Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180, 1 (2022)	1-Oct-2021

Q(β^-)=1236 *4*; S(n)=7146 *4*; S(p)=6178 *4*; Q(α)=−2001 *4* 2021Wa16

^{126}I Levels

Cross Reference (XREF) Flags

A ^{126}Te(p,nγ)
B ^{127}I(n,2nγ)
C ^{127}I(γ,n)
D ^{124}Sn(^{7}Li,5nγ)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0.0	2−	12.93 d *5*	ABCD	%ε+%β+=52.7 *5*; %β−=47.3 *5* (1998Fo05) μ=1.438 *4* $T_{1/2}$: from weighted av of 13.1 d *3* (1968Jo02), 13.02 d *7* (1968Qa02), 13.1 d *5* (1957Aa04), 13.5 d *6* (1957Er25), 13.3 d *1* (1954Pe18), 13.1 d *5* (1948Mo33), 13.0 d *3* (1938Li05), 12.8 d *1* (1965An05), 12.93 d *6* (1975Ok04), 12.82 d *5* (1998Fo05). Jπ: atomic beam (1960Ga12); first-forbidden unique β− to 0+. μ: nuclear static orientation and radiative detection of nuclear magnetic resonance (2019StZV,1992Oh01).
56.43 *4*	1+	15.9 ns *14*	ABCD	XREF: B(66)C(60). $T_{1/2}$: from γγ(t) (1983Bu11). other; 20 ns from γ(t) (2012MoZZ). Jπ: J=1 from γ(θ) and E1 γ to 2− in (p,nγ).
110.85 *4*	(3+)	56 ns *3*	A cD	μ=−2.24 *2* XREF: c(118). μ: differential perturbed angular distribution (1975BlZY,2020StZV). $T_{1/2}$: from γγ(t) (1983Bu11). other; 128 ns from γ(t) (2012MoZZ). Jπ: E1 γ to 2− and M1+E2 γ from (4+).
122.17 *5*	4−	13.5 ns *11*	A cD	XREF: c(118). $T_{1/2}$: from γγ(t) (1983Bu11). other; 11 ns from γ(t) (2012MoZZ). Jπ: stretched E2 γ to 2− in (^{7}Li,5nγ).
146 *2*			C	
166.04 *8*			A	
178.96 *6*			A C	
204.28 *6*	(4+)		A CD	Jπ: M1+E2 γ's from (3)+ and (5+) in (^{7}Li,5nγ).
222.62 *4*	1+,2+		A C	Jπ: E1 γ to 2−, M1(+E2) to 1+.
227.78 *5*	2+		A C	Jπ: from γ(θ) in (p,nγ); M1(+E2) γ to 1+.
237.23 *17*	6−	16 ns	D	This level seems to be same the 237.38 level from ^{126}Te(p,nγ). However, the suggested spin 6− value is different with that of 3+. The valuators assumed the different level. Jπ: stretched E2 γ to 4− in (^{7}Li,5nγ). $T_{1/2}$: from γ(t) (2012MoZZ).
237.38 *6*	3+		ABC	Jπ: E1 γ's to 2− and 4−.
244.79 *6*	(4)+		A D	Jπ: M1,E2 γ from 2+ in (p,nγ) and γ from (6+) in (^{7}Li,5nγ).
290.88[h] *21*	(5+)		D	Jπ: stretched E2 γ from (7+) in (^{7}Li,5nγ).
304.97 *21*	(7−)		D	Jπ: M1+E2 γ to 6− in (^{7}Li,5nγ).
311.28 *6*	(2+)		A C	XREF: C(316). Jπ: M1(+E2) γ to 1+, γ to (4+).
328.95 *16*	(6+)		D	Jπ: M1+E2 γ from (7+) in (^{7}Li,5nγ).
331.28 *7*	(3−)		A	Jπ: M1(+E2) γ to 4− 122 level, γ from 2+.
338.49 *9*	−		A	Jπ: M1(+E2) γ to 4−.

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Adopted Levels, Gammas (continued)

^{126}I Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
343.46 *5*	$^-$	A c	XREF: c(344). Jπ: M1,E2 γ to 2^-.
348.44 *6*	2^+	Abc	XREF: b(360)c(344). Jπ: from γ(θ) and M1,E2 γ to 1^+ in (p,nγ).
365.49 *7*	$(2^+,3^+,4^+)$	AbC	XREF: b(360). Jπ: M1(+E2) γ to (3^+).
369.57 *8*	$^-$	Ab	XREF: b(360). Jπ: M1(+E2) γ to -.
373.76 *6*	$^+$	A	Jπ: M1,E2 γ to 2^+.
393.80[i] *6*	$(3)^+$	A D	Jπ: γ to (5^+), M1,E2 γ to 1^+ from α(K)exp (1997DaZY) in (p,nγ).
397.56 *8*	$2^-,3^-$	A C	Jπ: from γ(θ), M1,E2 γ to 2^- and γ to 4^-.
410 *3*		C	
410.73[#] *21*	(8^-)	D	Jπ: M1+E2 γ to (7^-), stretched E2 γ to 6^- in (^{7}Li,5nγ).
422.23 *7*		A	
434.22 *5*	$^+$	A C	Jπ: M1,E2 γ to 1^+.
448 *2*		C	
458.04? *13*		A	
465 *10*		B	
478.99 *6*	2^+	A	Jπ: from γ(θ) and M1,E2 γ to 1^+ from α(K)exp (1997DaZY) in (p,nγ).
491.03 *11*	$^+$	A	Jπ: M1,E2 γ to 1^+.
501.61 *21*	(7^+)	D	Jπ: D γ to (8^-), M1+E2 γ to (6^+) in (^{7}Li,5nγ).
506.96 *14*		A	
513.49 *8*	$^+$	A	Jπ: M1,E2 γ to +.
535.63 *8*	$^+$	A	Jπ: M1,E2 γ to 1^+.
544.65 *8*	$^+$	A	Jπ: M1,E2 γ to +.
550		B	
564.54[i] *20*	(4^+)	D	Jπ: M1+E2 γ to $(3)^+$, γ to (6^+) in (^{7}Li,5nγ).
566.79 *10*		A	
570.36 *7*		A	
577.58[g] *24*	(8^-)	D	Jπ: M1+E2 γ to(7^-) in (^{7}Li,5nγ).
580.64? *13*		A	
591.34 *7*		A	
617.88 *11*	$^+$	A	Jπ: M1,E2 γ to +.
658.30 *12*		A	
676.68 *8*	$^+$	A	Jπ: E2(+M1) γ to +.
687.92 *9*	$2^-,3^-$	A	Jπ: from γ(θ) and M1,E2 γ to π=− in (p,nγ).
703.14 *7*	$^+$	A	Jπ: M1(+E2) γ to π=+.
714.70 *7*		A	
735.20[@] *22*	(9^-)	D	Jπ: M1+E2 γ to (8^-), stretched E2 γ to (7^-) in (^{7}Li,5nγ).
748.69 *12*		A	
794.6 *4*	(6^+)	D	Jπ: M1+E2 γ to (5^+) in (^{7}Li,5nγ).
800.09? *13*		A	
812.79 *11*		A	
819.48 *12*		A	
865.58[i] *23*	(5^+)	D	Jπ: E2 γ to $(3)^+$, M1+E2 γ to (4^+) in (^{7}Li,5nγ).
868.99 *9*	$(2^+,3,4^+)$	A	Jπ: γ′s to (4^+) and 2^+.
890.30 *12*		A	
907.24 *24*	(8^+)	D	Jπ: M1+E2 γ from (9^+) in (^{7}Li,5nγ).
921.6[h] *3*	(7^+)	D	Jπ: stretched E2 γ from (9^+) in (^{7}Li,5nγ).
941.4 *3*		D	
944.67 *21*		A	
956.6 *12*		A	
979.1 *3*		A	
1000.19 *12*		A	
1002.57 *11*		A	

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Adopted Levels, Gammas (continued)

^{126}I Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
1076.81 *25*	(9$^-$)	D	J$^{\pi}$: M1+E2 γ to (8$^-$), E2 γ to (7$^-$) in (^{7}Li,5nγ).
1082.69? *14*		A	
1102.16 *13*		A	
1129.80[#] *24*	(10$^-$)	D	J$^{\pi}$: M1+E2 γ to (9$^-$), E2 γ to (8$^-$) in (^{7}Li,5nγ).
1210.9 *3*		D	
1239.3 *3*		D	
1304.0[g] *3*	(10$^-$)	D	J$^{\pi}$: M1+E2 γ to (9$^-$), stretched E2 γ to (8$^-$) in (^{7}Li,5nγ).
1352.57 *23*	(9$^+$)	D	J$^{\pi}$: E1+M2 γ to (9$^-$), E1+M2 γ to (8$^-$) in (^{7}Li,5nγ).
1379.4[f] *3*	(10$^-$)	D	J$^{\pi}$: M1+E2 γ to (9$^-$), γ to (8$^-$) in (^{7}Li,5nγ).
1431.2 *5*	(8$^+$)	D	J$^{\pi}$: stretched E2 γ to (6$^+$) in (^{7}Li,5nγ).
1432.56[b] *24*	(10$^+$)	D	J$^{\pi}$: E1 γ to (9$^-$), M1+E2 γ to (9$^+$) in (^{7}Li,5nγ).
1468.51[@] *25*	(11$^-$)	D	J$^{\pi}$: M1+E2 γ to (10$^-$), stretched E2 γ to (9$^-$) in (^{7}Li,5nγ).
1567.1[i] *4*	(7$^+$)	D	J$^{\pi}$: stretched E2 γ to (5$^+$) in (^{7}Li,5nγ).
1614.1[h] *3*	(9$^+$)	D	J$^{\pi}$: stretched E2 γ from (11$^+$) at 2214-keV level.
1832.1[c] *3*	(11$^+$)	D	
1893.8[#] *3*	(12$^-$)	D	
1947.6 *5*		D	
2079.2 *4*	(11)	D	
2131.0[b] *3*	(12$^+$)	D	
2137.2[f] *3*	(12$^-$)	D	
2170.8[g] *4*	(12$^-$)	D	
2213.92[a] *25*	(11$^+$)	D	
2322.2[@] *3*	(13$^-$)	D	
2427.1[h] *5*	(11$^+$)	D	
2433.0[&] *3*	(12$^+$)	D	
2497.6[c] *3*	(13$^+$)	D	
2597.9 *4*	(13$^-$)	D	
2644.4[d] *4*	(13$^+$)	D	
2708.0[a] *3*	(13$^+$)	D	
2759.3[#] *3*	(14$^-$)	D	
2800.9[b] *4*	(14$^+$)	D	
2959.8[&] *4*	(14$^+$)	D	
3018.1[d] *5*	(14$^+$)	D	
3020.3[c] *4*	(15$^+$)	D	
3025.4[f] *4*	(14$^-$)	D	
3170.9[g] *6*	(14$^-$)	D	
3290.6[@] *3*	(15$^-$)	D	
3358.9[a] *4*	(15$^+$)	D	
3410.2[b] *4*	(16$^+$)	D	
3427.8[d] *4*	(15$^+$)	D	
3575.8 *4*	(15$^-$)	D	
3603.5[e] *4*	(15$^-$)	D	
3674.7[#] *4*	(16$^-$)	D	
3686.5 *5*		D	
3746.3[&] *5*	(16$^+$)	D	
3842.9 *5*		D	
3847.9[d] *6*	(16$^+$)	D	
4019.0[c] *4*	(17$^+$)	D	
4097.3[f] *5*	(16$^-$)	D	

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Adopted Levels, Gammas (continued)

^{126}I Levels (continued)

E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF
4129.9 *4*		D	4767.7 *7*		D	5706.9[e] *8*	(21^-)	D
4184.3[@] *4*	(17^-)	D	4885.9[e] *6*	(19^-)	D	5954.4[c] *6*	(21^+)	D
4235.8[a] *5*	(17^+)	D	4982.1[c] *5*	(19^+)	D	6104.4[b] *6*		D
4293.7 *6*		D	5143.2[@] *5*	(19^-)	D	6231.7[@] *6*		D
4314.3[e] *4*	(17^-)	D	5217.2[a] *6*		D	6506.1 *9*	(22^-)	D
4328.4[d] *6*		D	5424.8[b] *5*	(20^+)	D	6659.9[#] *8*		D
4501.5[b] *5*	(18^+)	D	5529.1[#] *6*	(20^-)	D	6806.4[e] *9*	(23^-)	D
4534.3[#] *5*	(18^-)	D	5569.7 *8*	(20^-)	D	7045.4?[c] *7*		D
4650.6[&] *5*	(18^+)	D	5610.6[&] *8*		D	7117.4?[b] *8*		D

† From least-squares fit to Eγ's.

‡ From (^{7}Li,5nγ) unless otherwise noted. The J^π assignments in (^{7}Li,5nγ) are based on the band structures and the assumptions that 1) the quadrupole transition and the dipole transition from DCO values are stretche E2 transition and M1+E2 transition, respectively and 2) the spin values increase with increasing excitation energy.

[#] Band(A): Band based on (8^-),α=0. Proposed configuration=$\pi d_{5/2}\otimes\nu h_{11/2}$.

[@] Band(a): Band based on (9^-),α=1. Proposed configuration=$\pi d_{5/2}\otimes\nu h_{11/2}$.

[&] Band(B): Band based on (12^+),α=0. Proposed configuration=$\pi h_{11/2}\otimes\nu h_{11/2}$.

[a] Band(b): Band based on (11^+),α=1. Proposed configuration=$\pi h_{11/2}\otimes\nu h_{11/2}$.

[b] Band(C): Band based on (10^+),α=0. Proposed configuration=$\pi h_{11/2}\otimes\nu h_{11/2}$.

[c] Band(c): band based on 11^+,α=1. Proposed configuration=$\pi h_{11/2}\otimes\nu h_{11/2}$.

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

[e] Band(E): Band based on (15^-). Possible 4-qp band.

[f] Band(F): Band based on (10^-). Proposed configuration=$\pi d_{5/2}\otimes\nu h_{11/2}$.

[g] Band(G): Band based on (8^-). Proposed configuration=$\pi g_{7/2}\otimes\nu h_{11/2}$.

[h] Band(H): Band based on (5^+).

[i] Band(I): Band based on $(3)^+$.

Adopted Levels, Gammas (continued)

$\gamma(^{126}I)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]	Comments
56.43	1^+	56.45[#] *8*	100[#]	0.0	2^-	E1[@]		0.995	B(E1)(W.u.)=4.7×10^{-5} *5*
110.85	(3^+)	54.6 *3*		56.43	1^+				
		110.85[#] *6*	100.0[#] *5*	0.0	2^-	E1[@]		0.1528	B(E1)(W.u.)=3.06×10^{-6} *17*
122.17	4^-	122.20 *10*	100	0.0	2^-	E2		0.863	B(E2)(W.u.)=21.9 *17* E_γ: from ^{126}Te(p,nγ). Mult.: δ(M3/E2)= +0.24 *3* is reported in (^{7}Li,5nγ). From RUL (M3)<10, one expects δ<1.2x10^{-4}. The evaluators adopt mult=E2.
166.04		109.60[#] *20*	50[#] *14*	56.43	1^+				
		166.00[#] *17*	100[#] *17*	0.0	2^-				
178.96		56.75[#] *15*	100[#] *51*	122.17	4^-				
		178.95[#] *7*	18[#] *4*	0.0	2^-				
204.28	(4^+)	93.45[#] *6*	100[#]	110.85	(3^+)	M1+E2[@]		1.6 *7*	
222.62	$1^+,2^+$	111.80[#] *6*	20.2[#] *13*	110.85	(3^+)				
		166.20[#] *5*	100.0[#] *17*	56.43	1^+	M1(+E2)[@]		0.24 *6*	
		222.60[#] *6*	41.0[#] *16*	0.0	2^-	E1[@]		0.0220	
227.78	2^+	117.05[#] *7*	26.5[#] *11*	110.85	(3^+)	M1(+E2)[@]		0.7 *3*	
		171.42[#] *7*	100.0[#] *17*	56.43	1^+	M1(+E2)[@]		0.22 *5*	
		227.70[#] *10*	4.8[#] *15*	0.0	2^-				
237.23	6^-	115.1 *2*	100	122.17	4^-	E2		1.066	Mult.: δ(M3/E2)= +0.23 *1* is reported in (^{7}Li,5nγ). From RUL (M3)<10, one expects δ<1.2x10^{-4}. The evaluators adopt mult=E2.
237.38	3^+	115.14[#] *8*	100[#] *4*	122.17	4^-	E1[@]		0.1374	
		237.47[#] *8*	28[#] *6*	0.0	2^-	E1[@]		0.0185	
244.79	$(4)^+$	(7.5)		237.38	3^+				E_γ: Not observed, but required by $\gamma\gamma$ data in (p,nγ).
		122.70[#] *20*	100[#]	122.17	4^-				
290.88	(5^+)	86.8 *3*	100	204.28	(4^+)	M1+E2		2.0 *9*	
304.97	(7^-)	67.8 *2*	100	237.23	6^-	M1+E2	+0.16 *3*	2.40 *7*	
311.28	(2^+)	83.50[#] *10*	23[#] *3*	227.78	2^+				
		88.70[#] *9*	10[#] *3*	222.62	$1^+,2^+$				
		107.00[#] *7*	59[#] *4*	204.28	(4^+)				
		254.75[#] *11*	100[#] *16*	56.43	1^+	M1(+E2)[@]		0.063 *6*	
328.95	(6^+)	84.2 *2*	100 *4*	244.79	$(4)^+$	(E2)		2.2 *10*	
		91.7 *3*		237.23	6^-				
331.28	(3^-)	86.34[#] *17*	100[#] *6*	244.79	$(4)^+$				Mult.: 1983Bu11 propose M1 for the 86 γ to 245 $(4)^+$ level from intensity balance in $\gamma\gamma$ spectrum. However, it is inconsistent with the negative parity of the 331 level.
		209.12[#] *6*	43[#] *6*	122.17	4^-	M1(+E2)[@]		0.115 *19*	

$^{126}_{53}I_{73}$-5

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	δ‡	α[a]	Comments
338.49	$^-$	216.35# *8*	100#	122.17	4^-	M1(+E2)@		0.104 *16*	
343.46	$^-$	343.45# *5*	100#	0.0	2^-	M1,E2@		0.0262	
348.44	2^+	120.66# *10*	13.1# *20*	227.78	2^+				
		125.78# *9*	15.3# *28*	222.62	$1^+,2^+$				
		292.00b# *5*	100b# *16*	56.43	1^+	M1,E2@		0.0420 *20*	
365.49	$(2^+,3^+,4^+)$	142.90# *7*	100# *6*	222.62	$1^+,2^+$				
		254.65# *11*	59# *28*	110.85	(3^+)	M1(+E2)		0.063 *6*	
369.57	$^-$	132.20# *10*	28# *6*	237.38	3^+				
		247.40# *10*	100# *13*	122.17	4^-	M1(+E2)@		0.069 *7*	
373.76	$^+$	62.56# *18*	49# *6*	311.28	(2^+)				
		146.00# *6*	100# *4*	227.78	2^+	M1,E2@		0.36 *11*	
		262.80# *12*	9# *5*	110.85	(3^+)				
393.80	$(3)^+$	103.1 *3*	26 *7*	290.88	(5^+)				I_γ: Iγ=3.7 *6* from (^{7}Li,5nγ) is normalized using the branching ratios with Iγ′s of the 149 keV γ from (^{7}Li,5nγ) and (p,nγ).
		149.00# *11*	73# *10*	244.79	$(4)^+$	(M1+E2)@		0.34 *10*	
		189.50# *5*	37# *12*	204.28	(4^+)				
		337.40# *10*	100# *29*	56.43	1^+	(E2)		0.0276	Mult.: from spin-parity change of $(3)^+$ to 1^+. M1,E2 from α(K)exp (1997DaZY) in (p,nγ).
397.56	$2^-,3^-$	275.35# *10*	25# *6*	122.17	4^-				
		397.60# *10*	100# *10*	0.0	2^-	M1,E2		0.0174 *8*	
410.73	(8^-)	105.7 *2*	100.0 *3*	304.97	(7^-)	M1+E2	+0.25 *1*	0.686 *11*	
		173.5 *3*	2.2 *4*	237.23	6^-	E2		0.253	
422.23		194.45# *5*	100#	227.78	2^+				
434.22	$^+$	206.60# *10*	18# *5*	227.78	2^+				
		211.65# *10*	25# *7*	222.62	$1^+,2^+$				
		323.35# *5*	59# *15*	110.85	(3^+)				
		377.75# *5*	100# *15*	56.43	1^+	M1,E2@		0.0201 *7*	
458.04?		292.00b# *10*	100b#	166.04					
465		465 *10*		0.0	2^-				E_γ: from (n,2nγ).
478.99	2^+	140.70# *20*	28# *4*	338.49	$^-$				
		147.70# *10*	7# *4*	331.28	(3^-)				
		234.20# *6*	37# *6*	244.79	$(4)^+$	(E2)		0.0909	Mult.: from spin-parity change of 2^+ to $(4)^+$. M1,E2 from α(K)exp (1997DaZY) in (p,nγ).
		312.90# *10*	74# *10*	166.04					
		356.90# *10*	11# *10*	122.17	4^-				

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]	Comments
478.99	2$^+$	422.42[#] *14*	100[#] *16*	56.43	1$^+$	M1[@]		0.01557	Mult.: from spin-parity change of 2$^+$ to 1$^+$. M1,E2 from α(K)exp (1997DaZY) in (p,nγ).
491.03	+	434.60[#] *10*	100[#]	56.43	1$^+$	M1,E2[@]		0.0137 *9*	
501.61	(7$^+$)	91.2 *3*	22 *4*	410.73	(8$^-$)	D			
		172.6 *2*	100 *4*	328.95	(6$^+$)	M1+E2		0.21 *5*	
506.96		133.20[#] *12*	100[#]	373.76	+				
513.49	+	309.30[#] *12*	84[#] *15*	204.28	(4$^+$)				
		402.60[#] *8*	100[#] *25*	110.85	(3$^+$)	M1,E2[@]		0.0168 *8*	
535.63	+	187.15[#] *8*	6.4[#] *24*	348.44	2$^+$				
		479.25[#] *10*	100[#] *9*	56.43	1$^+$	M1,E2[@]		0.0105 *9*	
544.65	+	317.00[#] *15*	50[#] *21*	227.78	2$^+$				
		322.00[#] *8*	100[#] *21*	222.62	1$^+$,2$^+$	M1,E2[@]		0.0316 *7*	
550		550		0.0	2$^-$				Eγ: from (n,2nγ).
564.54	(4$^+$)	170.6 *3*	100 *18*	393.80	(3)$^+$	M1+E2	+0.09 *2*	0.169 *3*	
		235.8 *3*		328.95	(6$^+$)				
566.79		201.30[#] *7*	100[#]	365.49	(2$^+$,3$^+$,4$^+$)	M1(+E2)[@]		0.130 *23*	
570.36		196.60[#] *10*	24[#] *16*	373.76	+				
		226.80[#] *13*	31[#] *17*	343.46	−				
		325.60[#] *7*	81[#] *25*	244.79	(4)$^+$				
		459.50[#] *15*	100[#] *42*	110.85	(3$^+$)				
577.58	(8$^-$)	272.6 *2*	100.0	304.97	(7$^-$)	M1+E2		0.051 *4*	
580.64?		414.60[#] *10*	100[#]	166.04		M1,E2[@]		0.0155 *9*	
591.34		363.50[#] *10*	21[#] *19*	227.78	2$^+$				
		368.74[#] *6*	100[#] *19*	222.62	1$^+$,2$^+$				
617.88	+	306.60[#] *10*	84[#] *13*	311.28	(2$^+$)	M1,E2[@]		0.0364 *13*	
		507.0[#] *3*	100[#] *29*	110.85	(3$^+$)				
658.30		264.50[#] *10*	100[#]	393.80	(3)$^+$				
676.68	+	311.20[#] *5*	100[#] *8*	365.49	(2$^+$,3$^+$,4$^+$)				
		565.60[#] *20*	41[#] *12*	110.85	(3$^+$)	E2(+M1)[@]		0.0068 *8*	
687.92	2$^-$,3$^-$	318.40[#] *15*	34[#] *9*	369.57	−	M1,E2[@]		0.0326 *8*	
		687.90[#] *10*	100[#] *17*	0.0	2$^-$				
703.14	+	391.85[#] *5*	100[#] *23*	311.28	(2$^+$)	M1(+E2)[@]		0.0181 *8*	
		475.40[#] *10*	73[#] *27*	227.78	2$^+$				
714.70		535.70[#] *10*	100[#] *8*	178.96		M1,E2[@]		0.0079 *8*	
		548.70[#] *10*	15[#] *7*	166.04		M1,E2[@]		0.0074 *8*	
		714.70[#] *10*	16[#] *9*	0.0	2$^-$				

$^{126}_{53}I_{73}$-7

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]
735.20	(9⁻)	157.5 *4*	1.65 *7*	577.58	(8⁻)	M1+E2		0.28 *7*
		324.4 *2*	100.0 *7*	410.73	(8⁻)	M1+E2	−0.06 *1*	0.0305
		430.6 *3*	1.56 *26*	304.97	(7⁻)	E2		0.0131 *5*
748.69		383.20[#] *10*	100[#]	365.49	(2⁺,3⁺,4⁺)			
794.6	(6⁺)	503.7 *3*	100.0	290.88	(5⁺)	M1+E2		0.0092 *9*
800.09?		233.30[#] *8*	100[#]	566.79				
812.79		469.32[#] *10*	100[#]	343.46	⁻			
819.48		488.20[#] *10*	100[#]	331.28	(3⁻)			
865.58	(5⁺)	301.1 *3*	<100	564.54	(4⁺)	M1+E2		0.0383 *15*
		471.7 *3*	100 *21*	393.80	(3)⁺	E2		0.01010
868.99	(2⁺,3,4⁺)	624.20[#] *10*	100[#] *64*	244.79	(4)⁺			
		641.20[#] *10*	36[#] *64*	227.78	2⁺			
890.30		496.50[#] *10*	100[#]	393.80	(3)⁺			
907.24	(8⁺)	405.7 *2*	100	501.61	(7⁺)	M1+E2		0.0165 *8*
921.6	(7⁺)	630.7 *3*	100	290.88	(5⁺)	E2		0.00458
941.4		530.6 *3*		410.73	(8⁻)			
		636.4 *3*	100 *27*	304.97	(7⁻)			
944.67		601.20[#] *20*	100[#]	343.46	⁻			
956.6		752.3[#] *12*	100[#]	204.28	(4⁺)			
979.1		609.5[#] *3*	100[#]	369.57	⁻			
1000.19		521.20[#] *10*	100[#]	478.99	2⁺			
1002.57		287.87[#] *8*	100[#]	714.70				
1076.81	(9⁻)	135.4 *3*		941.4				
		666.1 *4*	31.2 *10*	410.73	(8⁻)	M1+E2		0.0045 *6*
		771.8 *2*	100.0 *5*	304.97	(7⁻)	E2		0.00277
1082.69?		744.20[#] *10*	100[#]	338.49	⁻			
1102.16		704.60[#] *10*	100[#]	397.56	2⁻,3⁻			
1129.80	(10⁻)	394.6 *2*	66.00 *11*	735.20	(9⁻)	M1+E2	−0.05 *1*	0.0185
		719.0 *2*	100.0 *18*	410.73	(8⁻)	E2		0.00329
1210.9		345.3 *3*	<52	865.58	(5⁺)			
		646.4 *3*	100 *17*	564.54	(4⁺)			
1239.3		661.8 *3*	100.0	577.58	(8⁻)			
1304.0	(10⁻)	568.9 *3*	100 *8*	735.20	(9⁻)	M1+E2		0.0067 *8*
		726.4 *3*	82 *4*	577.58	(8⁻)	E2		0.00321
1352.57	(9⁺)	410.8 *5*		941.4				
		445.4 *2*	35.0 *15*	907.24	(8⁺)	M1+E2		0.0128 *9*
		617.4 *2*	100.0 *11*	735.20	(9⁻)	E1+M2	−0.21 *3*	0.0024 *2*
		774.9 *3*	17.1 *5*	577.58	(8⁻)	E1+(M2)	−0.03 *6*	0.0011
		941.8 *3*	21.1 *12*	410.73	(8⁻)	E1+M2	+0.19 *2*	
1379.4	(10⁻)	644.2 *2*	100.0 *14*	735.20	(9⁻)	M1+E2	+0.10 *2*	0.00552

$^{126}_{53}I_{73}$-8

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]
1379.4	(10$^-$)	802.0 *5*		577.58	(8$^-$)			
1431.2	(8$^+$)	636.6 *3*	100	794.6	(6$^+$)	E2		0.00447
1432.56	(10$^+$)	80.0 *2*	55.6 *7*	1352.57	(9$^+$)	M1+E2	+0.25 *3*	1.56 *5*
		193.4 *3*		1239.3				
		355.7 *3*	35.0 *17*	1076.81	(9$^-$)	E1+M2	+0.13 *3*	0.0079 *8*
		697.4 *2*	100 *4*	735.20	(9$^-$)	E1		
1468.51	(11$^-$)	164.4 *4*	5.5 *3*	1304.0	(10$^-$)	M1+E2		0.25 *6*
		338.7 *2*	48.2 *9*	1129.80	(10$^-$)	M1+E2	−0.05 *2*	0.0273
		733.3 *2*	100.0 *5*	735.20	(9$^-$)	E2		0.0031
1567.1	(7$^+$)	701.5 *3*	100	865.58	(5$^+$)	E2		0.0035
1614.1	(9$^+$)	692.6 *3*	100	921.6	(7$^+$)	E2		0.00361
1832.1	(11$^+$)	399.5 *2*	100	1432.56	(10$^+$)	M1+E2	+0.25 *3*	0.0178 *3*
1893.8	(12$^-$)	425.3 *2*	65.0 *19*	1468.51	(11$^-$)	M1+E2	−0.09 *2*	0.0153 *2*
		764.0 *2*	100.0 *19*	1129.80	(10$^-$)	E2		0.00284 *4*
1947.6		736.7 *3*	100.0	1210.9		E2		0.00310 *5*
2079.2	(11)	646.6 *3*	100	1432.56	(10$^+$)	D		
2131.0	(12$^+$)	51.8 *3*	1.23 *33*	2079.2	(11)			
		299.1 *4*	4.93 *17*	1832.1	(11$^+$)	M1+E2		0.0391 *16*
		698.6 *2*	100.0 *19*	1432.56	(10$^+$)	E2		0.00354 *5*
2137.2	(12$^-$)	668.7 *3*	100.0 *25*	1468.51	(11$^-$)	M1+E2		0.0045 *6*
		757.8 *4*	68 *3*	1379.4	(10$^-$)	E2		0.00290 *4*
		1007.4 *5*	14.8 *17*	1129.80	(10$^-$)			
2170.8	(12$^-$)	866.8 *3*	100.0	1304.0	(10$^-$)	E2		0.00211 *3*
2213.92	(11$^+$)	381.9[c] *5*		1832.1	(11$^+$)			
		599.8 *3*	16.3 *22*	1614.1	(9$^+$)	E2		0.00522 *8*
		781.2 *5*	30.5 *15*	1432.56	(10$^+$)	M1+E2		0.0031 *4*
		834.5 *3*	17.0 *29*	1379.4	(10$^-$)	E1+M2	+0.09 *4*	
		909.9 *3*	10.6 *21*	1304.0	(10$^-$)	E1(+M2)	+0.07 *8*	
		1084.0 *3*	100.0 *29*	1129.80	(10$^-$)	E1+M2	+0.09 *3*	
2322.2	(13$^-$)	151.5 *3*	2.0 *3*	2170.8	(12$^-$)	M1+E2		0.32 *9*
		428.4 *5*	5.6 *3*	1893.8	(12$^-$)	M1+E2		0.0142 *9*
		853.7 *2*	100.0 *20*	1468.51	(11$^-$)	E2		0.00219 *3*
2427.1	(11$^+$)	813.0 *3*	100	1614.1	(9$^+$)	E2		0.00245 *4*
2433.0	(12$^+$)	219.0 *2*	100 *6*	2213.92	(11$^+$)	M1+E2	+0.14 *3*	0.086 *1*
		600.7 *3*	55.1 *14*	1832.1	(11$^+$)	M1+E2	+0.20 *4*	0.0065 *1*
2497.6	(13$^+$)	366.5 *2*	100 *4*	2131.0	(12$^+$)	M1(+E2)	+0.02 *3*	0.0223 *6*
		665.6 *4*	12.1 *4*	1832.1	(11$^+$)	E2		0.00399 *6*
2597.9	(13$^-$)	704.0 *3*	100	1893.8	(12$^-$)	M1+E2	+0.09 *3*	0.00447 *7*
2644.4	(13$^+$)	211.6 *5*	29.0 *15*	2433.0	(12$^+$)	M1+E2		0.111 *18*
		750.6 *3*	100 *4*	1893.8	(12$^-$)	(E1+M2)	+0.19 *4*	
2708.0	(13$^+$)	274.9 *2*	100 *3*	2433.0	(12$^+$)	M1+E2	+0.14 *5*	0.0470 *7*
		493.9 *4*	26.4 *8*	2213.92	(11$^+$)	E2		0.00886 *13*
		577.9 *5*		2131.0	(12$^+$)			

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Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]
2708.0	(13$^+$)	813.9 *4*	24.6 *8*	1893.8	(12$^-$)	E1+M2	−0.12 *6*	0.00107 *13*
2759.3	(14$^-$)	437.0 *2*	74 *4*	2322.2	(13$^-$)	M1+E2	−0.19 *2*	0.0143 *2*
		865.4 *2*	100 *3*	1893.8	(12$^-$)	E2		0.00212 *3*
2800.9	(14$^+$)	303.3 *3*	48.1 *8*	2497.6	(13$^+$)	M1(+E2)	+0.02 *2*	0.0363 *6*
		669.8 *2*	100 *6*	2131.0	(12$^+$)	E2		0.00393 *6*
2959.8	(14$^+$)	251.8 *2*	100 *5*	2708.0	(13$^+$)	M1+E2	+0.10 *6*	0.0592 *9*
		526.7 *4*	35 *3*	2433.0	(12$^+$)	E2		0.00741 *11*
3018.1	(14$^+$)	374.0 *4*	100.0	2644.4	(13$^+$)	(M1+E2)	−0.18 *3*	0.0211 *3*
3020.3	(15$^+$)	219.4 *2*	100 *4*	2800.9	(14$^+$)	M1+E2	+0.23 *3*	0.0866 *13*
		522.7 *4*	11.4 *4*	2497.6	(13$^+$)	E2		0.00757 *11*
3025.4	(14$^-$)	703.4 *4*	100 *6*	2322.2	(13$^-$)	M1+E2		0.0040 *5*
		888.4 *5*	26.9 *20*	2137.2	(12$^-$)	E2		
		1131.8 *5*	87 *6*	1893.8	(12$^-$)	E2		
3170.9	(14$^-$)	1000.1 *5*	100.0	2170.8	(12$^-$)	E2		
3290.6	(15$^-$)	531.3 *5*	8.0 *7*	2759.3	(14$^-$)	M1+E2		0.0080 *8*
		968.3 *2*	100.0 *24*	2322.2	(13$^-$)	E2		
3358.9	(15$^+$)	399.2 *2*	100 *8*	2959.8	(14$^+$)	M1+E2	−0.07 *5*	0.0179 *3*
		651.0 *5*	13.5 *8*	2708.0	(13$^+$)	E2		0.00422 *6*
3410.2	(16$^+$)	389.9 *2*	100.0 *18*	3020.3	(15$^+$)	M1+E2	0.04 *3*	0.0191 *3*
		609.3 *4*	11.6 *9*	2800.9	(14$^+$)			
3427.8	(15$^+$)	409.8 *5*	60.9 *22*	3018.1	(14$^+$)	(M1+E2)	−0.19 *2*	0.0168 *3*
		467.8 *3*	100 *20*	2959.8	(14$^+$)			
3575.8	(15$^-$)	550.6 *5*	52 *10*	3025.4	(14$^-$)			
		816.4 *4*	100 *5*	2759.3	(14$^-$)	M1+E2		0.0028 *4*
		977.8 *5*	46 *5*	2597.9	(13$^-$)	E2		
		1253.7 *5*		2322.2	(13$^-$)			
3603.5	(15$^-$)	578.9 *5*	47 *11*	3025.4	(14$^-$)	M1(+E2)	−0.04 *5*	0.0072 *1*
		844.1 *3*	100 *5*	2759.3	(14$^-$)	M1(+E2)	0.00 *4*	0.0029 *1*
		1005.5 *4*	34.1 *6*	2597.9	(13$^-$)	E2		
3674.7	(16$^-$)	384.1 *4*	63 *5*	3290.6	(15$^-$)	M1+E2	−0.07 *4*	0.0198 *3*
		915.4 *3*	100 *4*	2759.3	(14$^-$)	E2		
3686.5		258.4 *5*	22 *8*	3427.8	(15$^+$)			
		327.8 *5*	100 *22*	3358.9	(15$^+$)			
		726.8 *5*		2959.8	(14$^+$)			
3746.3	(16$^+$)	387.3 *4*	100 *10*	3358.9	(15$^+$)	M1(+E2)	0.00 *4*	0.0194 *3*
		786.5 *4*	90 *7*	2959.8	(14$^+$)	E2		0.00265 *4*
3842.9		822.6 *5*		3020.3	(15$^+$)			
		1042.5 *5*		2800.9	(14$^+$)			
3847.9	(16$^+$)	419.8 *5*	100.0	3427.8	(15$^+$)	M1+E2		0.0150 *9*
		830.1 *5*		3018.1	(14$^+$)			
4019.0	(17$^+$)	176.7 *5*		3842.9				
		608.7 *2*	100 *3*	3410.2	(16$^+$)	M1+E2	+0.09 *2*	0.00633 *9*
		998.6 *3*	38.2 *10*	3020.3	(15$^+$)	E2		

$^{126}_{53}I_{73}$-10

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[a]	Comments
4097.3	(16⁻)	1071.7 *5*	100.0	3025.4	(14⁻)	E2			
4129.9		526.6 *5*	100 *22*	3603.5	(15⁻)				
		554.3 *5*	22 *5*	3575.8	(15⁻)				
		1104.8 *5*	50 *10*	3025.4	(14⁻)				
4184.3	(17⁻)	509.6 *4*	<62	3674.7	(16⁻)	M1+E2		0.0089 *9*	
		893.7 *3*	100 *5*	3290.6	(15⁻)	E2			
4235.8	(17⁺)	489.7 *5*	97 *12*	3746.3	(16⁺)	M1+E2		0.0099 *9*	
		877.0 *5*	100 *6*	3358.9	(15⁺)	E2		0.00206 *3*	
4293.7		883.8 *5*	100.0	3410.2	(16⁺)				
4314.3	(17⁻)	184.6 *3*	29 *5*	4129.9					
		216.7 *5*	51 *13*	4097.3	(16⁻)				
		710.7 *3*	100 *15*	3603.5	(15⁻)	E2		0.00339 *5*	
		738.5 *3*	31 *3*	3575.8	(15⁻)	E2		0.00308 *5*	
		1023.6 *3*	14.3 *22*	3290.6	(15⁻)	E2			
4328.4		480.5 *3*	100	3847.9	(16⁺)				
4501.5	(18⁺)	208.1 *5*	26 *8*	4293.7					
		482.5 *4*	88 *8*	4019.0	(17⁺)	M1+E2		0.0103 *9*	
		1091.2 *3*	100 *8*	3410.2	(16⁺)	E2			
4534.3	(18⁻)	350.0 *5*	18.2 *15*	4184.3	(17⁻)	M1(+E2)	+0.04 *4*	0.0251 *4*	
		859.6 *3*	100 *6*	3674.7	(16⁻)	E2		0.00215 *3*	
4650.6	(18⁺)	414.8 *3*	100 *20*	4235.8	(17⁺)	M1+E2		0.0155 *9*	
		904.0 *5*	100 *12*	3746.3	(16⁺)	E2			
4767.7		1081.2 *5*	100	3686.5					
4885.9	(19⁻)	571.6 *5*	100	4314.3	(17⁻)	E2		0.00593 *9*	
4982.1	(19⁺)	480.6 *4*	81 *7*	4501.5	(18⁺)	M1+E2		0.0104 *9*	
		963.1 *4*	100 *4*	4019.0	(17⁺)	E2			
5143.2	(19⁻)	608.9 *5*	<222	4534.3	(18⁻)				
		958.9 *5*	100 *11*	4184.3	(17⁻)	E2			
5217.2		566.4 *5*		4650.6	(18⁺)				
		981.6 *5*		4235.8	(17⁺)				
5424.8	(20⁺)	442.7 *3*	100 *17*	4982.1	(19⁺)	M1+E2	+0.14 *4*	0.0138 *2*	
		923.3 *4*	32 *4*	4501.5	(18⁺)	E2			
5529.1	(20⁻)	385.9 *5*	≈13	5143.2	(19⁻)				
		994.8 *5*	100 *13*	4534.3	(18⁻)	E2			
5569.7	(20⁻)	683.8 *5*	100	4885.9	(19⁻)	M1+E2	−0.07 *3*	0.00479 *7*	
5610.6		960.0 *5*		4650.6	(18⁺)				
5706.9	(21⁻)	137.2 *5*	22 *3*	5569.7	(20⁻)	M1+E2		0.44 *14*	
		821.0 *5*	100.0 *10*	4885.9	(19⁻)	E2		0.00239 *4*	DCO(2)=0.86 *6* POL=+0.14 *12*.
5954.4	(21⁺)	529.6 *5*	50 *6*	5424.8	(20⁺)	M1+E2		0.0081 *8*	
		972.3 *4*	100 *8*	4982.1	(19⁺)	E2			
6104.4		150.0 *5*	100 *34*	5954.4	(21⁺)				
		679.6 *5*	97 *20*	5424.8	(20⁺)				

$^{126}_{53}I_{73}$-11

Adopted Levels, Gammas (continued)

γ(^{126}I) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[a]
6231.7		702.6 *5*	≈14	5529.1	(20$^-$)		
		1088.5 *5*	100 *14*	5143.2	(19$^-$)		
6506.1	(22$^-$)	799.2 *5*	100	5706.9	(21$^-$)	M1+E2	0.0029 *4*
6659.9		1130.8 *5*	100	5529.1	(20$^-$)		
6806.4	(23$^-$)	300.3 *5*	≈19	6506.1	(22$^-$)	M1+E2	0.039 *2*
		1099.5 *5*	100 *13*	5706.9	(21$^-$)	E2	
7045.4?		941.0[&c] *5*	<100	6104.4			
		1091.2[&c] *5*	<100	5954.4	(21$^+$)		
7117.4?		72.0[&c] *5*	<100	7045.4?			
		1013.0[&c] *5*	<100	6104.4			

† From ^{124}Sn(^{7}Li,5nγ) unless otherwise noted.
‡ From ^{124}Sn(^{7}Li,5nγ) unless otherwise noted.
# From ^{126}Te(p,nγ).
@ From ^{126}Te(p,nγ).
& Weak transition.
[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] Multiply placed with intensity suitably divided.
[c] Placement of transition in the level scheme is uncertain.

$^{126}_{53}I_{73}$-12

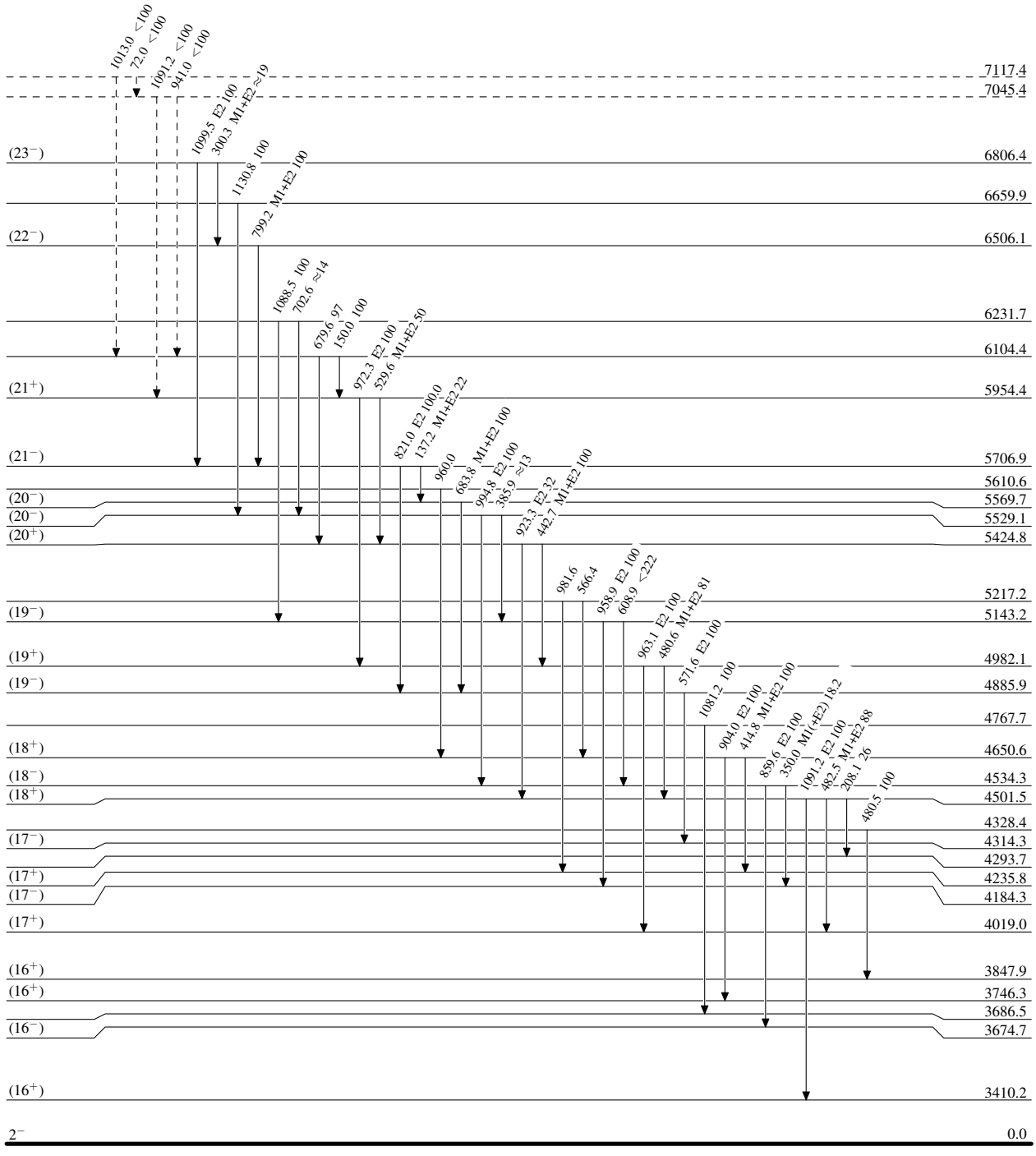
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

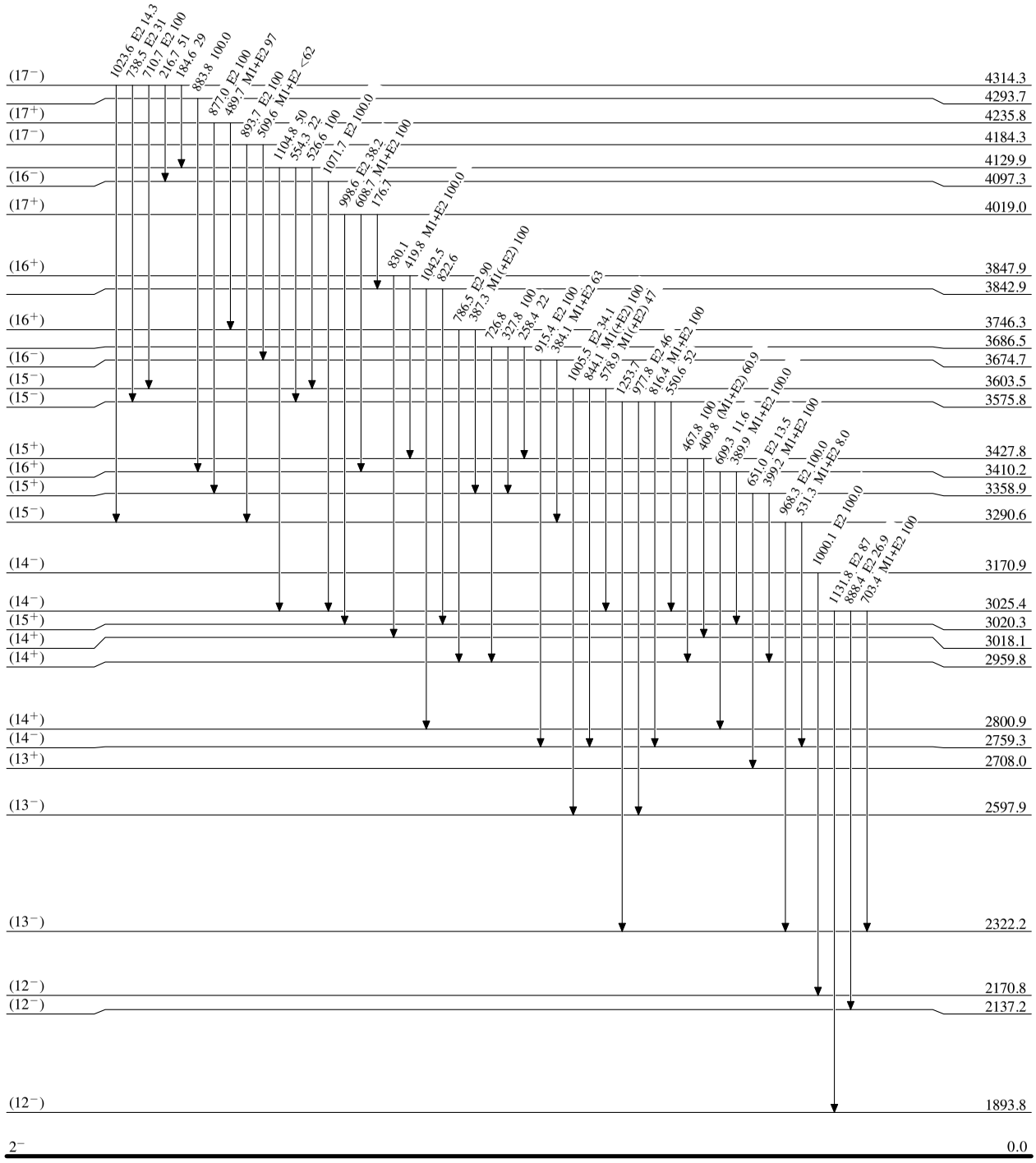


$^{126}_{53}I_{73}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{126}_{53}I_{73}$

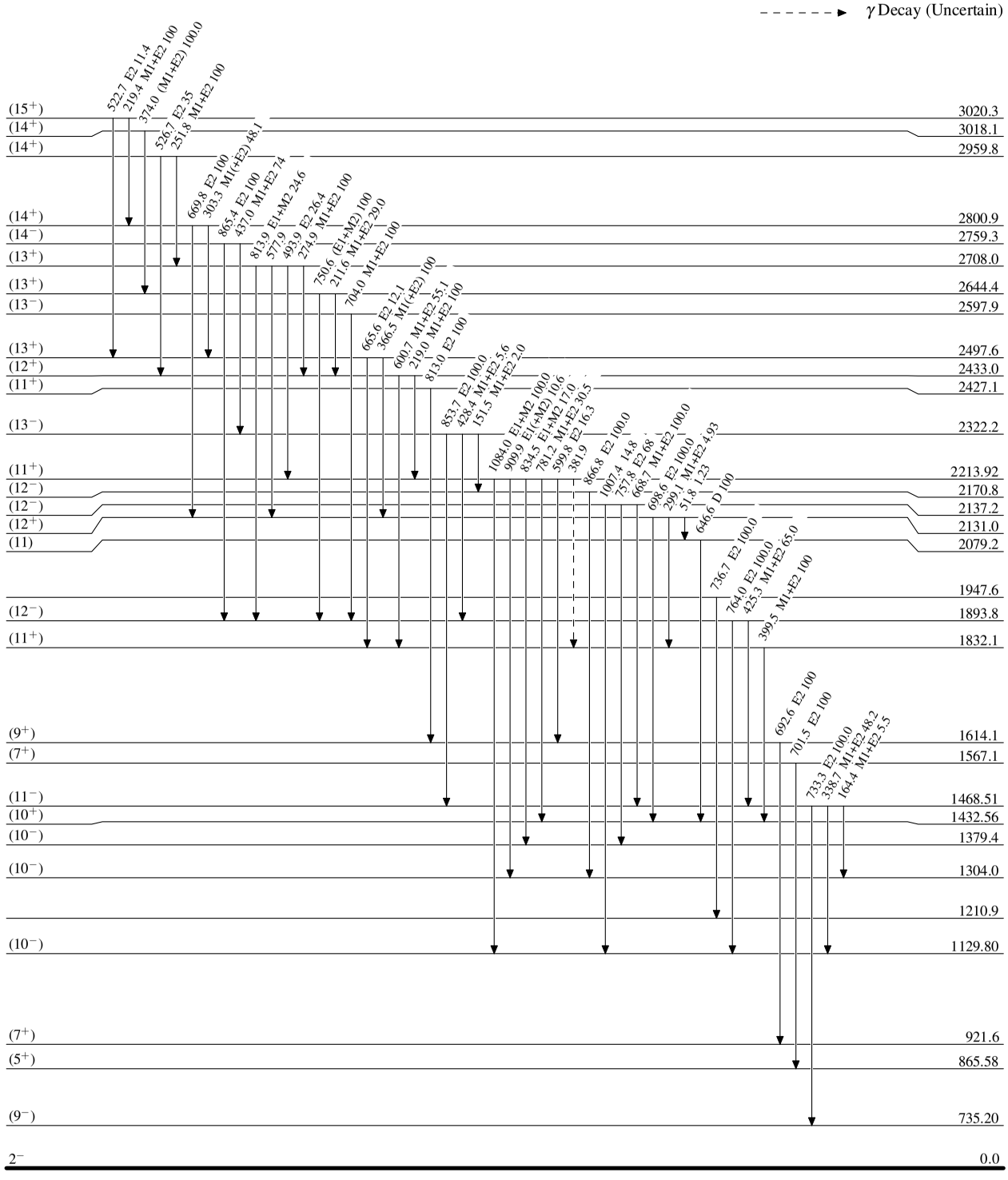
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

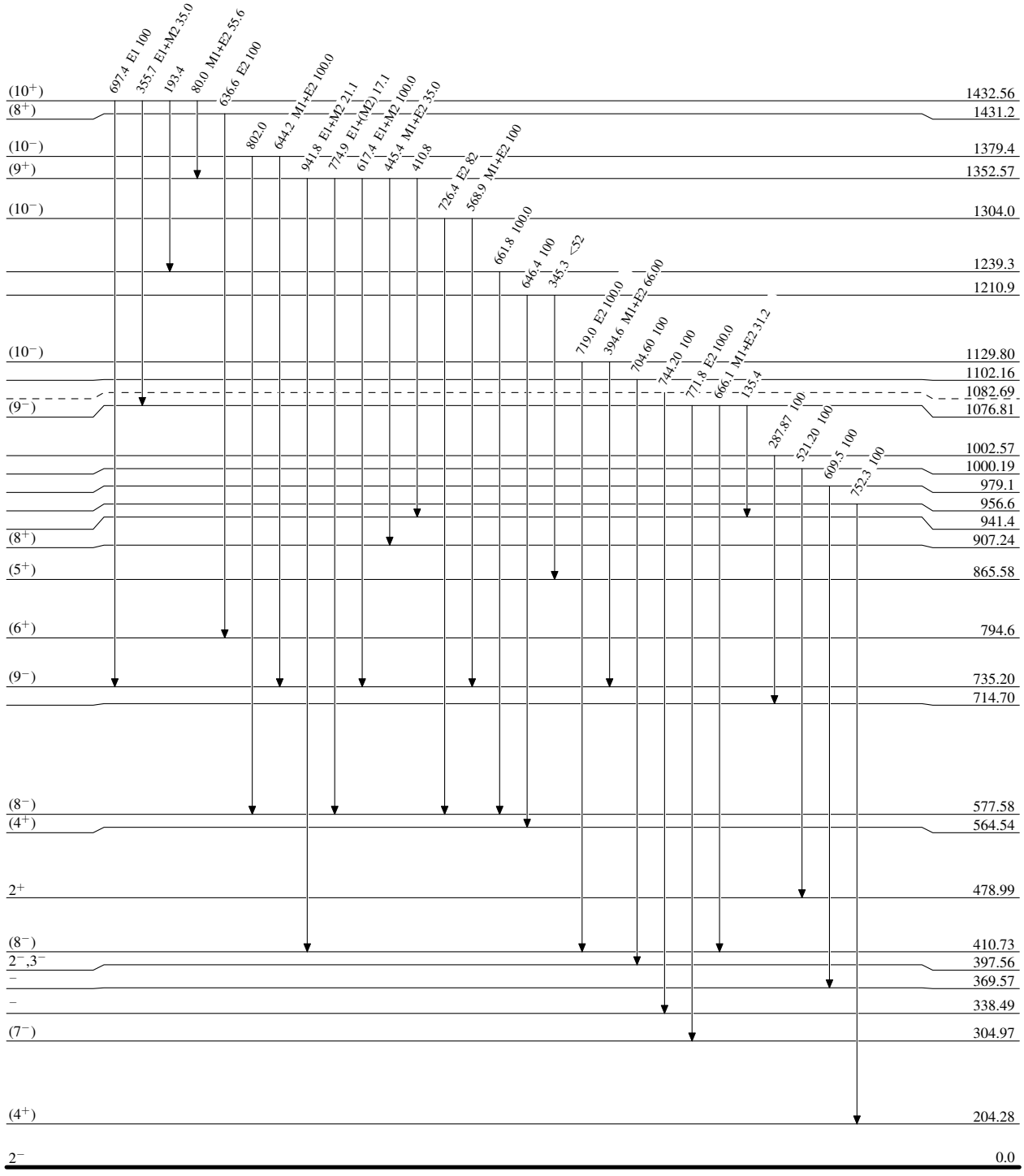


$^{126}_{53}I_{73}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

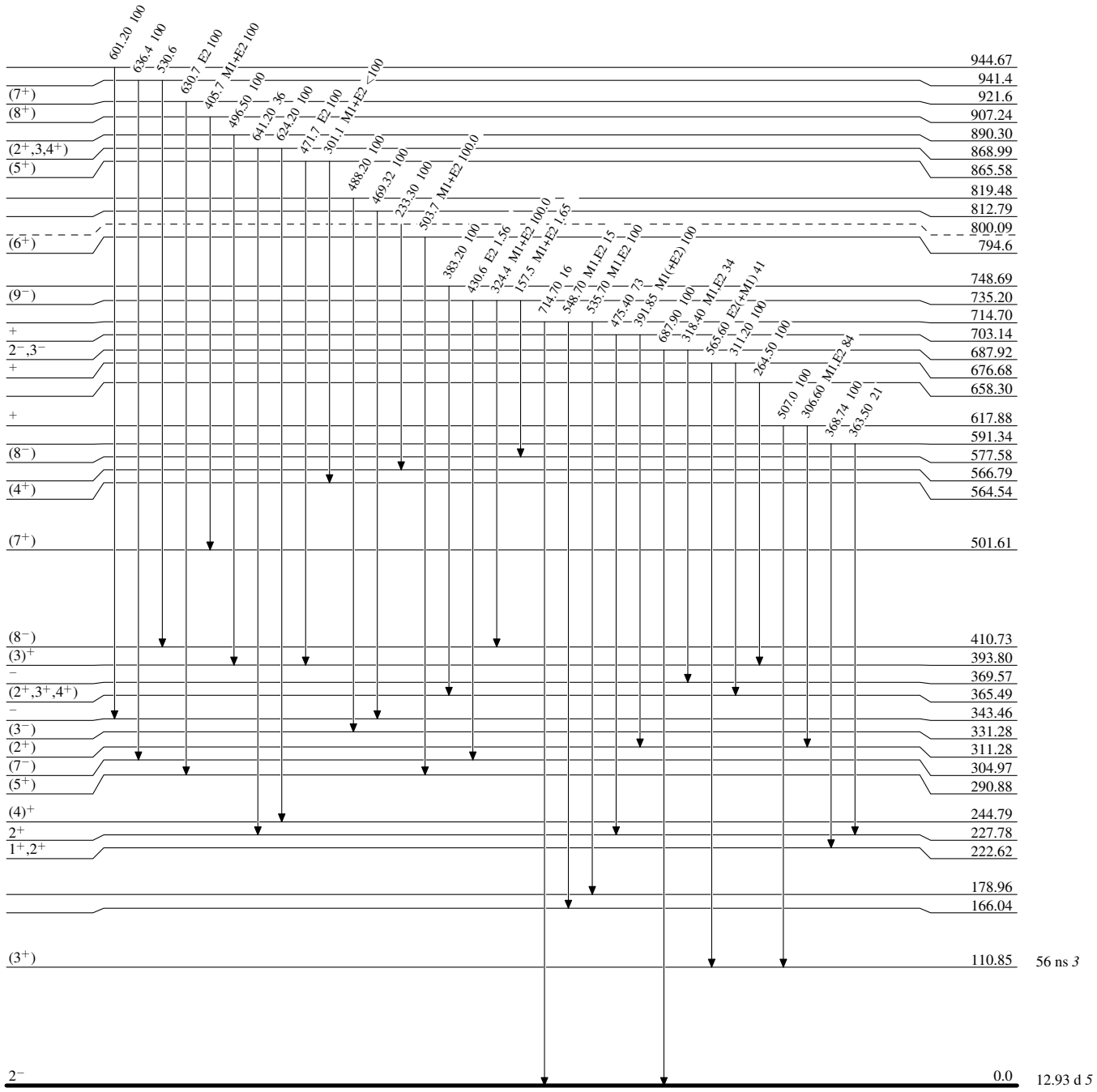


$^{126}_{53}I_{73}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

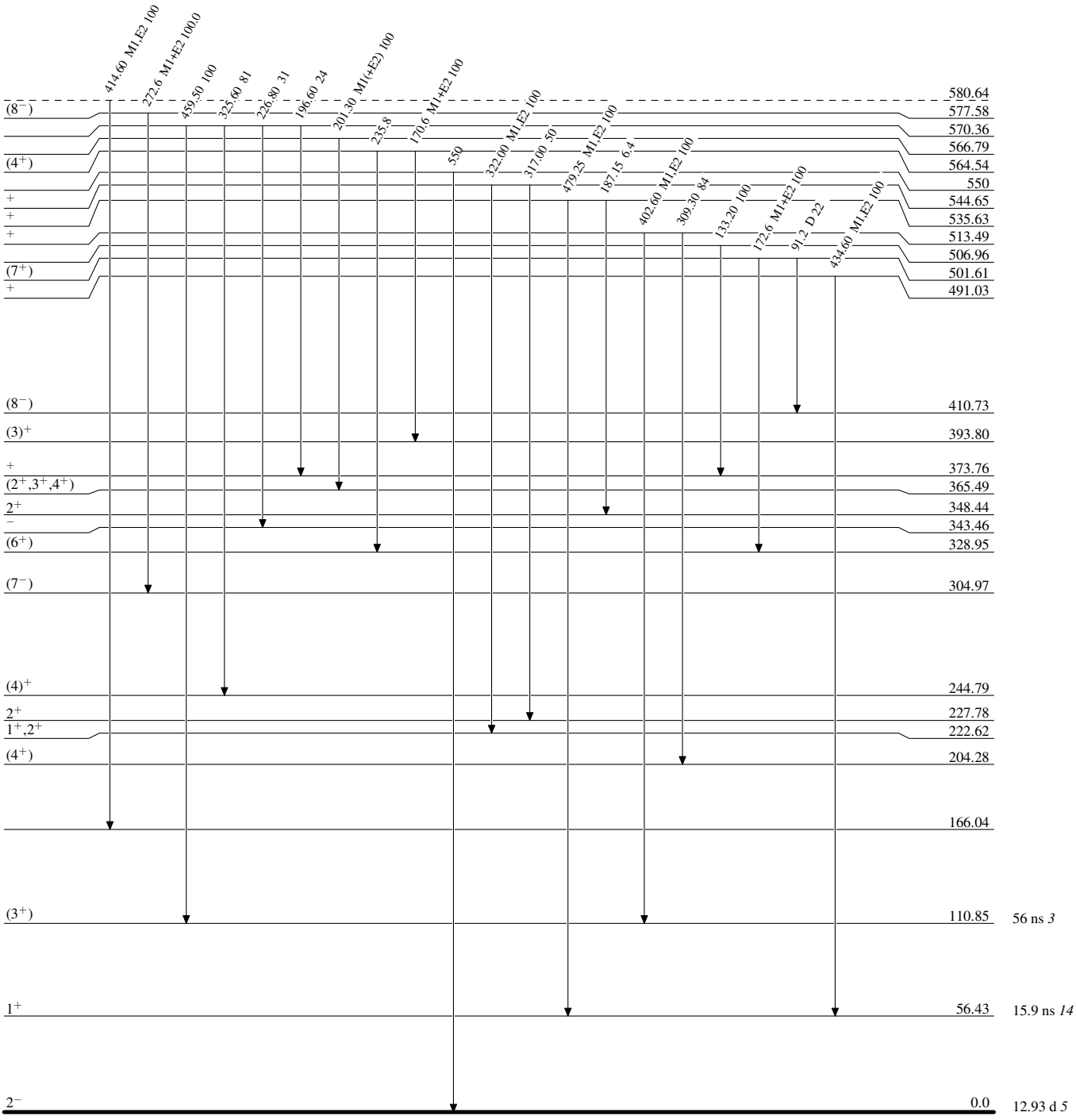


$^{126}_{53}I_{73}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{126}_{53}I_{73}$

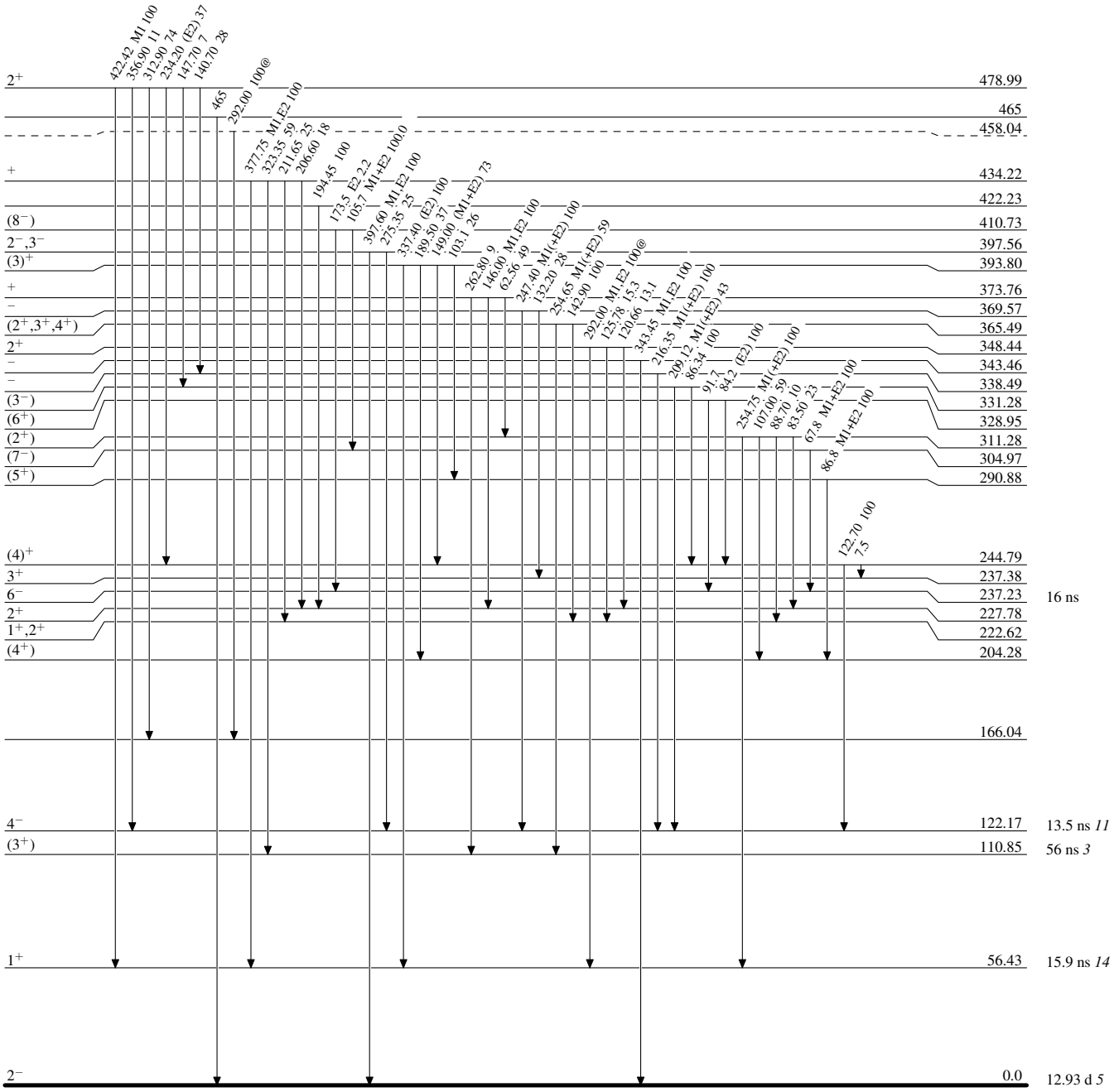
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)

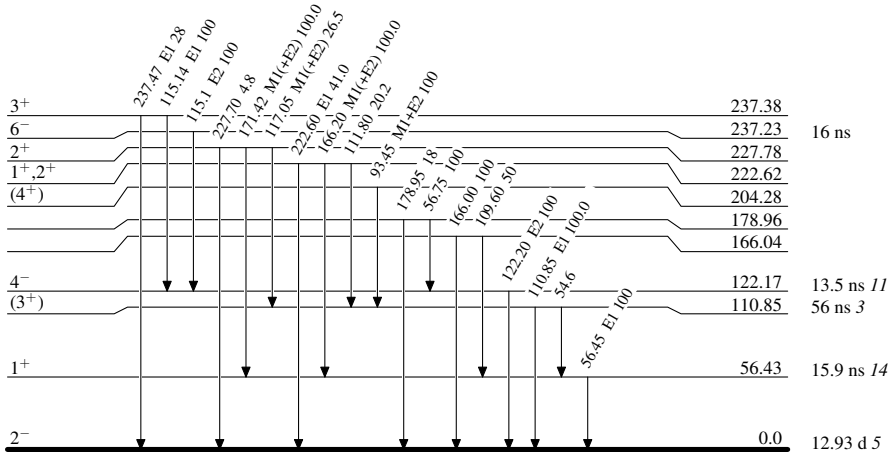


$^{126}_{53}I_{73}$

Adopted Levels, Gammas

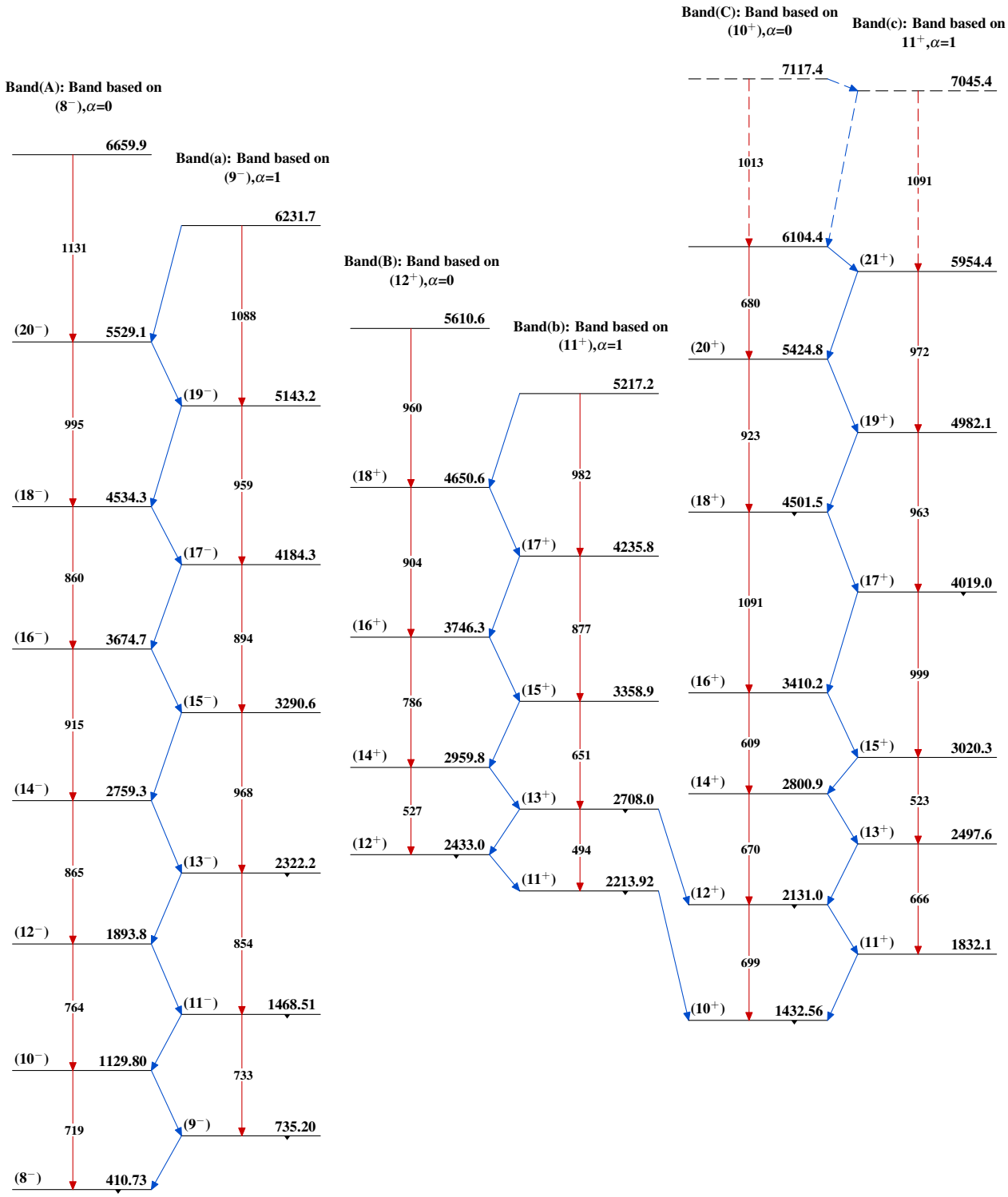
Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



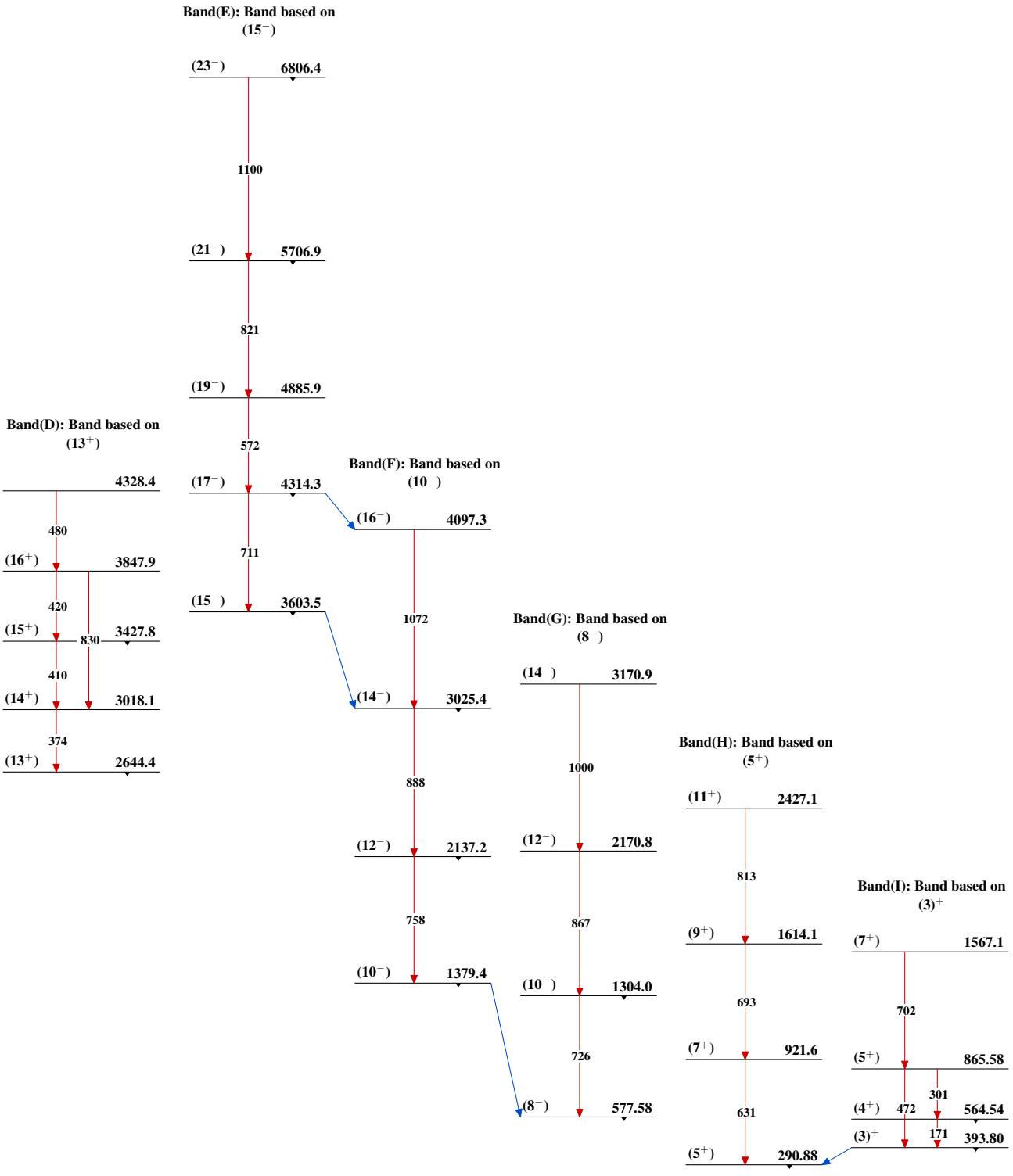
$^{126}_{53}I_{73}$

Adopted Levels, Gammas



$^{126}_{53}I_{73}$

Adopted Levels, Gammas (continued)



$^{126}_{53}I_{73}$