^{151}Dy ε decay (17.9 min) 1978Al15

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

Parent: ^{151}Dy: E=0.0; $J^\pi=7/2^{(-)}$; $T_{1/2}$=17.9 min *3*; Q(ε)=2871 *5*; %ε+%$β^+$ decay=94.4 *4*
Measured: γγ, ceγ, ce, ceγ(t), cece(t).
Other: 1974To07.

^{151}Tb Levels

E(level)‡	Jπ†	$T_{1/2}$#	E(level)‡	Jπ†
0.0	$1/2^{(+)}$		949.05 *6*	$(5/2^-,7/2^+)$
22.922 *20*	$3/2^{(+)}$	4.05 ns *7*	1082.61 *8*	$(7/2^-)$
72.39 *3*	$(5/2^+)$	0.92 ns *3*	1119.38 *8*	$(7/2^-,9/2)$
99.53 *6*	$(11/2^-)$	25 s *3*	1202.09 *11*	$(5/2^-,7/2,9/2^+)$
248.79 *3*	$(5/2^+,7/2^+)$	<0.26 ns	1241.2 *1*	$(7/2^-,9/2^-)$
276.42 *4*			1319.4 *3*	(5/2,7/2,9/2)
485.63 *5*	$(7/2^-)$		1433.85 *8*	$(7/2^-)$
548.85 *5*	$(3/2^+,5/2^+,7/2^+)$		1582.27 *12*	$(5/2^-,7/2,9/2)$
583.98 *6*	$(5/2^+)$		1610.95 *12*	$(5/2^-)$
646.00 *6*	$(9/2^-)$		1629.64 *8*	$(7/2^-,9/2^-)$
686.70 *7*	$(5/2,7/2^+)$		1663.18 *11*	$(5/2^-,7/2^-,9/2^-)$
711.93 *5*	$(5/2^+)$		1724.47 *15*	$(5/2^-)$
841.11 *9*	$(5/2,7/2^+)$		1741.78 *8*	$(5/2^-)$
856.80 *6*	$(5/2,7/2^+)$		1773.77 *8*	$(5/2^-,7/2^-,9/2^-)$
886.57 *8*	$(5/2,7/2,9/2^+)$		1841.62 *11*	$(5/2^-,7/2^-)$
917.78 *7*	$(5/2^-,7/2^-)$			

† From 'Adopted Levels'.
‡ From least-squares fit to Eγ's. Normalized χ^2=2.3 is somewhat higher than the critical value of 1.4.
# From ceγ(t) and cece(t) measured by 1978Al15, except for 99-keV level where the value is from 'Adopted Levels'.

ε,$β^+$ radiations

E(decay)	E(level)	Iβ+ †#	Iε†#	Log *ft*‡	I(ε+β+)#	Comments
(1029 *5*)	1841.62		6.2 *12*	5.1	6.2 *12*	εK= 0.8281; εL= 0.1327 *3*; εM+= 0.03919 *11*
(1097 *5*)	1773.77		5.2 *3*	5.2	5.2 *3*	εK= 0.8292; εL= 0.1319 *3*; εM+= 0.03891 *9*
(1129 *5*)	1741.78		4.8 *3*	5.3	4.8 *3*	εK= 0.8296; εL= 0.13157 *24*; εM+= 0.03879 *9*
(1147 *5*)	1724.47		9.3 *5*	5.0	9.3 *5*	εK= 0.8299; εL= 0.13140 *24*; εM+= 0.03873 *8*
(1208 *5*)	1663.18		3.88 *21*	5.4	3.88 *21*	εK= 0.8306; εL= 0.13083 *21*; εM+= 0.03853 *8*
(1241 *5*)	1629.64		5.2 *7*	5.3	5.2 *7*	εK= 0.8310; εL= 0.13055 *20*; εM+= 0.03844 *7*
(1260 *5*)	1610.95		3.63 *22*	5.5	3.63 *22*	εK= 0.8312; εL= 0.13040 *19*; εM+= 0.03838 *7*
(1289 *5*)	1582.27		1.07 *9*	6.1	1.07 *9*	εK= 0.8315; εL= 0.13018 *18*; εM+= 0.03831 *6*
(1437 *5*)	1433.85		2.78 *18*	5.8	2.78 *18*	εK= 0.8326; εL= 0.12918 *15*; εM+= 0.03796 *5*
(1552 *5*)	1319.4		1.23 *13*	6.2	1.23 *13*	εK= 0.8328; εL= 0.12848 *15*; εM+= 0.03772 *5*
(1630 *5*)	1241.2	0.0088 *21*	4.3 *3*	5.7	4.3 *3*	av Eβ= 224 *11*; εK= 0.8324; εL= 0.12799 *16*; εM+= 0.03756 *5*
(1669 *5*)	1202.09	0.006 *4*	2.3 *12*	6.0	2.3 *12*	av Eβ= 242 *11*; εK= 0.8320; εL= 0.12772 *17*; εM+= 0.03747 *6*
(1752 *5*)	1119.38	0.017 *3*	3.36 *18*	5.9	3.38 *18*	av Eβ= 278 *11*; εK= 0.8305; εL= 0.12711 *19*; εM+= 0.03728 *6*
(1788 *5*)	1082.61	0.035 *6*	5.5 *3*	5.7	5.5 *3*	av Eβ= 294 *11*; εK= 0.8296; εL= 0.12681 *20*; εM+= 0.03718 *7*
(1922 *5*)	949.05	0.023 *4*	1.71 *15*	6.3	1.73 *15*	av Eβ= 353 *10*; εK= 0.8246 *12*; εL= 0.1255 *3*;

Continued on next page (footnotes at end of table)

^{151}Dy ε decay (17.9 min) 1978Al15 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ †#	Iε†#	Log *ft*‡	I(ε+β+)#	Comments
						εM+= 0.03678 *8*
(1953 *5*)	917.78	0.059 *13*	3.8 *7*	5.9	3.9 *7*	av Eβ= 367 *10*; εK= 0.8230 *13*; εL= 0.1252 *3*; εM+= 0.03668 *9*
(1984 *5*)	886.57	0.023 *4*	1.29 *14*	6.4	1.31 *14*	av Eβ= 380 *10*; εK= 0.8212 *15*; εL= 0.1248 *3*; εM+= 0.03656 *9*
(2014 *5*)	856.80	0.030 *5*	1.5 *2*	6.4	1.53 *20*	av Eβ= 393 *10*; εK= 0.8193 *16*; εL= 0.1244 *3*; εM+= 0.03645 *10*
(2030 *5*)	841.11	0.022 *4*	1.02 *12*	6.5	1.04 *12*	av Eβ= 400 *10*; εK= 0.8183 *17*; εL= 0.1242 *4*; εM+= 0.03639 *10*
(2159 *5*)	711.93	0.19 *5*	5.4 *14*	5.9	5.6 *14*	av Eβ= 457 *11*; εK= 0.8079 *22*; εL= 0.1223 *4*; εM+= 0.03580 *12*
(2184 *5*)	686.70	0.031 *5*	0.82 *9*	6.7	0.85 *9*	av Eβ= 468 *11*; εK= 0.8055 *24*; εL= 0.1218 *4*; εM+= 0.03567 *13*
(2225 *5*)	646.00	0.25 *3*	5.7 *5*	5.9	6.0 *5*	av Eβ= 486 *11*; εK= 0.801 *3*; εL= 0.1211 *5*; εM+= 0.03545 *13*
(2287 *5*)	583.98	0.037 *7*	0.68 *13*	6.8	0.72 *13*	av Eβ= 513 *11*; εK= 0.794 *3*; εL= 0.1199 *5*; εM+= 0.03509 *15*
(2322 *5*)	548.85	0.045 *17*	0.8 *3*	6.8	0.8 *3*	av Eβ= 529 *11*; εK= 0.790 *3*; εL= 0.1192 *5*; εM+= 0.03487 *15*
(2385 *5*)	485.63	0.58 *6*	8.2 *6*	5.8	8.8 *6*	av Eβ= 557 *11*; εK= 0.782 *4*; εL= 0.1177 *6*; εM+= 0.03445 *16*
(2622@ *5*)	248.79	0.06 *5*	0.4 *4*	7.1	0.5 *4*	av Eβ= 662 *11*; εK= 0.743 *5*; εL= 0.1115 *7*; εM+= 0.03260 *21*
(2771@ *5*)	99.53	<0.4	<2.1	>6.5	<2.5	av Eβ= 728 *11*; εK= 0.713 *5*; εL= 0.1068 *8*; εM+= 0.03122 *23*
(2848@ *5*)	22.922	0.4 *3*	7 *5*	7.5[1u]	7 *5*	av Eβ= 773 *10*; εK= 0.7858 *22*; εL= 0.1218 *4*; εM+= 0.03580 *13*

† Deduced from intensity balance by the evaluator.
‡ In view of the large number of unplaced γ rays the log *ft* values are only lower limits.
# For absolute intensity per 100 decays, multiply by 1.001 *4*.
@ Existence of this branch is questionable.

γ(^{151}Tb)

Iγ normalization: from intensity balance assuming zero ground state feeding and taking into account the ε decay of the isomeric state (25 s, 11/2$^-$) of ^{151}Tb.

E_γ[‡]	I_γ[#&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[@]	α[a]	$I_{(\gamma+ce)}$[&]	Comments
22.92 *2*	3.45 *4*	22.922	3/2$^{(+)}$	0.0	1/2$^{(+)}$	M1+E2	0.031 *4*	27.8 *7*		α(L)=21.8 *5*; α(M)=4.78 *11*; α(N+..)=1.28 *3* α(N)=1.10 *3*; α(O)=0.167 *4*; α(P)=0.01034 *15* α(L1)exp=18.3 *14*, α(L2)exp=2.3 *3*, α(L3)exp=0.87 *12*, α(M)exp=4.5 *3* α(N)exp=1.13 *9*. Additional information 1. δ: from L1/L2 ratio.
27.1 *1*		99.53	(11/2$^-$)	72.39	(5/2$^+$)	E3		8.74×10^4 *23*	44.7 *6*	ce(L)/(γ+ce)=0.737 *15*; ce(M)/(γ+ce)=0.209 *7*; ce(N+)/(γ+ce)=0.0534 *20* ce(N)/(γ+ce)=0.0477 *18*; ce(O)/(γ+ce)=0.00563 *21*; ce(P)/(γ+ce)=2.98×10^{-6} *11* ce(L1)≈0.18, ce(L2)=13.9 *12*, ce(L3)=17.7 *16*, ce(M)=8.4 *6* ce(N)=1.83 *15*. Additional information 3. E_γ: only seen in ce spectra. $I_{(\gamma+ce)}$: from I(γ+ce) to 99-keV level. Ice gives 42 *2*.
49.46 *2*	20.7 *3*	72.39	(5/2$^+$)	22.922	3/2$^{(+)}$	M1+E2	0.06 *2*	2.82 *12*		α(L)=2.21 *9*; α(M)=0.485 *21*; α(N+..)=0.130 *6* α(N)=0.112 *5*; α(O)=0.0170 *6*; α(P)=0.001065 *16* α(L1)exp+α(L2)exp=2.14 *20*, α(L3)exp=0.09 *3*, α(M)exp=0.48 *3*, α(N)exp=0.117 *7*. Additional information 2. δ: from (L1+L2)/L3 ratio.
72.50 *10*	0.11 *2*	72.39	(5/2$^+$)	0.0	1/2$^{(+)}$	(E2)		8.89		α(K)=2.31 *4*; α(L)=5.06 *8*; α(M)=1.207 *19*; α(N+..)=0.305 *5* α(N)=0.270 *5*; α(O)=0.0345 *6*; α(P)=0.0001185 *17*
160.40 *2*	0.45 *4*	646.00	(9/2$^-$)	485.63	(7/2$^-$)					
163.04 *4*	0.21 *5*	711.93	(5/2$^+$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)					

^{151}Dy ε decay (17.9 min) 1978Al15 (continued)

γ(^{151}Tb) (continued)

E_γ ‡	I_γ #&	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	δ @	α a	Comments
176.40 *1*	12.20 *16*	248.79	(5/2$^+$,7/2$^+$)	72.39	(5/2$^+$)	M1+E2	0.51 *17*	0.422 *12*	α(K)=0.343 *17*; α(L)=0.062 *5*; α(M)=0.0139 *12*; α(N+..)=0.0037 *3* α(N)=0.00318 *25*; α(O)=0.00047 *3*; α(P)=2.46×10^{-5} *17* α(K)exp=0.344 *20*; α(L)exp=0.062 *4*. δ: from K/L ratio.
204.03 *2*	0.81 *9*	276.42		72.39	(5/2$^+$)	[D,E2]		0.17 *13*	
226.3 *3*	0.28 *6*	248.79	(5/2$^+$,7/2$^+$)	22.922	3/2$^{(+)}$	M1+E2		0.19 *4*	α(K)=0.15 *4*; α(L)=0.031 *4*; α(M)=0.0069 *11*; α(N+..)=0.00181 *23* α(N)=0.00158 *22*; α(O)=0.000227 *18*; α(P)=1.0×10^{-5} *4* α(K)exp=0.22 *10*.
230.90 *13*	0.60 *7*	917.78	(5/2$^-$,7/2$^-$)	686.70	(5/2,7/2$^+$)				
272.43 *23*	0.37 *9*	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)	276.42		[D,E2]		0.08 *6*	
x283.86 *13*	0.35 *4*								
292.16 *10*	0.39 *4*	841.11	(5/2,7/2$^+$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)				
300.00 *16*	0.27 *4*	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)	248.79	(5/2$^+$,7/2$^+$)	[D,E2]		0.06 *4*	
303.00 *5*	1.56 *5*	949.05	(5/2$^-$,7/2$^+$)	646.00	(9/2$^-$)				
307.48 *8*	0.43 *4*	583.98	(5/2$^+$)	276.42					
x323.1 *4*	0.15 *5*								
333.17 *26*	0.22 *5*	917.78	(5/2$^-$,7/2$^-$)	583.98	(5/2$^+$)				
337.80 *10*	0.57 *5*	886.57	(5/2,7/2,9/2$^+$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)				
345.13 *16*	0.27 *5*	1202.09	(5/2$^-$,7/2,9/2$^+$)	856.80	(5/2,7/2$^+$)				
371.07 *5*	0.89 *5*	856.80	(5/2,7/2$^+$)	485.63	(7/2$^-$)				
386.10 *2*	22.3 *4*	485.63	(7/2$^-$)	99.53	(11/2$^-$)	E2		0.0295	α(K)=0.0232 *4*; α(L)=0.00489 *7*; α(M)=0.001105 *16*; α(N+..)=0.000290 *4* α(N)=0.000252 *4*; α(O)=3.61×10^{-5} *5*; α(P)=1.508×10^{-6} *22* α(K)exp=0.018 *2*; α(L)exp=0.0062 *6*.
400.67 *16*	0.34 *5*	949.05	(5/2$^-$,7/2$^+$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)				
413.27 *13*	0.46 *5*	485.63	(7/2$^-$)	72.39	(5/2$^+$)				
x420.32 *13*	0.26 *4*								
432.16 *10*	4.64 *12*	917.78	(5/2$^-$,7/2$^-$)	485.63	(7/2$^-$)	M1		0.0399	α(K)=0.0338 *5*; α(L)=0.00476 *7*; α(M)=0.001037 *15*; α(N+..)=0.000279 *4* α(N)=0.000240 *4*; α(O)=3.70×10^{-5} *6*; α(P)=2.47×10^{-6} *4* α(K)exp=0.036 *4*.
436.86 *10*	0.88 *5*	1082.61	(7/2$^-$)	646.00	(9/2$^-$)	M1		0.0388	α(K)=0.0329 *5*; α(L)=0.00463 *7*; α(M)=0.001008 *15*; α(N+..)=0.000271 *4* α(N)=0.000233 *4*; α(O)=3.60×10^{-5} *5*; α(P)=2.41×10^{-6} *4* α(K)exp=0.040 *5*.
463.20 *10*	2.76 *6*	711.93	(5/2$^+$)	248.79	(5/2$^+$,7/2$^+$)	M1(+E2)	<0.82	0.030 *4*	α(K)=0.025 *3*; α(L)=0.0037 *3*;

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^{151}Dy ε decay (17.9 min) 1978Al15 (continued)

γ(^{151}Tb) (continued)

E_γ ‡	I_γ #&	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	α a	Comments
								α(M)=0.00081 *6*; α(N+..)=0.000219 *15* α(N)=0.000188 *13*; α(O)=2.88×10^{-5} *22*; α(P)=1.84×10^{-6} *23* α(K)exp=0.026 *3*.
476.56 *10*	9.21 *16*	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)	72.39	(5/2$^+$)	M1	0.0310	α(K)=0.0263 *4*; α(L)=0.00369 *6*; α(M)=0.000804 *12*; α(N+..)=0.000216 *3* α(N)=0.000186 *3*; α(O)=2.87×10^{-5} *4*; α(P)=1.92×10^{-6} *3* α(K)exp=0.026 *3*.
x489.5 *6*	0.16 *7*							
x494.31 *10*	1.00 *13*							
x500.16 *26*	0.44 *8*							
515.9 *5*	0.13 *8*	1433.85	(7/2$^-$)	917.78	(5/2$^-$,7/2$^-$)			
528.40 *16*	0.28 *6*	1610.95	(5/2$^-$)	1082.61	(7/2$^-$)			
533.66 *18*	0.33 *5*	1082.61	(7/2$^-$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)			
546.31 *10*	16.5 *4*	646.00	(9/2$^-$)	99.53	(11/2$^-$)	M1	0.0219	α(K)=0.0186 *3*; α(L)=0.00260 *4*; α(M)=0.000565 *8*; α(N+..)=0.0001522 *22* α(N)=0.0001307 *19*; α(O)=2.02×10^{-5} *3*; α(P)=1.355×10^{-6} *19* α(K)exp=0.019 *2*.
556.40 *23*	0.35 *6*	1202.09	(5/2$^-$,7/2,9/2$^+$)	646.00	(9/2$^-$)			
561.00 *10*	0.94 *7*	583.98	(5/2$^+$)	22.922	3/2$^{(+)}$			
570.70 *10*	1.29 *4*	1119.38	(7/2$^-$,9/2)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)			
x574.68 *20*	0.16 *2*							
580.4 *3*	0.24 *6*	856.80	(5/2,7/2$^+$)	276.42				
583.9 *1*	1.20 *6*	583.98	(5/2$^+$)	0.0	1/2$^{(+)}$			
x593.5 *5*	0.38 *5*							
596.77 *10*	1.81 *7*	1082.61	(7/2$^-$)	485.63	(7/2$^-$)			
614.30 *10*	0.60 *4*	686.70	(5/2,7/2$^+$)	72.39	(5/2$^+$)			
x624.54 *12*	0.22 *4*							
x630.37 *13*	0.05 *1*							
639.50 *10*	1.57 *11*	711.93	(5/2$^+$)	72.39	(5/2$^+$)			
642.2 *6*	0.22 *7*	917.78	(5/2$^-$,7/2$^-$)	276.42				
653.20 *20*	0.71 *6*	1202.09	(5/2$^-$,7/2,9/2$^+$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)			
x655.6 *5*	0.17 *4*							
663.67 *10*	0.98 *5*	686.70	(5/2,7/2$^+$)	22.922	3/2$^{(+)}$			
x671.2 *3*	0.16 *4*							
x677.56 *13*	0.55 *4*							
680.41 *10*	1.11 *5*	1629.64	(7/2$^-$,9/2$^-$)	949.05	(5/2$^-$,7/2$^+$)			
689.17 *10*	2.91 *7*	711.93	(5/2$^+$)	22.922	3/2$^{(+)}$			
700.32 *10*	2.07 *8*	949.05	(5/2$^-$,7/2$^+$)	248.79	(5/2$^+$,7/2$^+$)			
712.00 b *20*	1.38 b *8*	711.93	(5/2$^+$)	0.0	1/2$^{(+)}$			
712.00 b *20*	1.38 b *8*	1629.64	(7/2$^-$,9/2$^-$)	917.78	(5/2$^-$,7/2$^-$)			
x721.3 *3*	0.14 *7*							

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^{151}Dy ε decay (17.9 min) 1978Al15 (continued)

γ(^{151}Tb) (continued)

E_γ[‡]	I_γ[#&]	E_i(level)	J_i^π	E_f	J_f^π
[x]726.71 *23*	0.17 *10*				
[x]732.8 *5*	0.77 *4*				
[x]736.3 *6*	0.39 *11*				
745.40 *10*	1.40 *7*	1663.18	(5/2$^-$,7/2$^-$,9/2$^-$)	917.78	(5/2$^-$,7/2$^-$)
[x]749.7 *4*	0.18 *3*				
755.57 *10*	2.34 *10*	1241.2	(7/2$^-$,9/2$^-$)	485.63	(7/2$^-$)
[x]764.27 *20*	0.20 *4*				
768.90 *20*	0.93 *5*	841.11	(5/2,7/2$^+$)	72.39	(5/2$^+$)
[x]771.51 *10*	0.55 *4*				
784.5 *6*	0.12 *4*	856.80	(5/2,7/2$^+$)	72.39	(5/2$^+$)
788.07[c] *10*	0.99 *6*	1433.85	(7/2$^-$)	646.00	(9/2$^-$)
793.08 *10*	0.59 *5*	1741.78	(5/2$^-$)	949.05	(5/2$^-$,7/2$^+$)
[x]802.00 *20*	0.38 *5*				
[x]806.2 *3*	0.20 *5*				
814.10 *10*	1.17 *10*	886.57	(5/2,7/2,9/2$^+$)	72.39	(5/2$^+$)
818.6 *3*	0.37 *7*	841.11	(5/2,7/2$^+$)	22.922	3/2$^{(+)}$
[x]822.78 *27*	0.39 *7*				
833.9 *2*	2.54 *13*	856.80	(5/2,7/2$^+$)	22.922	3/2$^{(+)}$
837.9 *5*	0.23 *8*	1724.47	(5/2$^-$)	886.57	(5/2,7/2,9/2$^+$)
845.46 *10*	2.31 *11*	917.78	(5/2$^-$,7/2$^-$)	72.39	(5/2$^+$)
849.60 *10*	1.04 *7*	1433.85	(7/2$^-$)	583.98	(5/2$^+$)
855.84 *10*	1.50 *8*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	917.78	(5/2$^-$,7/2$^-$)
[x]859.21 *16*	0.66 *6*				
870.36 *10*	1.62 *10*	1119.38	(7/2$^-$,9/2)	248.79	(5/2$^+$,7/2$^+$)
[x]878.21 *4*	0.16 *5*				
884.62 *10*	0.76 *6*	1741.78	(5/2$^-$)	856.80	(5/2,7/2$^+$)
891.92 *20*	0.81 *7*	1841.62	(5/2$^-$,7/2$^-$)	949.05	(5/2$^-$,7/2$^+$)
[x]910.3 *5*	0.48 *4*				
917.00 *10*	1.00 *11*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	856.80	(5/2,7/2$^+$)
926.0 *5*	0.53 *7*	949.05	(5/2$^-$,7/2$^+$)	22.922	3/2$^{(+)}$
932.5 *10*	0.32 *7*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	841.11	(5/2,7/2$^+$)
936.27 *10*	1.23 *8*	1582.27	(5/2$^-$,7/2,9/2)	646.00	(9/2$^-$)
[x]947.1 *3*	0.32 *7*				
[x]952.33 *22*	0.45 *7*				
[x]960.86 *20*	0.39 *7*				
[x]970.77 *10*	0.44 *5*				
983.73 *10*	2.37 *7*	1629.64	(7/2$^-$,9/2$^-$)	646.00	(9/2$^-$)
992.37 *22*	0.25 *4*	1241.2	(7/2$^-$,9/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
[x]995.92 *7*	0.77 *5*				
1000.4 *3*	0.17 *5*	1841.62	(5/2$^-$,7/2$^-$)	841.11	(5/2,7/2$^+$)
1010.4 *3*	3.52 *11*	1082.61	(7/2$^-$)	72.39	(5/2$^+$)
[x]1016.60 *10*	0.89 *5*				
1020.4 *3*	0.98 *5*	1119.38	(7/2$^-$,9/2)	99.53	(11/2$^-$)
1029.4 *3*	0.43 *5*	1741.78	(5/2$^-$)	711.93	(5/2$^+$)

$^{151}_{65}Tb_{86}$-6

$\gamma(^{151}Tb)$ (continued)

E_γ ‡	I_γ #&	E_i(level)	J_i^π	E_f	J_f^π
x1036.48 *24*	0.34 *4*				
x1040.2 *4*	0.14 *4*				
x1050.43 *18*	0.68 *8*				
x1058.50 *20*	0.92 *8*				
1062.5 *3*	1.16 *11*	1610.95	(5/2$^-$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)
1070.6 *3*	1.42 *13*	1319.4	(5/2,7/2,9/2)	248.79	(5/2$^+$,7/2$^+$)
1096.1 *3*	2.03 *7*	1741.78	(5/2$^-$)	646.00	(9/2$^-$)
1114.3 *3*	3.07 *11*	1663.18	(5/2$^-$,7/2$^-$,9/2$^-$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)
x1124.0 *17*	0.42 *5*				
1129.8[b] *3*	2.63[b] *10*	1202.09	(5/2$^-$,7/2,9/2$^+$)	72.39	(5/2$^+$)
1129.8[b] *3*	1.3[b] *13*	1841.62	(5/2$^-$,7/2$^-$)	711.93	(5/2$^+$)
1141.8 *3*	2.32 *16*	1241.2	(7/2$^-$,9/2$^-$)	99.53	(11/2$^-$)
1144.1 *3*	0.47 *12*	1629.64	(7/2$^-$,9/2$^-$)	485.63	(7/2$^-$)
1175.5 *3*	1.15 *8*	1724.47	(5/2$^-$)	548.85	(3/2$^+$,5/2$^+$,7/2$^+$)
x1178.3 *4*	0.25 *5*				
1185.6 *3*	0.53 *7*	1433.85	(7/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
1190.6 *3*	0.48 *6*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	583.98	(5/2$^+$)
1196.8† *3*	1.09 *7*	1841.62	(5/2$^-$,7/2$^-$)	646.00	(9/2$^-$)
x1200.9 *4*	0.32 *5*				
x1239.2 *3*	0.21 *4*				
x1248.90 *22*	0.22 *4*				
1256.1 *3*	1.25 *7*	1741.78	(5/2$^-$)	485.63	(7/2$^-$)
x1259.2 *4*	0.20 *4*				
x1264.27 *26*	0.21 *4*				
1288.2 *3*	0.92 *5*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	485.63	(7/2$^-$)
x1290.80 *10*	0.57 *4*				
x1313.07 *12*	0.15 *3*				
1334.3 *3*	0.51 *4*	1433.85	(7/2$^-$)	99.53	(11/2$^-$)
x1340.00 *20*	0.34 *4*				
x1347.56 *23*	0.21 *4*				
1355.5 *3*	0.38 *4*	1841.62	(5/2$^-$,7/2$^-$)	485.63	(7/2$^-$)
1361.9 *3*	0.28 *4*	1610.95	(5/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
1381.2 *3*	0.43 *5*	1629.64	(7/2$^-$,9/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
x1410.00 *10*	0.43 *4*				
x1422.06 *13*	0.31 *4*				
x1430.80 *26*	0.25 *3*				
x1438.5 *5*	0.10 *3*				
x1442.0 *4*	0.12 *3*				
x1460.37 *21*	0.16 *4*				
1475.7 *3*	2.46 *10*	1724.47	(5/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
x1479.5 *5*	0.16 *4*				
1493.3 *3*	0.32 *5*	1741.78	(5/2$^-$)	248.79	(5/2$^+$,7/2$^+$)
x1510.61 *16*	0.44 *6*				

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^{151}Dy ε decay (17.9 min) 1978Al15 (continued)

γ(^{151}Tb) (continued)

E_γ ‡	I_γ #&	E_i(level)	J_i^π	E_f	J_f^π	E_γ ‡	I_γ #&	E_i(level)	J_i^π	E_f	J_f^π
1525.1 *3*	1.72 *6*	1773.77	(5/2$^-$,7/2$^-$,9/2$^-$)	248.79	(5/2$^+$,7/2$^+$)	x1721.66 *8*	0.77 *4*				
1530.2 *3*	0.95 *4*	1629.64	(7/2$^-$,9/2$^-$)	99.53	(11/2$^-$)	x1728.1 *3*	0.26 *4*				
1538.1 *3*	2.28 *7*	1610.95	(5/2$^-$)	72.39	(5/2$^+$)	x1740.80 *11*	0.45 *5*				
x1542.16 *17*	0.45 *4*					x1753.12 *19*	0.05 *1*				
x1546.47 *20*	0.21 *3*					1769.7 *3*	0.36 *2*	1841.62	(5/2$^-$,7/2$^-$)	72.39	(5/2$^+$)
1593.1 *3*	3.00 *10*	1841.62	(5/2$^-$,7/2$^-$)	248.79	(5/2$^+$,7/2$^+$)	x1779.91 *23*	0.13 *1*				
x1602.68 *17*	0.40 *4*					x1798.6 *3*	0.15 *2*				
1611.0 *3*	0.18 *6*	1610.95	(5/2$^-$)	0.0	1/2$^{(+)}$	x1808.7 *5*	0.10 *2*				
1652.1 *3*	1.65 *5*	1724.47	(5/2$^-$)	72.39	(5/2$^+$)	x1835.10 *10*	0.53 *6*				
x1659.53 *16*	0.25 *4*					x1903.8 *5*	0.17 *5*				
x1678.00 *20*	0.32 *4*					x1908.90 *20*	0.09 *2*				
x1696.33 *20*	0.43 *3*					x1999.3 *3*	0.09 *2*				
1701.6 *3*	5.26 *14*	1724.47	(5/2$^-$)	22.922	3/2$^{(+)}$	x2088.70 *10*	0.28 *4*				
1718.4 *5*	0.14 *7*	1741.78	(5/2$^-$)	22.922	3/2$^{(+)}$						

† Poor fit. Level energy difference=1195.6.

‡ To be able to achieve a satisfactory fit for level energies, the evaluator assumed a minimum ΔE of 0.1 and 0.3 keV for γ rays with energies 400 keV *100000* keV and >1000 keV, respectively instead of adopting very low uncertainties given by the authors.

Intensities quoted in 1978Al15. They call them absolute intensities per 100 decay, but do not give the method of deducing the absolute intensities. The slight differences in the evaluator′s normalization is probably due to differences in α values used. The quoted uncertainties are statistical only.

@ From conversion coefficients.

& For absolute intensity per 100 decays, multiply by 0.87 *4*.

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 undivided intensity.

c Placement of transition in the level scheme is uncertain.

x γ ray not placed in level scheme.

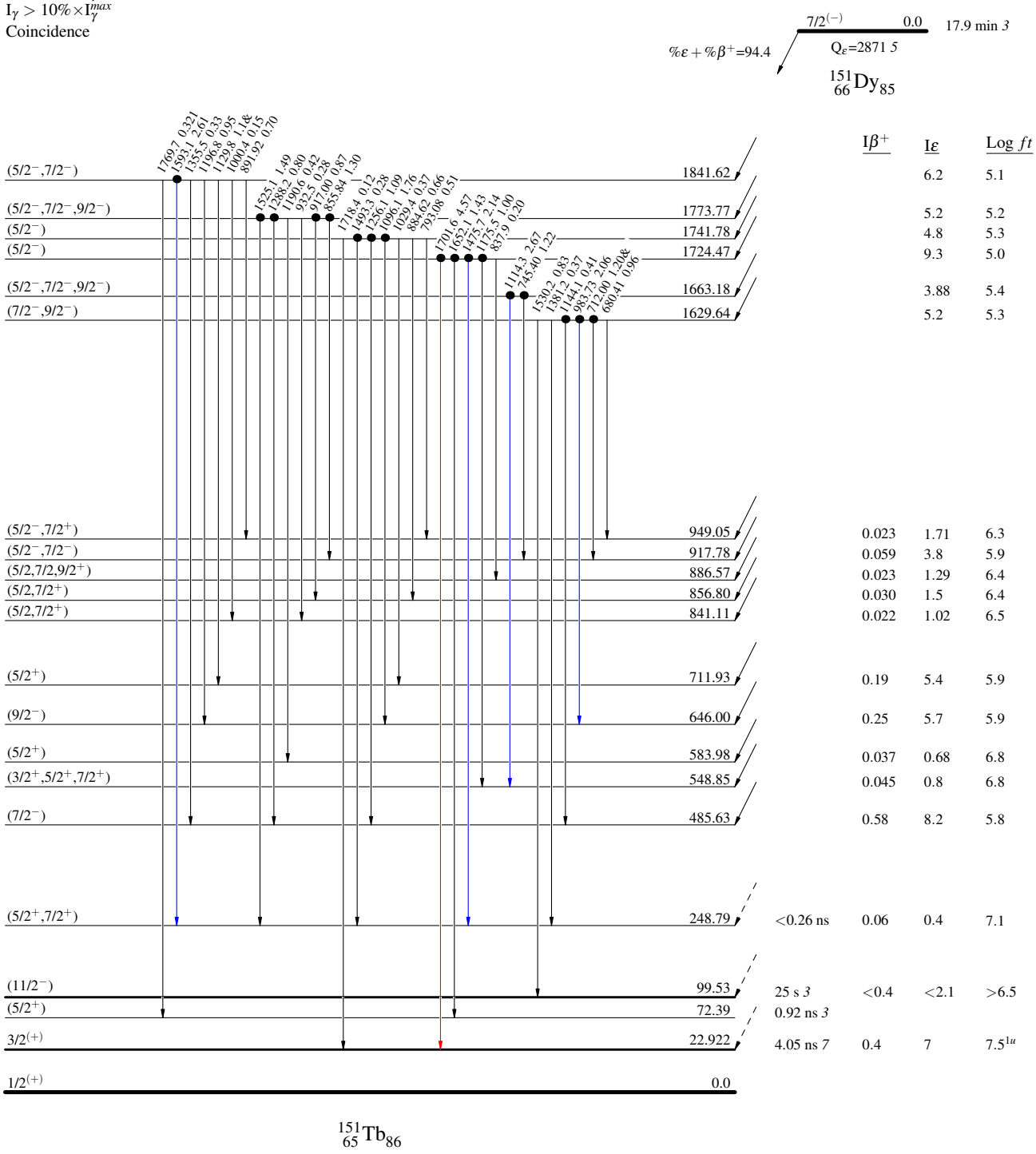
$^{151}_{65}Tb_{86}$-8

^{151}Dy ε decay (17.9 min) 1978Al15

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence



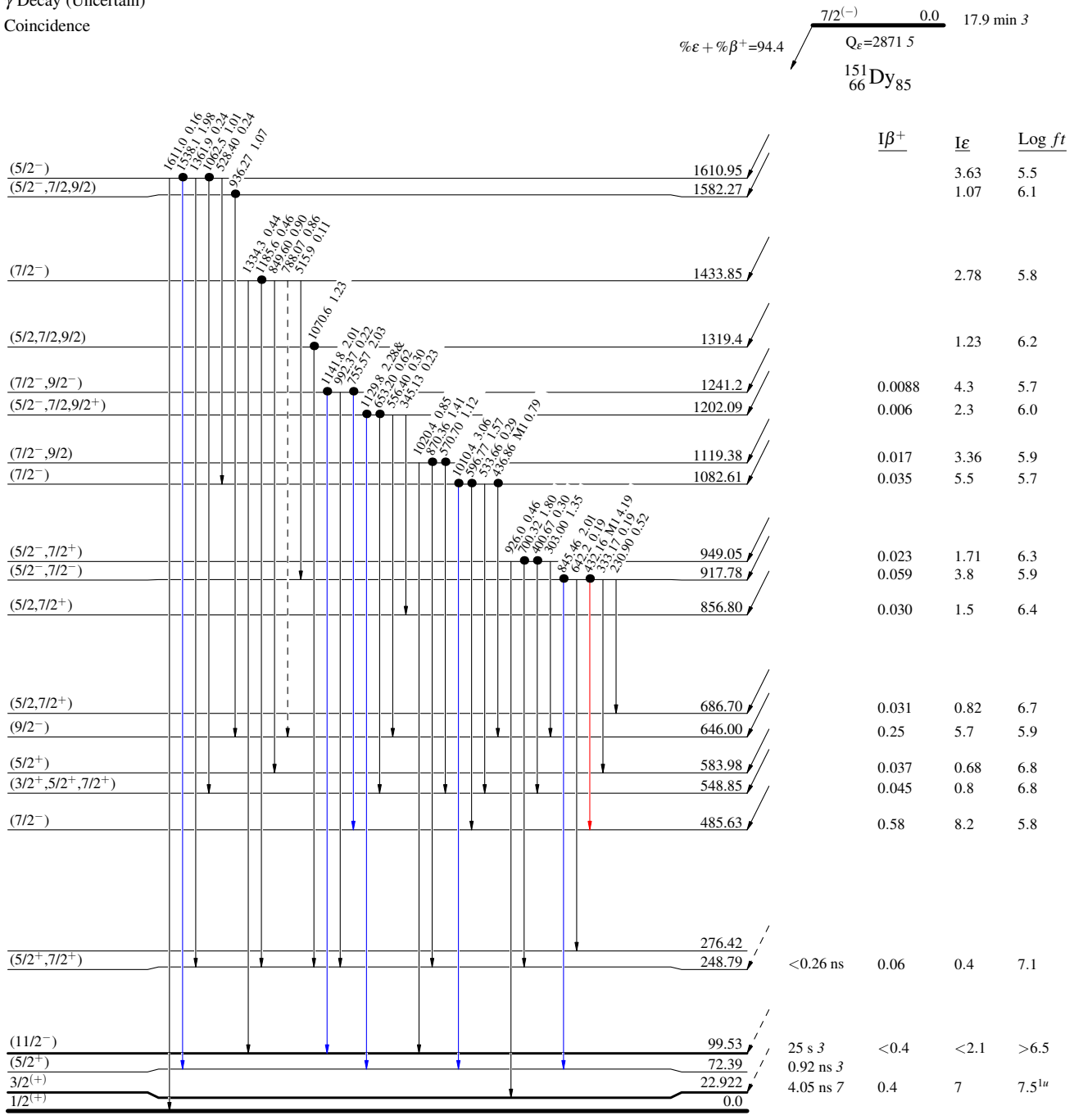
$^{151}_{65}Tb_{86}$

^{151}Dy ε decay (17.9 min) 1978Al15

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)
- Coincidence



	Iβ+	Iε	Log *ft*
1610.95		3.63	5.5
1582.27		1.07	6.1
1433.85		2.78	5.8
1319.4		1.23	6.2
1241.2	0.0088	4.3	5.7
1202.09	0.006	2.3	6.0
1119.38	0.017	3.36	5.9
1082.61	0.035	5.5	5.7
949.05	0.023	1.71	6.3
917.78	0.059	3.8	5.9
856.80	0.030	1.5	6.4
686.70	0.031	0.82	6.7
646.00	0.25	5.7	5.9
583.98	0.037	0.68	6.8
548.85	0.045	0.8	6.8
485.63	0.58	8.2	5.8
276.42			
248.79	<0.26 ns	0.06	0.4	7.1
99.53	25 s 3	<0.4	<2.1	>6.5
72.39	0.92 ns 3			
22.922	4.05 ns 7	0.4	7	7.5[1u]
0.0				

^{151}Dy ε decay (17.9 min) 1978Al15

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given