Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, I. Mitropolsky, A. Rodionov	NDS 107,2715 (2006)	17-Jul-2006

Q(β^-)=970.8 *6*; S(n)=8578 *4*; S(p)=7378.8 *7*; Q(α)=−3168 *6* 2012Wa38
Note: Current evaluation has used the following Q record 970.8 6 *8583* 3 *7381.9 22*−3169 5 2003Au03.

^{131}I Levels

Cross Reference (XREF) Flags

A ^{131}Te β^- decay (25.0 min)
B ^{131}Te β^- decay (33.25 h)
C ^{130}Te(^{3}He,d)
D ^{130}Te(α,t)
E ^{130}Te(p,p),(p,p′) IAR
F ^{198}Pt(^{136}Xe,X)

E(level)†	Jπ	$T_{1/2}$	L	XREF	Comments
0.0	7/2+	8.0252 d *6*		ABCDEF	%β^-=100 μ=+2.742 *1*; Q=−0.35 *2* (2005St24) $T_{1/2}$: from 2004Sc04. Others: 8.0197 d *22* (2002Un02), 8.02070 d *11* (1983Wa26), 8.0213 d *9* (1980Ho17), 8.020 d *3* (1978La21), 8.040 d *1* (1972Em01),8.116 d *26* (1971Zo02), 7.999 d *9* (2004Da05). J=7/2 from atomic beam method (1976Fu06); π=+ from L(^{3}He,d)=4.
149.716 *3*	5/2+	0.95 ns *5*		ABCDE	μ=+2.8 *5* (2005St24) Jπ: L(^{3}He,d)=2; M1 γ to 7/2+. $T_{1/2}$: from γγ(t) in ^{131}Te β^- decay (33.25 h).
492.664 *4*	3/2+,5/2+‡			ABCDE	
602.0409 *25*	3/2+,5/2+‡			ABCDE	
773.680 *19*	9/2+,11/2+			B F	Jπ: 9/2, 11/2 from γ(θ) in ^{131}Te β^- decay (33.25 h); π=+ from M1,E2 to 7/2+.
852.243 *18*	9/2+			AB	Jπ: 9/2 from γ(θ) in ^{131}Te β^- decay (33.25 h); π=+ from M1,E2 to 7/2+.
876.724 *5*	1/2+‡			A C	
1005.772 *19*				AB	
1059.721 *18*	9/2(+)			B	Jπ: 9/2 from γ(θ) in ^{131}Te β^- decay (33.25 h); π=(+) from γ to 7/2+ which is probably (M1+E2).
1098.260 *5*	3/2,5/2			A C	Jπ: 1/2, 3/2, 5/2 from log $f^{1u}t$<8.5 in ^{131}Te β^- decay (25.0 min) from 3/2+; J=1/2 less likely from γ to 7/2+.
1146.947 *6*	3/2+,5/2+‡			A CD	
1148.952 *18*	5/2+,7/2,9/2+			AB	Jπ: γ′s to 5/2+ and 9/2+.
1283.9 *3*				B	
1298.223 *19*	3/2+,5/2+‡			A CD	
1315.187 *20*	5/2+,7/2,9/2+			B	Jπ: γ′s to 5/2+ and 9/2+.
1346.48 *5*	1/2+,3/2+,5/2+			A C	Jπ: from L(^{3}He,d)=0 or 2.
1376.8 *4*				B	
1403.86 *13*	3/2+,5/2+‡			B D	
1427.151 *6*	3/2+,5/2+‡			A CD	
1444.049 *11*	1/2+,3/2+,5/2+#			A	Jπ: Δπ=no from γ′s to 1/2+,3/2+,5/2+.
1494 *6*			2	E	
1500.622 *9*	3/2+,5/2+‡			A CD	
1547.82 *4*				B	
1556.166 *21*	+			B F	π=+ from E1 γ from π=− level.

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Adopted Levels, Gammas (continued)

^{131}I Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
1596.459 *23*	+		B	π=+ from E1 γ from π=− level.
1622.6? *2*			B	
1646.010 *17*	11/2−		BCDE	Jπ: 11/2 from γ(θ) in ^{131}Te β− decay (33.25 h); π=− from L=5 in ^{130}Te(^{3}He,d).
1677.455 *20*	1/2,3/2,5/2/2#		A C	
1697.11 *10*			B	
1718 *6*	1/2+‡		CD	
1757.87 *8*	1/2,3/2,5/2/2#		A C	
1761.50 *9*			B	
1797.093 *20*	9/2−,11/2−,13/2−	5.9 ns *2*	BCD	μ=−1.2 *4* (2005St24); Q=0.65 *4*(2005St24) Jπ: 9/2, 11/2, 13/2 from log $f^{1u}t$<8.5 from 11/2−; π=− from M1 γ from J^{π}=9/2−, 11/2−, 13/2− level. μ: for J^{π}=(15/2)−. $T_{1/2}$: from γγ(t) in ^{131}Te β− decay (33.25 h).
1800.61 *5*	3/2+,5/2+‡		A C	
1831 *8*			D	
1880.26 *10*			B D	
1887.68 *5*	9/2,11/2,13/2@		B	
1899.153 *19*	9/2−,11/2−,13/2−		B	Jπ: 9/2, 11/2, 13/2 from log *ft*=6.5 from 11/2−; π=− from M1 γ from J^{π}=9/2−, 11/2−, 13/2− level.
1915			D	
1924.582 *22*	11/2−		B	Jπ: 11/2 from γγ(θ) in ^{131}Te β− decay (33.35 h); π=− from M1 to J^{π}=11/2− level.
1931.943 *24*			B	
1936.15 *7*			B	
1974.25? *20*			B	
1980.280 *17*	9/2−,11/2−,13/2−		B	Jπ: M1 γ to 9/2−, 11/2−, 13/2− levels.
1985			D	
2001.079 *23*	9/2,11/2		B	Jπ: 9/2, 11/2, 13/2 from log $f^{1u}t$<8.5 in ^{131}Te β− decay (33.25 h) from 11/2−; γγ(θ) in ^{131}Te β− decay (33.25 h) rules out 13/2.
2011.052 *23*	9/2,11/2,13/2@		B	
2040.83 *10*	3/2,5/2		A CD	Jπ: 1/2, 3/2, 5/2 from log $f^{1u}t$<8.5 in ^{131}Te β− decay (25.0 min) from 3/2+; γ to 7/2+ makes J=1/2 not likely.
2063.33 *15*	9/2,11/2,13/2@		B	
2072.73 *8*	3/2+,5/2+		A	Jπ: 1/2+, 3/2+, 5/2+ from log *ft*=5.66 in ^{131}Te β− decay (25.0 min); γ to 7/2+ makes J^{π}=1/2+ not likely.
2114.22 *3*	9/2,11/2,13/2@		B	
2134			C	
2168.46 *4*	9/2,11/2,13/2@		B	
2170.74 *4*	9/2,11/2,13/2@		B	
2175 *10*	1/2+‡		C	
2176.64 *10*	9/2,11/2,13/2@		B	
2235.2? *10*			F	
2241.68 *6*	9/2,11/2,13/2@		B	
2270.64 *8*	9/2,11/2,13/2@		B	
2308 *10*	1/2+‡		C	
2329			C	
2332.7 *4*			B	
2346 *10*	1/2+‡		C	
2352.2 *15*		43 ns *1*	F	$T_{1/2}$: from γγ(t) in ^{198}Pt(^{136}Xe,X).

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Adopted Levels, Gammas (continued)

^{131}I Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
2408 *10*	3/2+,5/2+[‡]		C	
2444 *10*			C	
2567			C	
2595			C	
2638			C	
2699 *20*			C	
2744 *20*	1/2+[‡]		C	
2807 *20*	1/2+[‡]		C	
2854			C	
2870 *20*			C	
2894			C	
2940 *20*	1/2+[‡]		C	
2985			C	
3040 *20*	1/2+[‡]		C	
3090			C	
3170 *20*			C	
3700 *20*	1/2+[‡]		C	
7974 *14*	3/2+[&]	50 keV *3*	E	E(level): IAR of the g.s. in ^{131}Te.
8278 *14*	1/2+[&]	55 keV *2*	E	E(level): IAR of the 296 level in ^{131}Te.
10205 *14*	7/2−[&a]	79 keV *2*	E	E(level): IAR of the 2278 level in ^{131}Te.
10451 *14*	3/2−[&a]	61 keV *12*	E	E(level): IAR of the 2511 level in ^{131}Te.
10507 *14*	3/2−[&a]	63 keV *6*	E	E(level): IAR of the 2583 level in ^{131}Te.
10906 *14*	1/2−[&]	120 keV *12*	E	E(level): IAR of the 3002 level in ^{131}Te.

[†] From a least-squares fit to the Eγ for levels connected by γ transitions; IAR identified with parent levels in ^{131}Te only are given; the rest may be found in the ^{130}Te(p,p) IAR data set. Resulted normalized χ^2=1.2.

[‡] From L(^{3}He,d) or L(α,t).

[#] From log $f^{1u}t$<8.5 in ^{131}Te β^- decay (25.0 min) from 3/2+.

[@] From log $f^{1u}t$<8.5 in ^{131}Te β^- decay (33.25 h) from 11/2−.

[&] From R-matrix analysis of the angular distribution for elastic and inelastic scattered protons in ^{130}Te(p,p),(p,p′) IAR.

[a] From R-matrix analysis of the angular distribution for elastic and inelastic scattered protons, and from polarization and analyzing power data combined with coupled channel plus resonance formalism in ^{130}Te(p,p),(p,p′) IAR.

Adopted Levels, Gammas (continued)

γ(^{131}I)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[&]	Comments
149.716	5/2$^+$	149.716 *5*	100	0.0	7/2$^+$	M1[#]		0.243	B(M1)(W.u.)=0.0056 *3* α(K)exp=0.21 *1* (1967Be48).
492.664	3/2$^+$,5/2$^+$	342.945 *4*	14.5 *1*	149.716	5/2$^+$				E_γ,I_γ: Iγ=0.691 % *7* in ^{131}Te β^- decay (25 min) and Iγ=0.00 % *8* in ^{131}Te β^- decay (33.25 h) (1975Ja03).
		492.66 *1*	100.0 *4*	0.0	7/2$^+$	[M1,E2]		0.0098 *9*	
602.0409	3/2$^+$,5/2$^+$	109.40 *4*	0.34 *4*	492.664	3/2$^+$,5/2$^+$				
		452.323 *2*	100.0 *3*	149.716	5/2$^+$	M1,E2[#]		0.0124 *10*	α(K)exp=1.4×10^{-2} *5* (1967Be48).
		602.039 *3*	23.0 *1*	0.0	7/2$^+$	[M1,E2]			
773.680	9/2$^+$,11/2$^+$	773.67 *3*	100	0.0	7/2$^+$	M1,E2[#]			α(K)exp=1.8×10^{-3} *9* (1967Be48).
852.243	9/2$^+$	78.57 *8*	0.08 *1*	773.680	9/2$^+$,11/2$^+$				
		702.50 *7*	1.89 *9*	149.716	5/2$^+$				
		852.21 *3*	100 *2*	0.0	7/2$^+$	M1,E2[#]			α(K)exp=2.2×10^{-3} *5* (1965De22).
876.724	1/2$^+$	274.68[b] *15*	≤0.77	602.0409	3/2$^+$,5/2$^+$				
		384.059 *3*	100.0 *8*	492.664	3/2$^+$,5/2$^+$				
		727.00 *2*	52.3 *8*	149.716	5/2$^+$				
1005.772		403.3 *10*	5 *3*	602.0409	3/2$^+$,5/2$^+$				
		856.08 *3*	100 *5*	149.716	5/2$^+$				
		1005.76 *15*	11 *5*	0.0	7/2$^+$				
1059.721	9/2$^{(+)}$	54.1 *1*	0.04 *2*	1005.772					
		207.5 *1*	1.2 *4*	852.243	9/2$^+$				
		910.00 *3*	100 *2*	149.716	5/2$^+$	Q[@]			
		1059.69 *4*	47 *1*	0.0	7/2$^+$	(M1+E2)[@]	+1.2 +*9*−*5*		Mult.: D+Q from γ(θ); (M1+E2) probable from large δ. δ: from γ(θ) in ^{131}Te β^- decay (1975Lh01).
1098.260	3/2,5/2	221.57 *5*	1.5 *2*	876.724	1/2$^+$				
		496.23 *8*	1.5 *3*	602.0409	3/2$^+$,5/2$^+$				
		605.55 *2*	5.2 *3*	492.664	3/2$^+$,5/2$^+$				
		948.542 *4*	100 *1*	149.716	5/2$^+$				
		1098.25 *2*	7.6 *3*	0.0	7/2$^+$				
1146.947	3/2$^+$,5/2$^+$	141.20 *4*	0.57 *10*	1005.772					
		294.75 *15*	≤0.10	852.243	9/2$^+$				
		544.88 *1*	8.6 *3*	602.0409	3/2$^+$,5/2$^+$				
		654.26 *1*	30.8 *3*	492.664	3/2$^+$,5/2$^+$				
		997.25 *1*	67.4 *3*	149.716	5/2$^+$				
		1146.96 *1*	100.0 *6*	0.0	7/2$^+$				
1148.952	5/2$^+$,7/2,9/2$^+$	296.8 *3*	11 *8*	852.243	9/2$^+$				
		546.7 *2*	10 *2*	602.0409	3/2$^+$,5/2$^+$				

$^{131}_{53}I_{78}$-4

Adopted Levels, Gammas (continued)

$\gamma(^{131}I)$ (continued)

E_i(level)	J^{π}_i	E_γ[†‡]	I_γ[‡]	E_f	J^{π}_f	Mult.
1148.952	5/2+,7/2,9/2+	999.26 *15*	44 *11*	149.716	5/2+	
		1148.89 *7*	100 *11*	0.0	7/2+	
1283.9		681.9 *3*	100 *25*	602.0409	3/2+,5/2+	
		1134.2[b] *4*	25 *12*	149.716	5/2+	
1298.223	3/2+,5/2+	151.1 *1*	96 *35*	1146.947	3/2+,5/2+	
		696.19 *2*	100 *8*	602.0409	3/2+,5/2+	
		805.57 *20*	8 *3*	492.664	3/2+,5/2+	
		1148.51 *6*	62 *4*	149.716	5/2+	
		1297.98 *16*	3 *1*	0.0	7/2+	
1315.187	5/2+,7/2,9/2+	255.44 *7*	17 *1*	1059.721	9/2(+)	
		309.47 *6*	21 *2*	1005.772		
		462.92 *5*	100 *2*	852.243	9/2+	
		541.4 *1*	6 *1*	773.680	9/2+,11/2+	
		713.10 *4*	79 *9*	602.0409	3/2+,5/2+	Q[@]
		1165.5 *1*	8 *1*	149.716	5/2+	
		1315.16 *8*	38 *4*	0.0	7/2+	
1346.48	1/2+,3/2+,5/2+	469.7 *1*	16 *6*	876.724	1/2+	
		744.4 *3*	8 *4*	602.0409	3/2+,5/2+	
		853.83 *5*	100 *5*	492.664	3/2+,5/2+	
1376.8		1227.8[b] *5*	≤18	149.716	5/2+	
		1376.8 *4*	100 *18*	0.0	7/2+	
1403.86	3/2+,5/2+	801.6 *2*	71 *29*	602.0409	3/2+,5/2+	
		1254.2 *4*	100 *14*	149.716	5/2+	
		1403.6 *6*	43 *29*	0.0	7/2+	
1427.151	3/2+,5/2+	278.17 *2*	11 *1*	1148.952	5/2+,7/2,9/2+	
		280.17 *12*	2 *1*	1146.947	3/2+,5/2+	
		421.32 *7*	5 *1*	1005.772		
		550.4 *1*	3 *1*	876.724	1/2+	
		574.9 *1*	4 *1*	852.243	9/2+	
		825.0 *2*	3 *1*	602.0409	3/2+,5/2+	
		934.483 *5*	100 *2*	492.664	3/2+,5/2+	
		1277.44 *1*	13 *1*	149.716	5/2+	
		1427.14 *2*	12.1 *4*	0.0	7/2+	
1444.049	1/2+,3/2+,5/2+	297.09 *5*	9 *1*	1146.947	3/2+,5/2+	
		345.6 *1*	3 *1*	1098.260	3/2,5/2	
		438.3 *2*	1.4 *7*	1005.772		
		567.33 *4*	21 *1*	876.724	1/2+	
		841.99 *2*	41 *1*	602.0409	3/2+,5/2+	
		951.39 *2*	69 *1*	492.664	3/2+,5/2+	
		1294.34 *2*	100 *1*	149.716	5/2+	
1500.622	3/2+,5/2+	351.48 *7*	2.9 *5*	1148.952	5/2+,7/2,9/2+	

Adopted Levels, Gammas (continued)

γ(^{131}I) (continued)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[‡]	E_f	J_f^π	Mult.	α[&]	Comments
1500.622	3/2$^+$,5/2$^+$	353.58 *9*	2.4 *5*	1146.947	3/2$^+$,5/2$^+$			
		402.36 *14*	0.9 *4*	1098.260	3/2,5/2			
		494.85 *5*	9.5 *9*	1005.772				
		898.54 *3*	17.2 *9*	602.0409	3/2$^+$,5/2$^+$			
		1007.96 *1*	100 *1*	492.664	3/2$^+$,5/2$^+$			
		1350.91 *4*	7.6 *4*	149.716	5/2$^+$			
		1500.62 *3*	14.4 *4*	0.0	7/2$^+$			
1547.82		695.62 *8*	74 *6*	852.243	9/2$^+$			
		774.1 *1*	100 *14*	773.680	9/2$^+$,11/2$^+$			
		1547.75 *9*	13 *1*	0.0	7/2$^+$			
1556.166	+	782.49 *4*	100	773.680	9/2$^+$,11/2$^+$			
1596.459	+	744.20 *4*	26 *1*	852.243	9/2$^+$			
		822.78 *4*	100 *1*	773.680	9/2$^+$,11/2$^+$			
1622.6?		848.9[b] *2*	100	773.680	9/2$^+$,11/2$^+$			
1646.010	11/2$^-$	98.3 *1*	0.10 *2*	1547.82				
		269.2[b] *3*	≤0.78	1376.8				
		331.2 *6*	0.22 *8*	1315.187	5/2$^+$,7/2,9/2$^+$			
		362.3[b] *4*	0.6 *3*	1283.9				
		586.30 *3*	14.2 *6*	1059.721	9/2$^{(+)}$	D[@]		
		793.75 *3*	100 *1*	852.243	9/2$^+$	(E1)[@]		
		872.3 *3*	0.7 *1*	773.680	9/2$^+$,11/2$^+$			
		1496.5 *4*	0.4 *1*	149.716	5/2$^+$			
		1646.01 *5*	8.9 *3*	0.0	7/2$^+$			
1677.455	1/2,3/2,5/2	1184.7 *2*	10 *4*	492.664	3/2$^+$,5/2$^+$			
		1527.73 *2*	100 *5*	149.716	5/2$^+$			
1697.11		51.00[b] *5*	4 *1*	1646.010	11/2$^-$			
		149.3 *3*	50 *12*	1547.82				
		637.3[b] *2*	≤20	1059.721	9/2$^{(+)}$			
		844.9 *2*	100 *25*	852.243	9/2$^+$			
		923.4 *2*	75 *15*	773.680	9/2$^+$,11/2$^+$			
		1696.8 *5*	10 *2*	0.0	7/2$^+$			
1757.87	1/2,3/2,5/2	881.15 *9*	100 *16*	876.724	1/2$^+$			
		1155.8 *2*	16 *8*	602.0409	3/2$^+$,5/2$^+$			
		1265.2 *2*	19 *5*	492.664	3/2$^+$,5/2$^+$			
1761.50		987.8 *1*	100	773.680	9/2$^+$,11/2$^+$			
1797.093	9/2$^-$,11/2$^-$,13/2$^-$	151.2 *2*	1.0 *4*	1646.010	11/2$^-$	[M1,E2]	0.32 *9*	
		200.63 *2*	99 *2*	1596.459	+	E1[#]	0.0293	B(E1)(W.u.)=2.65×10^{-6} *11* α(K)exp=0.026 *4* (1967Be48).
		240.93 *1*	100 *1*	1556.166	+	E1[#]	0.0178	B(E1)(W.u.)=1.55×10^{-6} *6* α(K)exp=1.8×10^{-2} *6* (1967Be48).

Adopted Levels, Gammas (continued)

γ(^{131}I) (continued)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[‡]	E_f	J_f^π	Mult.	α[&]	Comments
1797.093	9/2⁻,11/2⁻,13/2⁻	1023.6 *2*	0.8 *1*	773.680	9/2⁺,11/2⁺			
		1797.07	≤0.1	0.0	7/2⁺			
1800.61	3/2⁺,5/2⁺	299.94 *6*	100 *12*	1500.622	3/2⁺,5/2⁺			
		702.7 *3*	19 *14*	1098.260	3/2,5/2			
		1198.3 *2*	14 *4*	602.0409	3/2⁺,5/2⁺			
		1308.1 *2*	18 *2*	492.664	3/2⁺,5/2⁺			
		1650.97 *9*	32 *2*	149.716	5/2⁺			
		1800.68 *20*	9 *2*	0.0	7/2⁺			
1880.26		1027.8[b] *4*	12 *6*	852.243	9/2⁺			
		1880.1 *3*	100 *12*	0.0	7/2⁺			
1887.68	9/2,11/2,13/2	126.1 *3*	0.4 *2*	1761.50				
		572.7 *2*	3 *2*	1315.187	5/2⁺,7/2,9/2⁺			
		738.8 *2*	5 *1*	1148.952	5/2⁺,7/2,9/2⁺			
		881.6 *3*	3 *1*	1005.772				
		1035.4 *2*	8 *1*	852.243	9/2⁺			
		1114.1 *3*	0.9 *3*	773.680	9/2⁺,11/2⁺			
		1887.70 *7*	100 *3*	0.0	7/2⁺			
1899.153	9/2⁻,11/2⁻,13/2⁻	102.06 *1*	69 *1*	1797.093	9/2⁻,11/2⁻,13/2⁻	M1[#]	0.714	α(K)exp=0.58 *5* (1967Be48).
		137.6 *2*	0.7 *3*	1761.50				
		253.17 *2*	5.7 *1*	1646.010	11/2⁻			
		302.7 *2*	0.3 *1*	1596.459	+			
		342.92[a] *5*	3[a] *1*	1556.166	+			
		351.3 *1*	1.8 *2*	1547.82				
		1125.46 *4*	100 *2*	773.680	9/2⁺,11/2⁺			
1924.582	11/2⁻	36.83[b] *3*	0.7 *1*	1887.68	9/2,11/2,13/2			
		127.4[b] *4*	1.3 *4*	1797.093	9/2⁻,11/2⁻,13/2⁻			
		227.7[b] *4*	0.9 *6*	1697.11				
		278.56 *2*	100 *2*	1646.010	11/2⁻	M1[#]	0.0457	α(K)exp=0.036 *7* (1976De43).
		609.4 *1*	7.8 *9*	1315.187	5/2⁺,7/2,9/2⁺			
		865.1 *2*	11 *2*	1059.721	9/2(+)			
		1072.3 *2*	1.3 *2*	852.243	9/2⁺			
		1150.90 *9*	37 *4*	773.680	9/2⁺,11/2⁺			
		1924.1 *3*	0.2 *1*	0.0	7/2⁺			
1931.943		134.86 *2*	100 *3*	1797.093	9/2⁻,11/2⁻,13/2⁻			
		335.44 *7*	19 *3*	1596.459	+			
		375.8 *3*	1.6 *6*	1556.166	+			
1936.15		930.0[b] *4*	26 *16*	1005.772				
		1333.8 *3*	74 *11*	602.0409	3/2⁺,5/2⁺			
		1936.15 *9*	100 *11*	0.0	7/2⁺			

$^{131}_{53}I_{78}$-7

Adopted Levels, Gammas (continued)

γ(^{131}I) (continued)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[‡]	E_f	J_f^π	Mult.	α[&]	Comments
1974.25?		177.2[b] *2*	100 *18*	1797.093	9/2⁻,11/2⁻,13/2⁻			
		211.9[b] *4*	18 *6*	1761.50				
		377.8[b] *3*	≤59	1596.459	+			
1980.280	9/2⁻,11/2⁻,13/2⁻	81.14 *2*	42 *1*	1899.153	9/2⁻,11/2⁻,13/2⁻	M1[#]	1.37	α(K)exp=1.25 *10* (1967Be48). α(K)exp: Other: 1.9 *3* (1965De22).
		100.0 *1*	0.75 *4*	1880.26				
		183.11 *8*	1.6 *2*	1797.093	9/2⁻,11/2⁻,13/2⁻			
		283.2 *2*	4.0 *4*	1697.11				
		334.27 *1*	98 *1*	1646.010	11/2⁻	M1,E2[#]	0.0285	α(K)exp=2.6×10^{-2} *3* (1967Be48). α(K)exp: Other: 2.6×10^{-2} *5* (1965De22).
		357.4[b] *3*	0.20 *8*	1622.6?				
		383.90 *7*	2.1 *3*	1596.459	+			
		432.40 *7*	6.8 *3*	1547.82				
		665.05 *3*	44.4 *8*	1315.187	5/2⁺,7/2,9/2⁺	D[@]		
		920.62 *5*	12.3 *8*	1059.721	9/2$^{(+)}$	D[@]		
		1127.96 *6*	10 *1*	852.243	9/2⁺			
		1206.60 *4*	100 *2*	773.680	9/2⁺,11/2⁺	(E1)[@]		
		1830.6[b] *4*	0.08 *4*	149.716	5/2⁺			
		1980.3 *3*	0.3 *1*	0.0	7/2⁺			
2001.079	9/2,11/2	65.05[b] *8*	0.4 *1*	1936.15				
		101.6 *3*	8.5 *8*	1899.153	9/2⁻,11/2⁻,13/2⁻			
		113.5 *1*	0.6 *2*	1887.68	9/2,11/2,13/2			
		203.4[b] *4*	1.0 *4*	1797.093	9/2⁻,11/2⁻,13/2⁻			
		303.9 *2*	1.9 *4*	1697.11				
		354.7 *1*	11.4 *6*	1646.010	11/2⁻			
		377.8[b] *3*	≤2	1622.6?				
		597.0 *2*	2.5 *10*	1403.86	3/2⁺,5/2⁺			
		685.9 *1*	7.7 *6*	1315.187	5/2⁺,7/2,9/2⁺			
		852.21 *3*	19 *10*	1148.952	5/2⁺,7/2,9/2⁺			
		941.27 *5*	39 *1*	1059.721	9/2$^{(+)}$			
		995.1 *3*	4.4 *8*	1005.772				
		1148.89 *7*	75 *15*	852.243	9/2⁺	D+Q[@]		
		1227.8[b] *5*	≤0.4	773.680	9/2⁺,11/2⁺			
		2000.94 *6*	100 *2*	0.0	7/2⁺			
2011.052	9/2,11/2,13/2	79.19 *3*	10.6 *3*	1931.943				
		86.43 *2*	12.3 *3*	1924.582	11/2⁻			
		111.9 *2*	2.6 *6*	1899.153	9/2⁻,11/2⁻,13/2⁻			
		213.98 *3*	35 *2*	1797.093	9/2⁻,11/2⁻,13/2⁻			

$^{131}_{53}I_{78}$-8

Adopted Levels, Gammas (continued)

γ(^{131}I) (continued)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[‡]	E_f	J_f^π	Mult.
2011.052	9/2,11/2,13/2	364.98 *10*	100 *13*	1646.010	11/2$^-$	
		1237.32 *5*	55 *3*	773.680	9/2$^+$,11/2$^+$	
2040.83	3/2,5/2	1035.5 *5*	40 *30*	1005.772		
		1548.0 *5*	13 *7*	492.664	3/2$^+$,5/2$^+$	
		1891.1 *3*	40 *20*	149.716	5/2$^+$	
		2040.8 *1*	100 *10*	0.0	7/2$^+$	
2063.33	9/2,11/2,13/2	62.38[b] *2*	13.1 *8*	2001.079	9/2,11/2	
		417.4 *2*	100 *7*	1646.010	11/2$^-$	
		749.0[b] *8*	6 *3*	1315.187	5/2$^+$,7/2,9/2$^+$	
		1003.6[b] *2*	10 *6*	1059.721	9/2$^{(+)}$	
		1211.0 *2*	22 *4*	852.243	9/2$^+$	
2072.73	3/2$^+$,5/2$^+$	1066.8 *3*	75 *42*	1005.772		
		1579.94 *9*	100 *8*	492.664	3/2$^+$,5/2$^+$	
		1923.6 *2*	42 *8*	149.716	5/2$^+$	
		2072.8 *3*	75 *17*	0.0	7/2$^+$	
2114.22	9/2,11/2,13/2	103.3[b] *3*	6 *1*	2011.052	9/2,11/2,13/2	
		182.25 *2*	100 *26*	1931.943		D+Q[@]
		189.76 *4*	68 *5*	1924.582	11/2$^-$	
		468.16 *9*	43 *4*	1646.010	11/2$^-$	
		558.1[b] *2*	3 *1*	1556.166	$^+$	
		1340.6 *1*	14 *2*	773.680	9/2$^+$,11/2$^+$	
2168.46	9/2,11/2,13/2	105.0[b] *2*	8 *1*	2063.33	9/2,11/2,13/2	
		188.13 *5*	61 *3*	1980.280	9/2$^-$,11/2$^-$,13/2$^-$	
		232.3 *1*	27 *3*	1936.15		
		269.2[b] *3*	≤31	1899.153	9/2$^-$,11/2$^-$,13/2$^-$	
		281.4 *3*	10 *6*	1887.68	9/2,11/2,13/2	
		1108.3 *3*	7 *2*	1059.721	9/2$^{(+)}$	
		1162.7 *2*	8 *2*	1005.772		
		1316.2 *2*	28 *10*	852.243	9/2$^+$	
		1394.83 *9*	31 *2*	773.680	9/2$^+$,11/2$^+$	
		2168.54 *9*	100 *6*	0.0	7/2$^+$	
2170.74	9/2,11/2,13/2	159.66 *4*	94 *11*	2011.052	9/2,11/2,13/2	
		169.7 *2*	23 *6*	2001.079	9/2,11/2	
		190.52 *6*	86 *11*	1980.280	9/2$^-$,11/2$^-$,13/2$^-$	
		235.0[b] *2*	11 *9*	1936.15		
		524.8 *1*	100 *11*	1646.010	11/2$^-$	
		1318.3 *2*	29 *6*	852.243	9/2$^+$	
2176.64	9/2,11/2,13/2	379.3 *3*	19 *7*	1797.093	9/2$^-$,11/2$^-$,13/2$^-$	
		530.7 *1*	100 *19*	1646.010	11/2$^-$	

$^{131}_{53}I_{78}$-9

Adopted Levels, Gammas (continued)

$\gamma(^{131}I)$ (continued)

E_i(level)	J_i^π	E_γ [†‡]	I_γ [‡]	E_f	J_f^π
2176.64	9/2,11/2,13/2	579.8 *3*	74 *22*	1596.459	$^+$
2235.2?		679		1556.166	$^+$
2241.68	9/2,11/2,13/2	73.32[b] *5*	14 *2*	2168.46	9/2,11/2,13/2
		230.65 *5*	100 *6*	2011.052	9/2,11/2,13/2
		261.4 *2*	8 *2*	1980.280	$9/2^-$,$11/2^-$,$13/2^-$
		267.2[b] *3*	8 *6*	1974.25?	
		353.5 *3*	40 *18*	1887.68	9/2,11/2,13/2
		1181.4 *4*	6 *4*	1059.721	$9/2^{(+)}$
		1389.6 *3*	8 *2*	852.243	$9/2^+$
2270.64	9/2,11/2,13/2	155.9[b] *2*	10 *6*	2114.22	9/2,11/2,13/2
		290.3 *2*	20 *3*	1980.280	$9/2^-$,$11/2^-$,$13/2^-$
		345.9 *3*	25 *8*	1924.582	$11/2^-$
		2270.65 *9*	100 *5*	0.0	$7/2^+$
2332.7		408.2[b] *3*	100 *50*	1924.582	$11/2^-$
		2332.7 *4*	4.4 *6*	0.0	$7/2^+$
2352.2		117		2235.2?	

† Weighted average of all available data, except as noted.
‡ From ^{131}Te β^- decay.
# From conversion electron data in ^{131}Te β^- decay.
@ From $\gamma(\theta)$ in ^{131}Te β^- decay and ΔJ^π of initial and final levels.
& 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.
[a] Multiply placed with intensity suitably divided.
[b] Placement of transition in the level scheme is uncertain.

$^{131}_{53}I_{78}$-10

Legend

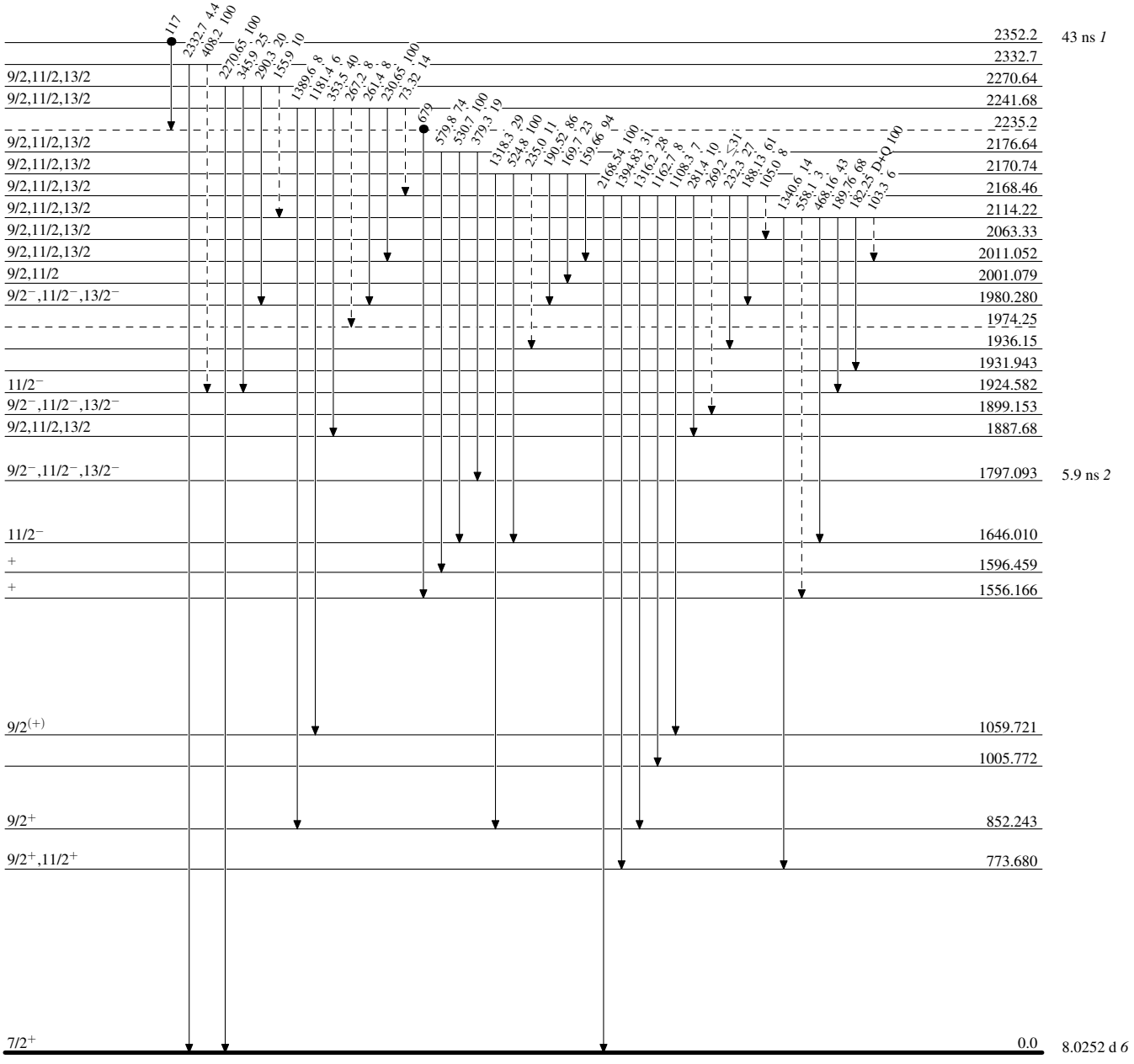
Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

● Coincidence



$^{131}_{53}I_{78}$

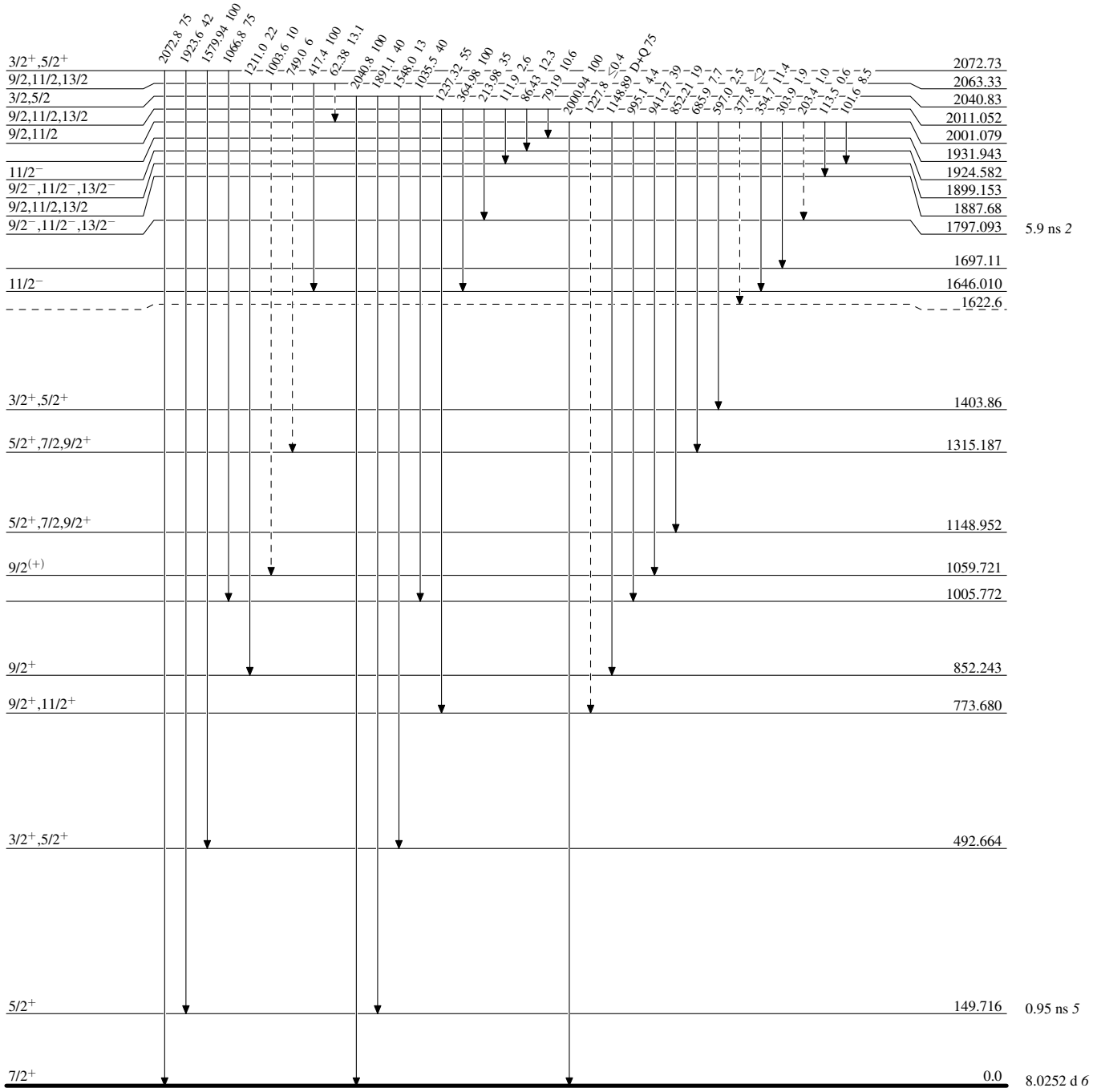
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{131}_{53}I_{78}$

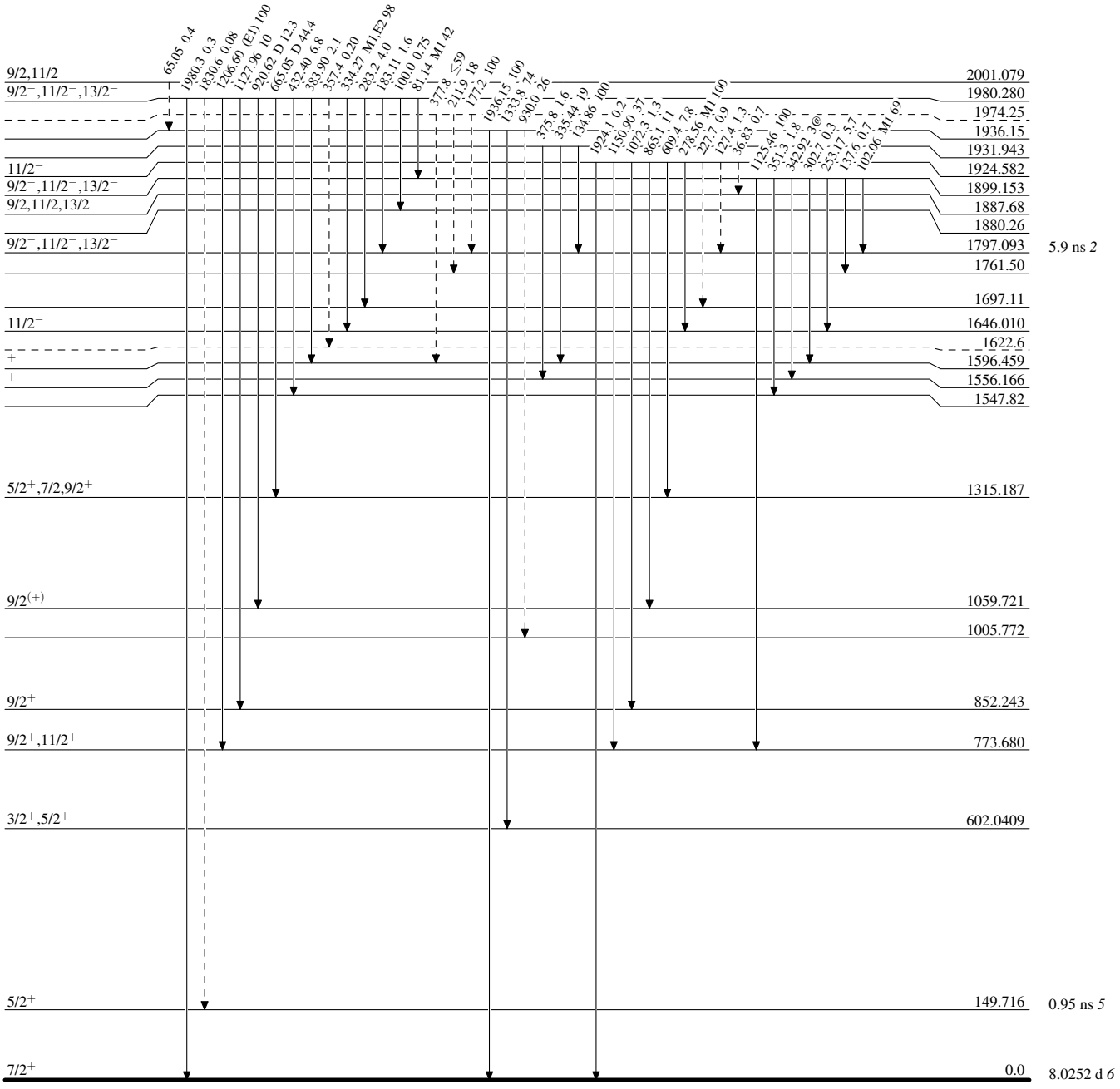
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



$^{131}_{53}I_{78}$

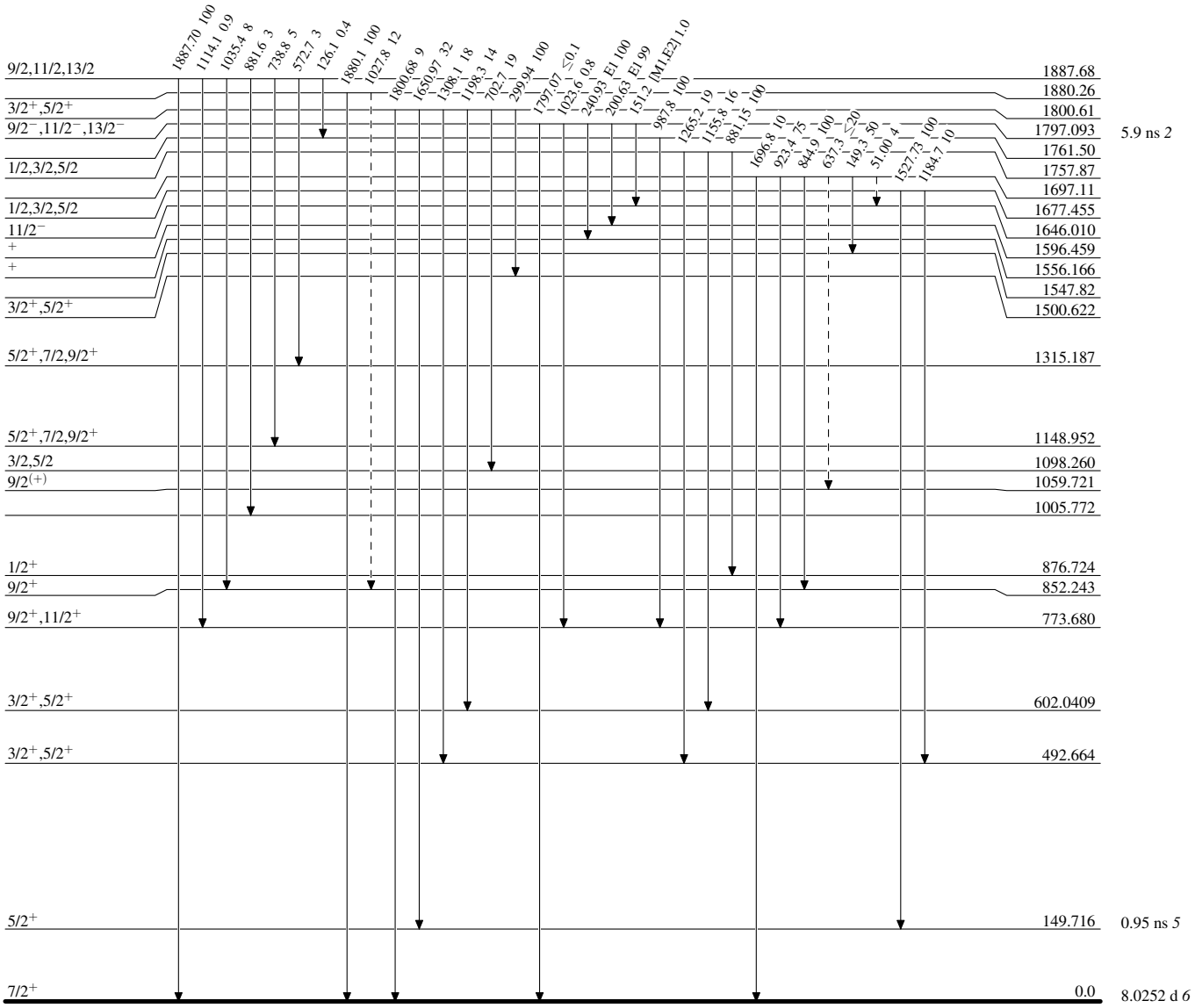
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



$^{131}_{53}I_{78}$

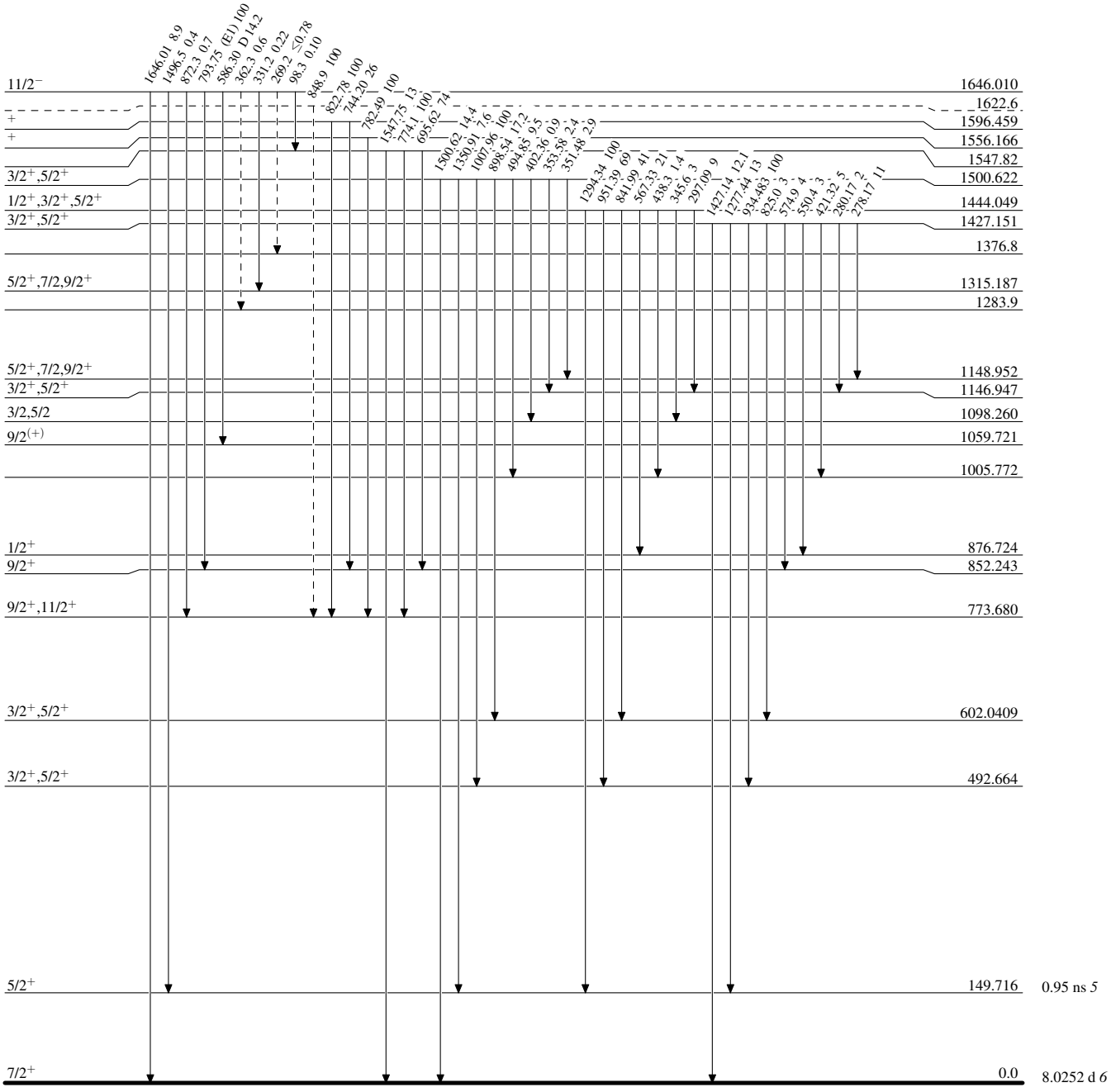
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



$^{131}_{53}I_{78}$

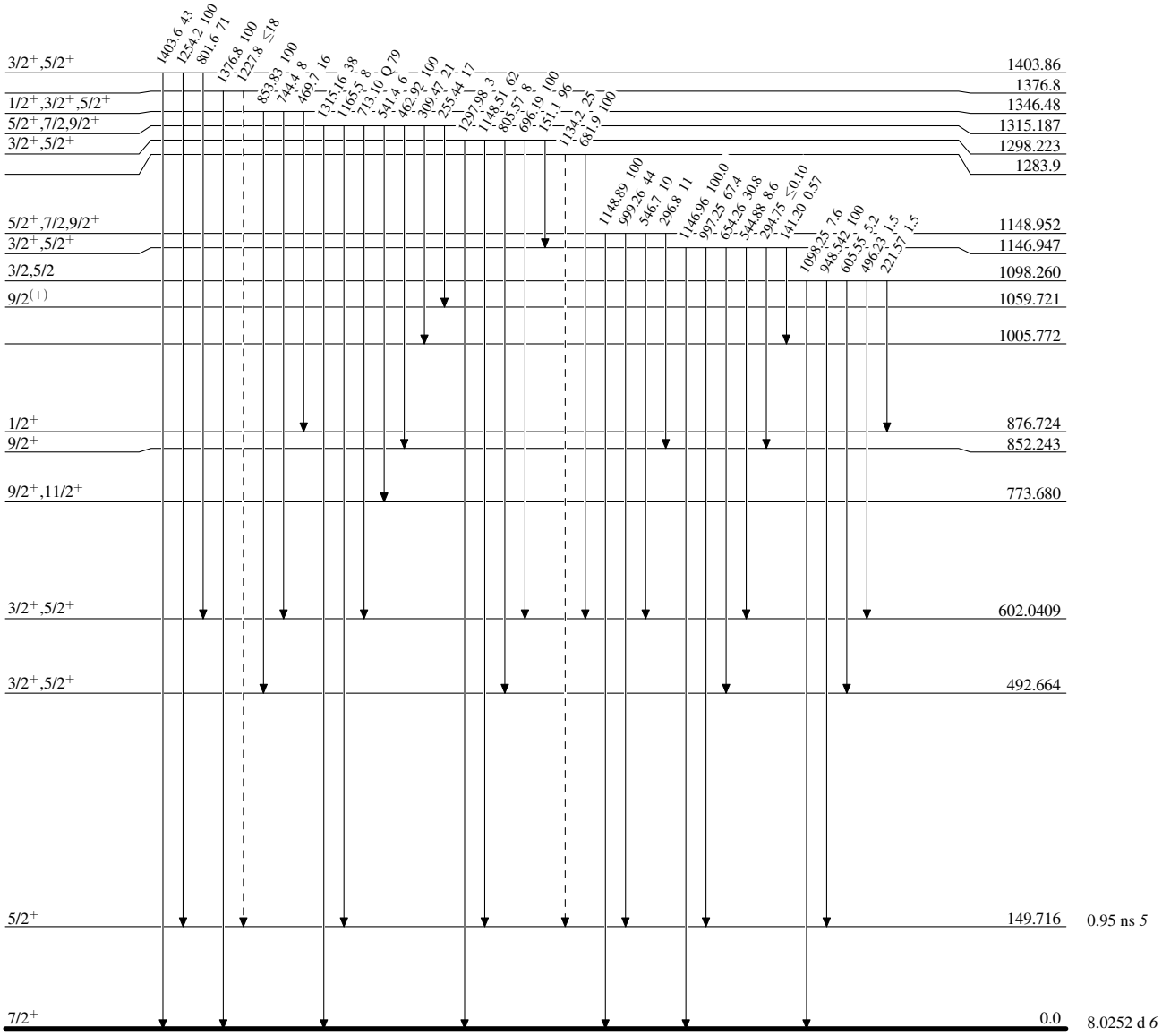
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

- - - - - - ► γ Decay (Uncertain)



$^{131}_{53}I_{78}$

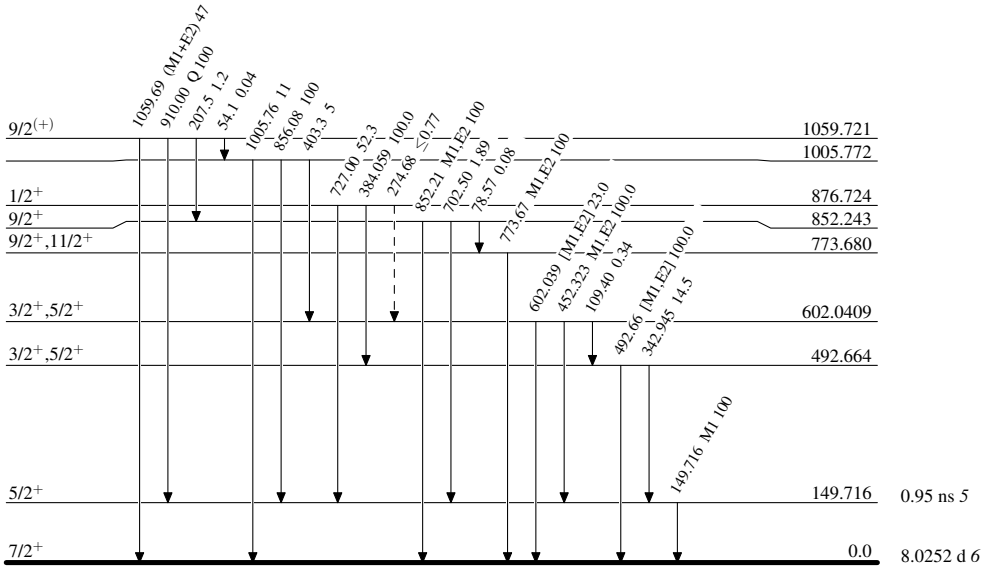
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



$^{131}_{53}I_{78}$