Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Ameenah R. Farhan	NDS 107,1923 (2006)	30-Apr-2006

Q(β^-)=−2956 *7*; S(n)=9712 *10*; S(p)=4350 *10*; Q(α)=−3.37×10^3 *5* 2012Wa38
Note: Current evaluation has used the following Q record −2975 15 *9750* 50 *4377* 18 −3390 *50* 2003Au03.
Hyperfine structure and isotope-shift measurements: 1992Ba68, 1992Gr20, 1992Pr06, 1988Gr26, 1988StZR.
On-line orientation of ^{74}Br isotope: 1992Ba68.
Mass measurement: 2002He23.
Additional information 1.
Nuclear structure calculations: 2003Pa03, 1992Ta01.

^{74}Br Levels

Cross Reference (XREF) Flags

- A ^{74}Kr ε decay (11.50 min)
- B ^{74}Se(p,nγ) E=7.6-8.5 MeV
- C ^{74}Se(^{3}He,p2nγ),(d,2nγ)
- D (HI,xnγ)

E(level)†	J$^\pi$	T$_{1/2}$‡	XREF	Comments
0.0	(0$^-$)	25.4 min *3*	ABCD	%ε+%β^+=100 T$_{1/2}$: from ^{74}Br ε decay. Weighted average of 1974Co38, 1974Sc28, 1960Bu22. J$^\pi$: log *ft*=8.0 to 0$^+$ and 7.6 to 2$^+$ levels in ^{74}Se. Probable configuration=π3/2[431]ν3/2[301] (1983Wi01) favors 0$^-$.
9.84[c] *4*	(1$^-$)		ABCD	J$^\pi$: possible dipole γ to (0$^-$) and band assignment.
13.58[l] *21*	4$^{(+)}$	46 min *2*	BCD	%ε+%β^+=100 μ=1.820 *12* (1992Pr06) No isomeric transitions observed. μ: NMR on oriented nuclei. Other: 1.68 *18* (1992Pr06,static nuclear orientation with gamma detection). See also 2005St24 compilation. J$^\pi$: from atomic-beam magnetic resonance measurements in (1980Ek02). Parity from systematics. T$_{1/2}$: from ^{74}Br ε decay. Weighted average of values from 1984Ma35 and 1981Ga11 for γ-rays emitted by longer lived activity only. Other values in literature (from 1984Ma35,1981Ga11,1974Ro11,1972Co32,1971RoZV,1969La15, 1966Be17, 1957Be46,1953Ho53) give a slightly lower average value (41 min *2*) probably due to small contribution from 25-min activity.
72.63[d] *7*	(2$^-$)	≤0.5 ns	ABCD	J$^\pi$: $\gamma(\theta)$, γ(t); possible β feeding from 0$^+$; band assignment.
85.71[g] *21*	(3$^-$)	13.3 ns *4*	BCD	J$^\pi$: band assignment.
89.63[b] *9*	(1$^-$)	≤0.5 ns	ABCD	J$^\pi$: band assignment, from T$_{1/2}$ in the ns range (1983Wi01) and corresponding B(E1)(W.u.) and B(M1)(W.u.) values, negative parity is favored.
132.6? *2*	(1,2$^-$)&		A	
179.1 *3*	(1)&		AB	
180.59[b] *16*	(2$^-$)#	≤0.5 ns	CD	
200.82[c] *15*	(3$^-$)#		CD	
201.95[h] *21*	(4$^-$)#	0.7 ns *3*	BCD	
202.12[m] *23*	5$^{(+)}$#	114 ps *21*	CD	
212.84 *7*	1$^+$&		ABCD	J$^\pi$: configuration=π3/2[312]ν5/2[303], K^π=1$^+$.
238.5[i] *3*	(4$^-$)#		CD	
239.32 *9*	(1)&		ABC	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{74}Br Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
271.9 *3*			C	
296.36 *22*	(1,2$^-$)[a]		B	
306.58 *6*	1$^+$[&]		AB D	Jπ: configuration=π3/2[431]ν5/2[422], $K^\pi=1^+$.
329.40[e] *18*	(4$^-$)[#]		CD	
339.67[b] *21*	(3$^-$)[#]		CD	
371.18[g] *21*	(5$^-$)[#]	277 ps *35*	CD	
380.00[d] *16*	(4$^-$)[#]		CD	
390.05 *19*	(1)[&]		AB	
394.54 *23*	(4$^-$)[@]		CD	
396.95[l] *22*	6$^+$[#]	35.4 ps *35*	CD	
406.29 *22*	(1,2$^-$)[a]		B	
406.9 *4*			C	
424.36 *23*	(5$^-$)[@]		CD	
434.9 *3*	(1,2$^-$)[a]		B	
443.3 *3*	(4)		CD	Jπ: γ's to 4$^{(+)}$ and 5$^{(+)}$.
462.9[j] *4*	(5$^-$)[#]		CD	
469.1 *4*	(1,2$^-$)[a]		B	
485.76 *22*	(6$^-$)[#]	0.7 ns *4*	CD	
534.7 *7*	(1)[&]		A	
543.29[f] *19*	(5$^-$)[#]		D	
588.0 *4*	(1$^-$,2)[a]		B	
593.26[c] *19*	(5$^-$)[#]		CD	
609.12 *16*	(1$^+$)[&]		AB	
612.9 *7*	(1)[&]		A	
619.76[h] *23*	(6$^-$)[#]	18.7 ps *28*	CD	
663.1[k] *3*	(5$^+$)[@]		CD	
669.72[m] *23*	7$^{(+)}$[#]	9.2 ps *14*	CD	
701.28 *17*	(1$^+$)[&]		A	
736.2[i] *4*	(6$^-$)[#]		D	
802.7[k] *3*	(6$^+$)[#]		D	
815.54 *23*	(5$^-$)[@]		D	
820.48[e] *19*	(6$^-$)[#]		D	
826.13[l] *23*	8$^{(+)}$[#]	23.6 ps *21*	CD	
831.8 *6*	(1)[&]		A	
861.51[g] *23*	(7$^-$)[#]	12.5 ps *7*	D	
922.31[d] *22*	(6$^-$)[#]		D	
969.9 *4*	(1$^+$)[&]		A	
978.3 *8*	(1)[&]		A	
989.99 *25*	(7$^-$)[@]		D	
1049.4[j] *4*	(7$^-$)[#]		D	
1164.35[f] *22*	(7$^-$)[#]		D	
1170.4[k] *3*	(7$^+$)[#]		D	
1173.89[m] *24*	9$^{(+)}$[#]	1.66 ps *35*	CD	
1197.2[n] *3*	(8$^+$)[@]		CD	
1201.71[c] *24*	(7$^-$)[#]		D	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{74}Br Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	E(level)†	Jπ	$T_{1/2}$‡	XREF
1272.77[h] *24*	$(8^-)^{\#}$		D	2440.8[k] *4*	$(10^+)^{\#}$		D
1384.1[i] *4*	$(8^-)^{\#}$		D	2506.1[d] *4*	$(10^-)^{\#}$		D
1485.4[k] *3*	$(8^+)^{\#}$		D	2616.2[g] *3*	$(11^-)^{\#}$	0.291 ps *21*	D
1487.9 *3*	$(9^+)^{@}$		D	2765.9[l] *4*	$12^{(+)\#}$	0.146 ps *21*	D
1489.1[e] *3*	$(8^-)^{\#}$		D	2833.4[f] *5*	$(11^-)^{\#}$		D
1633.7[d] *3*	$(8^-)^{\#}$		D	3156.1[h] *5*	$(12^-)^{\#}$	0.28 ps *7*	D
1660.1[l] *3*	$(10^+)^{\#}$	0.82 ps *10*	CD	3176.6[m] *6*	$13^{(+)\#}$	0.139 ps *15*	D
1688.0[g] *3*	$(9^-)^{\#}$	0.42 ps *14*	D	3307.9[n] *5*	$(12^+)^{@}$		D
1728.7[j] *5*	$(9^-)^{\#}$		D	3446.5 *6*	$(12^+)^{@}$		D
1893.0[f] *3*	$(9^-)^{\#}$		D	3684.3[g] *5*	$(13^-)^{\#}$	0.173 ps *15*	D
1983.0[k] *4*	$(9^+)^{\#}$		D	4097.1[l] *7*	$(14^+)^{\#}$	0.090 ps *7*	D
2000.1[c] *4*	$(9^-)^{\#}$		D	4341.0[h] *7*	$(14^-)^{\#}$	<0.15 ps	D
2067.9[m] *3*	$11^{(+)\#}$	0.326 ps *35*	D	4492.1[m] *8*	$(15^+)^{\#}$	0.055 ps *15*	D
2133.8[n] *3*	$(10^+)^{@}$		D	4908.7[g] *7*	$(15^-)^{\#}$	<0.14 ps	D
2140.2[h] *3*	$(10^-)^{\#}$	0.49 ps *12*	D	5614.5[l] *8*	$(16^+)^{\#}$	<0.16 ps	D
2263.0 *4*	$(10^+)^{@}$		D	5962.1[m] *9*	$(17^+)^{\#}$	<0.14 ps	D
2331.5[e] *4*	$(10^-)^{\#}$		D	7614.3[m] *11*	$(19^+)^{\#}$		D

† From least square fit to Eγ's.
‡ From DSA and recoil-distance methods in (HI,xnγ), unless otherwise stated.
# From γ(θ) and band assignment in (HI,xnγ)(1993Do05).
@ From γ(θ) in (HI,xnγ)(1993Do05).
& From log *ft* values from 0^+; and in some cases γ to (0^-).
[a] $(1,2^-)$ from γ to (0^-).
[b] Band(A): $\pi 3/2[431]\nu 5/2[303], K^\pi=1^-$, $\alpha=1$.
[c] Band(B): $\pi 3/2[312]\nu 5/2[422], K^\pi=1^-$, $\alpha=1$.
[d] Band(b): $\pi 3/2[312]\nu 5/2[422], K^\pi=1^-$, $\alpha=0$.
[e] Band(C): $\pi 3/2[312]\nu 5/2[422], K^\pi=4^-$, $\alpha=0$.
[f] Band(c): $\pi 3/2[312]\nu 5/2[422], K^\pi=4^-$, $\alpha=1$.
[g] Band(D): $\pi 1/2[310]\nu 5/2[422], K^\pi=3^-$, $\alpha=1$.
[h] Band(d): $\pi 1/2[310]\nu 5/2[422], K^\pi=3^-$, $\alpha=0$.
[i] Band(E): $\pi 3/2[431]\nu 5/2[303], K^\pi=4^-$, $\alpha=0$.
[j] Band(e): $\pi 3/2[431]\nu 5/2[303], K^\pi=4^-$, $\alpha=1$.
[k] Band(F): band based on (5^+).
[l] Band(G): $\pi 3/2[431]\nu 5/2[422]$ $K^\pi=4^+$, $\alpha=0$.
[m] Band(g): $\pi 3/2[431]\nu 5/2[422]$ $K^\pi=4^+$, $\alpha=1$.
[n] Band(H): Band based on (8^+).

γ(^{74}Br)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.	α‡	Comments
9.84	(1^-)	9.85 *4*	100	0.0	(0^-)	[M1]	11.9	
72.63	(2^-)	62.84 *10*	100 *10*	9.84	(1^-)	[M1,E2]	2.7 *23*	
		72.38 *20*	5 *3*	0.0	(0^-)	[E2]	2.93	
85.71	(3^-)	72.1 *1*	100	13.58	$4^{(+)}$	[E1]	0.225	B(E1)(W.u.)=6.28×10^{-5} *20*
89.63	(1^-)	79.96 *20*	0.9 *2*	9.84	(1^-)	[M1,E2]	1.1 *9*	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{74}Br) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[‡]	Comments
89.63	(1⁻)	89.60 *13*	100 *29*	0.0	(0⁻)	[M1]	0.156	
132.6?	(1,2⁻)	132.6[#] *2*	100	0.0	(0⁻)			
179.1	(1)	89.7 *10*	100 *20*	89.63	(1⁻)	[D,E2]	0.7 *6*	
		179.3 *4*	37 *7*	0.0	(0⁻)			
180.59	(2⁻)	91.0 *1*	100	89.63	(1⁻)	[M1,E2]	0.7 *6*	B(M1)(W.u.)>0.0092; B(E2)(W.u.)>1.5×10^3
		180.7 *3*	32	0.0	(0⁻)	[E2]	0.100	B(E2)(W.u.)>49
200.82	(3⁻)	128.2 *2*	100	72.63	(2⁻)	[M1,E2]	0.20 *14*	
		191.2 *3*	≈6	9.84	(1⁻)			
201.95	(4⁻)	116.2 *1*	100 *7*	85.71	(3⁻)			
		188.4 *1*	66 *10*	13.58	4(+)			
202.12	5(+)	188.5 *1*	100	13.58	4(+)	(M1+E2)	0.05 *4*	
212.84	1⁺	123.5 *12*	47 *6*	89.63	(1⁻)	[E1]	0.046	
		140.25 *8*	45 *5*	72.63	(2⁻)	[E1]	0.031	
		203.0 *1*	100 *7*	9.84	(1⁻)			
		212.75 *20*	5.3 *6*	0.0	(0⁻)			
238.5	(4⁻)	224.9 *2*	100	13.58	4(+)			
239.32	(1)	26.40 *15*	7 *3*	212.84	1⁺	[D]	4.5 *10*	
		149.72 *15*	100 *6*	89.63	(1⁻)			
		166.8 *3*	17 *6*	72.63	(2⁻)			
		229.7 *5*	22 *10*	9.84	(1⁻)			
		239.6 *5*	20 *13*	0.0	(0⁻)			
271.9		186.2 *2*	100	85.71	(3⁻)			
296.36	(1,2⁻)	223.9 *3*	100 *21*	72.63	(2⁻)			
		296.2 *3*	<62	0.0	(0⁻)			
306.58	1⁺	67.29 *15*	15 *2*	239.32	(1)	[D,E2]	2.1 *17*	
		93.81 *10*	33 *2*	212.84	1⁺	[M1,E2]	0.6 *5*	
		127.8 *5*	7 *2*	179.1	(1)			Observed in (p,nγ) only.
		217.0 *12*	81 *22*	89.63	(1⁻)			
		233.88 *10*	44 *6*	72.63	(2⁻)			
		296.67 *10*	100 *10*	9.84	(1⁻)			
		306.51 *10*	94 *10*	0.0	(0⁻)			
329.40	(4⁻)	127.6 *3*	67 *20*	201.95	(4⁻)			
		128.6 *2*	100 *33*	200.82	(3⁻)	[M1,E2]	0.20 *15*	
		243.8 *4*	57 *24*	85.71	(3⁻)			
		256.6 *3*	30 *20*	72.63	(2⁻)			
339.67	(3⁻)	100.3 *3*	100	239.32	(1)			
		159.1 *2*	79	180.59	(2⁻)			
371.18	(5⁻)	169.2 *1*	100 *5*	201.95	(4⁻)			
		285.5 *2*	35 *5*	85.71	(3⁻)	[E2]		B(E2)(W.u.)=15 *3*
		357.5[#] *3*	4 *2*	13.58	4(+)	[E1]		B(E1)(W.u.)=8.E−7 *4*
380.00	(4⁻)	179.2 *1*	100 *13*	200.82	(3⁻)			
		307.3 *3*	36 *9*	72.63	(2⁻)			
390.05	(1)	83.6 *4*	14 *7*	306.58	1⁺	[D,E2]	1.0 *8*	
		210.0 *6*	11 *6*	179.1	(1)			
		300.4 *3*	100 *14*	89.63	(1⁻)			
		389.5 *4*	27 *9*	0.0	(0⁻)			Observed in (p,nγ) only.
394.54	(4⁻)	192.4 *3*	21 *15*	201.95	(4⁻)			
		308.8 *2*	100 *15*	85.71	(3⁻)			
396.95	6⁺	195.0 *1*	100 *3*	202.12	5(+)	M1+E2	0.023	Mult.: from γ(θ) (1991Ho01). δ=0.25 (1991Ho01) is too high since it gives B(E2)(W.u.)=1140 *130*. δ<0.14 from RUL(E2)=300.
		383.4 *1*	59 *3*	13.58	4(+)	[E2]		B(E2)(W.u.)=39 *4*
406.29	(1,2⁻)	98.8 *3*	26 *8*	306.58	1⁺	[D]	0.5 *4*	
		407.2 *3*	100 *19*	0.0	(0⁻)			

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{74}Br) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	Comments
406.9		134.9 *4*	100	271.9			
		204.9 *4*	82	201.95	(4^-)		
424.36	(5^-)	53.0 *4*	11	371.18	(5^-)		
		222.4 *2*	100	201.95	(4^-)		
434.9	$(1,2^-)$	128.3 *3*	100 *20*	306.58	1^+		
		435.0 *5*	13 *3*	0.0	(0^-)		
443.3	(4)	72#		371.18	(5^-)		
		241.4 *2*	100 *12*	202.12	$5^{(+)}$		
		430.0 *4*	71 *21*	13.58	$4^{(+)}$		
462.9	(5^-)	224.4 *2*	100	238.5	(4^-)		
469.1	$(1,2^-)$	396.6 *5*	100 *21*	72.63	(2^-)		
		468.9 *5*	29 *7*	0.0	(0^-)		
485.76	(6^-)	61.4 *2*	8	424.36	(5^-)		
		114.5 *2*	44 *5*	371.18	(5^-)		
		248.0# *3*	<4	238.5	(4^-)		
		283.8 *2*	100 *6*	201.95	(4^-)	[E2]	B(E2)(W.u.)=15 *9*
534.7	(1)	444.8 *10*	100 *19*	89.63	(1^-)		
		524.4 *12*	16 *10*	9.84	(1^-)		
		535.3 *10*	69 *19*	0.0	(0^-)		
543.29	(5^-)	148.7 *2*	53 *13*	394.54	(4^-)		
		163.3 *3*	≈26	380.00	(4^-)		
		214.0 *2*	63 *13*	329.40	(4^-)		
		341.4 *3*	100 *18*	201.95	(4^-)		
588.0	$(1^-,2)$	181.1 *5*	100 *21*	406.29	$(1,2^-)$		
		588.1 *5*	16 *5*	0.0	(0^-)		
593.26	(5^-)	213.3 *2*	100 *13*	380.00	(4^-)		
		263.8 *3*	47 *11*	329.40	(4^-)		
		392.5 *3*	100 *13*	200.82	(3^-)		
609.12	(1^+)	369.7 *7*	29 *6*	239.32	(1)		
		396.0 *3*	76 *9*	212.84	1^+		
		519.8 *5*	56 *12*	89.63	(1^-)		
		536.4 *10*	32 *9*	72.63	(2^-)		
		609.2 *2*	100 *12*	0.0	(0^-)		
612.9	(1)	373.6 *7*	100	239.32	(1)		
619.76	(6^-)	133.9 *2*	79 *10*	485.76	(6^-)		
		195.6 *3*	95 *16*	424.36	(5^-)		
		248.6 *2*	68 *10*	371.18	(5^-)		
		417.9 *2*	100 *10*	201.95	(4^-)	[E2]	B(E2)(W.u.)=38 *8*
663.1	(5^+)	220.0 *3*	100 *29*	443.3	(4)		
		266.1 *3*	82 *29*	396.95	6^+		
		461.1 *3*	71 *24*	202.12	$5^{(+)}$		
669.72	$7^{(+)}$	272.8 *1*	100 *8*	396.95	6^+	M1+E2	Mult.: from γ(θ) (1991Ho01). δ=0.25 (1991Ho01) is too high since it gives B(E2)(W.u.)=760 *140*. δ<0.18 from RUL(E2)=300.
		467.5 *2*	47 *3*	202.12	$5^{(+)}$	[E2]	B(E2)(W.u.)=48 *9*
701.28	(1^+)	310.9 *5*	53 *9*	390.05	(1)		
		488.9 *10*	17 *4*	212.84	1^+		
		611.5 *10*	13 *4*	89.63	(1^-)		
		628.8 *7*	17 *6*	72.63	(2^-)		
		691.5 *7*	19 *4*	9.84	(1^-)		
		701.3 *2*	100 *9*	0.0	(0^-)		
736.2	(6^-)	273.3 *2*	100 *25*	462.9	(5^-)		
		497.7 *2*	58 *13*	238.5	(4^-)		
802.7	(6^+)	139.5 *5*	21 *8*	663.1	(5^+)		
		405.8 *2*	58 *13*	396.95	6^+		

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{74}Br) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[‡]	Comments
802.7	(6$^+$)	600.4 *3*	100 *15*	202.12	5$^{(+)}$			
815.54	(5$^-$)	222.4 *2*	83 *42*	593.26	(5$^-$)			
		272.2 *3*	100 *21*	543.29	(5$^-$)			
		485.9 *3*	92 *17*	329.40	(4$^-$)			
820.48	(6$^-$)	227.2 *2*	70 *23*	593.26	(5$^-$)			
		277.3 *2*	80 *20*	543.29	(5$^-$)			
		449.2 *2*	93 *20*	371.18	(5$^-$)			
		491.1 *2*	100 *33*	329.40	(4$^-$)			
826.13	8$^{(+)}$	156.4 *1*	41 *3*	669.72	7$^{(+)}$	M1+E2	0.037	Mult.: from γ(θ) (1991Ho01). δ=0.12 (1991Ho01) is too high since it gives B(E2)(W.u.)=1780 *240*. δ<0.05 from RUL(E2)=300.
		429.2 *1*	100 *3*	396.95	6$^+$	[E2]		B(E2)(W.u.)=62 *6*
831.8	(1)	618.9 *6*	100 *25*	212.84	1$^+$			
		831.9 *20*	63 *25*	0.0	(0$^-$)			
861.51	(7$^-$)	241.8 *2*	34 *1*	619.76	(6$^-$)			
		375.8 *3*	28 *1*	485.76	(6$^-$)			
		437.0 *2*	13 *1*	424.36	(5$^-$)	[E2]		B(E2)(W.u.)=11 *2*
		490.4 *2*	100 *2*	371.18	(5$^-$)	[E2]		B(E2)(W.u.)=49 *4*
922.31	(6$^-$)	379.0 *2*	40 *12*	543.29	(5$^-$)			
		542.3 *3*	100 *15*	380.00	(4$^-$)			
969.9	(1$^+$)	757.3 *4*	100 *16*	212.84	1$^+$			
		879.5 *15*	26 *11*	89.63	(1$^-$)			
		969.0 *10*	42 *11*	0.0	(0$^-$)			
978.3	(1)	738.8 *10*	100 *33*	239.32	(1)			
		765.9 *15*	100 *33*	212.84	1$^+$			
		978.1 *20*	83 *33*	0.0	(0$^-$)			
989.99	(7$^-$)	370.4 *3*	57 *9*	619.76	(6$^-$)			
		504.3 *3*	100 *10*	485.76	(6$^-$)			
		618.8 *3*	62 *9*	371.18	(5$^-$)			
1049.4	(7$^-$)	313.3 *2*	100 *17*	736.2	(6$^-$)			
		586.5 *3*	83 *20*	462.9	(5$^-$)			
1164.35	(7$^-$)	242.0 *2*	37 *11*	922.31	(6$^-$)			
		343.8 *3*	≈29	820.48	(6$^-$)			
		621.1 *3*	100 *17*	543.29	(5$^-$)			
		678.7 *3*	63 *11*	485.76	(6$^-$)			
1170.4	(7$^+$)	344.3 *3*	100 *21*	826.13	8$^{(+)}$			
		367.8 *2*	93 *21*	802.7	(6$^+$)			
1173.89	9$^{(+)}$	347.8 *1*	100 *4*	826.13	8$^{(+)}$	(M1+E2)		
		504.1 *3*	20 *4*	669.72	7$^{(+)}$	[E2]		B(E2)(W.u.)=95 *28*
1197.2	(8$^+$)	527.6 *2*	100 *10*	669.72	7$^{(+)}$			
		800.1 *2*	70 *7*	396.95	6$^+$			
1201.71	(7$^-$)	381.3 *2*	64 *15*	820.48	(6$^-$)			
		608.3 *3*	100 *15*	593.26	(5$^-$)			
1272.77	(8$^-$)	283.0 *3*	24 *12*	989.99	(7$^-$)			
		411.3 *2*	63 *6*	861.51	(7$^-$)			
		653.0 *2*	100 *7*	619.76	(6$^-$)			
		786.8 *3*	67 *8*	485.76	(6$^-$)			
1384.1	(8$^-$)	334.7 *2*	92 *21*	1049.4	(7$^-$)			
		647.8 *3*	100 *21*	736.2	(6$^-$)			
1485.4	(8$^+$)	311.6 *3*	53 *13*	1173.89	9$^{(+)}$			
		315.2 *3*	100 *17*	1170.4	(7$^+$)			
		682.7 *3*	63 *17*	802.7	(6$^+$)			
		815.6 *3*	73 *13*	669.72	7$^{(+)}$			
1487.9	(9$^+$)	290.8 *3*	28 *8*	1197.2	(8$^+$)			
		818.2 *2*	100 *12*	669.72	7$^{(+)}$			

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{74}Br) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	Comments
1489.1	(8$^-$)	287.3 *2*	55 *10*	1201.71	(7$^-$)		
		668.6 *3*	100 *14*	820.48	(6$^-$)		
1633.7	(8$^-$)	469.5 *3*	65 *20*	1164.35	(7$^-$)		
		711.5 *3*	100 *25*	922.31	(6$^-$)		
1660.1	(10$^+$)	486.3 *2*	7.5 *10*	1173.89	9$^{(+)}$	(M1+E2)	
		833.9 *2*	100 *1*	826.13	8$^{(+)}$	[E2]	B(E2)(W.u.)=87 *11*
1688.0	(9$^-$)	415.3 *2*	45 *6*	1272.77	(8$^-$)	(M1+E2)	
		698.0 *3*	19 *6*	989.99	(7$^-$)	[E2]	B(E2)(W.u.)=51 *25*
		826.4 *2*	100 *3*	861.51	(7$^-$)	[E2]	B(E2)(W.u.)=110 *40*
1728.7	(9$^-$)	344.7 *3*	56 *33*	1384.1	(8$^-$)		
		679.2 *3*	100 *28*	1049.4	(7$^-$)		
1893.0	(9$^-$)	259.9 *5*	≈32	1633.7	(8$^-$)		
		728.5 *3*	97 *64*	1164.35	(7$^-$)		
		903.0 *3*	100 *19*	989.99	(7$^-$)		
1983.0	(9$^+$)	322.7 *4*	35 *15*	1660.1	(10$^+$)		
		497.6 *3*	100 *25*	1485.4	(8$^+$)		
2000.1	(9$^-$)	511.0# *4*	≈28	1489.1	(8$^-$)		
		798.5 *3*	100	1201.71	(7$^-$)		
2067.9	11$^{(+)}$	407.8 *2*	59 *2*	1660.1	(10$^+$)	M1+E2	Mult.: from γ(θ) (1991Ho01). δ=0.16 (1991Ho01) is too high since it gives B(E2)(W.u.)=1900 *400*. δ<0.07 from RUL(E2)=300.
		894.1 *2*	100 *2*	1173.89	9$^{(+)}$	[E2]	B(E2)(W.u.)=104 *9*
2133.8	(10$^+$)	936.7 *3*	16 *7*	1197.2	(8$^+$)		
		959.8 *3*	100 *13*	1173.89	9$^{(+)}$		
2140.2	(10$^-$)	452.3 *2*	28 *4*	1688.0	(9$^-$)	(M1+E2)	
		867.4 *2*	100 *4*	1272.77	(8$^-$)	[E2]	B(E2)(W.u.)=100 *30*
2263.0	(10$^+$)	1089.1 *3*	100	1173.89	9$^{(+)}$		
2331.5	(10$^-$)	331.7 *4*	≈33	2000.1	(9$^-$)		
		842.3 *3*	100 *33*	1489.1	(8$^-$)		
2440.8	(10$^+$)	457.7 *4*	95 *24*	1983.0	(9$^+$)		
		955.4 *3*	100 *24*	1485.4	(8$^+$)		
2506.1	(10$^-$)	613.1 *3*	100 *33*	1893.0	(9$^-$)		
		872.3 *4*	67 *23*	1633.7	(8$^-$)		
2616.2	(11$^-$)	475.9 *3*	33 *1*	2140.2	(10$^-$)	(M1+E2)	
		928.2 *2*	100 *1*	1688.0	(9$^-$)	[E2]	B(E2)(W.u.)=115 *15*
2765.9	12$^{(+)}$	697.9 *3*	27 *3*	2067.9	11$^{(+)}$	(M1+E2)	
		1105.7 *4*	100 *4*	1660.1	(10$^+$)	[E2]	B(E2)(W.u.)=98 *30*
2833.4	(11$^-$)	940.4 *4*	100	1893.0	(9$^-$)		
3156.1	(12$^-$)	1015.9 *4*	100	2140.2	(10$^-$)	[E2]	B(E2)(W.u.)=100 *30*
3176.6	13$^{(+)}$	1108.6 *5*	100	2067.9	11$^{(+)}$	[E2]	B(E2)(W.u.)=132 *15*
3307.9	(12$^+$)	1173.8 *5*	100 *33*	2133.8	(10$^+$)		
		1240.2 *5*	67 *33*	2067.9	11$^{(+)}$		
3446.5	(12$^+$)	1378.5 *5*	100	2067.9	11$^{(+)}$		
3684.3	(13$^-$)	1068.1 *3*	100	2616.2	(11$^-$)	[E2]	B(E2)(W.u.)=128 *11*
4097.1	(14$^+$)	1331.2 *5*	100	2765.9	12$^{(+)}$	[E2]	B(E2)(W.u.)=82 *7*
4341.0	(14$^-$)	1184.9 *5*	100	3156.1	(12$^-$)	[E2]	B(E2)(W.u.)>87
4492.1	(15$^+$)	1315.5 *5*	100	3176.6	13$^{(+)}$	[E2]	B(E2)(W.u.)=140 *40*
4908.7	(15$^-$)	1224.4 *5*	100	3684.3	(13$^-$)	[E2]	B(E2)(W.u.)>79
5614.5	(16$^+$)	1517.4 *5*	100	4097.1	(14$^+$)	[E2]	B(E2)(W.u.)>24
5962.1	(17$^+$)	1470.0 *5*	100	4492.1	(15$^+$)	[E2]	B(E2)(W.u.)>32
7614.3	(19$^+$)	1652.2 *5*	100	5962.1	(17$^+$)		

† Weighted average of available values from different datasets.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{74}Br)$ (continued)

‡ 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.
# Placement of transition in the level scheme is uncertain.

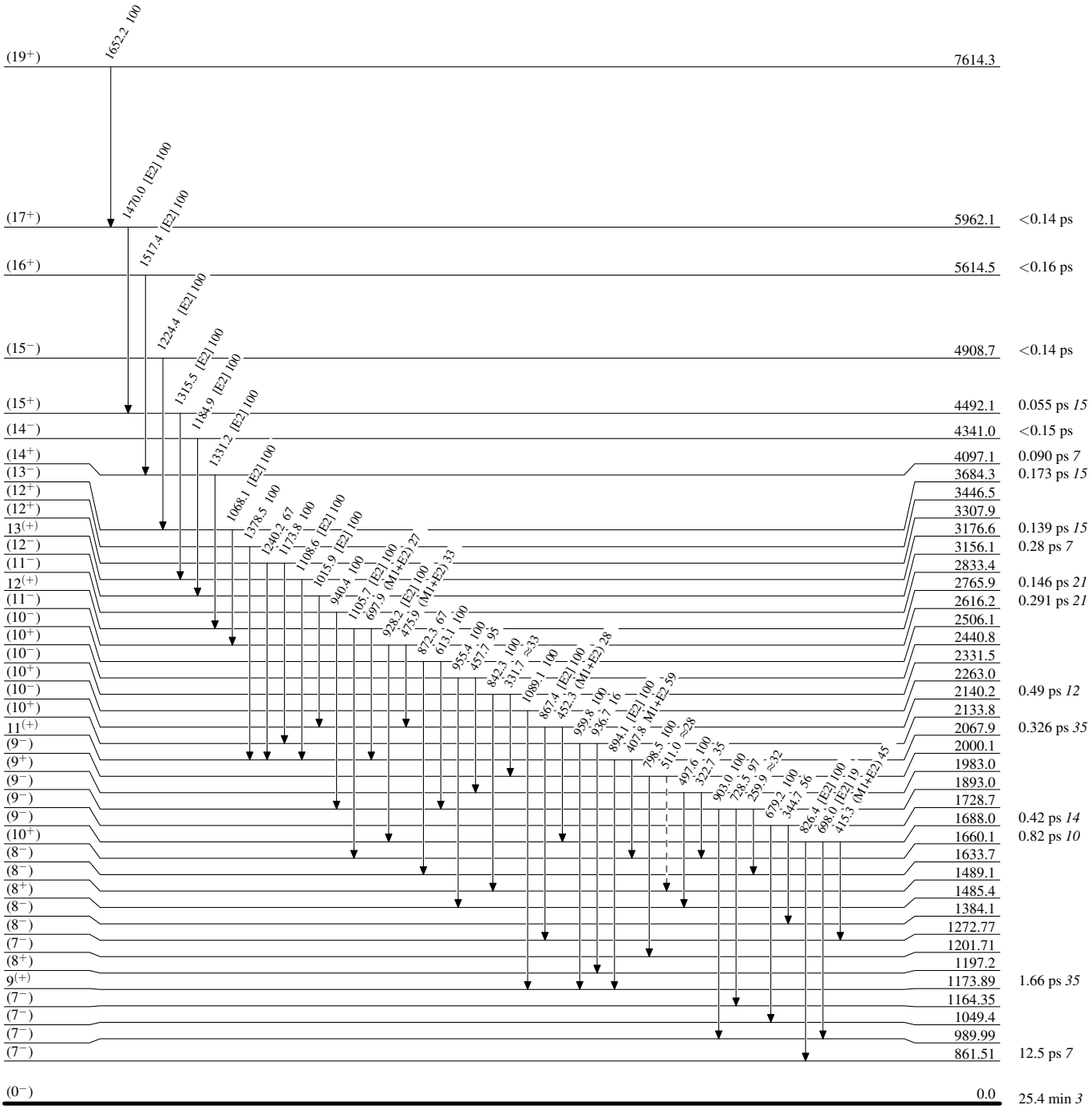
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

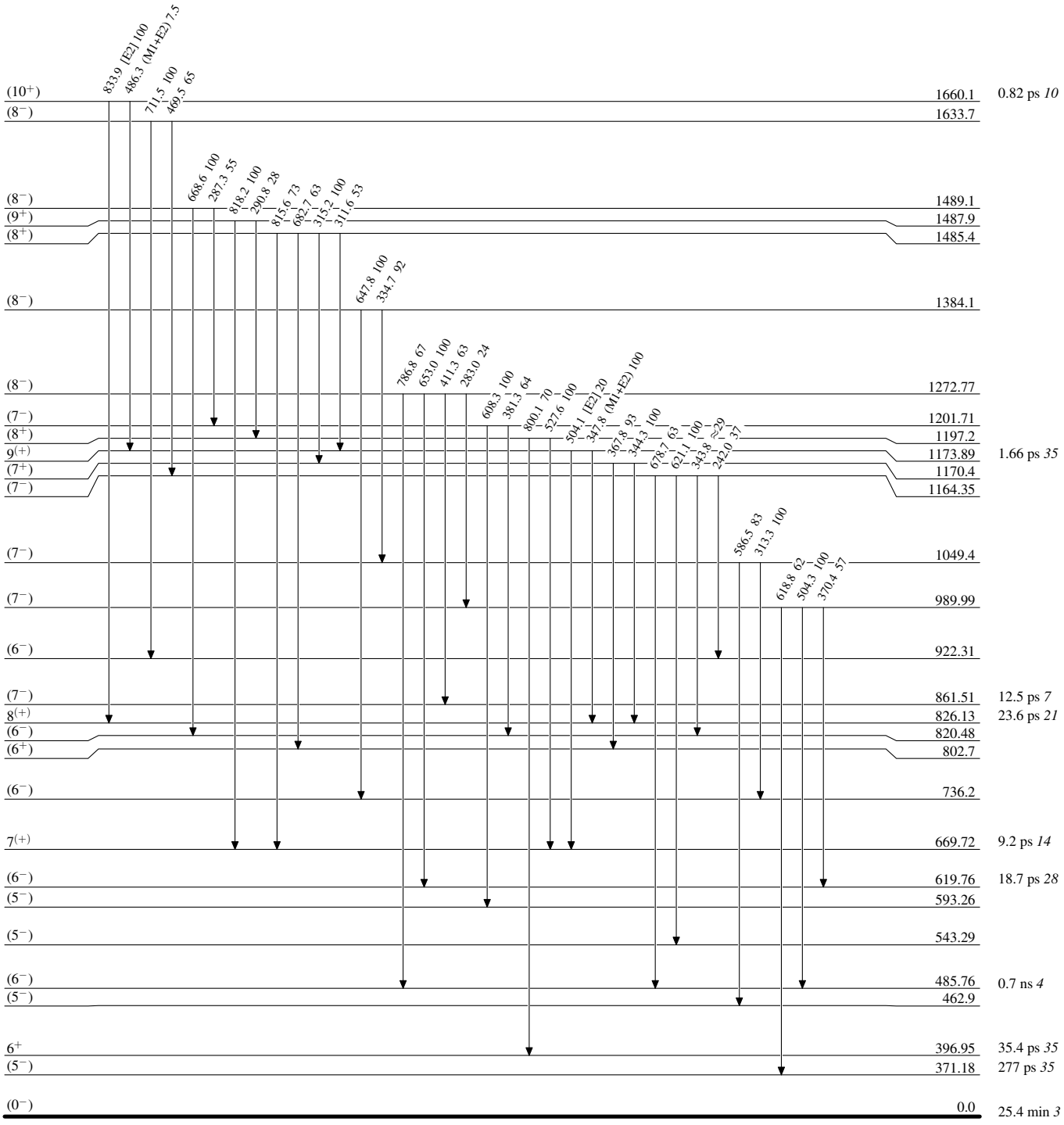


$^{74}_{35}Br_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

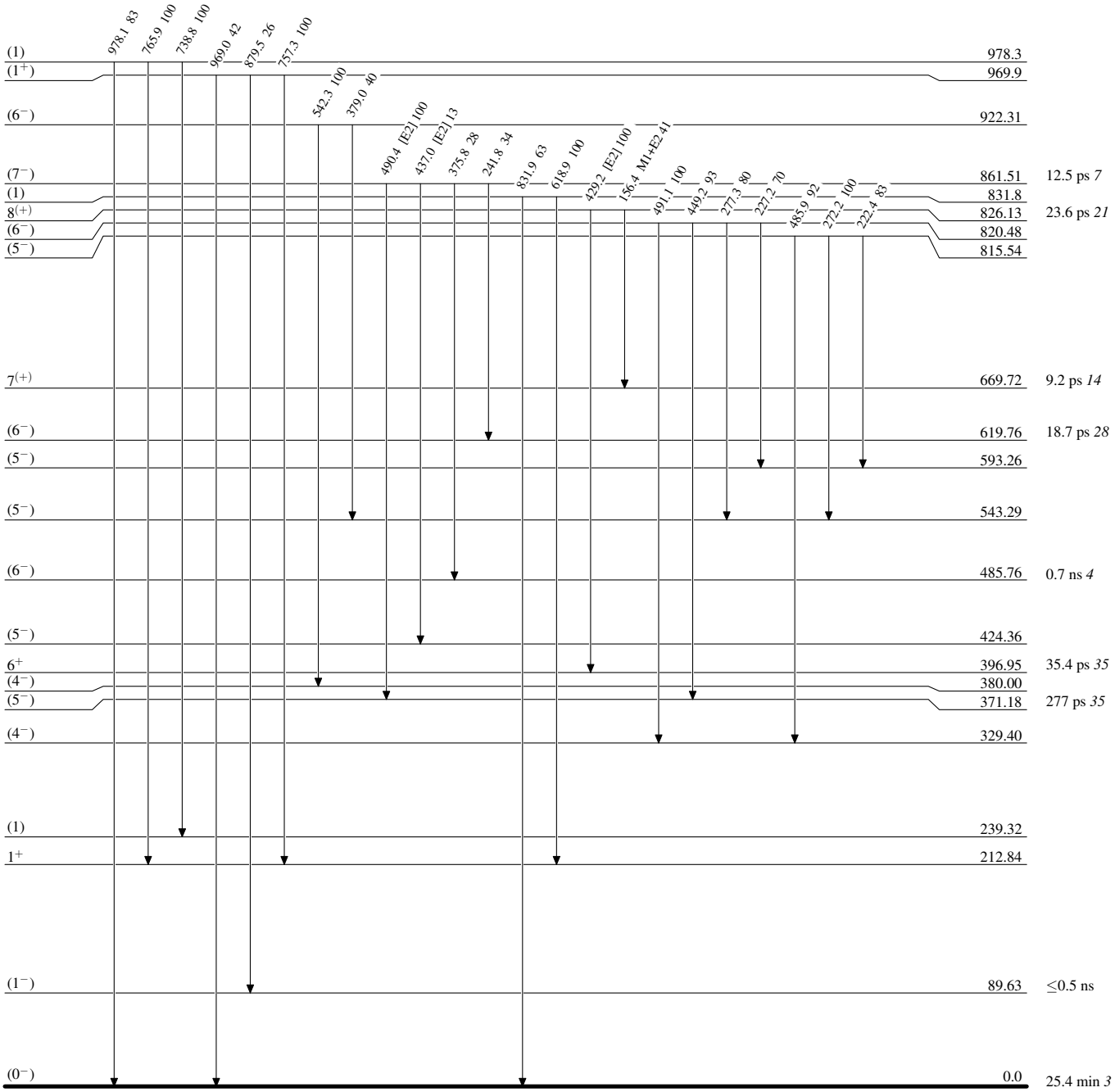


$^{74}_{35}Br_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

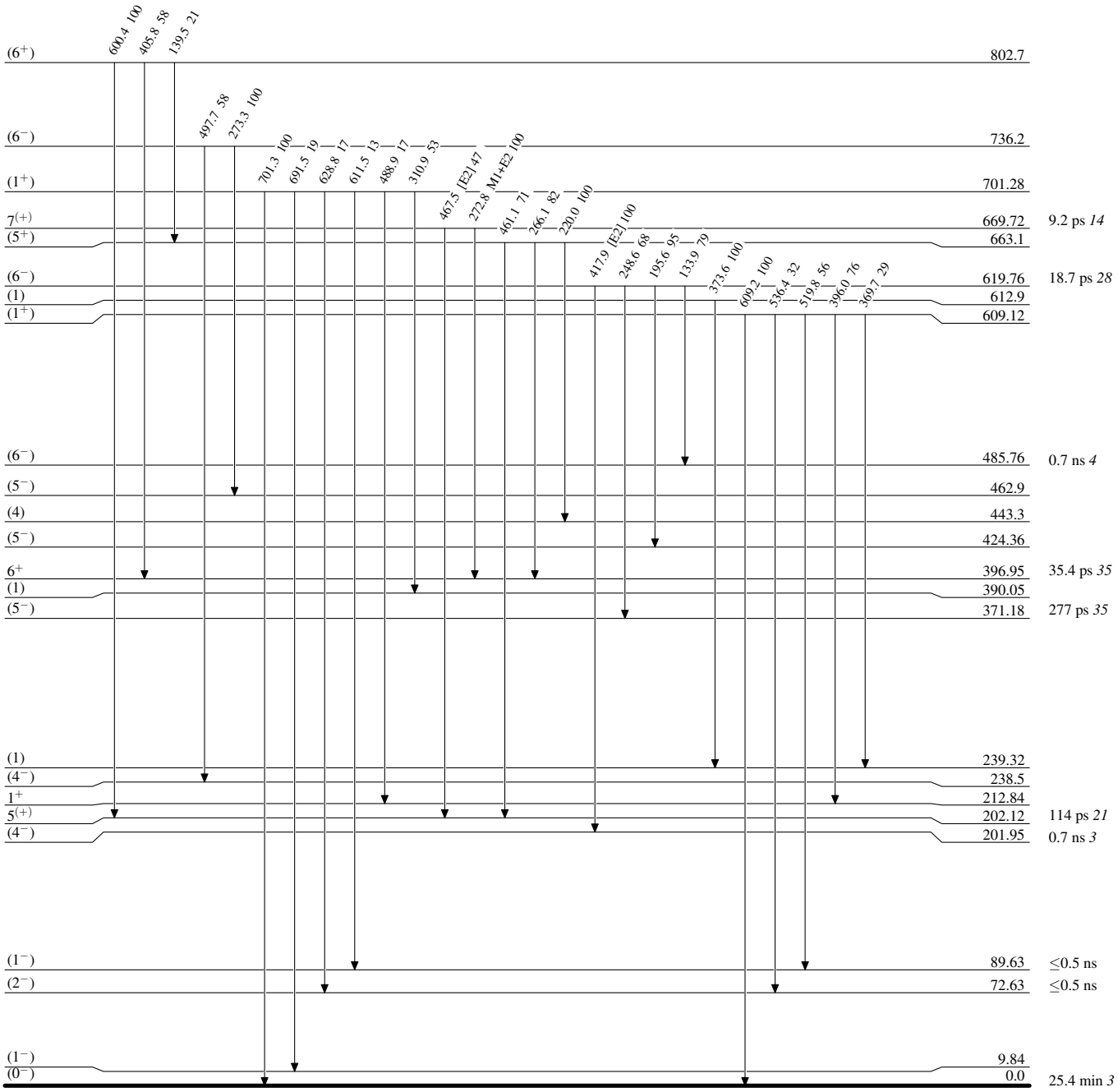


$^{74}_{35}Br_{39}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{74}_{35}Br_{39}$

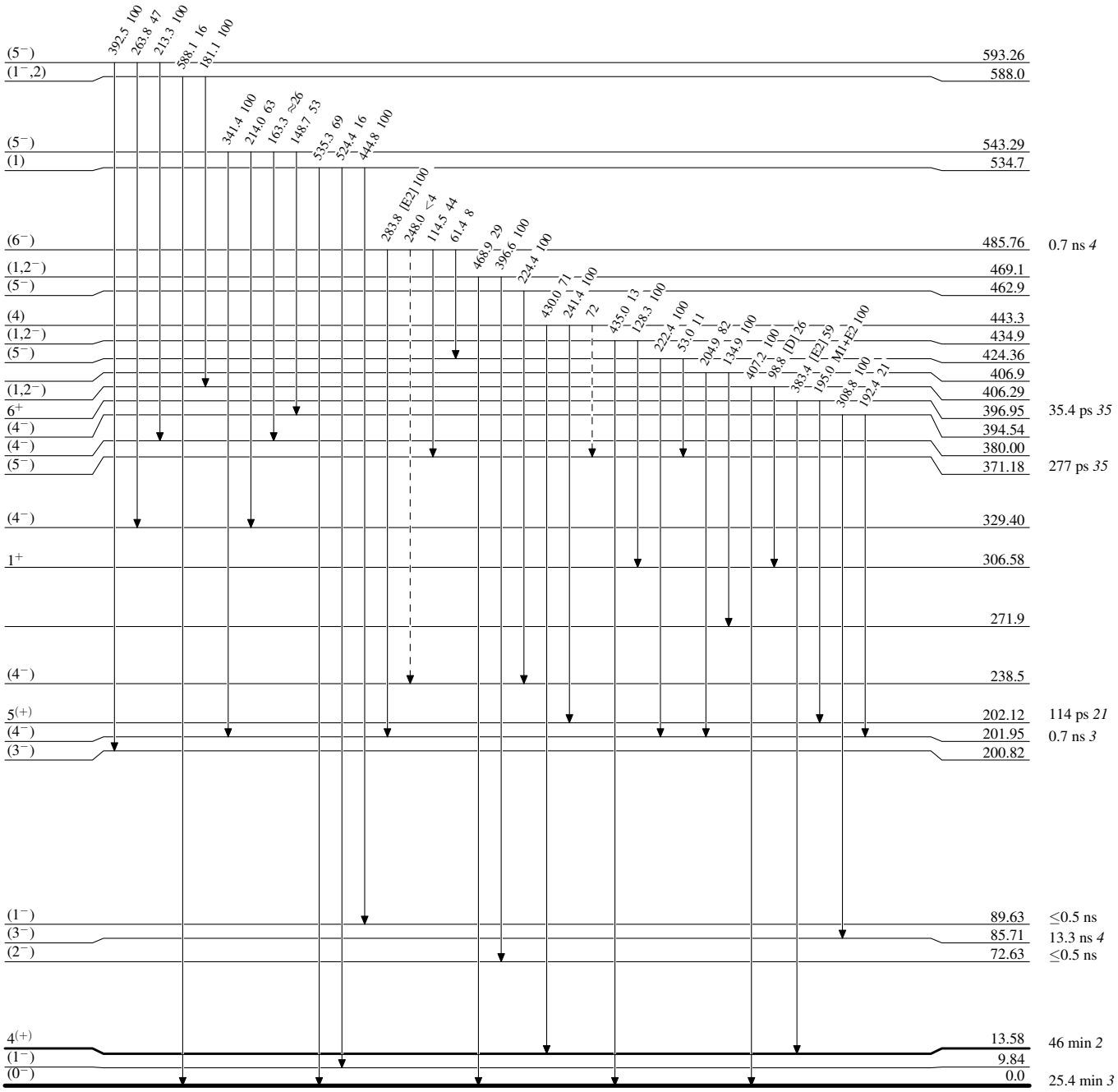
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{74}_{35}Br_{39}$

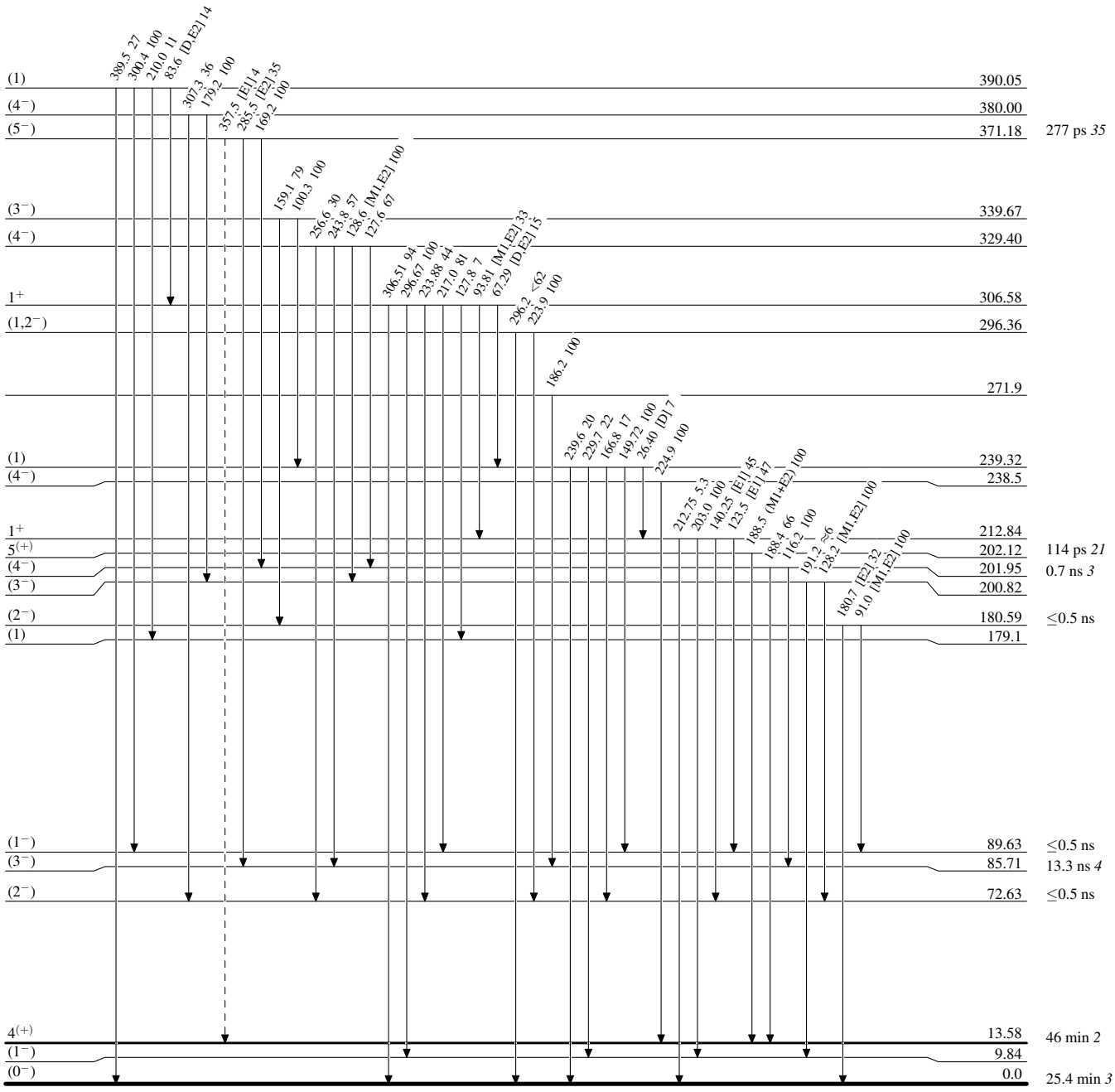
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{74}_{35}Br_{39}$

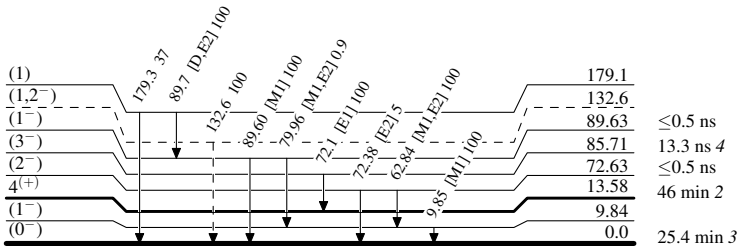
Adopted Levels, Gammas

Legend

Level Scheme (continued)

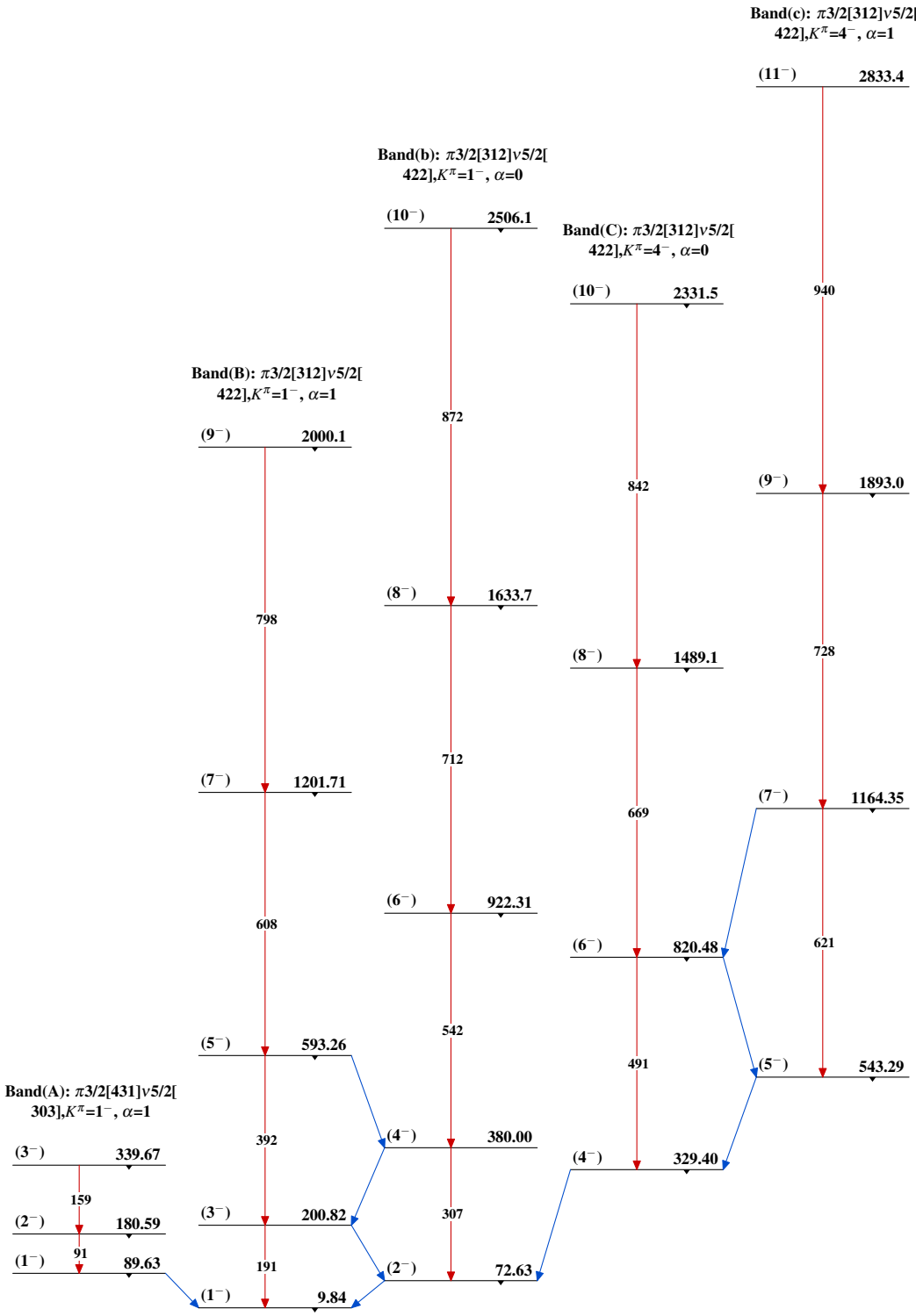
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



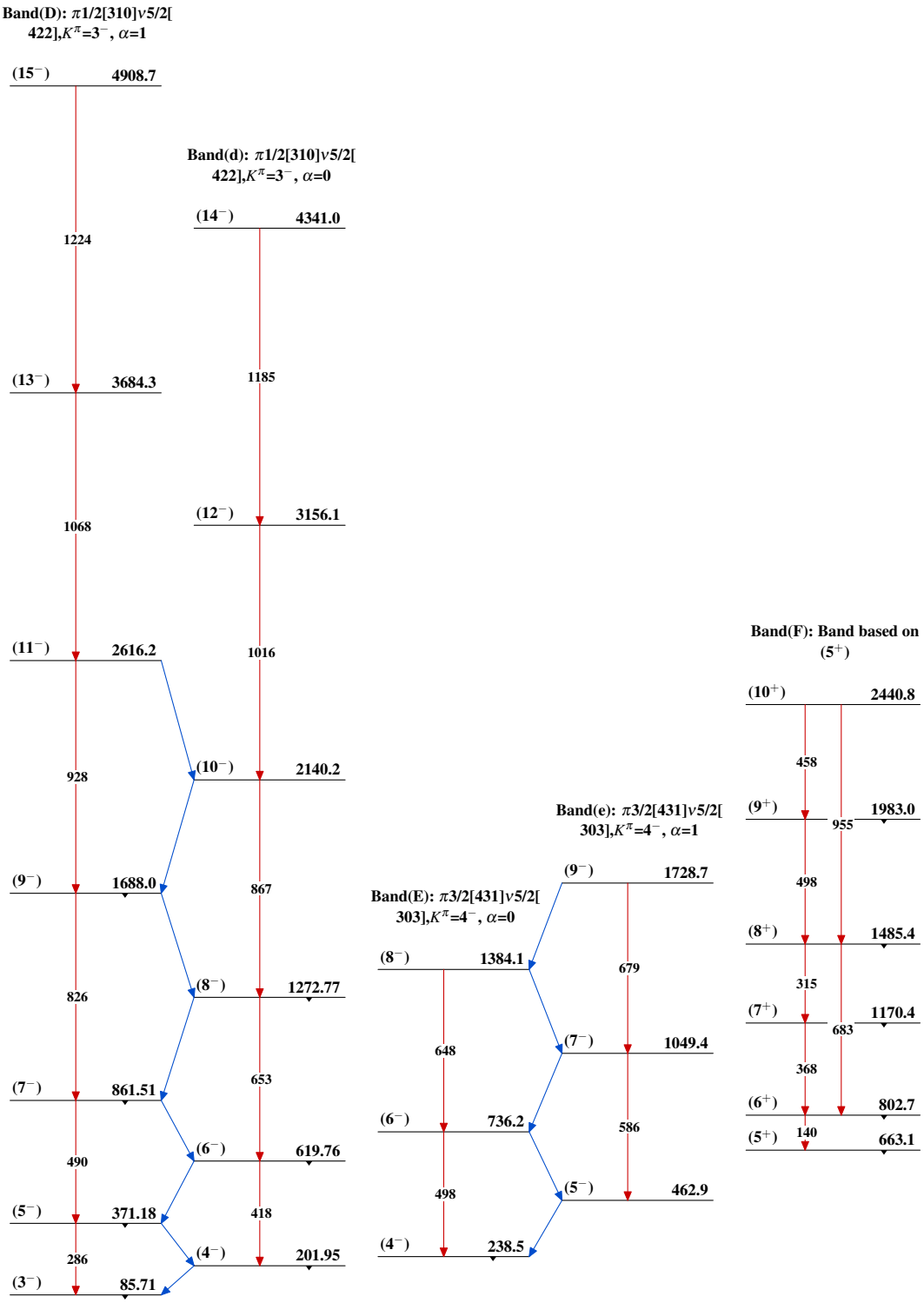
$^{74}_{35}Br_{39}$

Adopted Levels, Gammas



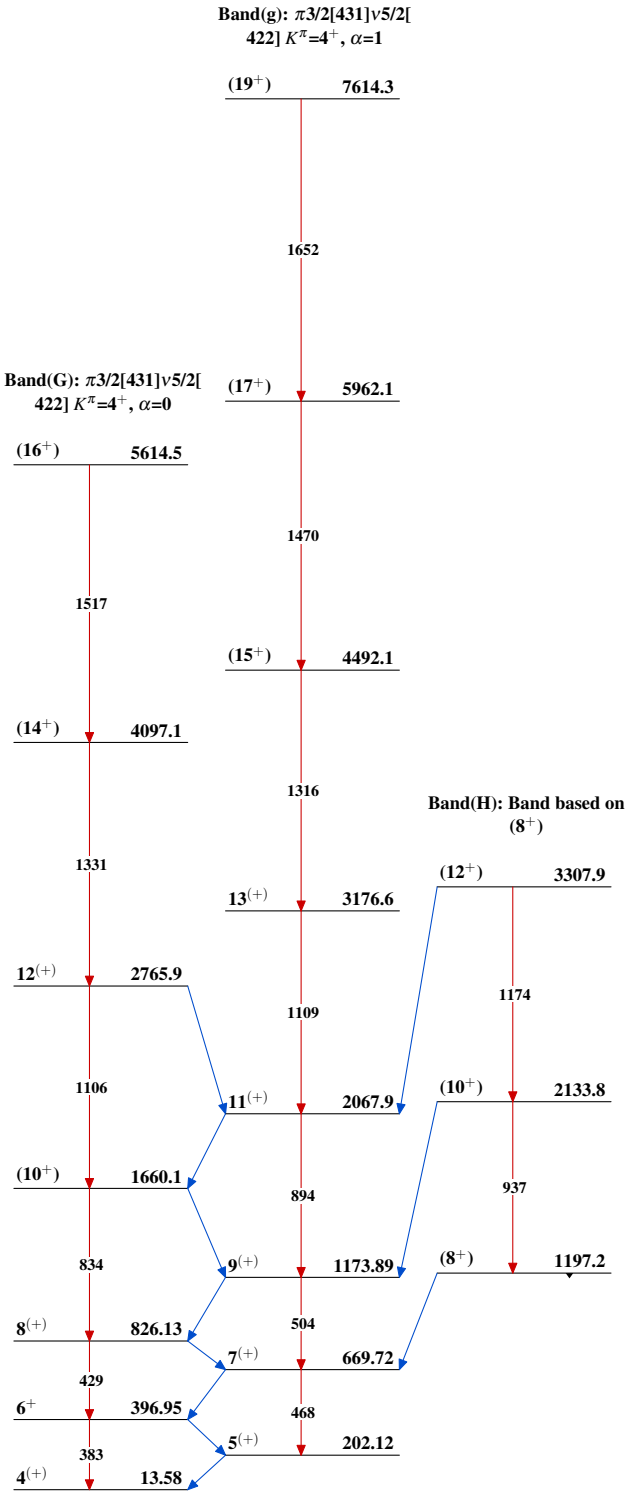
$^{74}_{35}Br_{39}$

Adopted Levels, Gammas (continued)



$^{74}_{35}Br_{39}$

Adopted Levels, Gammas (continued)



$^{74}_{35}Br_{39}$