$)	1432.1 *5*	100 *12*	515.88	(1$^+$)		
		1471.3 *5*	54 *7*	476.78	(1$^+$)		
2019.88	(10$^+$)	399.1 *1*	18.3 *17*	1620.85	(9$^+$)	D+Q	
		763.3 *3*	100 *7*	1256.75	(8$^+$)		
2061.8	(1$^+$)	1546.0 *5*	100 *11*	515.88	(1$^+$)		

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{76}Rb) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult. @	Comments
2061.8	(1$^+$)	1584.9 *5*	44 *4*	476.78	(1$^+$)		
2090.6	(1$^+$)	679.7 *5*	100 *16*	1412.3			
		1612.5 *5*	76 *9*	476.78	(1$^+$)		
2095.00	9$^{(-)}$	415.3 *2*	47 *6*	1679.59	(8$^-$)	D+Q	
		807.5 *2*	100 *12*	1287.33	(7$^-$)	Q	
2140.1	(1$^+$)	726.8 *5*	36 *6*	1412.3			
		1171.2 *5*	100 *10*	968.9			
		1624.4 *5*	86 *8*	515.88	(1$^+$)		
		2039.0 *5*	25 *3*	101.29	2$^{(-)}$		
		2140.5 *5*	12.6 *19*	0.0	1$^-$		
2170.71	(9$^-$)	409.1 *2*	40 *5*	1761.66	(8$^-$)		
		490.3 *10*	5 *5*	1679.59	(8$^-$)		
		837.3 *2*	100 *15*	1333.25	(7$^-$)	Q	
2172.6	(1$^+$)	1657.0 *5*	58 *7*	515.88	(1$^+$)		
		1695.7 *5*	100 *10*	476.78	(1$^+$)		
		2172.5 *5*	42 *6*	0.0	1$^-$		
2281.8	(1$^+$)	1805.0 *5*	100	476.78	(1$^+$)		
2350.0	(9)	409 *1*	22 *11*	1940.0	(8)		
		671 *1*	11 *11*	1679.59	(8$^-$)		
		773.0 *5*	100 *11*	1577.2	(7)		
2441.05	(11$^+$)	421.3 *1*	36 *5*	2019.88	(10$^+$)	D+Q	
		820.1 *1*	100 *14*	1620.85	(9$^+$)	Q	
2548.0	(10)	889.3 *8*	100	1658.7	(8)	Q	
2588.85	(10$^-$)	418.6 *5*	23 *8*	2170.71	(9$^-$)		
		493.5 *3*	62 *8*	2095.00	9$^{(-)}$		
		909.3 *1*	100 *8*	1679.59	(8$^-$)	Q	
2698.70	(10$^-$)	527.5 *3*	36 *7*	2170.71	(9$^-$)		
		937.2 *2*	100 *14*	1761.66	(8$^-$)	Q	
2805.7	(10)	455 *1*	14 *14*	2350.0	(9)		
		710 *1*	43 *14*	2095.00	9$^{(-)}$		
		865.8 *3*	100 *14*	1940.0	(8)		
2881.7	(1$^+$)	1592.7 *5*	100	1289.0	(1$^+$)		
2905.1		1143.4 *10*	100	1761.66	(8$^-$)		
3007.74	(12$^+$)	566.8 *2*	23 *3*	2441.05	(11$^+$)		
		987.7 *2*	100 *6*	2019.88	(10$^+$)	Q	
3068.30	(11$^-$)	479.7 *3*	22 *6*	2588.85	(10$^-$)		
		973.2 *2*	100 *17*	2095.00	9$^{(-)}$	Q	
3187.8	(11$^-$)	488.8 *5*	17 *8*	2698.70	(10$^-$)		
		1017.2 *5*	100 *17*	2170.71	(9$^-$)	Q	
3277.8	(11)	928.0 *5*	100	2350.0	(9)		
3442.5	(13$^+$)	434.8 *2*	19.6 *22*	3007.74	(12$^+$)		
		1001.5 *3*	100 *11*	2441.05	(11$^+$)	Q	
3656.0	(12)	1108 *2*	100	2548.0	(10)	Q	
3665.9	(12$^-$)	598.2 *5*	14 *14*	3068.30	(11$^-$)		
		1077.0 *3*	100 *14*	2588.85	(10$^-$)	(Q)	
3792.6	(12$^-$)	1093.9 *5*	100	2698.70	(10$^-$)	Q	
3841.7	(12)	1036	100 *25*	2805.7	(10)		E_γ: 1040 *2* in E=128 MeV (1995Ha13).
		1143	75 *25*	2698.70	(10$^-$)		E_γ: placement from 2011Wa12. In 1995Ha13 an 1143.4γ was placed from a 2905 level. I_γ: from I(1143γ)/I(1036γ)=3 *1*/4 *1* in 1995Ha13 in (^{40}Ca,3pnγ):E=128 MeV.
4180.1	(13$^-$)	514.6 *5*	8 *8*	3665.9	(12$^-$)		
		1111.4 *5*	100 *15*	3068.30	(11$^-$)	(Q)	
4207.5	(14$^+$)	765.4 *5*	17 *4*	3442.5	(13$^+$)		
		1199.5 *4*	100 *9*	3007.74	(12$^+$)	Q	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{76}Rb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[@]	Comments
4305.8	(13$^-$)	1029 *1*		3277.8	(11)		E_γ: from 1995Ha13. Eγ=1026 in 2011Wa12. In 1995Ha13 this γ was placed from a 4307 level in their band #5, but 2011Wa12 placed it from 4305 level connecting bands 3 and 5.
		1117 *1*	100	3187.8	(11$^-$)		
4421.8	(13$^-$)	1234		3187.8	(11$^-$)		
4622.7	(15$^+$)	415.2 *3*	7.5 *25*	4207.5	(14$^+$)		
		1180.2 *4*	100 *10*	3442.5	(13$^+$)	Q	
4884.9	(14$^-$)	1219 *1*	100	3665.9	(12$^-$)		
4963	(14)	1307 *2*	100	3656.0	(12)	(Q)	
4978.6	(14$^-$)	1186		3792.6	(12$^-$)		
5402.2	(15$^-$)	1222 *1*	100	4180.1	(13$^-$)		
5503.7	(15$^-$)	1198 *1*	100	4305.8	(13$^-$)		
5602.1	(16$^+$)	1394.6 *10*	100	4207.5	(14$^+$)	Q	
5793.9	(15$^-$)	1372		4421.8	(13$^-$)		
5973.2	(17$^+$)	1350.5 *5*	100	4622.7	(15$^+$)	Q	
6198.9	(16$^-$)	1314 *1*	100	4884.9	(14$^-$)		
6312.6	(16$^-$)	1334		4978.6	(14$^-$)		
		1428[b]		4884.9	(14$^-$)		
6448	(16)	1485		4963	(14)		
6744.3	(17$^-$)	1342 *1*	100	5402.2	(15$^-$)		
6835.6	(17$^-$)	1332		5503.7	(15$^-$)		
7188.1	(18$^+$)	1586 *1*	100	5602.1	(16$^+$)	Q	
7336.9	(17$^-$)	1543		5793.9	(15$^-$)		
7497.2	(19$^+$)	1524 *1*	100	5973.2	(17$^+$)	Q	
7615.0	(18$^-$)	1416 *1*	100	6198.9	(16$^-$)		
7815.7	(18$^-$)	1503		6312.6	(16$^-$)		
8087	(18)	1639		6448	(16)		
8254.4	(19$^-$)	1510 *1*	100	6744.3	(17$^-$)		
8309.5	(19$^-$)	1474		6835.6	(17$^-$)		
8982.2	(20$^+$)	1794		7188.1	(18$^+$)		
8996.9	(19$^-$)	1660		7336.9	(17$^-$)		
9144.0	(20$^-$)	1529		7615.0	(18$^-$)		
9218.3	(21$^+$)	1721 *1*	100	7497.2	(19$^+$)		
9488.7	(20$^-$)	1673		7815.7	(18$^-$)		
9786.5	(21$^-$)	1477		8309.5	(19$^-$)		
		1532		8254.4	(19$^-$)		
9870	(20)	1783		8087	(18)		
9940.5	(21$^-$)	1631		8309.5	(19$^-$)		
		1686		8254.4	(19$^-$)		
9999.5	(21$^-$)	1690		8309.5	(19$^-$)		
		1745		8254.4	(19$^-$)		
10753.9	(21$^-$)	1757[b]		8996.9	(19$^-$)		
10805.0	(22$^-$)	1661		9144.0	(20$^-$)		
10999.2	(22$^+$)	2017		8982.2	(20$^+$)		
11169.3	(23$^+$)	1951		9218.3	(21$^+$)		
11400.7	(22$^-$)	1912		9488.7	(20$^-$)		
11584.5	(23$^-$)	1798		9786.5	(21$^-$)		
11732.5	(23$^-$)	1792		9940.5	(21$^-$)		
11763	(22)	1893		9870	(20)		
11948.5	(23$^-$)	1949		9999.5	(21$^-$)		
12679.0	(24$^-$)	1874		10805.0	(22$^-$)		
13223.2	(24$^+$)	2224		10999.2	(22$^+$)		
13367.3	(25$^+$)	2198		11169.3	(23$^+$)		
13524	(24$^-$)	2123[b]		11400.7	(22$^-$)		

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{76}Rb)$ (continued)

E_i(level)	J_i^π	E_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	E_f	J_f^π
13665.5	(25^-)	1933	11732.5	(23^-)	17805	(28^+)	2294	15511.3	(26^+)
14127.6	(25^-)	2179	11948.5	(23^-)	18461.6	(29^-)	2562	15899.6	(27^-)
14770	(26^-)	2091	12679.0	(24^-)	18574	(29^+)	2750	15824.4	(27^+)
15511.3	(26^+)	2288	13223.2	(24^+)	19197.6	(29^-)	2700[b]	16497.6	(27^-)
15824.4	(27^+)	2457	13367.3	(25^+)	19937	(30^-)	2779[b]	17158	(28^-)
15899.6	(27^-)	2234	13665.5	(25^-)	20258	(30^+)	2453	17805	(28^+)
16497.6	(27^-)	2370	14127.6	(25^-)	21440	(31^-)	2978	18461.6	(29^-)
17158	(28^-)	2388	14770	(26^-)	21664	(31^+)	3090	18574	(29^+)

† From ^{76}Sr ε decay for low-spin (J<3). For high-spin (J>3) values are from ^{40}Ca(^{40}Ca,3pnγ):E=128 MeV when listed with uncertainties, otherwise from ^{40}Ca(^{40}Ca,3pnγ):E=165 MeV. Exceptions are noted.

‡ From ^{76}Sr ε decay for low-spin (J<3). For high-spin (J>3) values are from ^{40}Ca(^{40}Ca,3pnγ):E=128 MeV. Exceptions are noted.

From ^{76}Rb IT decay (3.050 μs).

@ Assignments are based on DCO values and $\gamma(\theta)$ data for selected transitions. ΔJ=1,D+Q are most likely M1+E2, and ΔJ=2,Q most likely E2 transitions, as listed in 1995Ha13, and consistent with band structures. However, in the absence of polarization, internal conversion or other supporting data, evaluators prefer to list mult=D+Q for ΔJ=1 or 0 and mult=Q for ΔJ=2 assignments. Multipolarities in square brackets are assumed from ΔJ^π.

& From intensity-balance arguments and ce data in ^{76}Rb IT decay, combined with ΔJ=1, dipole or ΔJ=2, quadrupole assignments from $\gamma(\theta)$ data in ^{40}Ca(^{39}K,n2pγ) and ^{40}Ca(^{40}Ca,3pnγ):E=128 MeV.

a Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

b Placement of transition in the level scheme is uncertain.

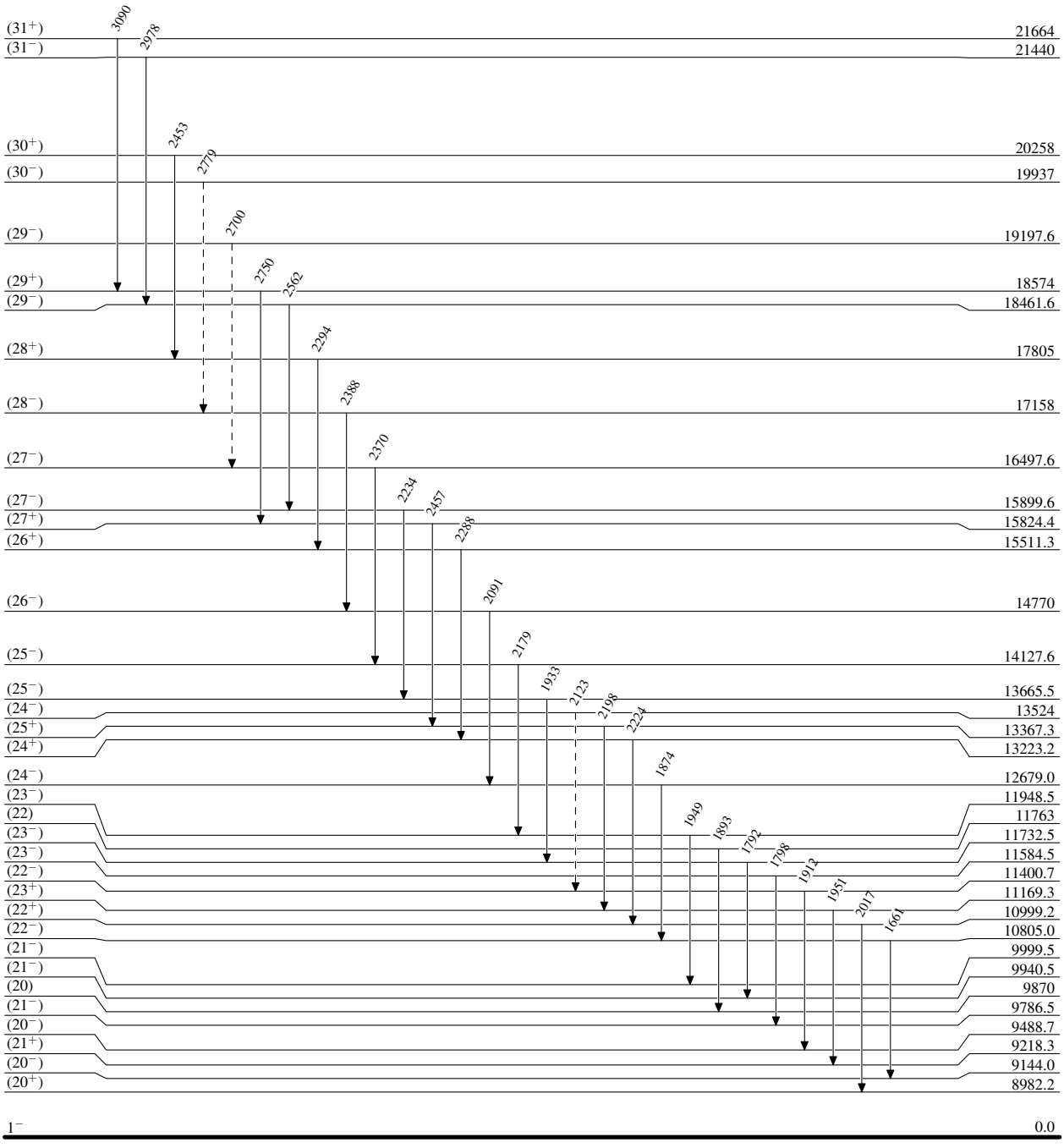
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{76}_{37}Rb_{39}$

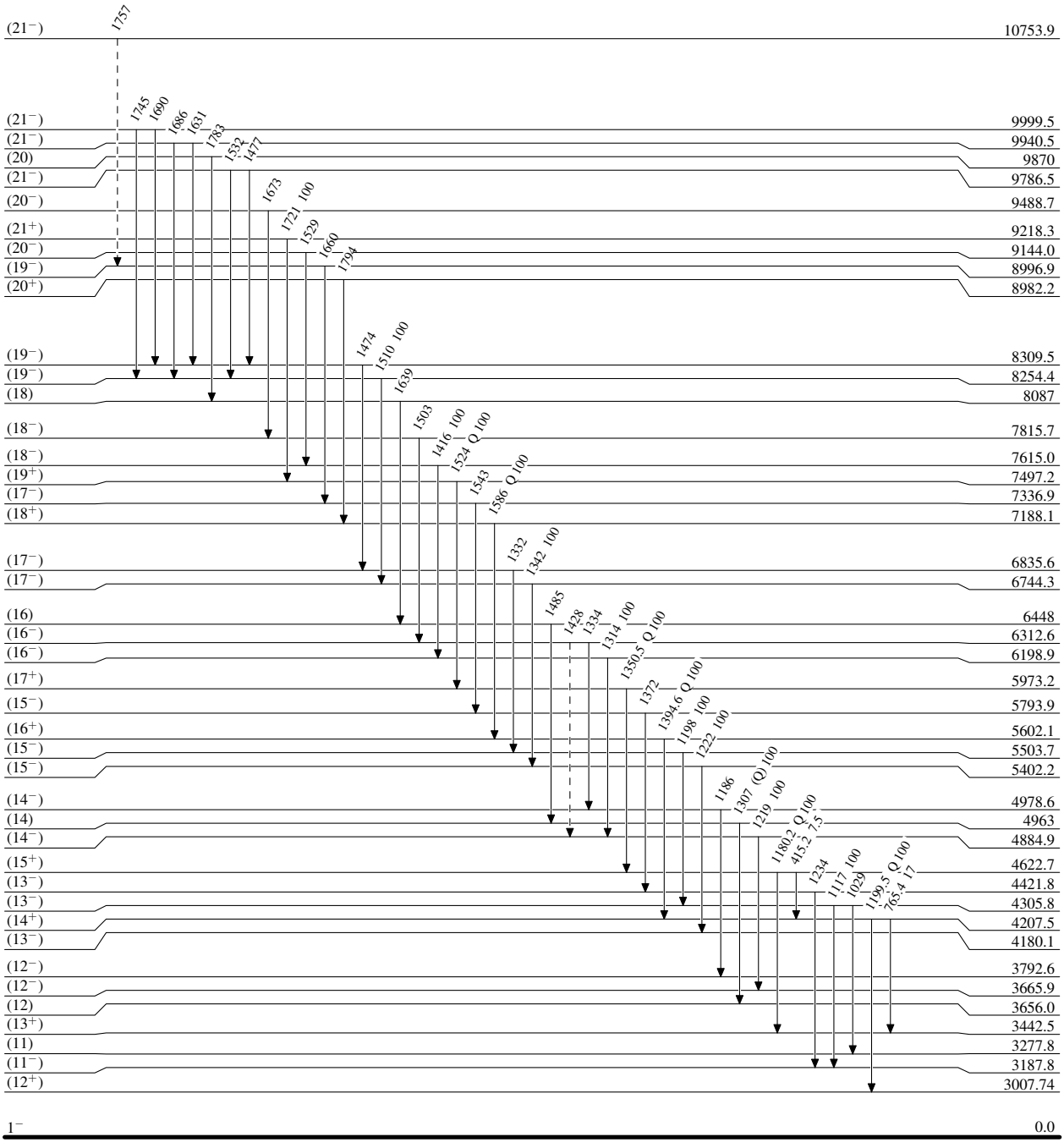
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

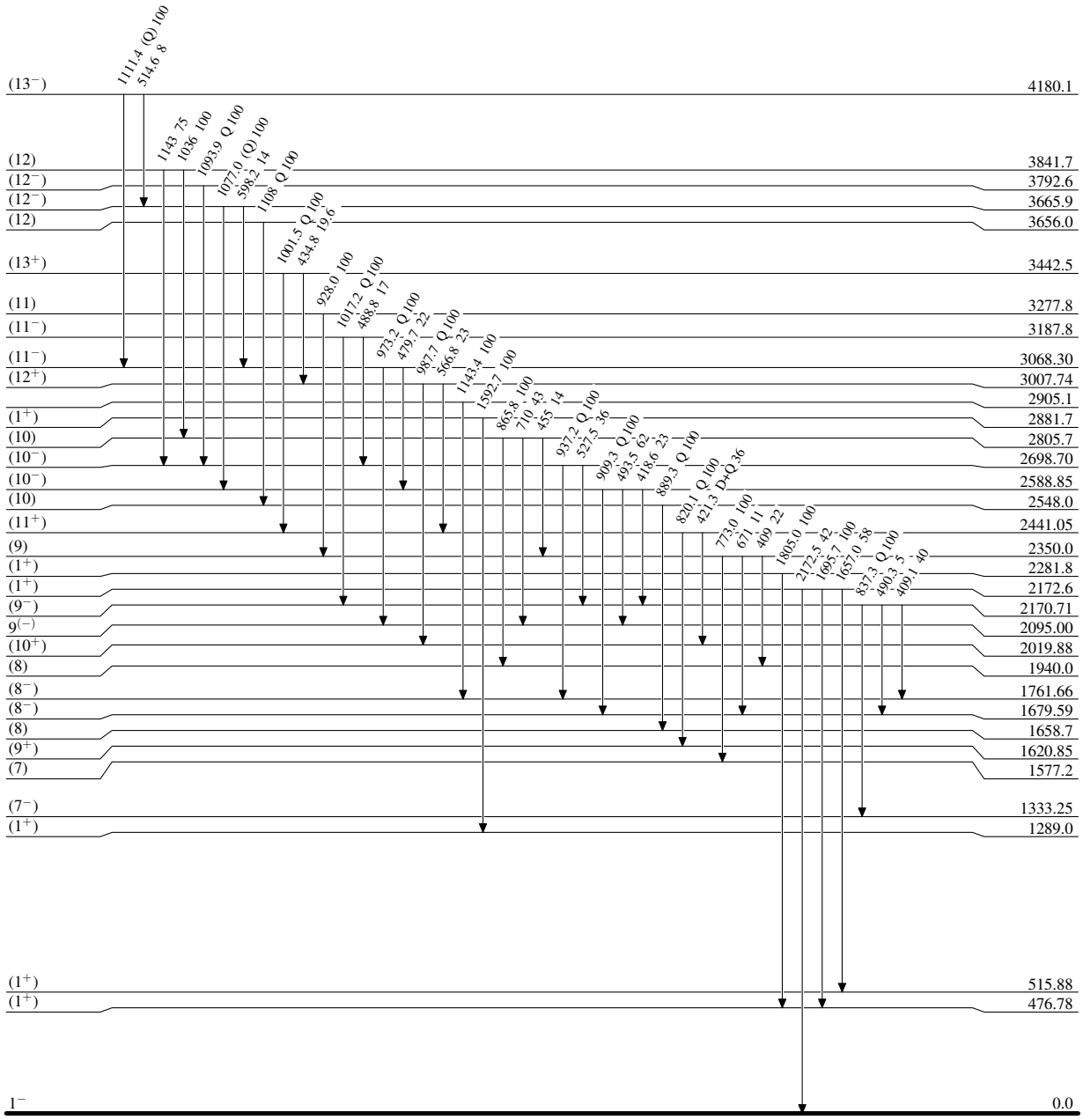


$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

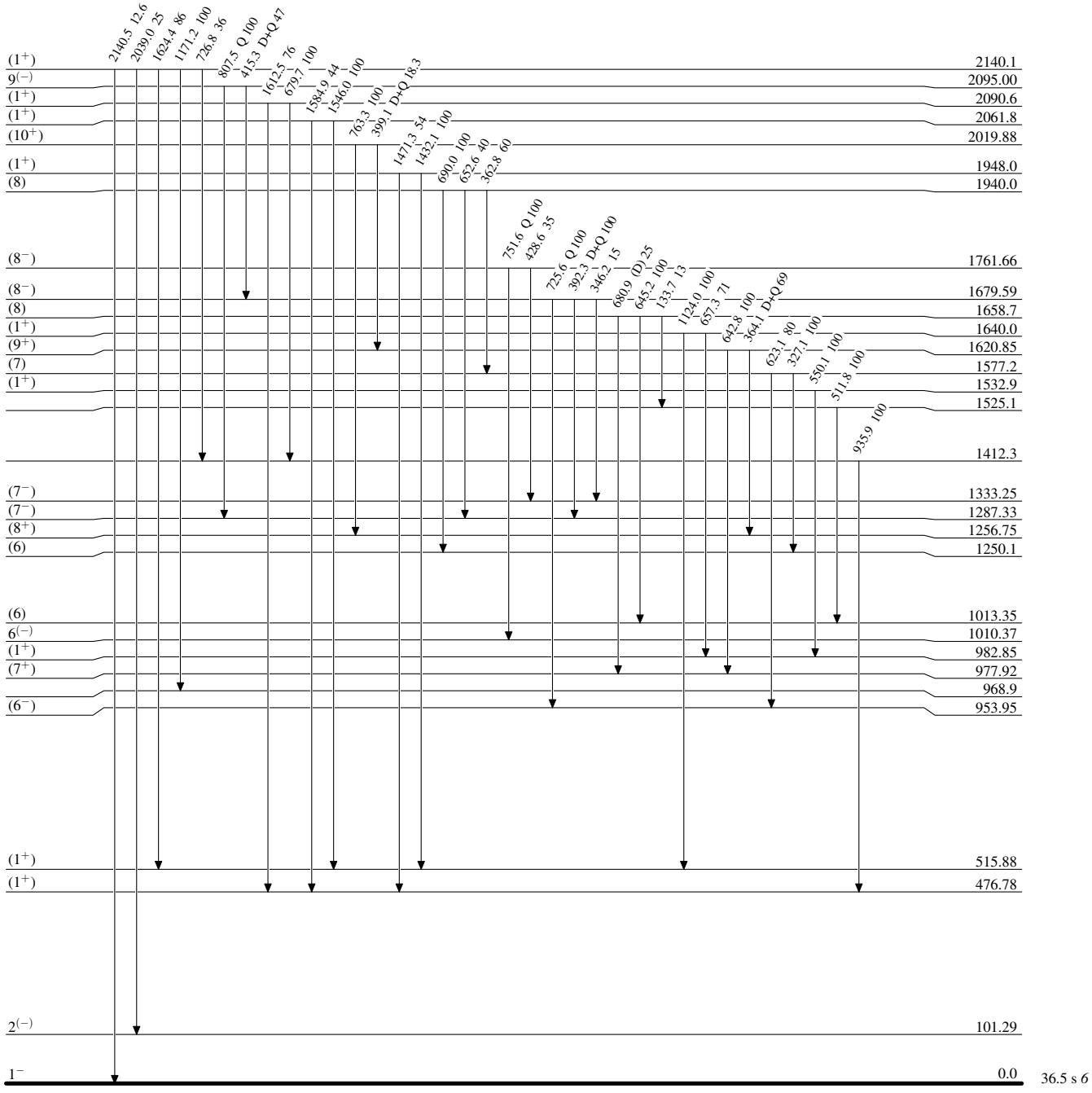


$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

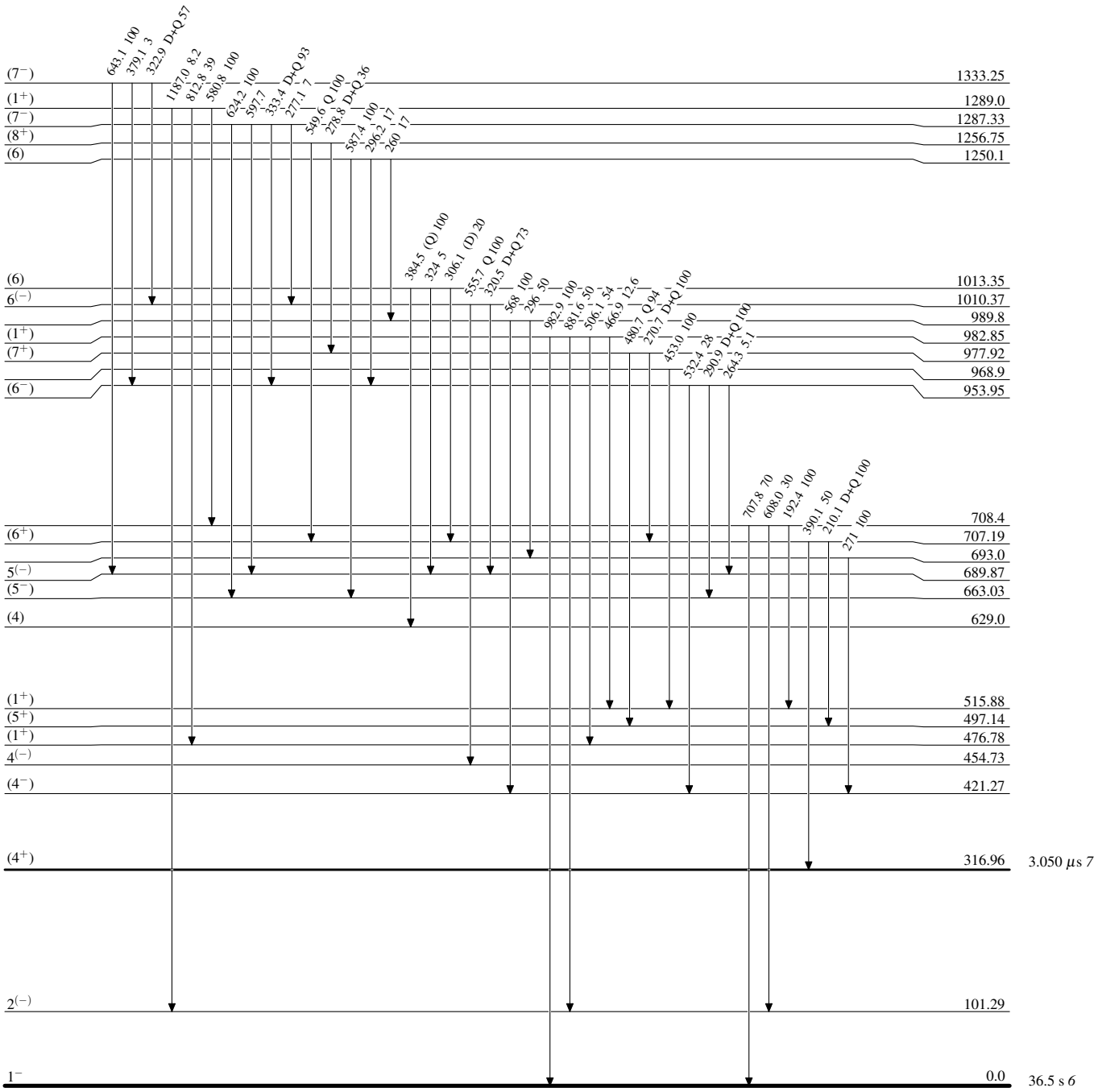


$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

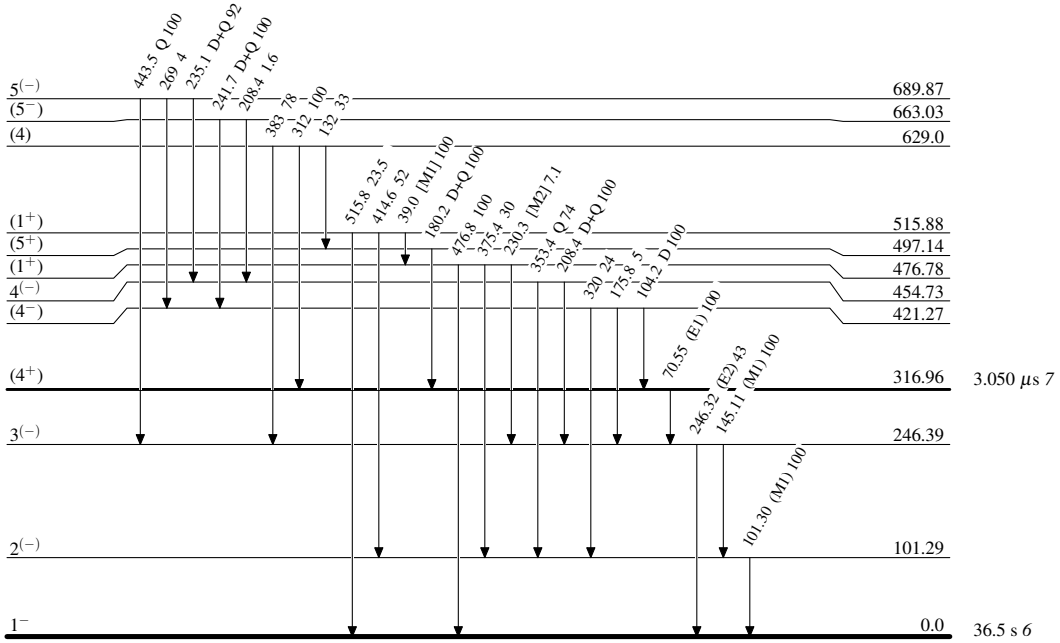


$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas

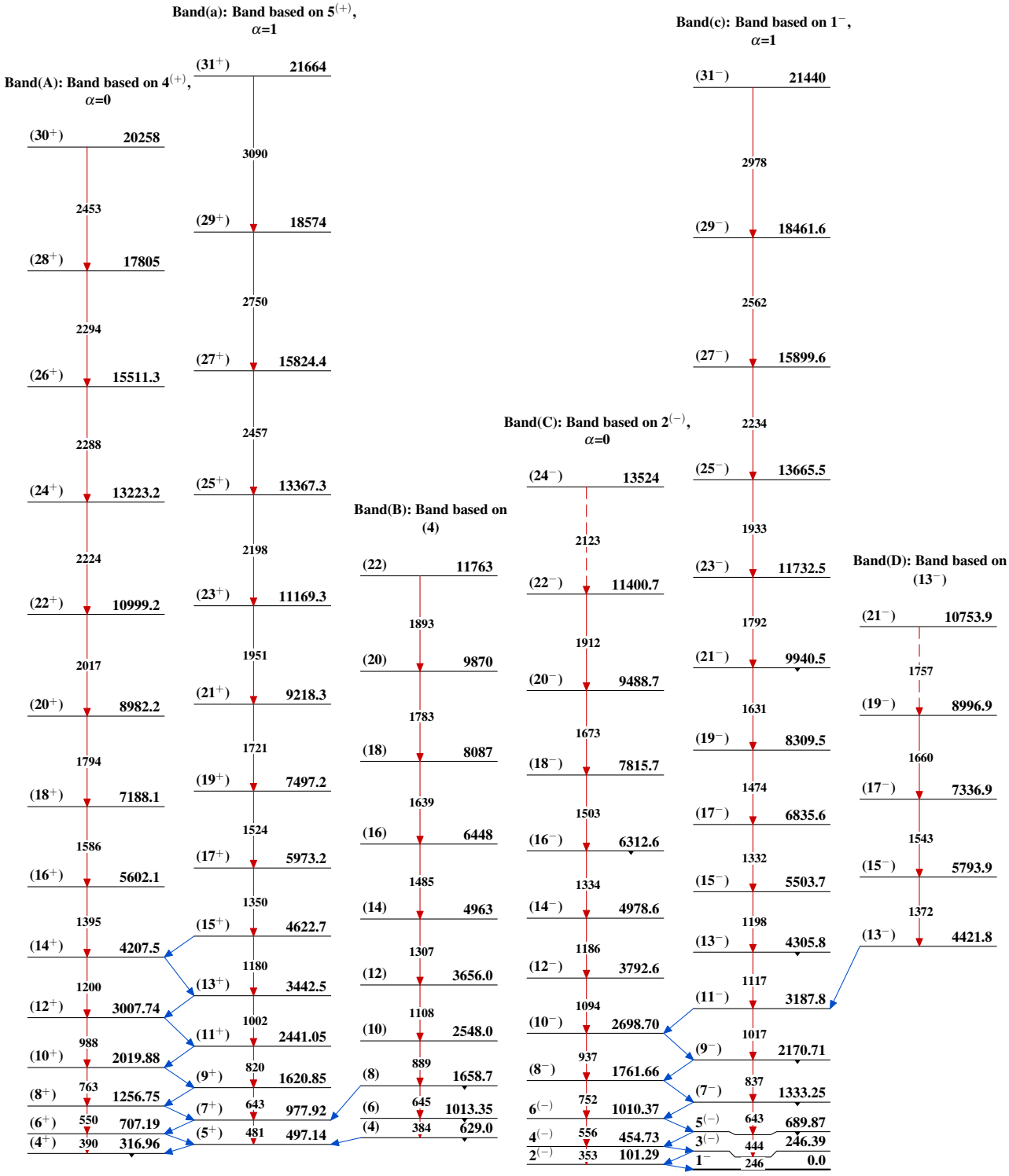
Level Scheme (continued)

Intensities: Relative photon branching from each level



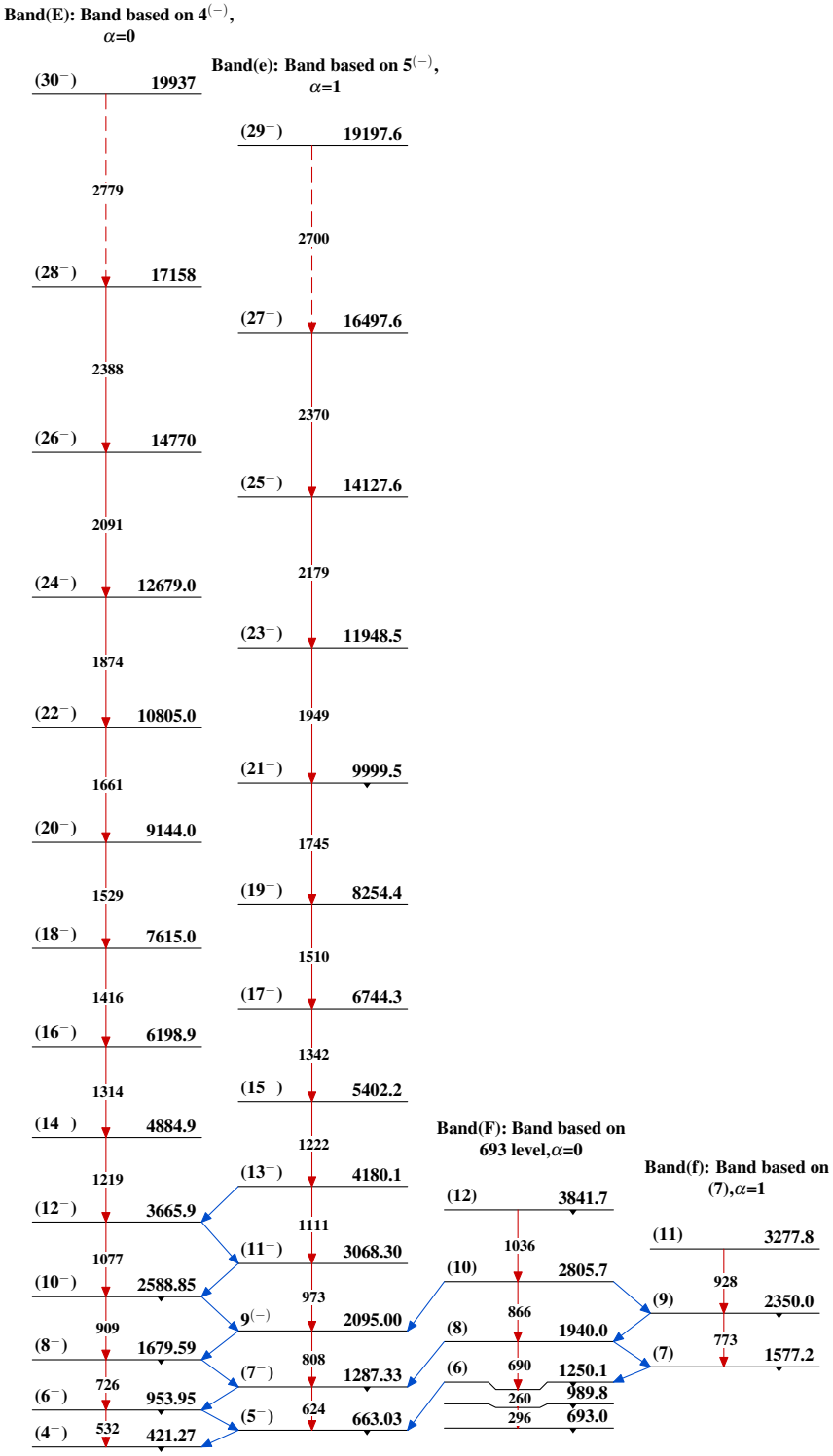
$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas



$^{76}_{37}Rb_{39}$

Adopted Levels, Gammas (continued)



$^{76}_{37}Rb_{39}$