Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

Q(β^-)=−2170.4 *19*; S(n)=8670 *40*; S(p)=3895 *4*; Q(α)=2703 *5* 2017Wa10

^{153}Tb Levels

Model calculations of interest include 1974Pe17, 1978Al14, 1983Gu06, and 1985Bh03.
Band assignments are primarily those from (^{18}O,4nγ) (1998Ha37).

Cross Reference (XREF) Flags

A	^{153}Tb IT decay (186 μs)	E	^{151}Eu(α,2nγ),^{153}Eu(α,4nγ)
B	^{153}Dy ε decay	F	^{152}Gd(^{3}He,d)
C	^{124}Sn(^{37}Cl,α4nγ)	G	^{152}Gd(α,t)
D	^{139}La(^{18}O,4nγ)		

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
0.0[@]	5/2$^+$	2.34 d *1*	AB DEFG	%ε+%β^+=100 μ=+3.44 *2*; Q=+1.08 *14* <r^2>$^{1/2}$=4.99 fm *15* (2013An02,evaluation). J$^\pi$: J from atomic beam magnetic resonance (1970Ad09) and laser spectroscopy (1990Al36) and π from L=2 in (^{3}He,d) and (α,t). T$_{1/2}$: From weighted average of 2.34 d *1* (1970Ch09), 2.3 d *3* (1958An38), 2.31 d *5* (1960La09), 2.36 d *5* (1962St26), and 2.50 d *21* (1972Fl09); the corresponding reduced-χ^2 value is 0.28. This fit is dominated (92% of the relative weight) by the 1970Ch09 value. However, if the 1970Ch09 uncertainty is increased from 0.01 to 0.035 to reduce the relative weight to 50%, the average is unchanged. Other measurement: 2.6 d (1957Mi67). μ: From 2014StZZ compilation and based on data of 1990Al36 (by collinear fast beam laser spectroscopy − accelerated beam) where the uncertainty includes only the statistical component. Other: 3.5 *7* from 1989Ra17 evaluation and 2005St24 compilation and based on data of 1983Be03. Q: From 2016ST14 compilation and based on data of 1990Al36 (by collinear fast beam laser spectroscopy − accelerated beam) where the uncertainty includes only the statistical component. λ(^{153}Tb-^{159}Tb) ≈ Δ<r^2>=0.622 fm^2 *8* where the uncertainty includes only statistical component and other components do not exceed 5-10% (1990Al36).
80.720[e] *2*	7/2$^+$	0.49 ns *2*	AB DEFG	J$^\pi$: From M1 γ to 5/2$^+$ level and L=4 in (^{3}He,d) and (α,t).
147.570[h] *3*	3/2$^+$	0.84 ns *3*	B E	J$^\pi$: From M1+E2 γ from 5/2$^+$ level and band assignment.
163.175[c] *5*	11/2$^-$	186 μs *4*	ABCDEFG	%IT=100 J$^\pi$: From L=4 or 5 in (^{3}He,d) and (α,t) and M2 γ to 7/2$^+$ level. T$_{1/2}$: Weighted average of 187 μs *6* (1977KoZH), 174 μs *35* (1968Io01), 190 μs *6* (1967Co20), and 173 μs *10* (1965Gr04). %IT: From lack of observed ε decay.
213.742 *5*	(7/2)$^-$		B E	J$^\pi$: From E1 γ's to 5/2$^+$ and 7/2$^+$ levels.
218.628 *8*	3/2$^+$,5/2$^+$		B EFG	XREF: F(222). J$^\pi$: From L=2 in (^{3}He,d) and (α,t) and M1 γ's to 3/2$^+$ and 5/2$^+$ levels.
≈230	(9/2$^-$,11/2$^-$)		G	J$^\pi$: L=(5) in (α,t).
240.529[h] *4*	5/2$^+$		B E	J$^\pi$: From M1+E2 γ's from 7/2$^+$ and band assignment.

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Adopted Levels, Gammas (continued)

^{153}Tb Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
254.201[&] *6*	7/2+		B DE	Jπ: From M1 γ's to 5/2+ and 7/2+ levels and band assignment.
262.831[d] *5*	9/2−	0.22 ns *2*	BCDE G	Jπ: From M1 γ to 11/2− level and band assignment.
274.730 *6*	5/2−		B	Jπ: From E1 γ's to (3/2)+ and 7/2+ levels.
324.968[f] *5*	9/2+		B DE	Jπ: From γγ(θ) for the 325 γ (1978Wi02), E1 γ to 9/2− level, M1 γ to 7/2+, and band assignment.
371.542 *11*	5/2+		B F	XREF: F(375). Jπ: From M1 γ to 7/2+ level and L<3 from (^{3}He,d).
389.551[h] *6*	7/2+		B E	Jπ: From M1+E2 γ from 9/2+ level and band assignment.
444.695[@] *8*	9/2+		B DE	Jπ: From E2 γ to 5/2+ level and E0 γ to 9/2+.
510.290 *14*	7/2+		B	Jπ: From E1 γ's to 5/2− and 9/2− levels.
511.3[c]	15/2−		CDE	Jπ: From γ to 11/2− level and band assignment.
529.383[e] *10*	11/2+	0.60 ns *3*	B DE G	Jπ: From M1 γ to 9/2+ level and band assignment.
535.4[d]	13/2−		CDE	Jπ: From γ's to 9/2− and 11/2− levels and band assignment.
537.375 *8*	5/2−,7/2−		B	Jπ: From E1 γ's to 5/2+ and 7/2+ levels.
543.15 *5*	5/2+		B FG	Jπ: From L=2 in (^{3}He,d) and (α,t) and M1 γ to 7/2+ level.
571.949[h] *10*	9/2+		B E	Jπ: From M1 γ to 7/2+ level and E1 to 11/2−.
597.286 *12*	(9/2)−		B E	Jπ: From M1 γ to 11/2− level, γ to (7/2)−.
624 *4*	1/2,3/2,5/2+		FG	Jπ: From L=1,2 in (^{3}He,d) and (α,t).
630.420[&] *23*	11/2+		B DE	Jπ: From E2 γ to 7/2+ level, γ to 9/2−, and band assignment.
651.72 *4*			B	Jπ: Multipolarities for the depopulating γ's lead to conflicting Jπ assignments, indicating a questionable multipolarity or placement.
660.171 *23*	5/2+		B FG	Jπ: From L=2 in (^{3}He,d) and (α,t) and M1 γ to 7/2+ level.
694.905 *22*	7/2−,9/2−		B	Jπ: From E1 γ's to 7/2+ and 9/2+ levels.
≈710	1/2,3/2,5/2+		FG	Jπ: From L=1,2 in (^{3}He,d) and (α,t).
722.417 *21*	7/2+,9/2+		B g	Jπ: From E1 γ to (9/2)− level and (E2) γ to 5/2+.
≈723	1/2,3/2,5/2+		Fg	Jπ: From L=1,2 in (α,t) and (^{3}He,d).
725.526 *11*	9/2−		B	Jπ: From E0 γ component to 9/2− level.
726.557 *20*	5/2−,7/2−		B	Jπ: From E0 γ component to 5/2−,7/2− level and E1 to (5/2)+.
740.555 *11*	(7/2+)		B	Jπ: From M1 γ's to 9/2+ and (5/2)+ levels.
755.3[f]	13/2+		DE	Jπ: From γ's to 9/2+ and 11/2+ and band assignment.
767 *4*	1/2,3/2−		F	Jπ: From L=0,1 in (^{3}He,d).
773.07 *6*	(5/2,7/2)−		B	Jπ: From E1 γ's to 7/2+ and (5/2)+ levels.
789.96 *4*	7/2+,9/2+		B	Jπ: From M1 γ to 7/2+ level and E1 to 9/2−.
791?[h]	(11/2+)		E	Jπ: From γ to 9/2+ level and band assignment.
800.18 *3*	(5/2)+		B	Jπ: From E0 γ component to (5/2)+ level.
807.464 *18*	9/2−		B	Jπ: From E1 γ's to 7/2+ and 9/2+ levels and M1 to 11/2−.
848.4[@]	13/2+		DE	Jπ: From γ's to 9/2+ and 11/2+ levels and band assignment.
876.9?			E	E(level): may be the same level as 883 level in (^{3}He,d) and (α,t).
883 *4*	(9/2−,11/2−)		FG	Jπ: From L=(5) in (^{3}He,d) and (α,t).
957.17 *3*			B	Jπ: From M1+E2 γ to 5/2−,7/2− level indicates 3/2− to 9/2−, but γ's to 5/2+ and 11/2+ suggest 7/2+,9/2+ or a γ has M2 character.
959.94 *3*	7/2−		B F	XREF: F(962). Jπ: From E1 γ to 5/2+ level and M1 to 9/2−.
967.0[d]	(17/2−)		CDE	Jπ: From γ's to 13/2− and 15/2− and band assignment.
968.0[e]	(15/2+)		DE	Jπ: From γ's to 11/2+ and 13/2+ and band assignment.
979.0[c]	(19/2−)		CDE	Jπ: From γ to 15/2− and band assignment.
1010.4	(11/2−,13/2−)		E	Jπ: From γ's to (9/2)− and 15/2− levels.
1064 *4*			F	Jπ: L < 3 (^{3}He,d).
1067.2[&]	(15/2+)		DE	Jπ: From γ's to 11/2+ and 13/2+ and band assignment.
1082.85 *5*	7/2−		B	Jπ: From E1 γ's to 5/2+ and 9/2+.
1104.67 *4*	(5/2−,7/2−)		B F	Jπ: From E1 γ to 7/2+ and (5/2)+, but γ to 11/2+ is in conflict.
1130.65 *3*	5/2−,7/2−		B F	XREF: F(1126).

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Adopted Levels, Gammas (continued)

^{153}Tb Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			Jπ: From E1 γ to 7/2+ and L ≤ 3 in (^{3}He,d).
1151.545 *20*	7/2−	B	Jπ: From E1 γ's to 5/2+ and (7/2)+, but this requires 621 γ to 11/2+ to be M2 and 614 E1 γ has inconsistent multipolarity.
1170 *4*	1/2+	F	Jπ: From L=0 in (^{3}He,d).
1187 *4*		F	Jπ: From L < 3 in (^{3}He,d).
1199.5[f]	(17/2+)	DE	Jπ: From γ's to 13/2+ and 15/2+ and band assignment.
1219 *4*		F	Jπ: From L < 3 (^{3}He,d).
1226.47 *6*	(5/2,7/2)+	B	Jπ: From E1 γ to (7/2)− level and γ to 5/2−.
1240.38 *4*	(7/2)+	B F	Jπ: From M1 γ's to (5/2)+, 7/2+ and 9/2+ levels, L ≤ 3 in (^{3}He,d).
1283 *4*	(1/2+)	F	Jπ: From L=(0) in (^{3}He,d).
1305 *4*		FG	Jπ: L < 4 in (^{3}He,d).
1341.45 *4*	7/2−,9/2−	B G	XREF: G(1338). Jπ: From E1 γ's to 7/2+ and 9/2+ levels.
1342 *4*	3/2+,5/2+	FG	XREF: F(1346)G(1338). Jπ: From L=2 in (^{3}He,d).
1364.84 *3*	9/2−	B	Jπ: From M1 γ to 11/2− level and E1 to 7/2+.
1391 *4*	1/2,3/2,5/2+	F	Jπ: From L ≤ 2 in (^{3}He,d).
1422.7[e]	(19/2+)	DE	Jπ: From γ's to (15/2+) and (17/2+) and band assignment.
1429.32 *3*	9/2−	B	Jπ: From E1 γ's to 9/2+ and 11/2+ levels, but 1211 γ to 3/2+,5/2+ level is then M2 or E3.
1474.5	19/2(−)	CD	Jπ: From γ to 15/2− and expected J progression.
1495.0[d]	(21/2−)	CDE	Jπ: From γ's to (17/2−) and (19/2−) levels and band assignment.
1532.9[c]	(23/2−)	CDE	Jπ: From γ to (19/2−) level and band assignment.
1603 *4*		F	
1627.4		E	
1681.6[f]	(21/2+)	DE	Jπ: From γ's to (17/2+) and (19/2+) levels and band assignment.
1745 *4*		F	
1762.03 *7*	(5/2,7/2,9/2)−	B	Jπ: From M1 γ to 7/2−,9/2− level; other γ's are inconsistent since they go to (3/2)+ and 11/2+ which would require one to be an E3 or both M2.
1779.35 *10*	(7/2)−	B	Jπ: From E1 γ's to (5/2)+ and (7/2)+ levels and γ to 9/2+; this requires 1632 γ to (3/2)+ to be (M2).
1791.38 *3*	5/2−,7/2−,9/2−	B F	Jπ: From E1 γ to 7/2+ level.
1822.56 *4*	(9/2,11/2,13/2)−	B	Jπ: From E2 γ to (7/2,9/2)− level and γ to 11/2+, but 1675 γ to (3/2)+ is inconsistent unless Jπ=9/2− and γ is E3.
1824.69 *8*	(9/2)−	B F	XREF: F(1827). Jπ: From E1 γ to 7/2+ level and γ to 11/2+; this requires that the 1677 γ to (3/2)+ be E3.
1835.72 *5*	(7/2)−	B	Jπ: From M1 γ to 7/2−,9/2− level and γ's to (3/2)+ and 11/2−; this requires the 1688 γ to (3/2)+ to be (M2) and makes 9/2− unlikely.
1858.09 *8*	7/2−	B	Jπ: From E2 γ to 9/2− level, γ to 5/2+, and γ's to 9/2+.
1912.505 *25*	(9/2−)	B	Jπ: From E1 γ's to 7/2+ levels and γ's 11/2+ and 11/2−.
1923.8[e]	(23/2+)	DE	Jπ: From γ's to (19/2+) and (21/2+) levels and band assignment.
1940.26 *10*	(7/2)−	B	Jπ: From E1 γ to (5/2)+ level and γ's to 11/2+ and to 11/2−; 7/2− assignment requires 1410 γ to be M2.
2011.35 *6*	5/2−,7/2−	B	Jπ: From E2 γ to 9/2− level and γ to 3/2+,5/2+.
2019.7	(21/2+)	CD	Jπ: (21/2+,23/2−) from γ to 19/2(−) level and γ from 25/2(+) level. (21/2+) preferred in (^{37}Cl,α4nγ) and (^{18}O,4nγ).
2023.78 *5*	(7/2−,9/2−)	B	Jπ: From (M1) γ to 7/2−,9/2− level and γ to 7/2+ and 9/2+.
2086.7	(23/2+)	DE	Jπ: (23/2+,25/2−) from γ to (21/2−) level and and γ from 27/2+ level. (23/2+) preferred in (^{37}Cl,α4nγ) and (^{18}O,4nγ).
2095.2[d]	(25/2−)	CDE	Jπ: From γ's to (21/2−) and (23/2−) levels and band assignment.
2096.0?	(19/2+)	CD	Jπ: (19/2+,21/2,23/2−) from γ to 19/2− and γ from 23/2(+). (19/2+) preferred in (^{37}Cl,α4nγ) and (^{18}O,4nγ).
2120.07 *6*	(7/2,9/2)−	B	Jπ: From E1 γ to (7/2)+ level and γ to 9/2+.

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Adopted Levels, Gammas (continued)

^{153}Tb Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
2120.97 *7*		B	
2155.6[c]	(27/2$^-$)	CDE	J$^{\pi}$: From γ to (23/2$^-$) level and band assignment.
2211.3[f]	(25/2$^+$)	DE	J$^{\pi}$: From γ's to (21/2$^+$) and (23/2$^+$) levels and band assignment.
2467.4[e]	(27/2$^+$)	DE	J$^{\pi}$: From γ's to (23/2$^+$) and (25/2$^+$) levels and band assignment.
2534.0	27/2$^{(+)}$	D	J$^{\pi}$: From γ to 23/2$^+$ level and expected J progression.
2611.5[g]	27/2$^+$	D	J$^{\pi}$: From E2 γ to 23/2$^+$ level and band assignment.
2614.2[a]	23/2$^{(+)}$	CD	J$^{\pi}$: From γ to 19/2$^{(+)}$ level and band assignment.
2705.5[b]	25/2$^{(+)}$	CD	J$^{\pi}$: From dipole γ to 23/2$^-$ level and band assignment.
2740.2[d]	(29/2$^-$)	CDE	J$^{\pi}$: From γ's to (25/2$^-$) and (27/2$^-$) levels and band assignment.
2786.9[f]	29/2$^+$	D	J$^{\pi}$: From γ's to 25/2$^+$ and 27/2$^+$ levels and band assignment.
2827.0[c]	(31/2$^-$)	CDE	J$^{\pi}$: From γ to (27/2$^-$) level and band assignment.
2830.0[a]	27/2$^{(+)}$	CD	J$^{\pi}$: From γ's to 23/2$^{(+)}$ and 25/2$^{(+)}$ levels and band assignment.
2951.9[g]	31/2$^+$	D	J$^{\pi}$: From E2 γ to 27/2$^+$ level, dipole to 29/2$^-$ and band assignment.
2989.8[b]	29/2$^{(+)}$	CD	J$^{\pi}$: From γ's to 25/2$^{(+)}$ and 27/2$^{(+)}$ levels and band assignment.
3023.3[e]	31/2$^+$	D	J$^{\pi}$: From γ's to 27/2$^+$ and 29/2$^+$ levels and band assignment.
3186.0[a]	31/2$^{(+)}$	CD	J$^{\pi}$: From γ's to 27/2$^{(+)}$ and 29/2$^{(+)}$ levels and band assignment.
3320.3[d]	33/2$^-$	CD	J$^{\pi}$: From γ's to 29/2$^-$ and 31/2$^-$ levels and band assignment.
3392.3[f]	33/2$^+$	D	J$^{\pi}$: From γ to 29/2$^+$ level and band assignment.
3413.6[b]	33/2$^{(+)}$	CD	J$^{\pi}$: From γ's to 29/2$^{(+)}$ and 31/2$^{(+)}$ levels and band assignment.
3472.0[g]	35/2$^+$	D	J$^{\pi}$: From γ to 31/2$^+$ level and band assignment.
3489.5?[i]		C	
3493.6[c]	(35/2$^-$)	CDE	J$^{\pi}$: From γ's to (31/2$^-$) and 33/2$^-$ levels and band assignment.
3608.1[e]	(35/2$^+$)	CD	J$^{\pi}$: From γ to 31/2$^+$ level and band assignment.
3672.0[a]	35/2$^{(+)}$	CD	J$^{\pi}$: From γ's to 31/2$^{(+)}$ and 33/2$^{(+)}$ levels and band assignment.
3806.6[d]	37/2$^-$	CD	J$^{\pi}$: From γ's to 33/2$^-$ and 35/2$^-$ levels and band assignment.
3957.3[b]	37/2$^{(+)}$	CD	J$^{\pi}$: From γ to 33/2$^{(+)}$ level and band assignment.
3995.1[f]	37/2$^+$	D	J$^{\pi}$: From γ to 33/2$^+$ level and band assignment.
4083.3[c]	39/2$^-$	CD	J$^{\pi}$: From γ's to 35/2$^-$ and 37/2$^-$ levels and band assignment.
4110.7[g]	39/2$^+$	D	J$^{\pi}$: From γ to 35/2$^+$ level and band assignment.
4177.5?[i]		C	
4210?[e]	(39/2$^+$)	D	J$^{\pi}$: From γ to (35/2$^+$) level and band assignment.
4268.2[a]	39/2$^{(+)}$	CD	J$^{\pi}$: From γ to 35/2$^{(+)}$ level and band assignment.
4372.1[d]	41/2$^-$	CD	J$^{\pi}$: From γ's to 37/2$^-$ and 39/2$^-$ levels and band assignment.
4601.0[b]	41/2$^{(+)}$	CD	J$^{\pi}$: From γ to 37/2$^{(+)}$ level and band assignment.
4622?[f]	(41/2$^+$)	D	J$^{\pi}$: From γ to 37/2$^+$ level and band assignment.
4695.2[c]	43/2$^-$	CD	J$^{\pi}$: From γ's to 39/2$^-$ and 41/2$^-$ levels and band assignment.
4837.0[g]	(43/2$^+$)	D	J$^{\pi}$: From γ to 39/2$^+$ level and band assignment.
4945.5?[i]		C	
4955.9[a]	43/2$^{(+)}$	CD	J$^{\pi}$: From γ to 39/2$^{(+)}$ level and band assignment.
5023.0[d]	45/2$^-$	CD	J$^{\pi}$: From γ's to 41/2$^-$ and 43/2$^-$ levels and band assignment.
5330[b]	(45/2$^+$)	CD	J$^{\pi}$: From γ to 41/2$^{(+)}$ level and band assignment.
5375.4[c]	47/2$^-$	CD	J$^{\pi}$: From γ's to 43/2$^-$ and 45/2$^-$ levels and band assignment.
5633.0[g]	(47/2$^+$)	D	J$^{\pi}$: From γ to (43/2$^+$) level and band assignment.
5722?[a]	(47/2$^+$)	D	J$^{\pi}$: From γ to 43/2$^{(+)}$ level and band assignment.
5736.6?[i]		C	
5756.7[d]	(49/2$^-$)	CD	J$^{\pi}$: From γ's to 45/2$^-$ and 47/2$^-$ levels and band assignment.
6127.8[c]	(51/2$^-$)	CD	J$^{\pi}$: From γ's to 47/2$^-$ and (49/2$^-$) levels and band assignment.
6133[b]	(49/2$^+$)	C	

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Adopted Levels, Gammas (continued)

^{153}Tb Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
6486?[g]	(51/2+)	D	Jπ: From γ to (47/2+) level and band assignment.
6515.6?[i]		C	
6555[a]	(51/2+)	C	
6565.9[d]	(53/2−)	CD	Jπ: From γ to (49/2−) level and band assignment.
6947?[c]	(55/2−)	CD	Jπ: From γ to (51/2−) level and band assignment.
6989[b]	(53/2+)	C	
7219?[i]		C	
7433[a]	(55/2+)	C	
7447[d]	(57/2−)	CD	Jπ: From γ to (53/2−) level and band assignment.
7825[c]	(59/2−)	C	
7880[b]	(57/2+)	C	
7977?[i]		C	
8347[a]	(59/2+)	C	
8393[d]	(61/2−)	C	
8759[c]	(63/2−)	C	
8791[b]	(61/2+)	C	
8814?[i]		C	
9401[d]	(65/2−)	C	
9735?[i]		C	
9741[c]	(67/2−)	C	
10462[d]	(69/2−)	C	
10745?[i]		C	
10766[c]	(71/2−)	C	
11579[d]	(73/2−)	C	
11771[c]	(75/2−)	C	
12718?[d]	(77/2−)	C	

[†] From ^{153}Dy ε decay if populated there, otherwise based on Eγ from (α,xnγ), (^{18}O,4nγ), or (^{37}Cl,α4nγ), and level energies from reactions.

[‡] For levels above 7500 keV: based on assignment to a rotational band structure.

[#] From γγ(t) from ^{153}Dy ε decay (1977Al29), unless otherwise noted.

[@] Band(A): 5/2[402] band, α=+1/2.

[&] Band(a): 5/2[402] band, α=−1/2.

[a] Band(B): $\pi h_{11/2}\nu(i_{13/2}h_{11/2})$,α=−1/2. In quasiparticle labeling, configuration=$A_p\otimes AX(Y)$ ($B_p\otimes AX(Y)$ not ruled out) (1998Ha37). $A_p=\pi h_{11/2}$,α=−1/2, $A=\nu i_{13/2}$, α=+1/2, $B_p=\pi h_{11/2}$,α=+1/2, $X=\nu h_{11/2}$,α=+1/2, $Y=\nu h_{11/2}$,α=−1/2.

[b] Band(b): $\pi h_{11/2}\nu(i_{13/2}h_{11/2})$,α=+1/2. In quasiparticle labeling, configuration=$A_p\otimes AX(Y)$ ($B_p\otimes AX(Y)$ not ruled out) (1998Ha37). $A_p=\pi h_{11/2}$,α=−1/2, $A=\nu i_{13/2}$, α=+1/2, $B_p=\pi h_{11/2}$,α=+1/2, $X=\nu h_{11/2}$,α=+1/2, $Y=\nu h_{11/2}$,α=−1/2.

[c] Band(C): $\pi h_{11/2}$ band, α=−1/2.

[d] Band(c): $\pi h_{11/2}$ band, α=+1/2.

[e] Band(D): 7/2[404] band, α=−1/2.

[f] Band(d): 7/2[404] band, α=+1/2.

[g] Band(E): α=−1/2 band. Major component of configuration=$\pi h_{11/2}\nu(i_{13/2}2f_{7/2})$, or in quasiparticle labeling: $A_p\otimes AF$ (B_pAE not ruled out), where $A_p=\pi h_{11/2}$,α=−1/2, $B_p=\pi h_{11/2}$,α=+1/2, $A=\nu i_{13/2}$,α=+1/2, $E=\nu f_{7/2}$,α=+1/2, $F=\nu f_{7/2}$,α=−1/2.

[h] Band(F): 3/2[411] band.

[i] Band(G): Decoupled band. From ^{124}Sn(^{37}Cl,α4nγ) (2015Ha16); absolute level energies are uncertain since a single connecting transition is tentatively placed.

Adopted Levels, Gammas (continued)

γ(^{153}Tb)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	$I_{(\gamma+ce)}$	Comments
80.720	7/2$^+$	80.723 *2*	100	0.0	5/2$^+$	M1+E2	0.13 *1*	4.10		α(K)=3.40 *5*; α(L)=0.544 *10*; α(M)=0.1198 *24* α(N)=0.0276 *6*; α(O)=0.00418 *8*; α(P)=0.000253 *4* B(M1)(W.u.)=0.0165 *7*; B(E2)(W.u.)=22.6 *+38−34*
147.570	3/2$^+$	147.560 *3*	100	0.0	5/2$^+$	M1+E2	0.47 *5*	0.712 *11*		α(K)=0.573 *11*; α(L)=0.109 *4*; α(M)=0.0244 *10* α(N)=0.00559 *21*; α(O)=0.00082 *3*; α(P)=4.11×10^{-5} *10* B(M1)(W.u.)=0.00390 *20*; B(E2)(W.u.)=20.9 *+38−36*
163.175	11/2$^-$	82.464 *4*	100	80.720	7/2$^+$	M2		43.9		α(K)=31.9 *5*; α(L)=9.24 *13*; α(M)=2.17 *3* α(N)=0.505 *7*; α(O)=0.0750 *11*; α(P)=0.00416 *6* B(M2)(W.u.)=0.0340 *9*
213.742	(7/2)$^-$	132.990 *12*	3.4 *3*	80.720	7/2$^+$	E1		0.1396		α(K)=0.1174 *17*; α(L)=0.01739 *25*; α(M)=0.00378 *6* α(N)=0.000862 *12*; α(O)=0.0001264 *18*; α(P)=6.78×10^{-6} *10*
		213.754 *5*	100 *2*	0.0	5/2$^+$	E1		0.0395		α(K)=0.0334 *5*; α(L)=0.00477 *7*; α(M)=0.001036 *15* α(N)=0.000237 *4*; α(O)=3.54×10^{-5} *5*; α(P)=2.04×10^{-6} *3*
218.628	3/2$^+$,5/2$^+$	71.00 *5*	2.1 *3*	147.570	3/2$^+$	M1+E2	0.31 *2*	6.22 *10*		α(K)=4.74 *8*; α(L)=1.15 *6*; α(M)=0.262 *13* α(N)=0.060 *3*; α(O)=0.0085 *4*; α(P)=0.000350 *6*
		218.629 *8*	100 *5*	0.0	5/2$^+$	M1+E2	0.47 *+30−36*	0.231 *15*		α(K)=0.191 *17*; α(L)=0.0314 *19*; α(M)=0.0069 *5* α(N)=0.00160 *11*; α(O)=0.000240 *10*; α(P)=1.38×10^{-5} *16*
240.529	5/2$^+$	92.957 *2*	100.0 *24*	147.570	3/2$^+$	M1+E2	0.18 *+1−2*	2.73		α(K)=2.25 *4*; α(L)=0.372 *10*; α(M)=0.0823 *23* α(N)=0.0189 *5*; α(O)=0.00285 *7*; α(P)=0.0001670 *25*
		159.85 *3*	9.5 *12*	80.720	7/2$^+$	M1+E2	0.23 *+8−13*	0.576 *9*		α(K)=0.481 *10*; α(L)=0.075 *3*; α(M)=0.0164 *8* α(N)=0.00378 *17*; α(O)=0.000575 *20*; α(P)=3.54×10^{-5} *10*
		240.564 *17*	37 *3*	0.0	5/2$^+$	M1+E2	0.83 *+17−15*	0.162 *7*		α(K)=0.131 *7*; α(L)=0.0245 *6*; α(M)=0.00548 *14* α(N)=0.00126 *3*; α(O)=0.000184 *3*; α(P)=9.2×10^{-6} *6*
254.201	7/2$^+$	173.509 *12*	3.76 *21*	80.720	7/2$^+$	M1+E2	0.25 *2*	0.457		α(K)=0.381 *6*; α(L)=0.0590 *10*; α(M)=0.01297 *21* α(N)=0.00299 *5*; α(O)=0.000455 *7*; α(P)=2.80×10^{-5} *5*
		254.259 *17*	100.0 *26*	0.0	5/2$^+$	M1+E2	0.35 *4*	0.156 *3*		α(K)=0.1304 *23*; α(L)=0.0199 *3*; α(M)=0.00436 *7* α(N)=0.001006 *15*; α(O)=0.0001532 *22*; α(P)=9.52×10^{-6} *19*

$^{153}_{65}Tb_{88}$-6

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	$I_{(\gamma+ce)}$	Comments
262.831	9/2$^-$	99.659 *2*	100	163.175	11/2$^-$	M1+E2	0.095 *10*	2.22		B(M1)(W.u.)=0.0311 *+31−26*; B(E2)(W.u.)=15.0 *+37−31* α(K)=1.86 *3*; α(L)=0.280 *5*; α(M)=0.0615 *10* α(N)=0.01419 *22*; α(O)=0.00217 *4*; α(P)=0.0001386 *20*
274.730	5/2$^-$	11.90 *10*		262.831	9/2$^-$				7.5 *7*	
		61.044 *25*	1.5 *6*	213.742	(7/2)$^-$	M1+E2	0.55 *6*	11.1 *4*		α(K)=6.55 *21*; α(L)=3.5 *4*; α(M)=0.83 *10* α(N)=0.186 *22*; α(O)=0.025 *3*; α(P)=0.000482 *18*
		127.126 *10*	10.4 *5*	147.570	3/2$^+$	E1		0.1576		α(K)=0.1325 *19*; α(L)=0.0197 *3*; α(M)=0.00429 *6* α(N)=0.000977 *14*; α(O)=0.0001429 *20*; α(P)=7.60×10^{-6} *11*
		194.019 *11*	13.2 *7*	80.720	7/2$^+$	E1		0.0509		α(K)=0.0430 *6*; α(L)=0.00618 *9*; α(M)=0.001344 *19* α(N)=0.000307 *5*; α(O)=4.57×10^{-5} *7*; α(P)=2.61×10^{-6} *4*
		274.673 *15*	100 *18*	0.0	5/2$^+$	[E1]		0.0207		α(K)=0.01753 *25*; α(L)=0.00246 *4*; α(M)=0.000535 *8* α(N)=0.0001227 *18*; α(O)=1.84×10^{-5} *3*; α(P)=1.101×10^{-6} *16*
324.968	9/2$^+$	62.14 *5*	1.50 *16*	262.831	9/2$^-$	E1		1.058		α(K)=0.871 *13*; α(L)=0.1462 *21*; α(M)=0.0319 *5* α(N)=0.00720 *11*; α(O)=0.001009 *15*; α(P)=4.54×10^{-5} *7*
		70.780 *9*	2.1 *4*	254.201	7/2$^+$	M1+E2	0.10 *4*	5.99 *10*		α(K)=4.98 *8*; α(L)=0.78 *5*; α(M)=0.172 *12* α(N)=0.040 *3*; α(O)=0.0060 *4*; α(P)=0.000372 *6*
		244.249 *5*	100 *2*	80.720	7/2$^+$	M1+E2	0.56 *4*	0.166 *3*		α(K)=0.137 *3*; α(L)=0.0227 *4*; α(M)=0.00503 *8* α(N)=0.001157 *18*; α(O)=0.0001733 *25*; α(P)=9.83×10^{-6} *21*
		324.980 *23*	18.8 *6*	0.0	5/2$^+$	E2		0.0489		α(K)=0.0375 *6*; α(L)=0.00883 *13*; α(M)=0.00201 *3* α(N)=0.000457 *7*; α(O)=6.46×10^{-5} *9*; α(P)=2.37×10^{-6} *4*
371.542	5/2$^+$	96.750 *20*	7.4 *14*	274.730	5/2$^-$					
		131.00 *3*	4.2 *11*	240.529	5/2$^+$					
		157.778 *18*	9.5 *21*	213.742	(7/2)$^-$	E1		0.0883		α(K)=0.0744 *11*; α(L)=0.01085 *16*; α(M)=0.00236 *4* α(N)=0.000539 *8*; α(O)=7.96×10^{-5} *12*; α(P)=4.39×10^{-6} *7*
		290.74 *5*	69 *4*	80.720	7/2$^+$	M1+E2		0.091 *23*		α(K)=0.074 *22*; α(L)=0.0134 *3*; α(M)=0.00300 *5* α(N)=0.000686 *10*; α(O)=0.000101 *6*; α(P)=5.1×10^{-6} *20*
		371.70 *3*	100 *4*	0.0	5/2$^+$	E2		0.0329		α(K)=0.0258 *4*; α(L)=0.00556 *8*; α(M)=0.001257 *18* α(N)=0.000286 *4*; α(O)=4.09×10^{-5} *6*; α(P)=1.665×10^{-6} *24*
389.551	7/2$^+$	135.510 *20*	2.0 *4*	254.201	7/2$^+$	M1		0.924		α(K)=0.780 *11*; α(L)=0.1132 *16*; α(M)=0.0247 *4* α(N)=0.00572 *8*; α(O)=0.000881 *13*; α(P)=5.80×10^{-5} *9*
		149.010 *5*	64 *6*	240.529	5/2$^+$	M1+E2	0.22 *+3−2*	0.703		α(K)=0.587 *9*; α(L)=0.0914 *19*; α(M)=0.0201 *5*

$^{153}_{65}Tb_{88}$-7

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	$I_{(\gamma+ce)}$	Comments
										α(N)=0.00464 *10*; α(O)=0.000704 *13*; α(P)=4.32×10^{-5} *7*
389.551	7/2$^+$	242.00 *4*	13.9 *22*	147.570	3/2$^+$	E2		0.1226		α(K)=0.0887 *13*; α(L)=0.0263 *4*; α(M)=0.00607 *9* α(N)=0.001374 *20*; α(O)=0.000189 *3*; α(P)=5.29×10^{-6} *8*
		308.75 *5*	8.7 *7*	80.720	7/2$^+$	M1+E2		0.077 *20*		α(K)=0.062 *19*; α(L)=0.0111 *6*; α(M)=0.00247 *7* α(N)=0.000567 *20*; α(O)=8.4×10^{-5} *7*; α(P)=4.4×10^{-6} *17*
		389.531 *16*	100 *3*	0.0	5/2$^+$	E2		0.0288		α(K)=0.0227 *4*; α(L)=0.00475 *7*; α(M)=0.001073 *15* α(N)=0.000245 *4*; α(O)=3.51×10^{-5} *5*; α(P)=1.474×10^{-6} *21*
444.695	9/2$^+$	119.735 *20*	<2.3	324.968	9/2$^+$	M1+E2+E0		1.33 *3*	7.9 *11*	ce(K)/(γ+ce)=0.39 *6*; ce(L)/(γ+ce)=0.142 *63*; ce(M)/(γ+ce)=0.033 *18* ce(N)/(γ+ce)=0.0074 *40*; ce(O)/(γ+ce)=1.01×10^{-3} *48*; ce(P)/(γ+ce)=2.5×10^{-5} *10* α(K)=0.91 *21*; α(L)=0.33 *17*; α(M)=0.077 *42* α(N)=0.0174 *93*; α(O)=0.0024 *12*; α(P)=5.9×10^{-5} *24*
		190.495 *7*	100.0 *23*	254.201	7/2$^+$	M1+E2	0.25 *+6−7*	0.352 *6*		α(K)=0.294 *6*; α(L)=0.0449 *10*; α(M)=0.00987 *23* α(N)=0.00228 *6*; α(O)=0.000347 *7*; α(P)=2.16×10^{-5} *5*
		363.94 *4*	4.2 *16*	80.720	7/2$^+$					I_γ: From ε decay: other: 32 from (α,2nγ).
		444.731 *25*	75.5 *26*	0.0	5/2$^+$	E2		0.0199		α(K)=0.01591 *23*; α(L)=0.00310 *5*; α(M)=0.000696 *10* α(N)=0.0001589 *23*; α(O)=2.31×10^{-5} *4*; α(P)=1.052×10^{-6} *15*
510.290	7/2$^+$	138.77 *5*	4.8 *15*	371.542	5/2$^+$	M1		0.864		I_γ: From ε decay: other: 43 from (α,2nγ). α(K)=0.729 *11*; α(L)=0.1058 *15*; α(M)=0.0231 *4* α(N)=0.00534 *8*; α(O)=0.000823 *12*; α(P)=5.42×10^{-5} *8*
		185.49 *5*	1.3 *5*	324.968	9/2$^+$					
		235.519 *17*	21.0 *17*	274.730	5/2$^-$	E1		0.0307		α(K)=0.0260 *4*; α(L)=0.00368 *6*; α(M)=0.000800 *12* α(N)=0.000183 *3*; α(O)=2.74×10^{-5} *4*; α(P)=1.606×10^{-6} *23*
		247.49 *5*	67 *5*	262.831	9/2$^-$	E1		0.0270		α(K)=0.0229 *4*; α(L)=0.00323 *5*; α(M)=0.000702 *10* α(N)=0.0001609 *23*; α(O)=2.41×10^{-5} *4*; α(P)=1.421×10^{-6} *20*
		255.87 *9*	36 *3*	254.201	7/2$^+$	M1		0.1593		α(K)=0.1346 *19*; α(L)=0.0193 *3*; α(M)=0.00421 *6* α(N)=0.000973 *14*; α(O)=0.0001501 *21*; α(P)=9.95×10^{-6} *14*
		296.69 *5*	100 *7*	213.742	(7/2)$^-$	E1		0.01702		α(K)=0.01445 *21*; α(L)=0.00202 *3*; α(M)=0.000439 *7* α(N)=0.0001007 *15*; α(O)=1.517×10^{-5} *22*; α(P)=9.13×10^{-7} *13*

$^{153}_{65}Tb_{88}$-8

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	Comments
510.290	7/2+	429.61 *9*	31.5 *17*	80.720	7/2+	M1+E2		0.0312 *94*	α(K)=0.0259 *85*; α(L)=0.0041 *7*; α(M)=0.00092 *14* α(N)=0.00021 *4*; α(O)=3.2×10^{-5} *6*; α(P)=1.83×10^{-6} *69*
511.3	15/2−	348.1	100	163.175	11/2−				
529.383	11/2+	204.406 *11*	36.3 *20*	324.968	9/2+	M1+E2	0.59 *8*	0.273 *6*	α(K)=0.222 *6*; α(L)=0.0397 *10*; α(M)=0.00886 *25* α(N)=0.00203 *6*; α(O)=0.000301 *7*; α(P)=1.58×10^{-5} *6* B(M1)(W.u.)=7.2×10^{-4} *+15−13*; B(E2)(W.u.)=3.2 *+11−9*
		275.32 *5*	2.1 *4*	254.201	7/2+	[E2]		0.0814	α(K)=0.0606 *9*; α(L)=0.01613 *23*; α(M)=0.00370 *6* α(N)=0.000839 *12*; α(O)=0.0001168 *17*; α(P)=3.71×10^{-6} *6* B(E2)(W.u.)=0.159 *+49−41*
		315.72 *6*	8.2 *6*	213.742	(7/2)−	[M2]		0.369	α(K)=0.300 *5*; α(L)=0.0536 *8*; α(M)=0.01204 *17* α(N)=0.00279 *4*; α(O)=0.000425 *6*; α(P)=2.64×10^{-5} *4* B(M2)(W.u.)=29.2 *+50−43*: value exceeds RUL=1 and suggests incorrect placement if J^π's are correct.
		448.664 *22*	100 *3*	80.720	7/2+	E2		0.0194	α(K)=0.01555 *22*; α(L)=0.00301 *5*; α(M)=0.000677 *10* α(N)=0.0001546 *22*; α(O)=2.24×10^{-5} *4*; α(P)=1.029×10^{-6} *15* B(E2)(W.u.)=0.66 *6*
535.4	13/2−	272.6	46 *4*	262.831	9/2−				
		372.2	100	163.175	11/2−				
537.375	5/2−,7/2−	262.597 *18*	39.1 *11*	274.730	5/2−	M1		0.1485	α(K)=0.1255 *18*; α(L)=0.0180 *3*; α(M)=0.00392 *6* α(N)=0.000907 *13*; α(O)=0.0001398 *20*; α(P)=9.28×10^{-6} *13*
		274.673 *15*	100 *11*	262.831	9/2−	[E2]		0.0820	α(K)=0.0610 *9*; α(L)=0.01627 *23*; α(M)=0.00373 *6* α(N)=0.000846 *12*; α(O)=0.0001178 *17*; α(P)=3.74×10^{-6} *6*
		283.13 *7*	7.3 *6*	254.201	7/2+	E1		0.0191	α(K)=0.01624 *23*; α(L)=0.00228 *4*; α(M)=0.000495 *7* α(N)=0.0001135 *16*; α(O)=1.708×10^{-5} *24*; α(P)=1.023×10^{-6} *15*
		323.665 *20*	58.9 *17*	213.742	(7/2)−	M1+E2		0.067 *18*	α(K)=0.055 *17*; α(L)=0.0096 *7*; α(M)=0.00213 *10* α(N)=0.00049 *3*; α(O)=7.3×10^{-5} *7*; α(P)=3.8×10^{-6} *15*
		456.600 *26*	11.7 *5*	80.720	7/2+	E1		0.00604	α(K)=0.00515 *8*; α(L)=0.000704 *10*; α(M)=0.0001526 *22* α(N)=3.51×10^{-5} *5*; α(O)=5.33×10^{-6} *8*; α(P)=3.35×10^{-7} *5*
		537.225 *18*	66.7 *17*	0.0	5/2+	E1		0.00420	α(K)=0.00358 *5*; α(L)=0.000485 *7*; α(M)=0.0001051 *15* α(N)=2.42×10^{-5} *4*; α(O)=3.69×10^{-6} *6*; α(P)=2.35×10^{-7} *4*
543.15	5/2+	288.85 *14*	72 *8*	254.201	7/2+	M1+E2	4.0 *9*	0.0727 *19*	α(K)=0.0553 *18*; α(L)=0.01353 *20*; α(M)=0.00309 *5* α(N)=0.000701 *10*; α(O)=9.87×10^{-5} *15*; α(P)=3.49×10^{-6} *15*
		302.57 *5*	52 *19*	240.529	5/2+				
		395.90 *20*	32 *3*	147.570	3/2+				
		543.31 *12*	100.0 *7*	0.0	5/2+	E2		0.01174	α(K)=0.00957 *14*; α(L)=0.001694 *24*; α(M)=0.000377 *6* α(N)=8.64×10^{-5} *13*; α(O)=1.272×10^{-5} *18*; α(P)=6.45×10^{-7} *9*
571.949	9/2+	182.388 *10*	100 *6*	389.551	7/2+	M1+E2		0.36 *5*	α(K)=0.27 *7*; α(L)=0.065 *17*; α(M)=0.0149 *42* α(N)=0.00339 *92*; α(O)=0.00048 *10*; α(P)=1.84×10^{-5} *69*
		317.72 *4*	32.7 *21*	254.201	7/2+				
		408.92 *3*	41 *12*	163.175	11/2−	E1		0.00781	α(K)=0.00664 *10*; α(L)=0.000914 *13*; α(M)=0.000198 *3* α(N)=4.55×10^{-5} *7*; α(O)=6.91×10^{-6} *10*; α(P)=4.30×10^{-7} *6*
		491.15 *7*	28 *4*	80.720	7/2+	M1+E2		0.0220 *68*	α(K)=0.0183 *61*; α(L)=0.0028 *6*; α(M)=0.00063 *12* α(N)=0.00014 *3*; α(O)=2.2×10^{-5} *5*; α(P)=1.30×10^{-6} *48*

$^{153}_{65}Tb_{88}$-9

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	Comments
571.949	9/2$^+$	572.00 *20*	87 *7*	0.0	5/2$^+$	E2		0.01031	α(K)=0.00844 *12*; α(L)=0.001462 *21*; α(M)=0.000325 *5* α(N)=7.45×10^{-5} *11*; α(O)=1.101×10^{-5} *16*; α(P)=5.71×10^{-7} *8*
597.286	(9/2)$^-$	272.55 *9*	20.6 *19*	324.968	9/2$^+$				
		334.52 *4*	32.9 *21*	262.831	9/2$^-$	(E2)		0.0449	α(K)=0.0346 *5*; α(L)=0.00798 *12*; α(M)=0.00181 *3* α(N)=0.000413 *6*; α(O)=5.85×10^{-5} *9*; α(P)=2.20×10^{-6} *3*
		383.74 *5*	22 *3*	213.742	(7/2)$^-$	(E2)		0.0300	α(K)=0.0236 *4*; α(L)=0.00499 *7*; α(M)=0.001128 *16* α(N)=0.000257 *4*; α(O)=3.69×10^{-5} *6*; α(P)=1.532×10^{-6} *22*
		434.101 *21*	100 *3*	163.175	11/2$^-$	M1		0.0394	α(K)=0.0334 *5*; α(L)=0.00471 *7*; α(M)=0.001025 *15* α(N)=0.000237 *4*; α(O)=3.66×10^{-5} *6*; α(P)=2.45×10^{-6} *4*
630.420	11/2$^+$	185.91 *5*	32 *7*	444.695	9/2$^+$	M1+E2	0.31 *+14−21*	0.374 *9*	α(K)=0.311 *12*; α(L)=0.0490 *25*; α(M)=0.0108 *7* α(N)=0.00249 *14*; α(O)=0.000377 *15*; α(P)=2.28×10^{-5} *11* I$_\gamma$: From ε decay; other: 112 from (α,2nγ).
		305.63 *5*	23.3 *18*	324.968	9/2$^+$	(E2)		0.0589	α(K)=0.0447 *7*; α(L)=0.01100 *16*; α(M)=0.00251 *4* α(N)=0.000570 *8*; α(O)=8.02×10^{-5} *12*; α(P)=2.80×10^{-6} *4* I$_\gamma$: From ε decay; other: 49 from (α,2nγ).
		367.80 *20*	6.3 *14*	262.831	9/2$^-$				I$_\gamma$: From ε decay; other: 23 from (α,2nγ).
		376.07 *3*	100 *6*	254.201	7/2$^+$	E2		0.0318	α(K)=0.0250 *4*; α(L)=0.00534 *8*; α(M)=0.001208 *17* α(N)=0.000275 *4*; α(O)=3.94×10^{-5} *6*; α(P)=1.615×10^{-6} *23*
651.72		397.50 *4*	71 *5*	254.201	7/2$^+$	E1		0.00835	α(K)=0.00710 *10*; α(L)=0.000978 *14*; α(M)=0.000212 *3* α(N)=4.87×10^{-5} *7*; α(O)=7.39×10^{-6} *11*; α(P)=4.59×10^{-7} *7*
		438.0 *4*	59 *29*	213.742	(7/2)$^-$				
		651.6 *3*	100 *24*	0.0	5/2$^+$	M1		0.01406	α(K)=0.01194 *17*; α(L)=0.001660 *24*; α(M)=0.000361 *5* α(N)=8.34×10^{-5} *12*; α(O)=1.290×10^{-5} *19*; α(P)=8.68×10^{-7} *13*
660.171	5/2$^+$	405.87 *3*	100 *9*	254.201	7/2$^+$	M1+E2		0.036 *11*	α(K)=0.0300 *98*; α(L)=0.0049 *8*; α(M)=0.00108 *15* α(N)=0.00025 *4*; α(O)=3.7×10^{-5} *7*; α(P)=2.12×10^{-6} *80*
		441.49 *5*	70 *4*	218.628	3/2$^+$,5/2$^+$	E2		0.0203	α(K)=0.01622 *23*; α(L)=0.00317 *5*; α(M)=0.000712 *10* α(N)=0.0001627 *23*; α(O)=2.36×10^{-5} *4*; α(P)=1.071×10^{-6} *15*
694.905	7/2$^-$,9/2$^-$	250.00 *5*	38 *5*	444.695	9/2$^+$	E1		0.0263	α(K)=0.0223 *4*; α(L)=0.00315 *5*; α(M)=0.000684 *10* α(N)=0.0001567 *22*; α(O)=2.35×10^{-5} *4*; α(P)=1.386×10^{-6} *20*
		370.00 *20*	12.6 *21*	324.968	9/2$^+$				
		614.229 *24*	100 *7*	80.720	7/2$^+$	E1		0.00314	α(K)=0.00268 *4*; α(L)=0.000361 *5*; α(M)=7.81×10^{-5} *11*

$^{153}_{65}Tb_{88}$-10

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#a]	α[&]	Comments
									α(N)=1.80×10^{-5} *3*; α(O)=2.75×10^{-6} *4*; α(P)=1.771×10^{-7} *25*
722.417	7/2$^+$,9/2$^+$	125.164 *19*	92 *10*	597.286	(9/2)$^-$	E1		0.1643	α(K)=0.1381 *20*; α(L)=0.0206 *3*; α(M)=0.00448 *7* α(N)=0.001020 *15*; α(O)=0.0001491 *21*; α(P)=7.91×10^{-6} *11*
		332.50 *10*	90 *15*	389.551	7/2$^+$	(E2)		0.0457	α(K)=0.0352 *5*; α(L)=0.00815 *12*; α(M)=0.00185 *3* α(N)=0.000422 *6*; α(O)=5.97×10^{-5} *9*; α(P)=2.23×10^{-6} *4*
		350.42 *10*	100 *33*	371.542	5/2$^+$	(E2)		0.0391	α(K)=0.0304 *5*; α(L)=0.00679 *10*; α(M)=0.001541 *22* α(N)=0.000351 *5*; α(O)=4.99×10^{-5} *7*; α(P)=1.94×10^{-6} *3*
		509.00[b] *20*	87 *10*	213.742	(7/2)$^-$				
		641.5 *3*	50 *6*	80.720	7/2$^+$				
725.526	9/2$^-$	128.236 *11*	17.6 *10*	597.286	(9/2)$^-$	M1+E2	0.23 *+4−5*	1.080	α(K)=0.895 *14*; α(L)=0.144 *5*; α(M)=0.0319 *12* α(N)=0.0073 *3*; α(O)=0.00111 *4*; α(P)=6.59×10^{-5} *12*
		400.80 *5*	9.6 *8*	324.968	9/2$^+$	E1+M2		0.0098 *17*	α(K)=0.0083 *14*; α(L)=0.00119 *23*; α(M)=0.00026 *6* α(N)=6.0×10^{-5} *12*; α(O)=9.1×10^{-6} *19*; α(P)=5.6×10^{-7} *12*
		450.80 *10*	13.3 *10*	274.730	5/2$^-$				
		462.63 *5*	36 *9*	262.831	9/2$^-$	M1+E2+E0		0.0257 *78*	α(K)=0.0214 *70*; α(L)=0.0034 *7*; α(M)=0.00074 *13* α(N)=0.00017 *3*; α(O)=2.6×10^{-5} *6*; α(P)=1.51×10^{-6} *57*
		471.352 *16*	74.7 *25*	254.201	7/2$^+$	E1		0.00562	α(K)=0.00479 *7*; α(L)=0.000654 *10*; α(M)=0.0001417 *20* α(N)=3.26×10^{-5} *5*; α(O)=4.96×10^{-6} *7*; α(P)=3.12×10^{-7} *5*
		512.00 *20*	100 *5*	213.742	(7/2)$^-$	(E2)		0.01367	α(K)=0.01109 *16*; α(L)=0.00202 *3*; α(M)=0.000450 *7* α(N)=0.0001030 *15*; α(O)=1.510×10^{-5} *22*; α(P)=7.43×10^{-7} *11*
		562.248 *25*	35.6 *13*	163.175	11/2$^-$	M1+E2		0.0156 *48*	α(K)=0.0130 *43*; α(L)=0.0020 *5*; α(M)=0.00043 *10* α(N)=0.000100 *22*; α(O)=1.5×10^{-5} *4*; α(P)=9.3×10^{-7} *34*
726.557	5/2$^-$,7/2$^-$	189.07 *3*	8.0 *23*	537.375	5/2$^-$,7/2$^-$	M1+E2+E0		0.32 *5*	α(K)=0.25 *7*; α(L)=0.057 *13*; α(M)=0.0130 *34* α(N)=0.0030 *8*; α(O)=0.00042 *8*; α(P)=1.66×10^{-5} *62*
		336.98 *17*	25 *5*	389.551	7/2$^+$				
		451.90 *10*	72 *5*	274.730	5/2$^-$				
		486.11 *3*	100 *5*	240.529	5/2$^+$	E1+M2		0.0061 *9*	α(K)=0.0052 *8*; α(L)=0.00073 *13*; α(M)=0.00016 *3* α(N)=3.7×10^{-5} *7*; α(O)=5.6×10^{-6} *10*; α(P)=3.5×10^{-7} *7*
		507.80 *20*	16 *3*	218.628	3/2$^+$,5/2$^+$				

$^{153}_{65}Tb_{88}$-11

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
726.557	5/2⁻,7/2⁻	726.60 *10*	43 *6*	0.0	5/2⁺			
740.555	(7/2⁺)	143.37 *4*	9.7 *13*	597.286	(9/2)⁻			
		296.04 *5*	32 *5*	444.695	9/2⁺	M1+E2	0.086 *22*	α(K)=0.070 *21*; α(L)=0.0127 *4*; α(M)=0.00283 *4* α(N)=0.000648 *12*; α(O)=9.5×10⁻⁵ *6*; α(P)=4.9×10⁻⁶ *19*
		415.580 *17*	100 *3*	324.968	9/2⁺	(M1+E2)	0.034 *10*	α(K)=0.0282 *92*; α(L)=0.0046 *8*; α(M)=0.00101 *15* α(N)=0.00023 *4*; α(O)=3.5×10⁻⁵ *7*; α(P)=1.99×10⁻⁶ *75*
		499.941 *24*	25.9 *11*	240.529	5/2⁺	M1+E2	0.0210 *65*	α(K)=0.0175 *58*; α(L)=0.0027 *6*; α(M)=0.00060 *12* α(N)=0.00014 *3*; α(O)=2.1×10⁻⁵ *5*; α(P)=1.24×10⁻⁶ *46*
		522.0 *4*	4.6 *25*	218.628	3/2⁺,5/2⁺			
		659.835 *19*	98 *3*	80.720	7/2⁺	M1	0.01363	α(K)=0.01158 *17*; α(L)=0.001608 *23*; α(M)=0.000350 *5* α(N)=8.08×10⁻⁵ *12*; α(O)=1.250×10⁻⁵ *18*; α(P)=8.41×10⁻⁷ *12*
		740.50 *4*	25.4 *14*	0.0	5/2⁺	E2	0.00557	α(K)=0.00463 *7*; α(L)=0.000733 *11*; α(M)=0.0001615 *23* α(N)=3.71×10⁻⁵ *6*; α(O)=5.57×10⁻⁶ *8*; α(P)=3.18×10⁻⁷ *5*
755.3	13/2⁺	225.9	43 *13*	529.383	11/2⁺			
		310.7	6.9 *19*	444.695	9/2⁺			
		430.3	100 *13*	324.968	9/2⁺			
773.07	(5/2,7/2)⁻	518.89 *6*	100 *10*	254.201	7/2⁺	E1	0.00453	α(K)=0.00386 *6*; α(L)=0.000525 *8*; α(M)=0.0001136 *16* α(N)=2.61×10⁻⁵ *4*; α(O)=3.98×10⁻⁶ *6*; α(P)=2.53×10⁻⁷ *4*
		532.97 *11*	62 *6*	240.529	5/2⁺	E1	0.00427	α(K)=0.00364 *6*; α(L)=0.000494 *7*; α(M)=0.0001070 *15* α(N)=2.46×10⁻⁵ *4*; α(O)=3.75×10⁻⁶ *6*; α(P)=2.39×10⁻⁷ *4*
789.96	7/2⁺,9/2⁺	527.17 *6*	100 *9*	262.831	9/2⁻	E1	0.00437	α(K)=0.00373 *6*; α(L)=0.000506 *7*; α(M)=0.0001096 *16* α(N)=2.52×10⁻⁵ *4*; α(O)=3.85×10⁻⁶ *6*; α(P)=2.45×10⁻⁷ *4*
		535.62 *6*	60 *4*	254.201	7/2⁺	M1	0.0230	α(K)=0.0195 *3*; α(L)=0.00273 *4*; α(M)=0.000594 *9* α(N)=0.0001375 *20*; α(O)=2.12×10⁻⁵ *3*; α(P)=1.425×10⁻⁶ *20*
		709.6 *3*	17 *3*	80.720	7/2⁺			
791?	(11/2⁺)	219[b]	100	571.949	9/2⁺			
800.18	(5/2)⁺	525.5 *4*	32 *12*	274.730	5/2⁻			
		559.63 *4*	<20	240.529	5/2⁺	M1+E2+E0	0.0157 *49*	ce=1.4 α(K)=0.0132 *43*; α(L)=0.0020 *5*; α(M)=0.00044 *10* α(N)=0.000101 *22*; α(O)=1.5×10⁻⁵ *4*; α(P)=9.4×10⁻⁷ *34*
		581.57 *5*	100 *5*	218.628	3/2⁺,5/2⁺	M1+E2	0.0143 *44*	α(K)=0.0120 *39*; α(L)=0.0018 *4*; α(M)=0.00040 *9* α(N)=9.1×10⁻⁵ *21*; α(O)=1.4×10⁻⁵ *4*; α(P)=8.5×10⁻⁷ *31*
807.464	9/2⁻	270.10 *20*	13 *3*	537.375	5/2⁻,7/2⁻			
		417.8 *3*	4.6 *9*	389.551	7/2⁺			
		482.59 *9*	17.9 *16*	324.968	9/2⁺	E1	0.00533	α(K)=0.00454 *7*; α(L)=0.000619 *9*; α(M)=0.0001341 *19* α(N)=3.09×10⁻⁵ *5*; α(O)=4.70×10⁻⁶ *7*; α(P)=2.97×10⁻⁷ *5*
		544.76 *6*	48 *5*	262.831	9/2⁻	M1+E2	0.0169 *52*	α(K)=0.0141 *46*; α(L)=0.0021 *5*; α(M)=0.00047 *10* α(N)=0.000109 *23*; α(O)=1.6×10⁻⁵ *4*; α(P)=1.00×10⁻⁶ *37*
		553.17 *5*	14.9 *22*	254.201	7/2⁺	E1	0.00394	α(K)=0.00336 *5*; α(L)=0.000455 *7*; α(M)=9.84×10⁻⁵ *14* α(N)=2.26×10⁻⁵ *4*; α(O)=3.46×10⁻⁶ *5*; α(P)=2.21×10⁻⁷ *3*
		593.731 *22*	100 *3*	213.742	(7/2)⁻	M1+E2	0.0136 *42*	α(K)=0.0114 *37*; α(L)=0.0017 *4*; α(M)=0.00037 *9* α(N)=8.6×10⁻⁵ *20*; α(O)=1.3×10⁻⁵ *4*; α(P)=8.1×10⁻⁷ *29*

$^{153}_{65}Tb_{88}$-12

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
807.464	9/2⁻	644.19 *6*	21 *3*	163.175	11/2⁻	M1+E2	0.0111 *34*	α(K)=0.0093 *30*; α(L)=0.0014 *4*; α(M)=0.00030 *7* α(N)=7.0×10^{-5} *17*; α(O)=1.06×10^{-5} *27*; α(P)=6.6×10^{-7} *23*
		726.80 *10*	9.9 *18*	80.720	7/2⁺			
848.4	13/2⁺	217.9	85 *27*	630.420	11/2⁺			
		403.8	100 *30*	444.695	9/2⁺			
876.9?		614	100	262.831	9/2⁻			
957.17		326.3 *3*	9.4 *16*	630.420	11/2⁺			
		419.81 *3*	100 *4*	537.375	5/2⁻,7/2⁻	M1+E2	0.0331 *99*	α(K)=0.0275 *90*; α(L)=0.0044 *7*; α(M)=0.00098 *15* α(N)=0.00022 *4*; α(O)=3.4×10^{-5} *7*; α(P)=1.94×10^{-6} *73*
		585.59 *6*	4.1 *11*	371.542	5/2⁺			
		957.2 *3*	8.3 *18*	0.0	5/2⁺			
959.94	7/2⁻	299.55 *5*	6.3 *3*	660.171	5/2⁺			
		388.00 *20*	8.4 *15*	571.949	9/2⁺			
		697.31 *9*	14.4 *15*	262.831	9/2⁻	M1+E2	0.0091 *28*	α(K)=0.0077 *24*; α(L)=0.0011 *3*; α(M)=0.00025 *6* α(N)=5.7×10^{-5} *14*; α(O)=8.7×10^{-6} *22*; α(P)=5.5×10^{-7} *19*
		705.83 *12*	40 *6*	254.201	7/2⁺			
		719.20 *11*	14.0 *13*	240.529	5/2⁺	E1	0.00226	α(K)=0.00193 *3*; α(L)=0.000258 *4*; α(M)=5.59×10^{-5} *8* α(N)=1.287×10^{-5} *18*; α(O)=1.97×10^{-6} *3*; α(P)=1.284×10^{-7} *18*
		746.13 *23*	21 *6*	213.742	(7/2)⁻	M1	0.01005	α(K)=0.00854 *12*; α(L)=0.001182 *17*; α(M)=0.000257 *4* α(N)=5.94×10^{-5} *9*; α(O)=9.19×10^{-6} *13*; α(P)=6.19×10^{-7} *9*
		879.0 *3*	13 *3*	80.720	7/2⁺	E1	1.52×10^{-3}	α(K)=0.001302 *19*; α(L)=0.0001723 *25*; α(M)=3.72×10^{-5} *6* α(N)=8.58×10^{-6} *12*; α(O)=1.317×10^{-6} *19*; α(P)=8.68×10^{-8} *13*
		960.06 *4*	100 *4*	0.0	5/2⁺	E1	1.29×10^{-3}	α(K)=0.001101 *16*; α(L)=0.0001451 *21*; α(M)=3.13×10^{-5} *5* α(N)=7.22×10^{-6} *11*; α(O)=1.111×10^{-6} *16*; α(P)=7.36×10^{-8} *11*
967.0	(17/2⁻)	431.4	100 *28*	535.4	13/2⁻			
		455.5	67 *22*	511.3	15/2⁻			
968.0	(15/2⁺)	212.7	44 *13*	755.3	13/2⁺			
		337.4	32 *10*	630.420	11/2⁺			
		438.6	100 *14*	529.383	11/2⁺			
979.0	(19/2⁻)	467.6	100	511.3	15/2⁻			
1010.4	(11/2⁻,13/2⁻)	413.0	82 *26*	597.286	(9/2)⁻			
		474.7	100 *31*	535.4	13/2⁻			
		498.9	87 *26*	511.3	15/2⁻			
1067.2	(15/2⁺)	218.6	85 *25*	848.4	13/2⁺			
		436.5	100 *31*	630.420	11/2⁺			
1082.85	7/2⁻	293.0 *3*	15.9 *7*	789.96	7/2⁺,9/2⁺			
		342.00 *10*	19 *3*	740.555	(7/2⁺)			
		711.5 *3*	27 *6*	371.542	5/2⁺	(E1)	0.00231	α(K)=0.00198 *3*; α(L)=0.000264 *4*; α(M)=5.71×10^{-5} *8*

$^{153}_{65}Tb_{88}$-13

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
								α(N)=1.316×10^{-5} *19*; α(O)=2.02×10^{-6} *3*; α(P)=1.312×10^{-7} *19*
1082.85	7/2$^-$	757.87 *6*	54 *4*	324.968	9/2$^+$	E1	0.00204	Mult.: α_K allows E1,E2 but E2 is ruled out by placement. α(K)=0.001741 *25*; α(L)=0.000232 *4*; α(M)=5.01×10^{-5} *7* α(N)=1.155×10^{-5} *17*; α(O)=1.771×10^{-6} *25*; α(P)=1.157×10^{-7} *17*
		829.20[b] *20*	65 *9*	254.201	7/2$^+$			
		920.29[b] *11*	43 *5*	163.175	11/2$^-$			Mult.: (M1) is in conflict with ΔJ^π.
		1002.02 *20*	100 *9*	80.720	7/2$^+$	E1	1.19×10^{-3}	α(K)=0.001016 *15*; α(L)=0.0001337 *19*; α(M)=2.89×10^{-5} *4* α(N)=6.65×10^{-6} *10*; α(O)=1.024×10^{-6} *15*; α(P)=6.80×10^{-8} *10*
1104.67	(5/2$^-$,7/2$^-$)	378.00 *10*	4.1 *9*	726.557	5/2$^-$,7/2$^-$	E2	0.0314	α(K)=0.0246 *4*; α(L)=0.00525 *8*; α(M)=0.001187 *17* α(N)=0.000271 *4*; α(O)=3.87×10^{-5} *6*; α(P)=1.593×10^{-6} *23*
		379.30 *10*	5.5 *9*	725.526	9/2$^-$			
		473.5 *3*	5.0 *10*	630.420	11/2$^+$			
		863.88 *11*	14 *3*	240.529	5/2$^+$	E1	1.57×10^{-3}	α(K)=0.001346 *19*; α(L)=0.0001783 *25*; α(M)=3.85×10^{-5} *6* α(N)=8.88×10^{-6} *13*; α(O)=1.363×10^{-6} *19*; α(P)=8.98×10^{-8} *13*
		1023.99 *4*	100 *5*	80.720	7/2$^+$	E1	1.14×10^{-3}	α(K)=0.000976 *14*; α(L)=0.0001283 *18*; α(M)=2.77×10^{-5} *4* α(N)=6.39×10^{-6} *9*; α(O)=9.83×10^{-7} *14*; α(P)=6.53×10^{-8} *10*
1130.65	5/2$^-$,7/2$^-$	340.30[b] *10*	3.8 *7*	789.96	7/2$^+$,9/2$^+$			
		404.00 *20*	1.5 *4*	726.557	5/2$^-$,7/2$^-$			
		983.0 *3*	5.9 *10*	147.570	3/2$^+$			
		1049.93 *3*	100 *3*	80.720	7/2$^+$	E1	1.09×10^{-3}	α(K)=0.000932 *13*; α(L)=0.0001224 *18*; α(M)=2.64×10^{-5} *4* α(N)=6.09×10^{-6} *9*; α(O)=9.38×10^{-7} *14*; α(P)=6.24×10^{-8} *9*
1151.545	7/2$^-$	410.66 *10*	24.8 *29*	740.555	(7/2$^+$)	E1	0.00773	α(K)=0.00658 *10*; α(L)=0.000905 *13*; α(M)=0.000196 *3* α(N)=4.51×10^{-5} *7*; α(O)=6.84×10^{-6} *10*; α(P)=4.26×10^{-7} *6*
		425.98 *5*	23.8 *24*	725.526	9/2$^-$	M1+E2	0.0319 *95*	α(K)=0.0264 *87*; α(L)=0.0042 *7*; α(M)=0.00094 *14* α(N)=0.00022 *4*; α(O)=3.2×10^{-5} *6*; α(P)=1.87×10^{-6} *70*
		614.229 *24*	100 *7*	537.375	5/2$^-$,7/2$^-$			Mult.: Assigned E1, but J^π's require M1,E2.
		621.8 *3*	10.2 *21*	529.383	11/2$^+$			
		779.92 *4*	57.9 *24*	371.542	5/2$^+$	E1	0.00192	α(K)=0.001644 *23*; α(L)=0.000219 *3*; α(M)=4.73×10^{-5} *7* α(N)=1.090×10^{-5} *16*; α(O)=1.671×10^{-6} *24*; α(P)=1.094×10^{-7} *16*
		938.0 *3*	23 *5*	213.742	(7/2)$^-$	E2	0.00331	α(K)=0.00278 *4*; α(L)=0.000414 *6*; α(M)=9.06×10^{-5} *13* α(N)=2.09×10^{-5} *3*; α(O)=3.16×10^{-6} *5*; α(P)=1.92×10^{-7} *3*
1199.5	(17/2$^+$)	231.3	37 *11*	968.0	(15/2$^+$)			
		350.8	7.3 *27*	848.4	13/2$^+$			
		444.0	100 *27*	755.3	13/2$^+$			
1226.47	(5/2,7/2)$^+$	654.8 *3*	13 *3*	571.949	9/2$^+$			

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	α&	Comments
1226.47	(5/2,7/2)$^+$	952.00 *20*	42 *9*	274.730	5/2$^-$			
		1012.70 *6*	100 *9*	213.742	(7/2)$^-$	E1	1.16×10^{-3}	α(K)=0.000996 *14*; α(L)=0.0001310 *19*; α(M)=2.83×10^{-5} *4* α(N)=6.52×10^{-6} *10*; α(O)=1.004×10^{-6} *14*; α(P)=6.66×10^{-8} *10*
		1145.6 *3*	15 *4*	80.720	7/2$^+$			
1240.38	(7/2)$^+$	514.50 *20*	86 *9*	725.526	9/2$^-$			
		643.0 *3*	44 *12*	597.286	(9/2)$^-$			
		795.6 *3*	44 *9*	444.695	9/2$^+$	M1+E2	0.0067 *20*	α(K)=0.0056 *17*; α(L)=0.00081 *20*; α(M)=0.00018 *5* α(N)=4.1×10^{-5} *10*; α(O)=6.2×10^{-6} *16*; α(P)=4.0×10^{-7} *13*
		915.5 *3*	30 *7*	324.968	9/2$^+$	M1	0.00610	α(K)=0.00519 *8*; α(L)=0.000713 *10*; α(M)=0.0001547 *22* α(N)=3.58×10^{-5} *5*; α(O)=5.54×10^{-6} *8*; α(P)=3.75×10^{-7} *6*
		965.58 *11*	55 *6*	274.730	5/2$^-$			
		986.5 *4*	48 *8*	254.201	7/2$^+$	M1+E2	0.0040 *11*	α(K)=0.00342 *92*; α(L)=0.00048 *12*; α(M)=0.000105 *25* α(N)=2.4×10^{-5} *6*; α(O)=3.7×10^{-6} *9*; α(P)=2.43×10^{-7} *70*
		999.70 *20*	69 *9*	240.529	5/2$^+$	M1+E2	0.0039 *11*	α(K)=0.00332 *88*; α(L)=0.00047 *11*; α(M)=0.000102 *24* α(N)=2.3×10^{-5} *6*; α(O)=3.6×10^{-6} *9*; α(P)=2.36×10^{-7} *68*
		1026.50 *22*	100 *18*	213.742	(7/2)$^-$			
		1159.1 *3*	97 *13*	80.720	7/2$^+$			
		1240.6 *3*	39 *10*	0.0	5/2$^+$			
1341.45	7/2$^-$,9/2$^-$	384.08[b] *5*	100 *13*	957.17		(E2)	0.0300	α(K)=0.0236 *4*; α(L)=0.00498 *7*; α(M)=0.001125 *16* α(N)=0.000256 *4*; α(O)=3.68×10^{-5} *6*; α(P)=1.529×10^{-6} *22*
		619.0 *3*	29 *7*	722.417	7/2$^+$,9/2$^+$			
		681.12 *6*	62 *12*	660.171	5/2$^+$			
		1016.8 *3*	33 *6*	324.968	9/2$^+$	E1	1.15×10^{-3}	α(K)=0.000989 *14*; α(L)=0.0001300 *19*; α(M)=2.81×10^{-5} *4* α(N)=6.47×10^{-6} *9*; α(O)=9.96×10^{-7} *14*; α(P)=6.62×10^{-8} *10*
		1078.0[b] *3*	24 *6*	262.831	9/2$^-$			
		1087.38 *6*	74 *10*	254.201	7/2$^+$	E1	1.02×10^{-3}	α(K)=0.000874 *13*; α(L)=0.0001146 *16*; α(M)=2.47×10^{-5} *4* α(N)=5.70×10^{-6} *8*; α(O)=8.78×10^{-7} *13*; α(P)=5.85×10^{-8} *9*
1364.84	9/2$^-$	124.43 *3*	14.4 *18*	1240.38	(7/2)$^+$	E1	0.1669	α(K)=0.1403 *20*; α(L)=0.0209 *3*; α(M)=0.00455 *7* α(N)=0.001036 *15*; α(O)=0.0001515 *22*; α(P)=8.02×10^{-6} *12*
		557.46 *11*	13.8 *22*	807.464	9/2$^-$	M1+E2	0.0159 *49*	α(K)=0.0133 *44*; α(L)=0.0020 *5*; α(M)=0.00044 *10* α(N)=0.000102 *22*; α(O)=1.6×10^{-5} *4*; α(P)=9.5×10^{-7} *34*
		637.9 *3*	27 *5*	726.557	5/2$^-$,7/2$^-$			
		639.8[b] *3*	48 *5*	725.526	9/2$^-$			
		793.0 *3*	33 *3*	571.949	9/2$^+$	E1	0.00186	α(K)=0.001591 *23*; α(L)=0.000212 *3*; α(M)=4.57×10^{-5} *7* α(N)=1.053×10^{-5} *15*; α(O)=1.616×10^{-6} *23*; α(P)=1.059×10^{-7} *15*
		827.50 *20*	61 *7*	537.375	5/2$^-$,7/2$^-$	E2	0.00434	α(K)=0.00363 *5*; α(L)=0.000557 *8*; α(M)=0.0001223 *18* α(N)=2.81×10^{-5} *4*; α(O)=4.24×10^{-6} *6*; α(P)=2.50×10^{-7} *4*
		1039.88 *3*	100 *3*	324.968	9/2$^+$	E1	1.11×10^{-3}	α(K)=0.000949 *14*; α(L)=0.0001246 *18*; α(M)=2.69×10^{-5} *4* α(N)=6.20×10^{-6} *9*; α(O)=9.55×10^{-7} *14*; α(P)=6.35×10^{-8} *9*

$^{153}_{65}Tb_{88}$-15

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
1364.84	9/2$^-$	1150.9 *3*	31 *4*	213.742	(7/2)$^-$	M1+E2	0.0028 *7*	α(K)=0.0024 *6*; α(L)=0.00034 *8*; α(M)=7.3×10^{-5} *16* α(N)=1.7×10^{-5} *4*; α(O)=2.6×10^{-6} *6*; α(P)=1.71×10^{-7} *45*; α(IPF)=1.77×10^{-6} *12*
		1201.8 *3*	40 *5*	163.175	11/2$^-$	M1	0.00319	α(K)=0.00271 *4*; α(L)=0.000369 *6*; α(M)=8.00×10^{-5} *12* α(N)=1.85×10^{-5} *3*; α(O)=2.86×10^{-6} *4*; α(P)=1.95×10^{-7} *3*; α(IPF)=6.35×10^{-6} *10*
		1217.3 *3*	9.1 *23*	147.570	3/2$^+$			
		1284.35 *20*	27.4 *25*	80.720	7/2$^+$	E1	8.20×10^{-4}	α(K)=0.000649 *9*; α(L)=8.46×10^{-5} *12*; α(M)=1.82×10^{-5} *3* α(N)=4.21×10^{-6} *6*; α(O)=6.49×10^{-7} *9*; α(P)=4.36×10^{-8} *7*; α(IPF)=6.30×10^{-5} *9*
1422.7	(19/2$^+$)	223.3	28 *8*	1199.5	(17/2$^+$)			
		354.4		1067.2	(15/2$^+$)			
		454.5	100 *27*	968.0	(15/2$^+$)			
1429.32	9/2$^-$	346.44 *13*	2.3 *3*	1082.85	7/2$^-$			
		688.5 *3*	4.9 *10*	740.555	(7/2$^+$)			
		777.70 *14*	5.4 *6*	651.72				
		857.38 *8*	19 *4*	571.949	9/2$^+$	E1	1.60×10^{-3}	α(K)=0.001366 *20*; α(L)=0.000181 *3*; α(M)=3.91×10^{-5} *6* α(N)=9.01×10^{-6} *13*; α(O)=1.384×10^{-6} *20*; α(P)=9.11×10^{-8} *13*
		900.04 *5*	33.2 *19*	529.383	11/2$^+$	E1	1.45×10^{-3}	α(K)=0.001244 *18*; α(L)=0.0001645 *23*; α(M)=3.55×10^{-5} *5* α(N)=8.19×10^{-6} *12*; α(O)=1.258×10^{-6} *18*; α(P)=8.30×10^{-8} *12*
		1104.31 *5*	100.0 *22*	324.968	9/2$^+$	E1	9.94×10^{-4}	α(K)=0.000850 *12*; α(L)=0.0001114 *16*; α(M)=2.40×10^{-5} *4* α(N)=5.54×10^{-6} *8*; α(O)=8.54×10^{-7} *12*; α(P)=5.69×10^{-8} *8*; α(IPF)=2.07×10^{-6} *3*
		1166.28 *8*	19.7 *16*	262.831	9/2$^-$	(E2)	0.00212	α(K)=0.00179 *3*; α(L)=0.000255 *4*; α(M)=5.56×10^{-5} *8* α(N)=1.281×10^{-5} *18*; α(O)=1.96×10^{-6} *3*; α(P)=1.236×10^{-7} *18*; α(IPF)=2.53×10^{-6} *4*
		1211.0 *3*	4.3 *10*	218.628	3/2$^+$,5/2$^+$			
		1215.1 *3*	6.7 *15*	213.742	(7/2)$^-$	M1	0.00311	α(K)=0.00264 *4*; α(L)=0.000359 *5*; α(M)=7.79×10^{-5} *11* α(N)=1.80×10^{-5} *3*; α(O)=2.79×10^{-6} *4*; α(P)=1.90×10^{-7} *3*; α(IPF)=8.05×10^{-6} *12*
1474.5	19/2$^{(-)}$	963.0	100	511.3	15/2$^-$			
1495.0	(21/2$^-$)	516.1	63 *19*	979.0	(19/2$^-$)			
		528.0	100 *10*	967.0	(17/2$^-$)			
1532.9	(23/2$^-$)	553.9	100	979.0	(19/2$^-$)			
1627.4		660.4	100	967.0	(17/2$^-$)			
1681.6	(21/2$^+$)	258.9	18 *6*	1422.7	(19/2$^+$)			
		482.1	100 *30*	1199.5	(17/2$^+$)			
1762.03	(5/2,7/2,9/2)$^-$	802.0 *3*	61 *6*	959.94	7/2$^-$	E2	0.00465	α(K)=0.00388 *6*; α(L)=0.000601 *9*; α(M)=0.0001321 *19* α(N)=3.04×10^{-5} *5*; α(O)=4.57×10^{-6} *7*; α(P)=2.67×10^{-7} *4*
		805.2 *3*	100 *7*	957.17		E2	0.00461	α(K)=0.00385 *6*; α(L)=0.000595 *9*; α(M)=0.0001308 *19* α(N)=3.01×10^{-5} *5*; α(O)=4.53×10^{-6} *7*; α(P)=2.65×10^{-7} *4*

$^{153}_{65}Tb_{88}$-16

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
1762.03	(5/2,7/2,9/2)$^-$	954.0[b] *3*	30 *7*	807.464	9/2$^-$			
		1067.1 *3*	25 *7*	694.905	7/2$^-$,9/2$^-$	M1	0.00422	α(K)=0.00359 *5*; α(L)=0.000491 *7*; α(M)=0.0001065 *15* α(N)=2.46×10^{-5} *4*; α(O)=3.81×10^{-6} *6*; α(P)=2.59×10^{-7} *4*
		1110.25 *7*	74 *8*	651.72				
		1131.7 *3*	51 *9*	630.420	11/2$^+$			
		1224.50 *20*	56 *7*	537.375	5/2$^-$,7/2$^-$			
		1508.5 *3*	88 *9*	254.201	7/2$^+$	(E1)	7.82×10^{-4}	α(K)=0.000492 *7*; α(L)=6.38×10^{-5} *9*; α(M)=1.375×10^{-5} *20* α(N)=3.17×10^{-6} *5*; α(O)=4.90×10^{-7} *7*; α(P)=3.31×10^{-8} *5*; α(IPF)=0.000209 *3* Mult.: α allows E1 or E2; E2 ruled out by placement.
		1614.9 *3*	32 *5*	147.570	3/2$^+$			
1779.35	(7/2)$^-$	627.7 *3*	20 *5*	1151.545	7/2$^-$			
		979.00 *20*	97 *9*	800.18	(5/2)$^+$	E1	1.24×10^{-3}	α(K)=0.001061 *15*; α(L)=0.0001398 *20*; α(M)=3.02×10^{-5} *5* α(N)=6.96×10^{-6} *10*; α(O)=1.070×10^{-6} *15*; α(P)=7.09×10^{-8} *10*
		1006.4 *4*	36 *11*	773.07	(5/2,7/2)$^-$			
		1235.8 *3*	17 *4*	543.15	5/2$^+$			
		1269.4 *3*	38 *5*	510.290	7/2$^+$			
		1390.04 *9*	100 *11*	389.551	7/2$^+$	E1	7.85×10^{-4}	α(K)=0.000566 *8*; α(L)=7.35×10^{-5} *11*; α(M)=1.585×10^{-5} *23* α(N)=3.66×10^{-6} *6*; α(O)=5.64×10^{-7} *8*; α(P)=3.80×10^{-8} *6*; α(IPF)=0.0001258 *18*
		1454.6 *3*	63 *6*	324.968	9/2$^+$			
		1525.2 *3*	20 *4*	254.201	7/2$^+$			
		1565.6 *3*	10.0 *25*	213.742	(7/2)$^-$			
		1632.20[b] *20*	42 *4*	147.570	3/2$^+$			
		1779.7 *4*	3.9 *11*	0.0	5/2$^+$			
1791.38	5/2$^-$,7/2$^-$,9/2$^-$	362.10 *20*	8.4 *20*	1429.32	9/2$^-$			
		831.20 *20*	20 *3*	959.94	7/2$^-$	M1	0.00771	α(K)=0.00656 *10*; α(L)=0.000904 *13*; α(M)=0.000196 *3* α(N)=4.54×10^{-5} *7*; α(O)=7.03×10^{-6} *10*; α(P)=4.75×10^{-7} *7*
		1069.00 *20*	23 *4*	722.417	7/2$^+$,9/2$^+$			
		1161.2 *3*	36 *4*	630.420	11/2$^+$			Eγ: Multipolarity (M1+E2) is inconsistent with J^π's, so γ placement may be incorrect.
		1253.96 *4*	65.1 *17*	537.375	5/2$^-$,7/2$^-$	E2	0.00184	α(K)=0.001551 *22*; α(L)=0.000219 *3*; α(M)=4.76×10^{-5} *7* α(N)=1.097×10^{-5} *16*; α(O)=1.678×10^{-6} *24*; α(P)=1.072×10^{-7} *15*; α(IPF)=1.231×10^{-5} *18*
		1281.2 *3*	36 *3*	510.290	7/2$^+$	E1	8.22×10^{-4}	α(K)=0.000652 *10*; α(L)=8.50×10^{-5} *12*; α(M)=1.83×10^{-5}

$^{153}_{65}Tb_{88}$-17

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
								3 α(N)=4.23×10^{-6} *6*; α(O)=6.52×10^{-7} *10*; α(P)=4.38×10^{-8} *7*; α(IPF)=6.14×10^{-5} *9*
1791.38	5/2$^-$,7/2$^-$,9/2$^-$	1516.6 *3*	3.9 *11*	274.730	5/2$^-$			
		1528.6 *3*	37 *4*	262.831	9/2$^-$	E2	1.33×10^{-3}	α(K)=0.001061 *15*; α(L)=0.0001458 *21*; α(M)=3.16×10^{-5} *5* α(N)=7.30×10^{-6} *11*; α(O)=1.122×10^{-6} *16*; α(P)=7.34×10^{-8} *11*; α(IPF)=8.34×10^{-5} *12*
		1537.32 *6*	72.9 *25*	254.201	7/2$^+$	E1	7.85×10^{-4}	α(K)=0.000477 *7*; α(L)=6.18×10^{-5} *9*; α(M)=1.331×10^{-5} *19* α(N)=3.07×10^{-6} *5*; α(O)=4.74×10^{-7} *7*; α(P)=3.21×10^{-8} *5*; α(IPF)=0.000230 *4*
		1572.5 *3*	10 *4*	218.628	3/2$^+$,5/2$^+$			
		1577.59 *6*	100 *3*	213.742	(7/2)$^-$	E2	1.28×10^{-3}	α(K)=0.001000 *14*; α(L)=0.0001369 *20*; α(M)=2.97×10^{-5} *5* α(N)=6.86×10^{-6} *10*; α(O)=1.054×10^{-6} *15*; α(P)=6.92×10^{-8} *10*; α(IPF)=0.0001011 *15*
1822.56	(9/2,11/2,13/2)$^-$	481.11 *5*	83 *5*	1341.45	7/2$^-$,9/2$^-$	E2	0.01610	α(K)=0.01298 *19*; α(L)=0.00243 *4*; α(M)=0.000544 *8* α(N)=0.0001244 *18*; α(O)=1.81×10^{-5} *3*; α(P)=8.65×10^{-7} *13*
		582.5 *3*	13.0 *22*	1240.38	(7/2)$^+$			
		1032.0[b] *3*	10.8 *24*	789.96	7/2$^+$,9/2$^+$			
		1081.4 *3*	14 *4*	740.555	(7/2$^+$)			
		1191.7 *3*	15 *4*	630.420	11/2$^+$			
		1225.30 *20*	48 *5*	597.286	(9/2)$^-$			
		1293.2 *3*	19 *4*	529.383	11/2$^+$			
		1433.1 *3*	31 *3*	389.551	7/2$^+$			
		1497.7 *3*	14 *3*	324.968	9/2$^+$			
		1559.5 *3*	3.1 *6*	262.831	9/2$^-$			
		1608.80 *6*	100 *5*	213.742	(7/2)$^-$	E2	1.25×10^{-3}	α(K)=0.000964 *14*; α(L)=0.0001317 *19*; α(M)=2.86×10^{-5} *4* α(N)=6.59×10^{-6} *10*; α(O)=1.014×10^{-6} *15*; α(P)=6.67×10^{-8} *10*; α(IPF)=0.0001130 *16*
		1675.4 *3*	7.9 *14*	147.570	3/2$^+$			
1824.69	(9/2)$^-$	1034.60 *10*	51 *6*	789.96	7/2$^+$,9/2$^+$	(E1)	1.12×10^{-3}	α(K)=0.000958 *14*; α(L)=0.0001258 *18*; α(M)=2.72×10^{-5} *4* α(N)=6.26×10^{-6} *9*; α(O)=9.64×10^{-7} *14*; α(P)=6.41×10^{-8} *9* Mult.: α allows E1 or E2; E2 ruled out by placement.
		1099.6 *3*	44 *6*	725.526	9/2$^-$	E2	0.00238	α(K)=0.00201 *3*; α(L)=0.000290 *4*; α(M)=6.32×10^{-5} *9* α(N)=1.456×10^{-5} *21*; α(O)=2.22×10^{-6} *4*; α(P)=1.390×10^{-7} *20*

$^{153}_{65}Tb_{88}$-18

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
1824.69	(9/2)$^-$	1102.5 *3*	58 *7*	722.417	7/2$^+$,9/2$^+$			
		1295.6 *3*	27 *5*	529.383	11/2$^+$			
		1499.9 *3*	9.4 *23*	324.968	9/2$^+$			
		1561.6 *3*	16 *4*	262.831	9/2$^-$			
		1570.6 *3*	100 *6*	254.201	7/2$^+$	E1	7.91×10^{-4}	α(K)=0.000460 *7*; α(L)=5.96×10^{-5} *9*; α(M)=1.283×10^{-5} *18* α(N)=2.96×10^{-6} *5*; α(O)=4.57×10^{-7} *7*; α(P)=3.09×10^{-8} *5*; α(IPF)=0.000255 *4*
		1606.8[b] *3*	35 *3*	218.628	3/2$^+$,5/2$^+$			
		1677.3 *3*	3.1 *9*	147.570	3/2$^+$			
1835.72	(7/2)$^-$	752.57 *10*	100 *8*	1082.85	7/2$^-$	M1	0.00984	α(K)=0.00837 *12*; α(L)=0.001157 *17*; α(M)=0.000251 *4* α(N)=5.81×10^{-5} *9*; α(O)=8.99×10^{-6} *13*; α(P)=6.06×10^{-7} *9*
		1063.1 *3*	33 *10*	773.07	(5/2,7/2)$^-$			
		1140.8 *3*	66 *11*	694.905	7/2$^-$,9/2$^-$			
		1325.0[b] *3*	23 *8*	510.290	7/2$^+$			
		1446.36 *12*	61 *8*	389.551	7/2$^+$			
		1511.2 *3*	30 *7*	324.968	9/2$^+$			
		1617.0 *3*	23 *7*	218.628	3/2$^+$,5/2$^+$			
		1672.9 *3*	20 *4*	163.175	11/2$^-$			
		1688.1 *3*	10 *3*	147.570	3/2$^+$			
		1836.2 *3*	13 *3*	0.0	5/2$^+$			
1858.09	7/2$^-$	618.0 *3*	37 *8*	1240.38	(7/2)$^+$			
		1132.7 *3*	96 *11*	725.526	9/2$^-$	E2	0.00224	α(K)=0.00190 *3*; α(L)=0.000272 *4*; α(M)=5.92×10^{-5} *9* α(N)=1.365×10^{-5} *20*; α(O)=2.08×10^{-6} *3*; α(P)=1.310×10^{-7} *19*; α(IPF)=9.42×10^{-7} *17*
		1206.30 *14*	57 *8*	651.72				
		1286.5 *3*	99 *6*	571.949	9/2$^+$			
		1347.39[b] *6*	100 *37*	510.290	7/2$^+$			
		1487.0 *3*	21 *6*	371.542	5/2$^+$			
		1533.3 *3*	22 *5*	324.968	9/2$^+$			
		1595.09 *11*	71 *8*	262.831	9/2$^-$	E2	1.26×10^{-3}	α(K)=0.000980 *14*; α(L)=0.0001340 *19*; α(M)=2.91×10^{-5} *4* α(N)=6.71×10^{-6} *10*; α(O)=1.031×10^{-6} *15*; α(P)=6.78×10^{-8} *10*; α(IPF)=0.0001077 *15*
1912.505	(9/2$^-$)	571.00 *20*	28.0 *23*	1341.45	7/2$^-$,9/2$^-$			
		781.87 *6*	19.7 *10*	1130.65	5/2$^-$,7/2$^-$	E2	0.00492	α(K)=0.00411 *6*; α(L)=0.000640 *9*; α(M)=0.0001407 *20* α(N)=3.24×10^{-5} *5*; α(O)=4.87×10^{-6} *7*; α(P)=2.82×10^{-7} *4*
		1122.53 *7*	33 *5*	789.96	7/2$^+$,9/2$^+$	E1	9.66×10^{-4}	α(K)=0.000825 *12*; α(L)=0.0001081 *16*; α(M)=2.33×10^{-5} *4* α(N)=5.38×10^{-6} *8*; α(O)=8.28×10^{-7} *12*; α(P)=5.53×10^{-8} *8*; α(IPF)=3.81×10^{-6} *6*
		1185.4 *3*	6.6 *16*	726.557	5/2$^-$,7/2$^-$			
		1187.3 *3*	9.0 *23*	725.526	9/2$^-$	M1	0.00328	α(K)=0.00279 *4*; α(L)=0.000380 *6*; α(M)=8.23×10^{-5} *12* α(N)=1.90×10^{-5} *3*; α(O)=2.95×10^{-6} *5*; α(P)=2.00×10^{-7} *3*; α(IPF)=4.73×10^{-6} *8*

$^{153}_{65}Tb_{88}$-19

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
1912.505	(9/2$^-$)	1252.4 *3*	16.6 *22*	660.171	5/2$^+$			
		1315.2 *3*	100.0 *25*	597.286	(9/2)$^-$	M1+E2	0.0021 *5*	α(K)=0.0018 *4*; α(L)=0.00025 *5*; α(M)=5.4×10^{-5} *11* α(N)=1.24×10^{-5} *25*; α(O)=1.9×10^{-6} *4*; α(P)=1.3×10^{-7} *3*; α(IPF)=2.42×10^{-5} *16*
		1340.83 *13*	10.3 *10*	571.949	9/2$^+$			
		1375.16 *4*	99 *3*	537.375	5/2$^-$,7/2$^-$	E2	1.56×10^{-3}	α(K)=0.001297 *19*; α(L)=0.000180 *3*; α(M)=3.92×10^{-5} *6* α(N)=9.05×10^{-6} *13*; α(O)=1.387×10^{-6} *20*; α(P)=8.97×10^{-8} *13*; α(IPF)=3.64×10^{-5} *5*
		1382.94 *8*	41.2 *16*	529.383	11/2$^+$	(E1)	7.86×10^{-4}	α(K)=0.000571 *8*; α(L)=7.42×10^{-5} *11*; α(M)=1.599×10^{-5} *23* α(N)=3.69×10^{-6} *6*; α(O)=5.69×10^{-7} *8*; α(P)=3.83×10^{-8} *6*; α(IPF)=0.0001210 *17* Mult.: α allows E1 or E2; E2 ruled out by placement.
		1402.13 *6*	77 *4*	510.290	7/2$^+$	E1	7.84×10^{-4}	α(K)=0.000557 *8*; α(L)=7.24×10^{-5} *11*; α(M)=1.561×10^{-5} *22* α(N)=3.60×10^{-6} *5*; α(O)=5.56×10^{-7} *8*; α(P)=3.74×10^{-8} *6*; α(IPF)=0.0001339 *19*
		1467.6 *3*	17.5 *19*	444.695	9/2$^+$			
		1523.1 *3*	9.3 *21*	389.551	7/2$^+$			
		1637.7 *3*	5.0 *11*	274.730	5/2$^-$			
		1649.8 *3*	31.7 *25*	262.831	9/2$^-$	(M1)	1.67×10^{-3}	α(K)=0.001295 *19*; α(L)=0.0001746 *25*; α(M)=3.78×10^{-5} *6* α(N)=8.75×10^{-6} *13*; α(O)=1.356×10^{-6} *19*; α(P)=9.26×10^{-8} *13*; α(IPF)=0.0001495 *21*
		1658.3 *3*	25 *3*	254.201	7/2$^+$	(E1)	8.10×10^{-4}	α(K)=0.000420 *6*; α(L)=5.43×10^{-5} *8*; α(M)=1.170×10^{-5} *17* α(N)=2.70×10^{-6} *4*; α(O)=4.17×10^{-7} *6*; α(P)=2.83×10^{-8} *4*; α(IPF)=0.000320 *5*
		1698.96 *13*	11.2 *10*	213.742	(7/2)$^-$			
		1749.5 *3*	18.2 *19*	163.175	11/2$^-$			
		1831.3 *4*	3.3 *10*	80.720	7/2$^+$			
1923.8	(23/2$^+$)	242.0	28 *8*	1681.6	(21/2$^+$)			
		501.2	100 *30*	1422.7	(19/2$^+$)			
1940.26	(7/2)$^-$	789.0 *3*	100 *13*	1151.545	7/2$^-$			
		1140.2 *3*	71 *12*	800.18	(5/2)$^+$	E1	9.42×10^{-4}	α(K)=0.000802 *12*; α(L)=0.0001050 *15*; α(M)=2.27×10^{-5} *4* α(N)=5.22×10^{-6} *8*; α(O)=8.05×10^{-7} *12*; α(P)=5.38×10^{-8} *8*; α(IPF)=6.44×10^{-6} *11*
		1200.1 *3*	99 *13*	740.555	(7/2$^+$)			
		1245.1 *3*	19 *6*	694.905	7/2$^-$,9/2$^-$			
		1280.1 *3*	73 *10*	660.171	5/2$^+$			
		1410.4 *3*	68 *8*	529.383	11/2$^+$			
		1495.6 *3*	32 *8*	444.695	9/2$^+$			
		1776.93 *27*	53 *10*	163.175	11/2$^-$			
		1859.5 *3*	12.9 *20*	80.720	7/2$^+$			
2011.35	5/2$^-$,7/2$^-$	646.51 *6*	58 *8*	1364.84	9/2$^-$	E2	0.00764	α(K)=0.00631 *9*; α(L)=0.001044 *15*; α(M)=0.000231 *4* α(N)=5.30×10^{-5} *8*; α(O)=7.89×10^{-6} *11*; α(P)=4.30×10^{-7} *6*

$^{153}_{65}Tb_{88}$-20

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
2011.35	5/2⁻,7/2⁻	906.5 *3*	87 *21*	1104.67	(5/2⁻,7/2⁻)	E2	0.00356	α(K)=0.00299 *5*; α(L)=0.000448 *7*; α(M)=9.82×10^{-5} *14* α(N)=2.26×10^{-5} *4*; α(O)=3.42×10^{-6} *5*; α(P)=2.06×10^{-7} *3*
		928.5 *3*	37 *9*	1082.85	7/2⁻			
		1271.5[b] *3*	100 *13*	740.555	(7/2⁺)			
		1285.5[b] *3*	66 *12*	725.526	9/2⁻			
		1621.4 *3*	22 *6*	389.551	7/2⁺			
		1640.4 *3*	24 *6*	371.542	5/2⁺			
		1793.1 *4*	11 *5*	218.628	3/2⁺,5/2⁺			
		1797.6 *3*	53 *12*	213.742	(7/2)⁻			
		2011.0 *3*	6 *3*	0.0	5/2⁺			
2019.7	(21/2⁺)	545.2	100	1474.5	19/2$^{(-)}$			
2023.78	(7/2⁻,9/2⁻)	188.06 *4*	13 *8*	1835.72	(7/2)⁻	(M1)	0.370	α(K)=0.312 *5*; α(L)=0.0450 *7*; α(M)=0.00983 *14* α(N)=0.00227 *4*; α(O)=0.000350 *5*; α(P)=2.32×10^{-5} *4*
		658.5 *3*	100 *20*	1364.84	9/2⁻			
		1233.60 *20*	25 *6*	789.96	7/2⁺,9/2⁺			
		1297.8 *3*	73 *11*	725.526	9/2⁻			
		1301.9 *3*	46 *10*	722.417	7/2⁺,9/2⁺			
		1426.1 *3*	34 *8*	597.286	(9/2)⁻			
		1452.5[b] *3*	91 *9*	571.949	9/2⁺			
		1634.4 *3*	44 *8*	389.551	7/2⁺			
		1770.2 *4*	7.3 *20*	254.201	7/2⁺			
2086.7	(23/2⁺)	591.7	100	1495.0	(21/2⁻)			
2095.2	(25/2⁻)	562.3		1532.9	(23/2⁻)			
		600.1	100	1495.0	(21/2⁻)			
2096.0?	(19/2⁺)	1117[b]	100	979.0	(19/2⁻)			
2120.07	(7/2,9/2)⁻	96.27 *5*	7.6 *15*	2023.78	(7/2⁻,9/2⁻)			Mult.: (E1) is given by 1980Ab19 in ε decay, but this assignment is inconsistent with placement to a π=(−) state.
		1160.2 *3*	12 *3*	959.94	7/2⁻			
		1379.54 *7*	100 *4*	740.555	(7/2⁺)	E1	7.87×10^{-4}	α(K)=0.000573 *8*; α(L)=7.45×10^{-5} *11*; α(M)=1.606×10^{-5} *23* α(N)=3.71×10^{-6} *6*; α(O)=5.72×10^{-7} *8*; α(P)=3.85×10^{-8} *6*; α(IPF)=0.0001188 *17*
		1857.3 *3*	4.5 *9*	262.831	9/2⁻			
2120.97		298.0 *3*	15 *3*	1822.56	(9/2,11/2,13/2)⁻			
		1313.6 *3*	29 *5*	807.464	9/2⁻			
		1549.2 *3*	27 *5*	571.949	9/2⁺			
		1583.58 *8*	100 *5*	537.375	5/2⁻,7/2⁻			Mult.: α allows E1 or E2.
		1796.2 *3*	25 *4*	324.968	9/2⁺			
2155.6	(27/2⁻)	622.7	100	1532.9	(23/2⁻)			
2211.3	(25/2⁺)	287.4	25 *10*	1923.8	(23/2⁺)			

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Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[&]	Comments
2211.3	(25/2$^+$)	529.6	100 *30*	1681.6	(21/2$^+$)			
2467.4	(27/2$^+$)	256.2	14 *7*	2211.3	(25/2$^+$)			
		543.5	100 *30*	1923.8	(23/2$^+$)			
2534.0	27/2$^{(+)}$	610.5	100	1923.8	(23/2$^+$)			
2611.5	27/2$^+$	516.4		2095.2	(25/2$^-$)	D		
		524.7		2086.7	(23/2$^+$)			
		688.0		1923.8	(23/2$^+$)	E2	0.00660	α(K)=0.00547 *8*; α(L)=0.000885 *13*; α(M)=0.000196 *3* α(N)=4.49×10^{-5} *7*; α(O)=6.71×10^{-6} *10*; α(P)=3.74×10^{-7} *6*
2614.2	23/2$^{(+)}$	529	100	2086.7	(23/2$^+$)			
2705.5	25/2$^{(+)}$	685.8		2019.7	(21/2$^+$)			
		1172.6		1532.9	(23/2$^-$)	D		
2740.2	(29/2$^-$)	584.5		2155.6	(27/2$^-$)			
		645.1		2095.2	(25/2$^-$)			
2786.9	29/2$^+$	320		2467.4	(27/2$^+$)			
		576.0		2211.3	(25/2$^+$)			
2827.0	(31/2$^-$)	671.5	100	2155.6	(27/2$^-$)			
2830.0	27/2$^{(+)}$	124		2705.5	25/2$^{(+)}$			
		216.0		2614.2	23/2$^{(+)}$			
2951.9	31/2$^+$	211.7		2740.2	(29/2$^-$)	D		
		340.5		2611.5	27/2$^+$			
		417.8		2534.0	27/2$^{(+)}$			
		485.0		2467.4	(27/2$^+$)	E2	0.01576	α(K)=0.01272 *18*; α(L)=0.00237 *4*; α(M)=0.000531 *8* α(N)=0.0001213 *17*; α(O)=1.771×10^{-5} *25*; α(P)=8.48×10^{-7} *12*
2989.8	29/2$^{(+)}$	161		2830.0	27/2$^{(+)}$			
		284.3		2705.5	25/2$^{(+)}$			
3023.3	31/2$^+$	236		2786.9	29/2$^+$			
		556.5		2467.4	(27/2$^+$)			
3186.0	31/2$^{(+)}$	196		2989.8	29/2$^{(+)}$			
		356.2		2830.0	27/2$^{(+)}$			
3320.3	33/2$^-$	492.9		2827.0	(31/2$^-$)			
		579.8		2740.2	(29/2$^-$)			
3392.3	33/2$^+$	605.4	100	2786.9	29/2$^+$			
3413.6	33/2$^{(+)}$	228		3186.0	31/2$^{(+)}$			
		423.7		2989.8	29/2$^{(+)}$			
3472.0	35/2$^+$	520.1	100	2951.9	31/2$^+$			
3493.6	(35/2$^-$)	173.9		3320.3	33/2$^-$			
		666.6		2827.0	(31/2$^-$)			
3608.1	(35/2$^+$)	584.8	100	3023.3	31/2$^+$			
3672.0	35/2$^{(+)}$	258		3413.6	33/2$^{(+)}$			
		486.1		3186.0	31/2$^{(+)}$			
3806.6	37/2$^-$	312.5		3493.6	(35/2$^-$)			
		486.2		3320.3	33/2$^-$			

$^{153}_{65}Tb_{88}$-22

Adopted Levels, Gammas (continued)

γ(^{153}Tb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
3957.3	37/2(+)	543.7	100	3413.6	33/2(+)	6127.8	(51/2−)	752.4		5375.4	47/2−
3995.1	37/2+	602.8	100	3392.3	33/2+	6133	(49/2+)	799[@]	100	5330	(45/2+)
4083.3	39/2−	276.6		3806.6	37/2−	6486?	(51/2+)	853[b]	100	5633.0	(47/2+)
		589.3		3493.6	(35/2−)	6515.6?		779[@]	100	5736.6?	
4110.7	39/2+	638.7	100	3472.0	35/2+	6555	(51/2+)	830[@]	100	5736.6?	
4177.5?		688[@]	100	3489.5?		6565.9	(53/2−)	438[@b]		6127.8	(51/2−)
4210?	(39/2+)	602[b]	100	3608.1	(35/2+)			809.2		5756.7	(49/2−)
4268.2	39/2(+)	596.2	100	3672.0	35/2(+)	6947?	(55/2−)	819[b]	100	6127.8	(51/2−)
4372.1	41/2−	288.9		4083.3	39/2−	6989	(53/2+)	856[@]	100	6133	(49/2+)
		565.5		3806.6	37/2−	7219?		703[@]	100	6515.6?	
4601.0	41/2(+)	643.7	100	3957.3	37/2(+)	7433	(55/2+)	878[@]	100	6555	(51/2+)
4622?	(41/2+)	627[b]	100	3995.1	37/2+	7447	(57/2−)	881	100	6565.9	(53/2−)
4695.2	43/2−	323.0		4372.1	41/2−	7825	(59/2−)	879	100	6947?	(55/2−)
		611.9		4083.3	39/2−	7880	(57/2+)	891	100	6989	(53/2+)
4837.0	(43/2+)	726.3	100	4110.7	39/2+	7977?		758	100	7219?	
4945.5?		768[@]		4177.5?		8347	(59/2+)	914	100	7433	(55/2+)
		1139[@b]		3806.6	37/2−	8393	(61/2−)	947	100	7447	(57/2−)
4955.9	43/2(+)	687.7	100	4268.2	39/2(+)	8759	(63/2−)	934	100	7825	(59/2−)
5023.0	45/2−	327.9		4695.2	43/2−	8791	(61/2+)	911	100	7880	(57/2+)
		651.0		4372.1	41/2−	8814?		837	100	7977?	
5330	(45/2+)	729	100	4601.0	41/2(+)	9401	(65/2−)	1008	100	8393	(61/2−)
5375.4	47/2−	352.5		5023.0	45/2−	9735?		921	100	8814?	
		680.0		4695.2	43/2−	9741	(67/2−)	982	100	8759	(63/2−)
5633.0	(47/2+)	796.0	100	4837.0	(43/2+)	10462	(69/2−)	1061	100	9401	(65/2−)
5722?	(47/2+)	766[b]	100	4955.9	43/2(+)	10745?		1010	100	9735?	
5736.6?		791[@]	100	4945.5?		10766	(71/2−)	1025	100	9741	(67/2−)
5756.7	(49/2−)	381		5375.4	47/2−	11579	(73/2−)	1117	100	10462	(69/2−)
		733.7		5023.0	45/2−	11771	(75/2−)	1005	100	10766	(71/2−)
6127.8	(51/2−)	371		5756.7	(49/2−)	12718?	(77/2−)	1139[b]	100	11579	(73/2−)

[†] Up to 2500 keV of excitation energy, from ^{153}Dy ε decay if both E_γ′s and I_γ′s are listed with unc, otherwise from (α,xnγ) (which reported E_γ′s with no unc and I_γ′s with unc). Above 2500 keV Eγ values are from (^{18}O,4nγ) below 7500 keV (exceptions are noted), and from (^{37}Cl,α4nγ) above. No measured intensities are reported above 3500 keV.

[‡] From ^{153}Dy ε decay for γ′s from levels below 2125 keV and from ^{139}La(^{18}O,4nγ) for γ′s from levels above 2125 keV.

[#] From ^{153}Dy ε decay.

[@] From (^{37}Cl,α4nγ).

[&] Additional information 1.

$^{153}_{65}Tb_{88}$-23

Adopted Levels, Gammas (continued)

$\gamma(^{153}Tb)$ (continued)

[a] Additional information 2.
[b] Placement of transition in the level scheme is uncertain.

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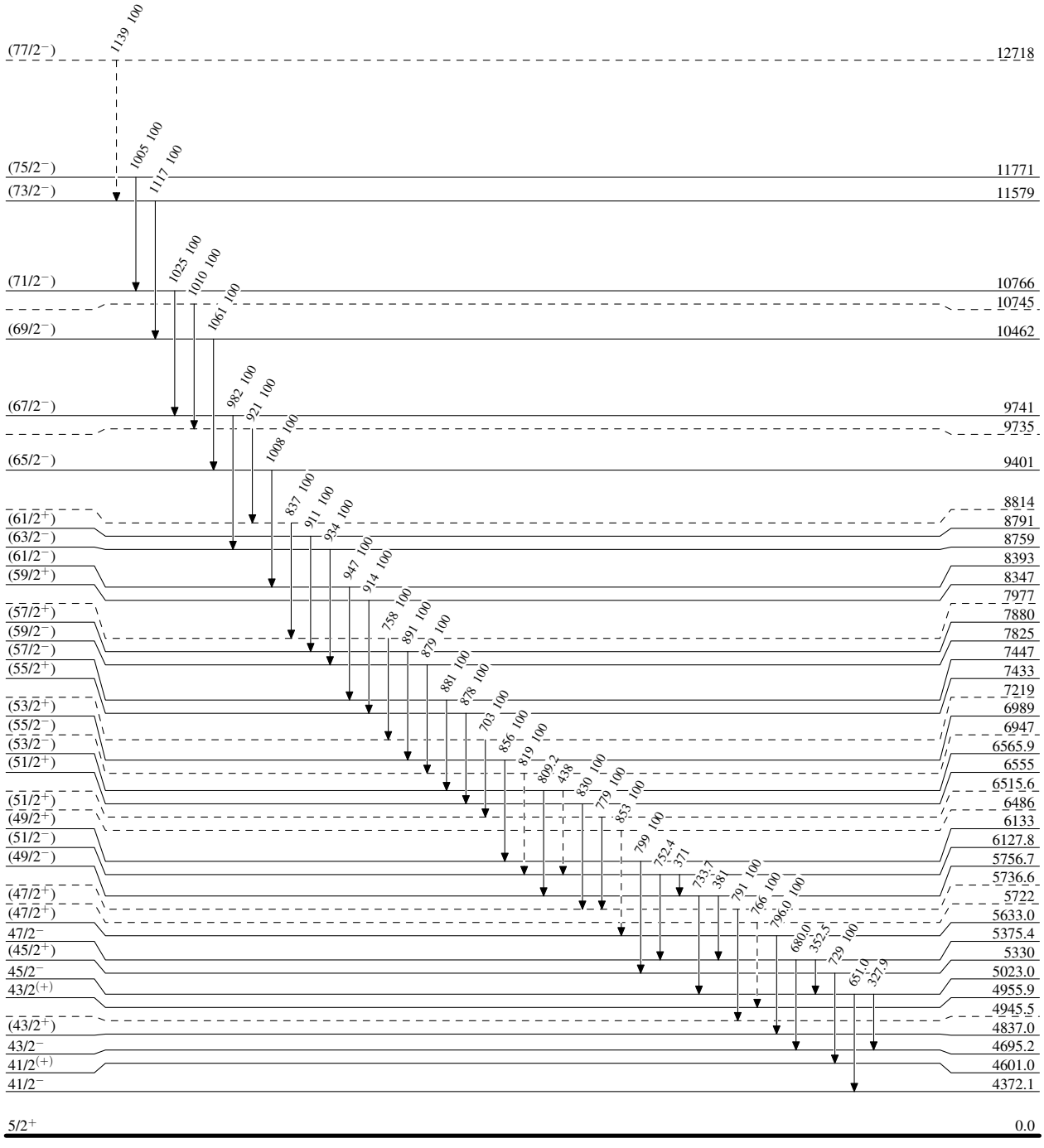
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

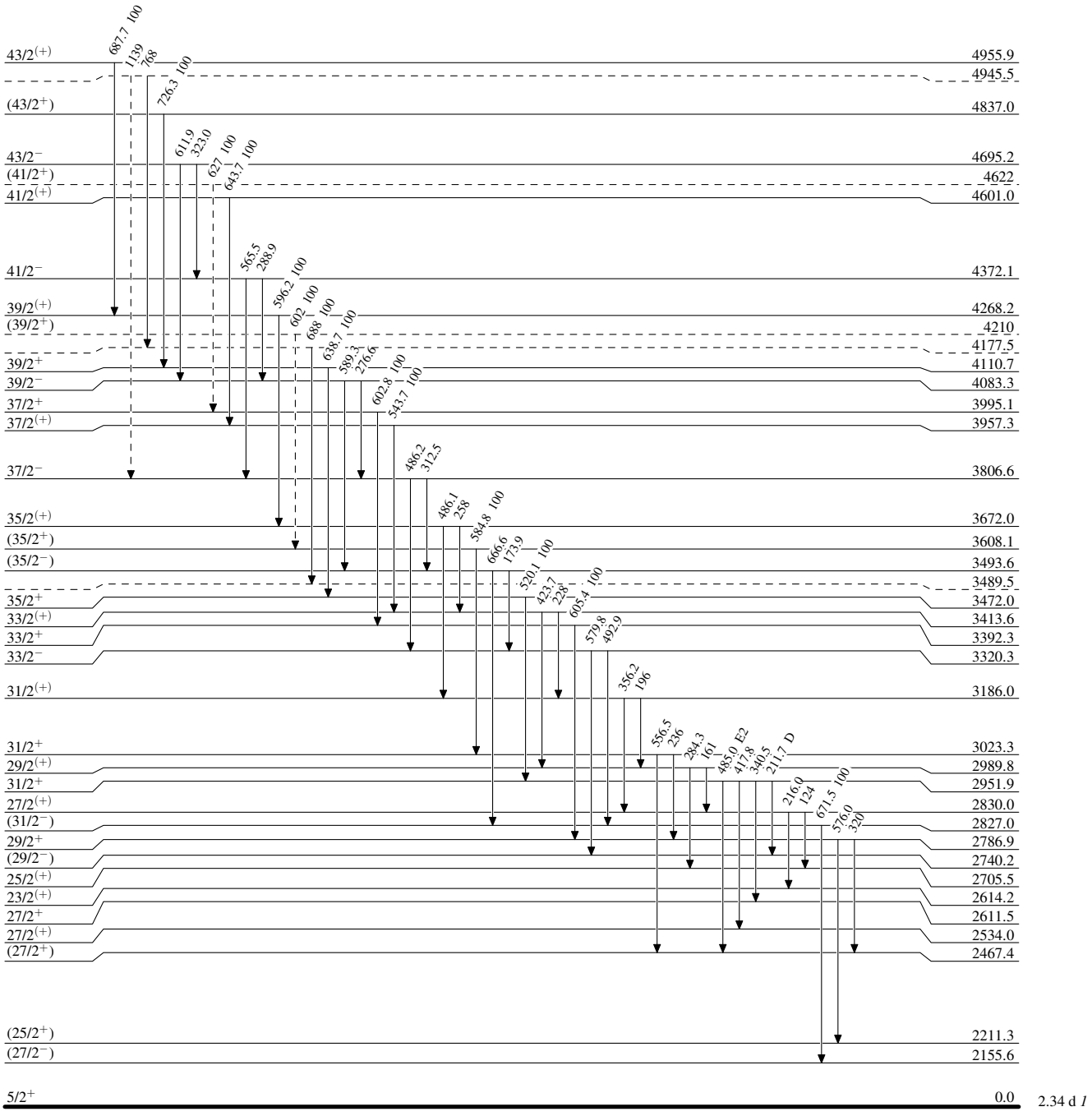
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

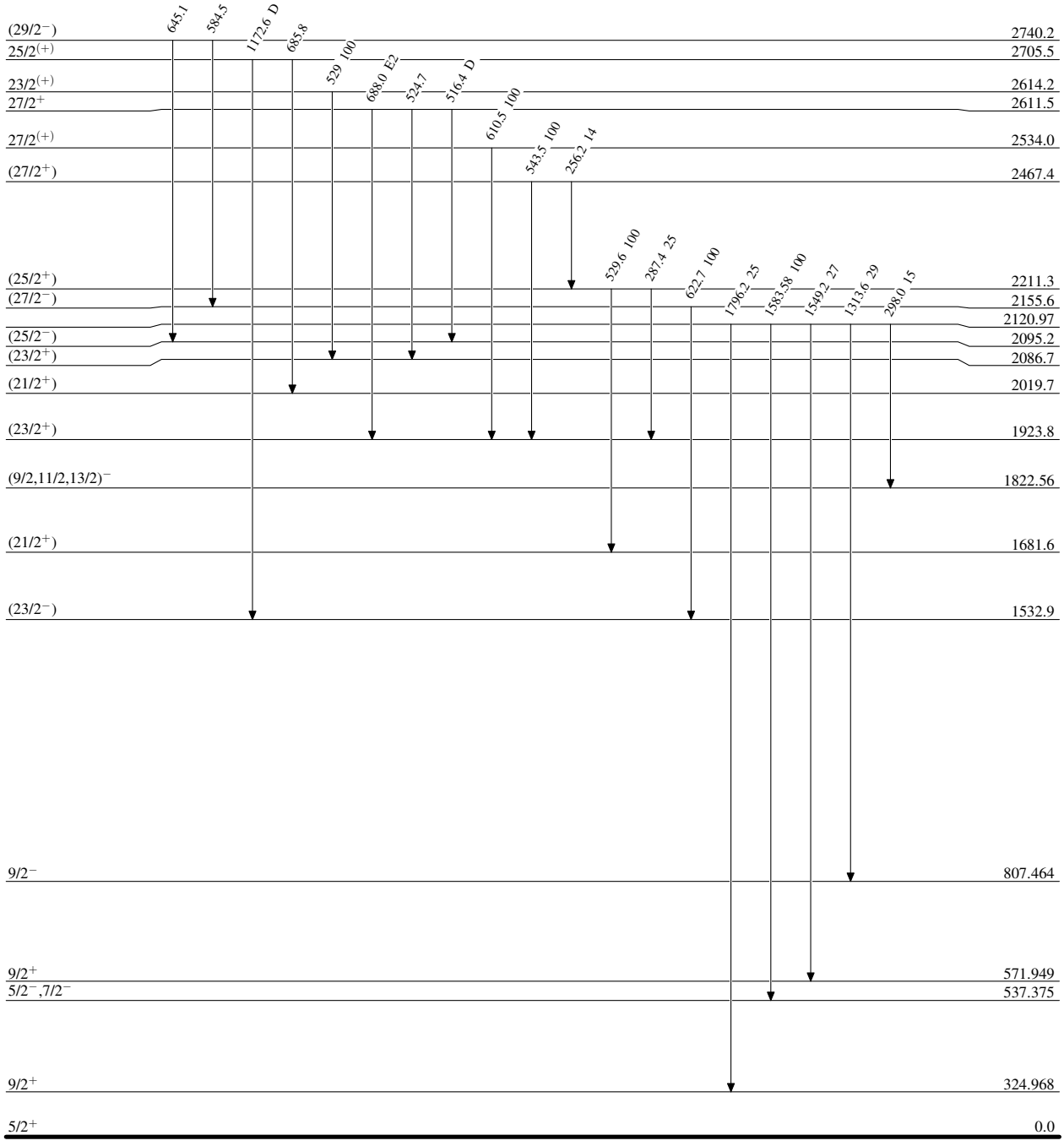


$^{153}_{65}Tb_{88}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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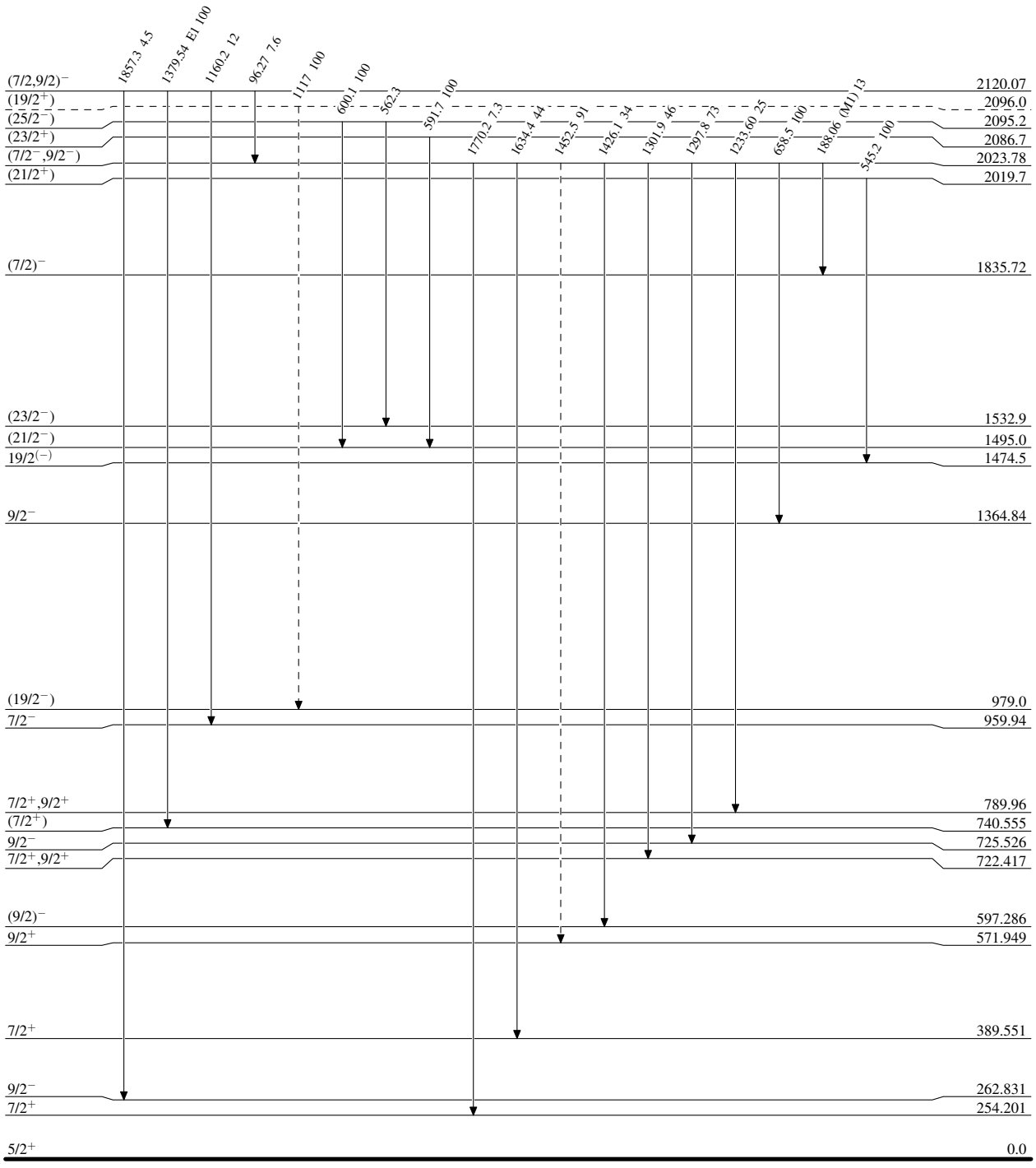
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

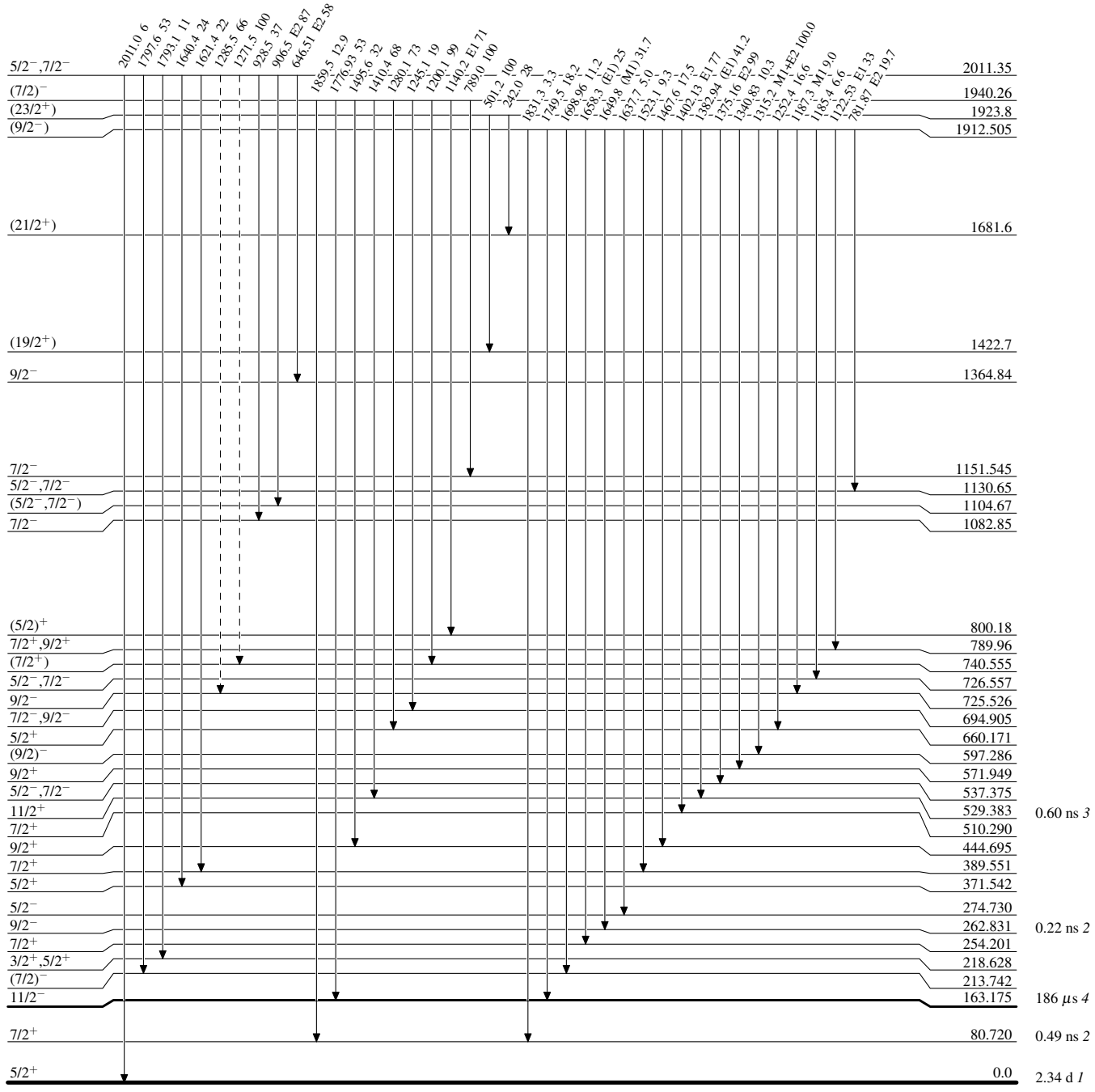
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

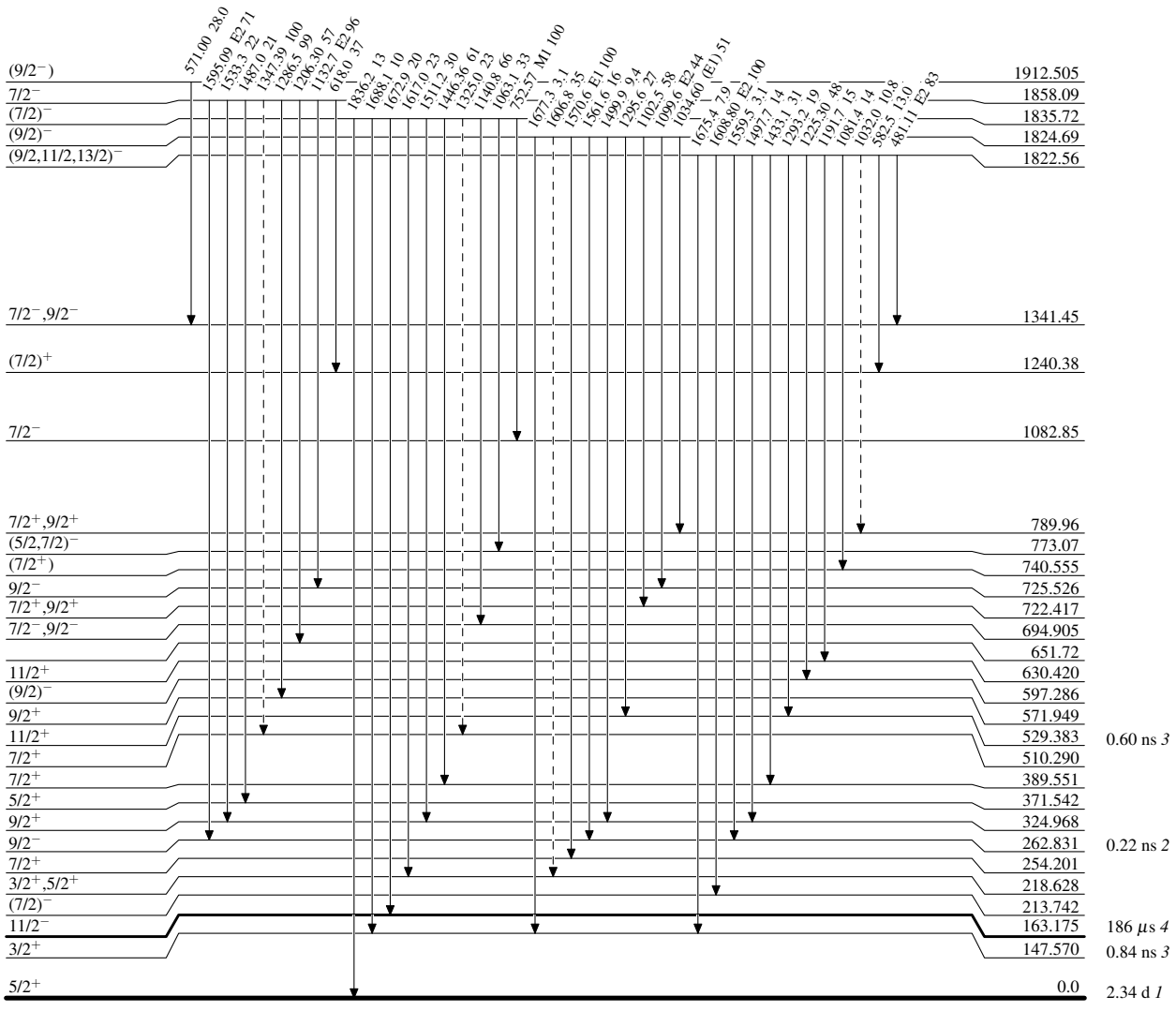
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

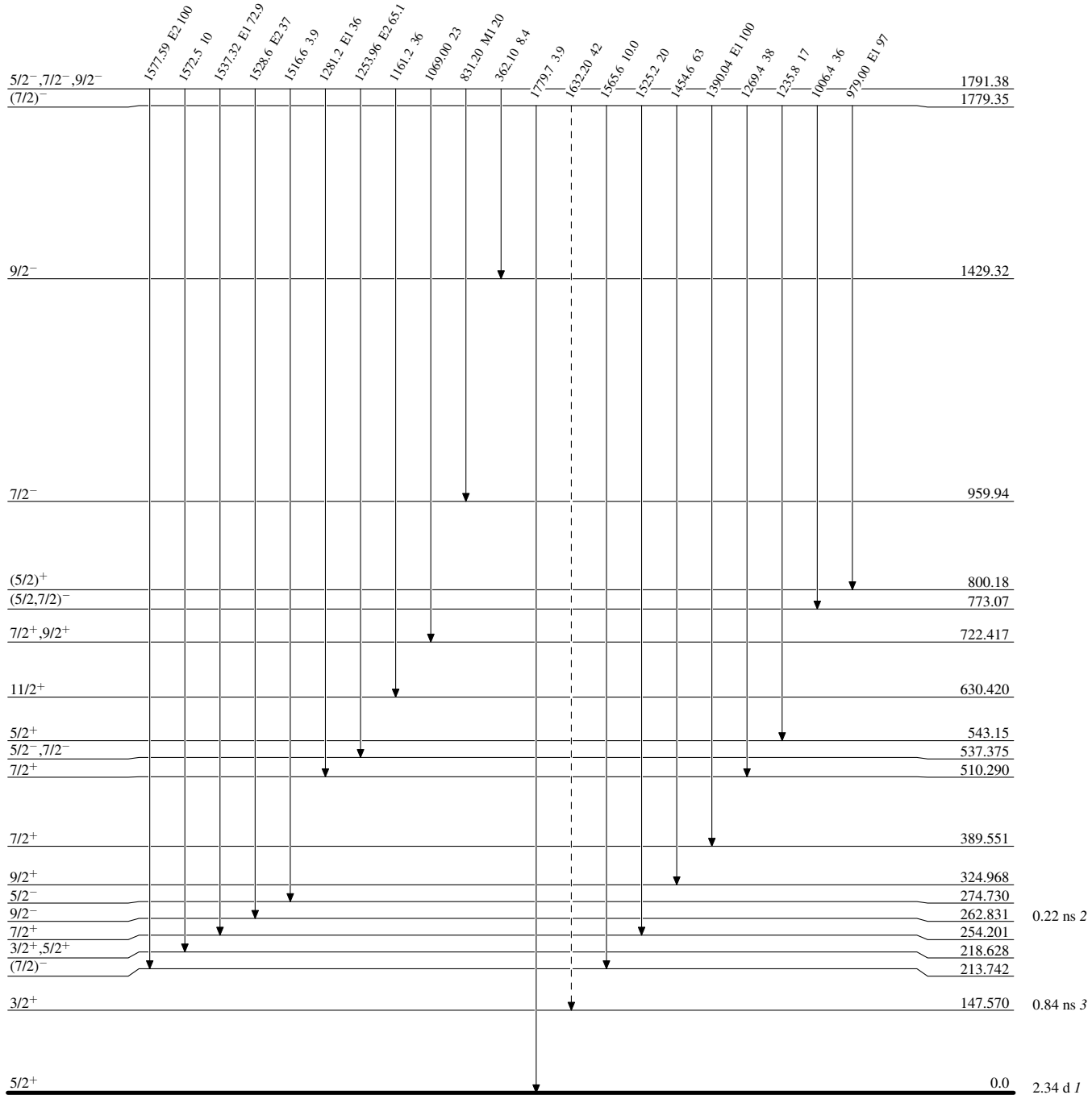
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

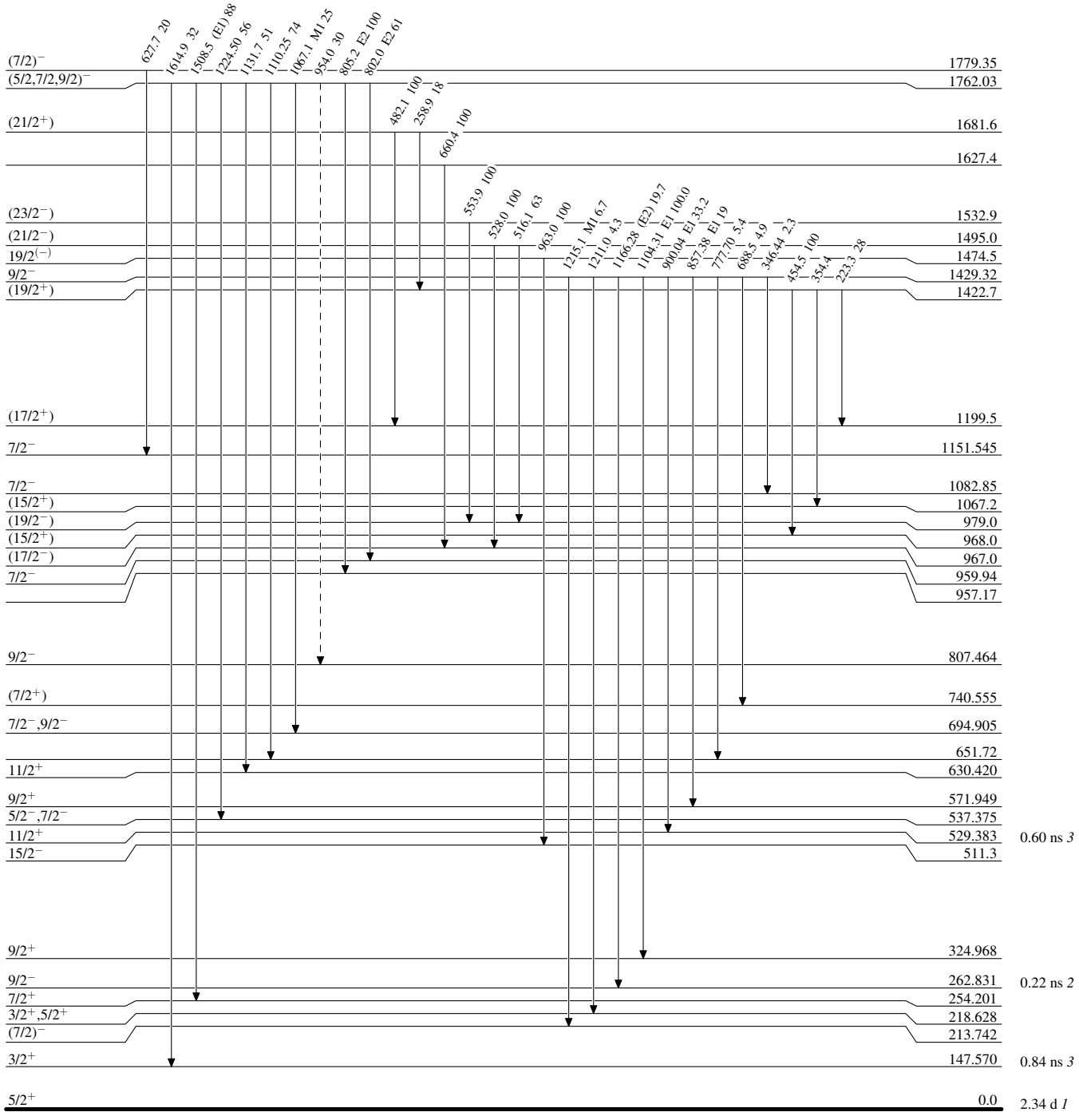
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

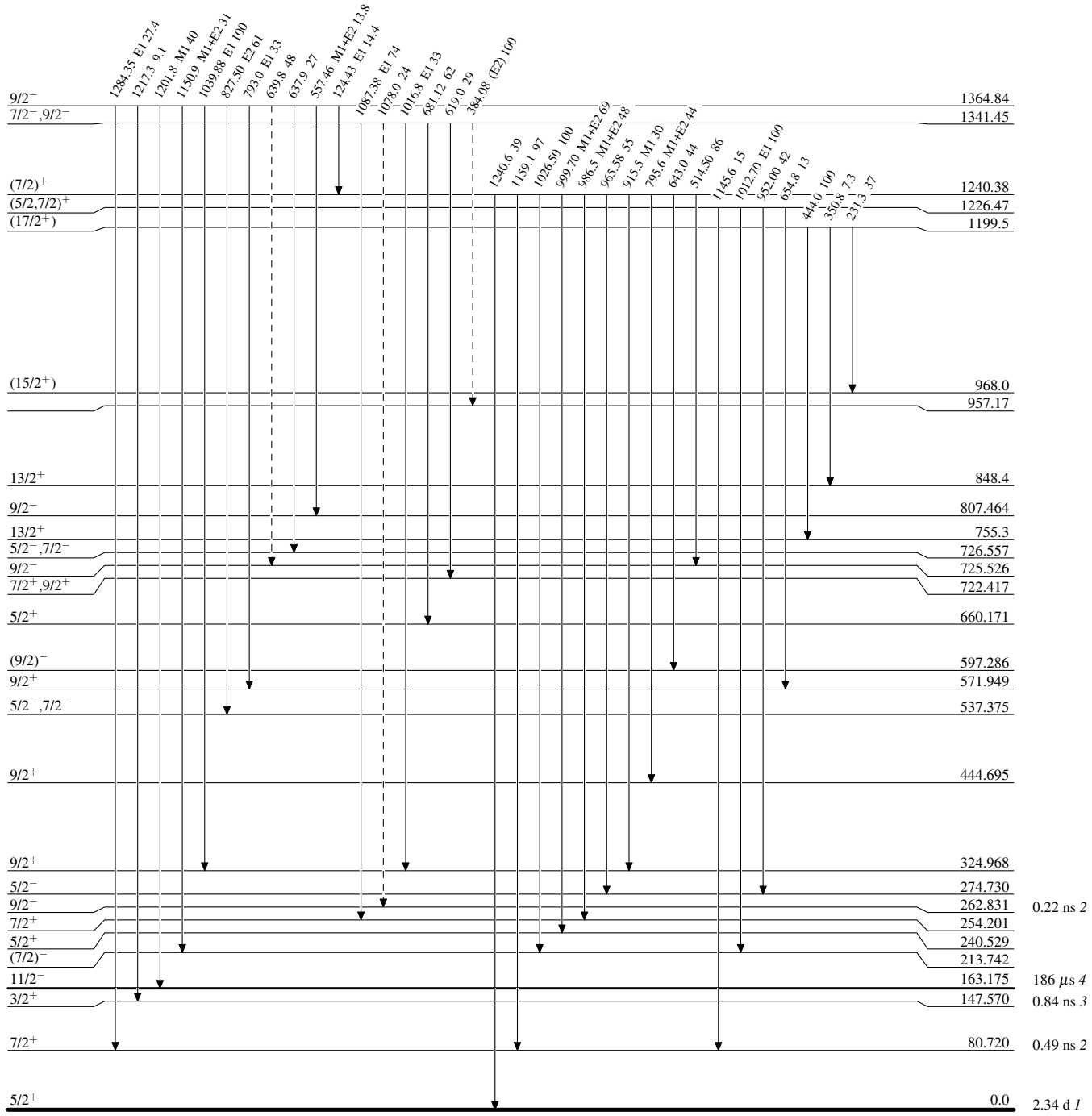
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{153}_{65}Tb_{88}$

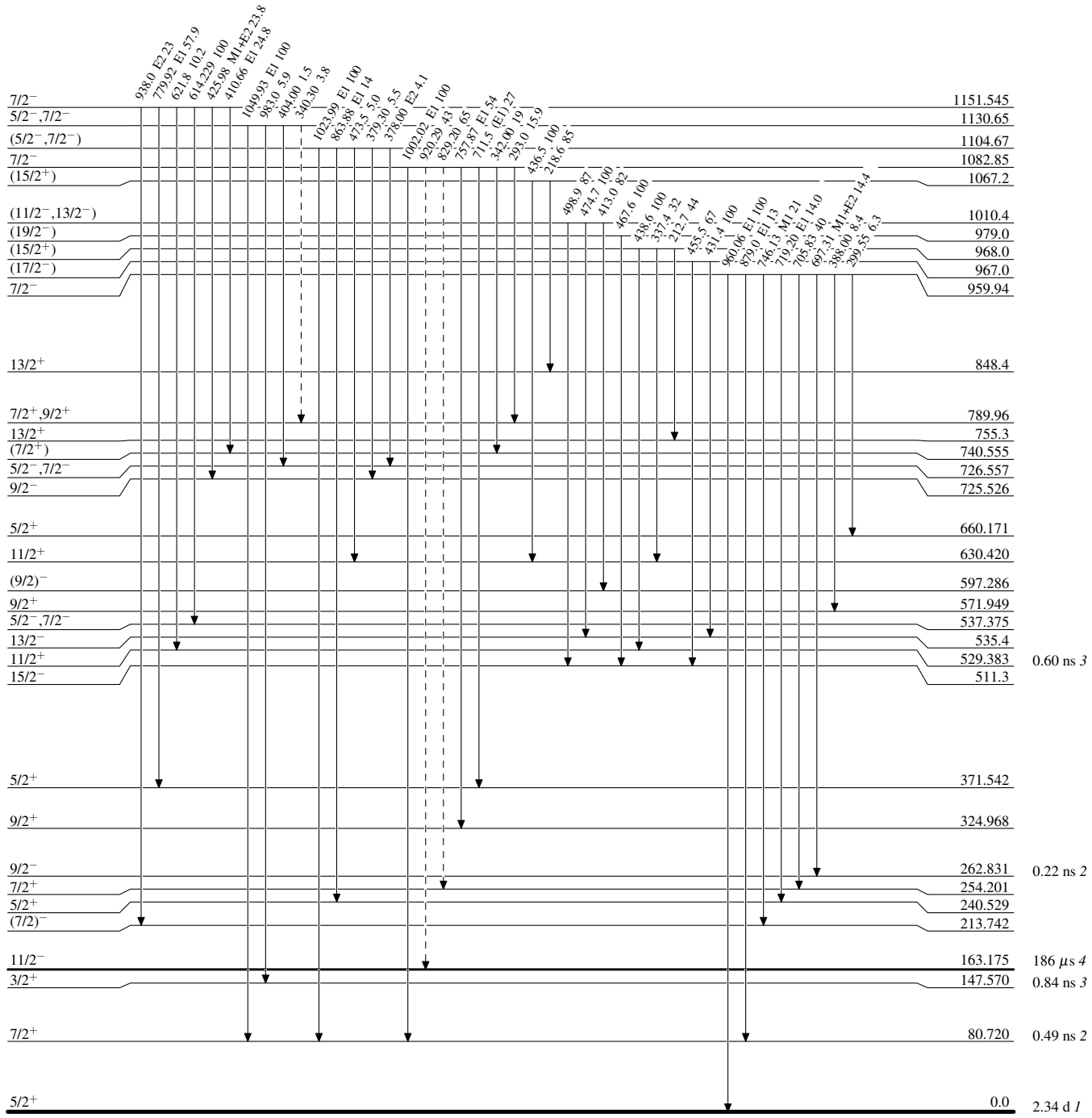
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

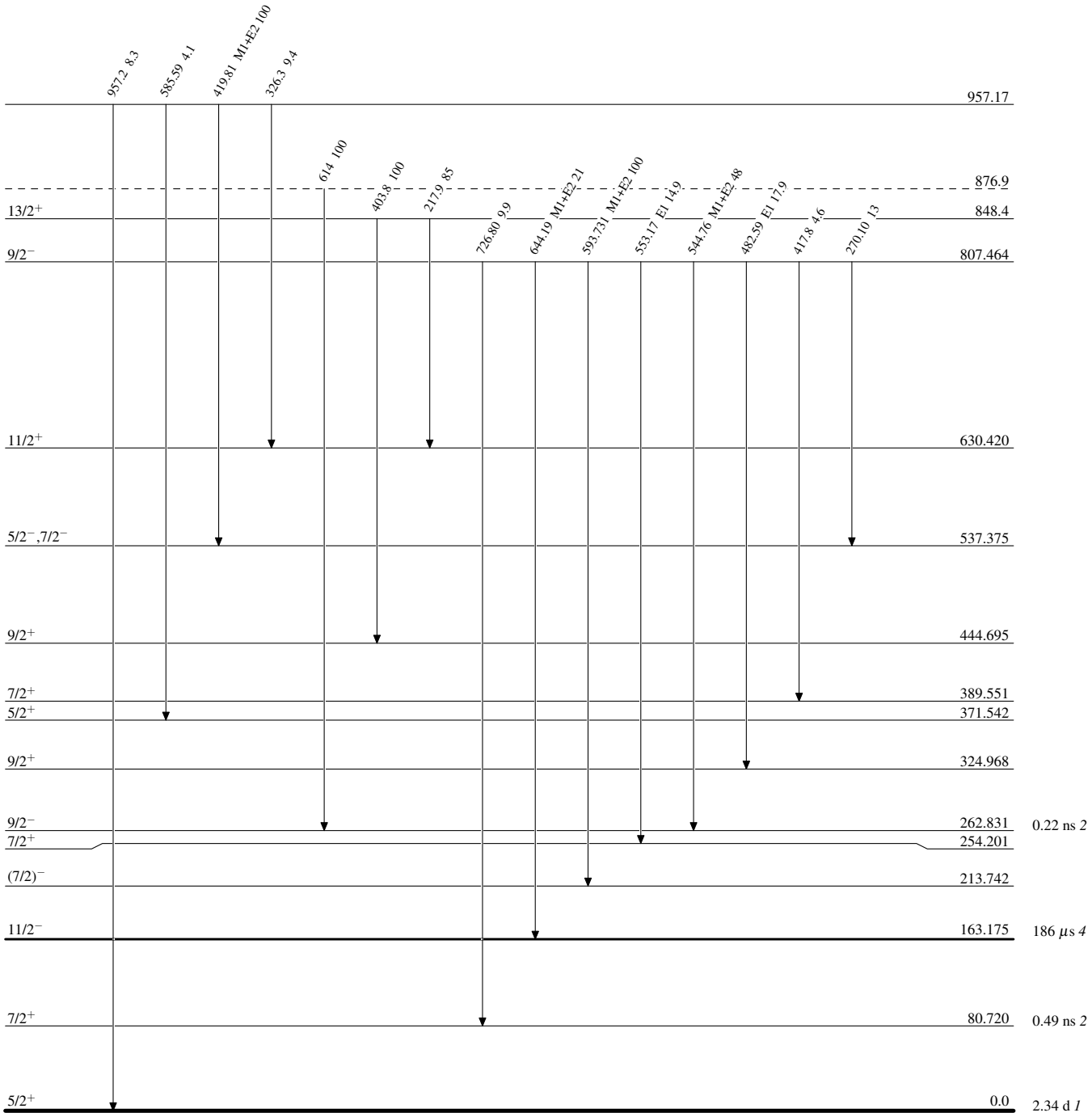


$^{153}_{65}Tb_{88}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



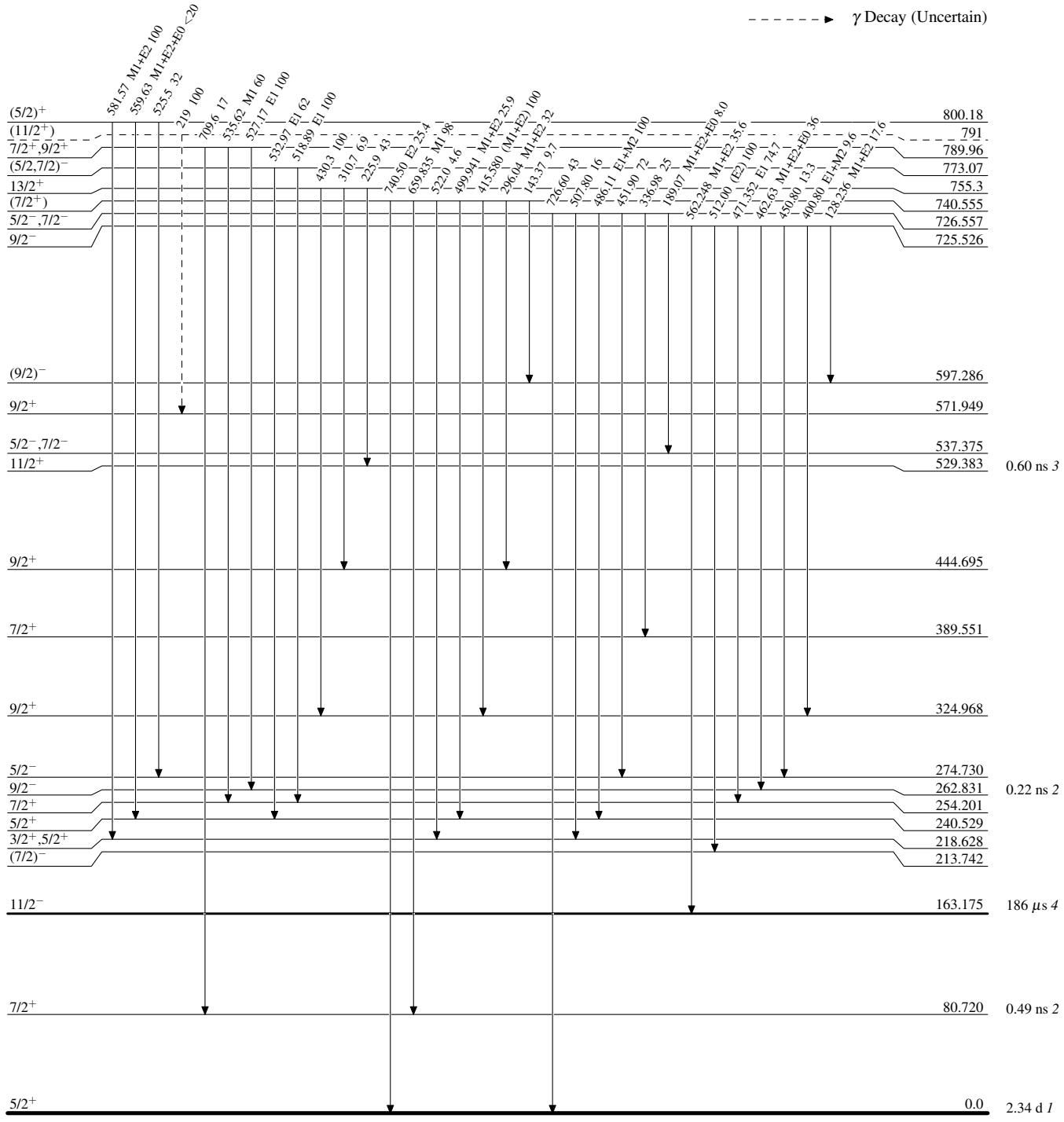
$^{153}_{65}Tb_{88}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{153}_{65}Tb_{88}$

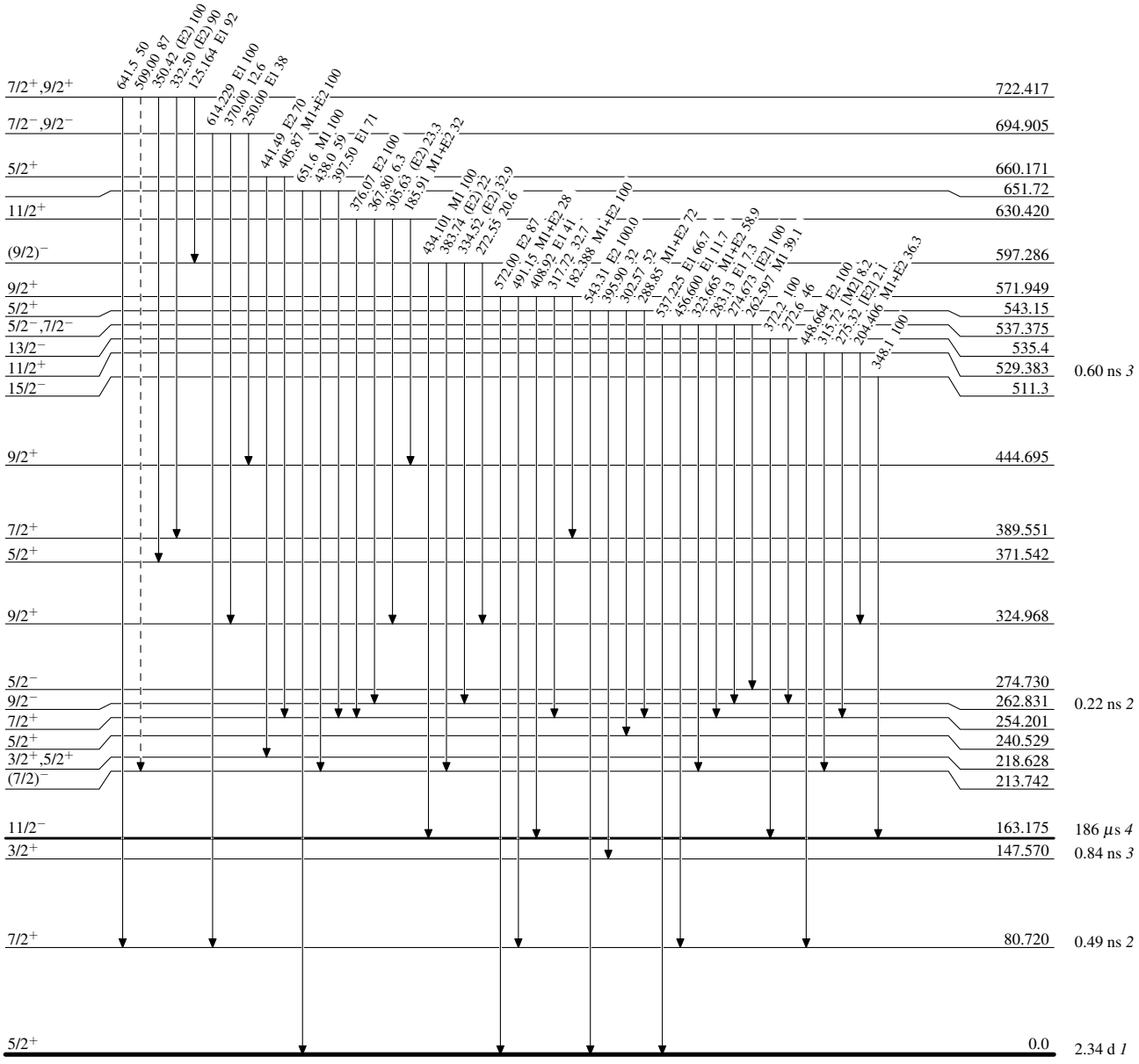
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

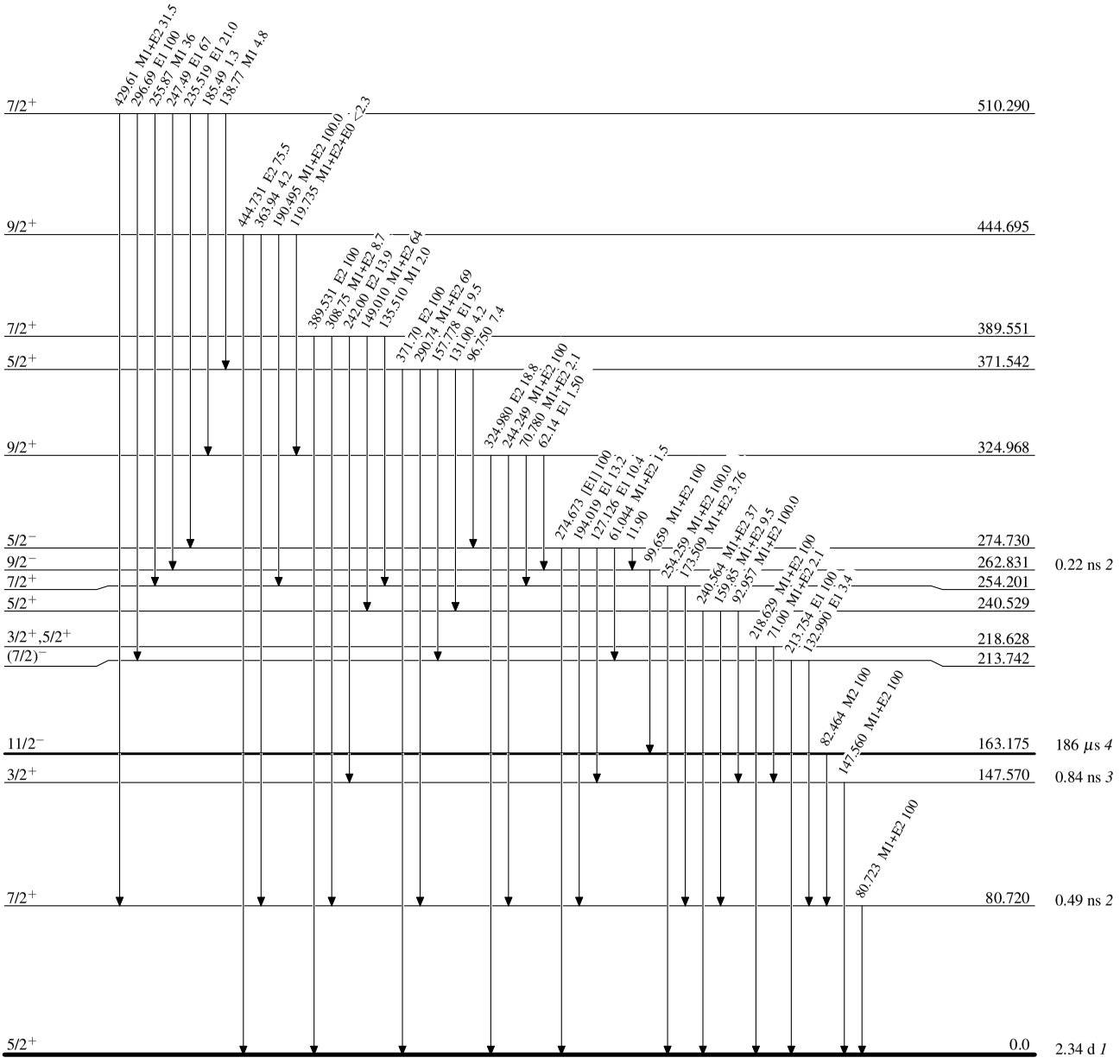


$^{153}_{65}Tb_{88}$

Adopted Levels, Gammas

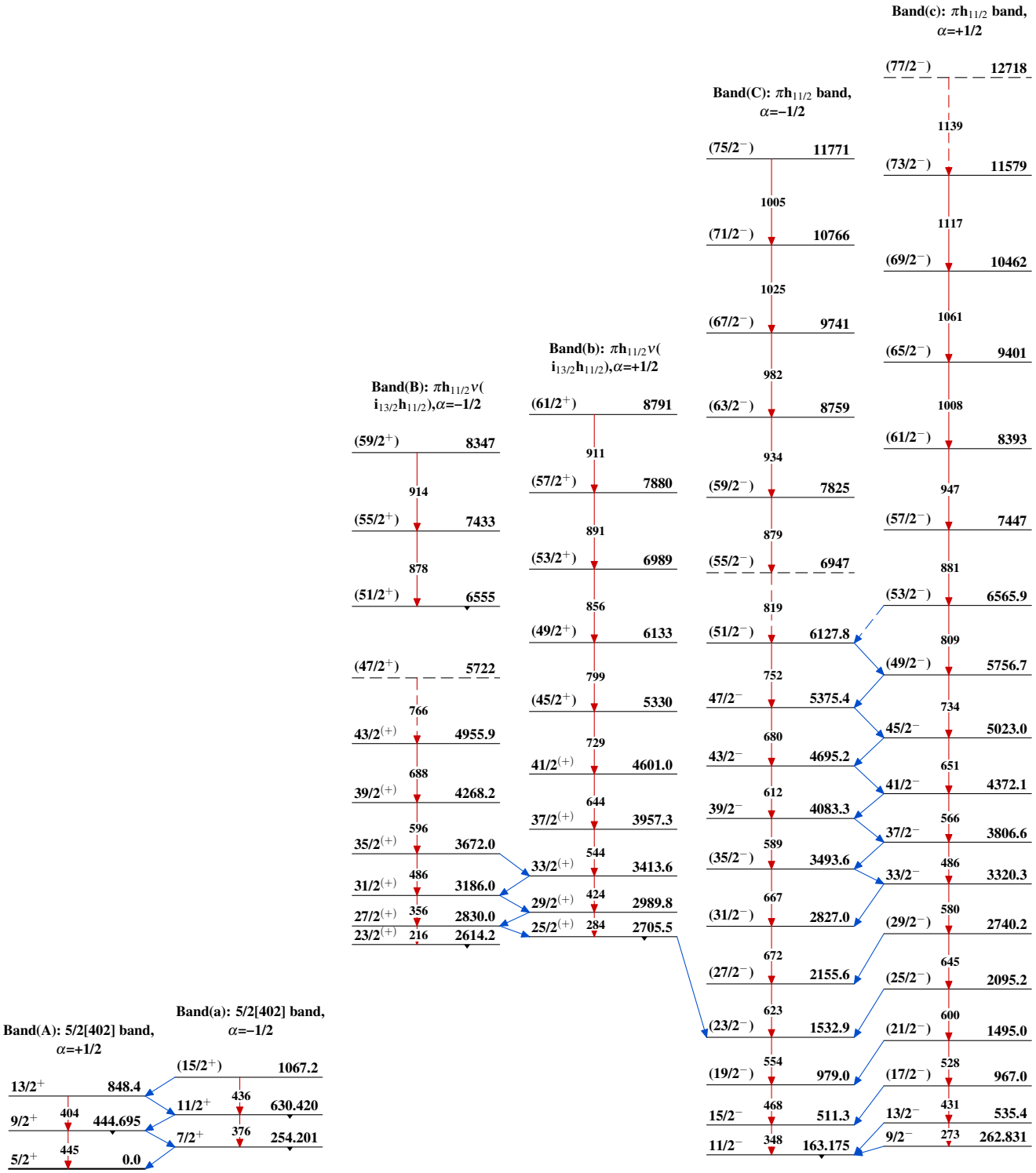
Level Scheme (continued)

Intensities: Relative photon branching from each level

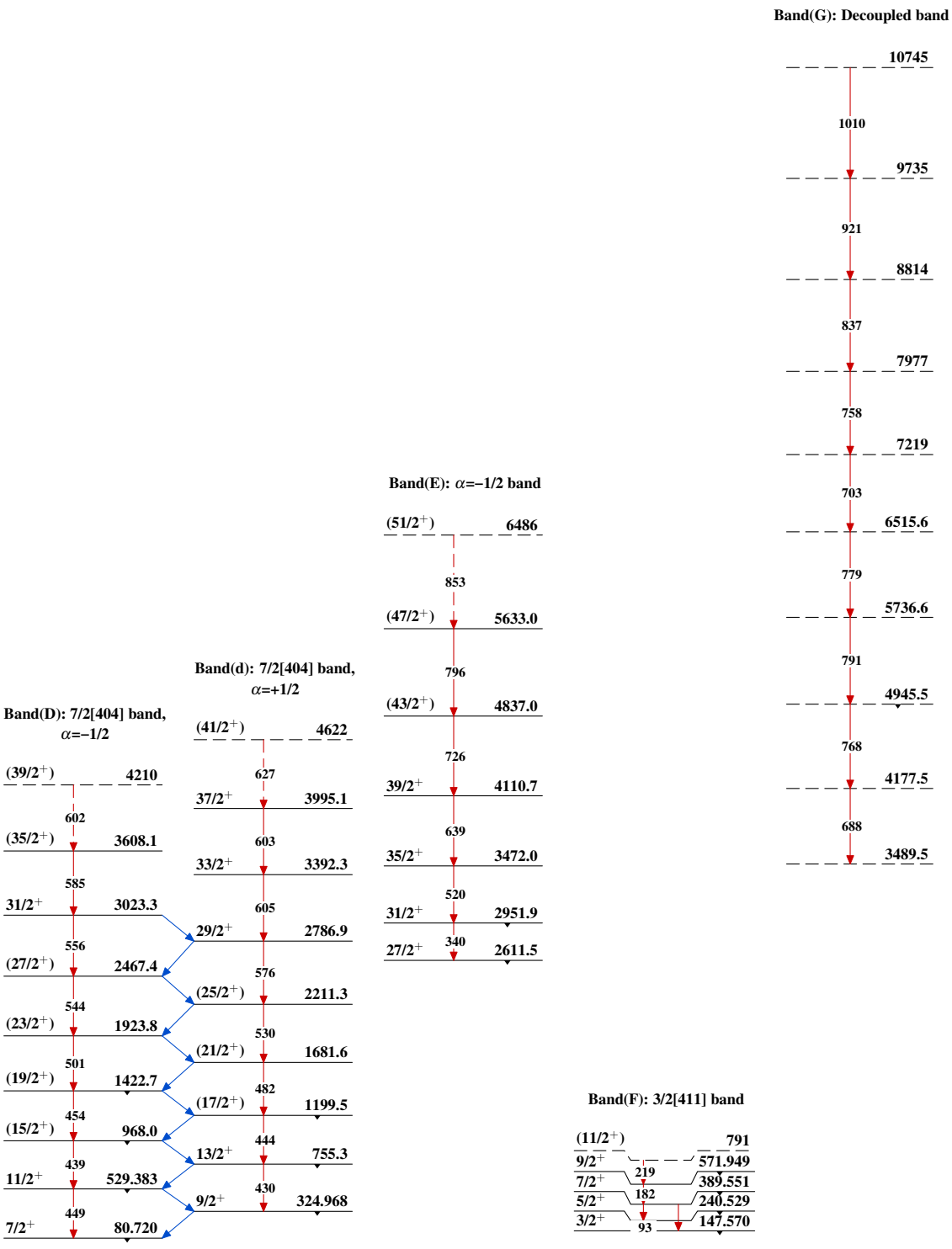


$^{153}_{65}Tb_{88}$

Adopted Levels, Gammas



Adopted Levels, Gammas (continued)



$^{153}_{65}Tb_{88}$