^{192}Tl ε decay (9.6 min+10.8 min) 1981So09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 1871 (2012)	15-Jun-2012

Parent: ^{192}Tl: E=0.0; $J^\pi=(2^-)$; $T_{1/2}$=9.6 min *4*; Q(ε)=6140 *35*; %ε+%β^+ decay=100.0

Parent: ^{192}Tl: E=138 *45*; $J^\pi=(7^+)$; $T_{1/2}$=10.8 min *2*; Q(ε)=6140 *35*; %ε+%β^+ decay=100.0

Others: 1961An03, 1963Di10, 1966Pe06, 1967Na14, 1968Pe13, 1975Va20.

The mixed-source decay scheme and data are from 1981So09, except where noted. Sources (preferential population of (2^-) ^{192}Tl): daughter of ^{192}Pb produced in ^{180}W(^{16}O,4n), E(^{16}O)=100 MeV or ^{182}W(^{16}O,6n), E(^{16}O)=143 MeV or ^{nat}W(^{16}O,xn), E=113 MeV. Sources (preferred population of (7^+) ^{192}Tl): ^{180}W(^{16}O,p3n), E(^{16}O)=100 MeV; ^{182}W(^{16}O,p5n), E(^{16}O)=143 MeV; ^{181}Ta(^{16}O,5n), E(^{16}O)=133 MeV. 1981So09 measured Eγ, Iγ (Ge(Li), FWHM=2.1 keV at 1332 keV), E(ce), Ice (Si(Li), FWHM=2.3 keV at 973 keV), γγ coin, γγ(t).

No sources of either pure (2^-) ^{192}Tl or pure (7^+) ^{192}Tl could be produced, and the similarity between the half-lives of the two isomers makes it difficult to associate radiations with a specific isomer. The combined decay scheme shows Iγ values for a source enhanced in (7^+) ^{192}Tl; individual ε feedings are not indicated. Iγ values for source enhanced in (2^-) ^{192}Tl are given in comments.

^{192}Hg Levels

E(level)†	J^π‡	$T_{1/2}$‡	Comments
0.0	0^+	4.85 h *20*	
422.79 *10*	2^+		
1057.58 *14*	4^+		
1113.60 *14*	$(2)^+$		
1535.2 *4*	$(3)^+$		
1732.98 *16*	$(4)^+$		
1803.06 *16*	6^+		
1831.62 *21*	$(2^+,3,4^+)$		J^π: 1981So09 favor J=3,4 based on relative Iγ from sources having different isomeric composition.
1843.90 *16*	$(5)^-$		
1844.59 *23*	(3,4)		J^π: 1981So09 favor J=3,4 based on relative Iγ from sources having different isomeric composition.
1908.58 *25*	$1,2^+$		
1977.03 *17*	$(7)^-$	1.04 ns *6*	
2056.29 *23*	$(1,2^+)$		
2081.69 *23*	$(1,2^+)$		
2186.98 *21*	$(6)^-$		
2216.2 *3*	$(8)^-$	0.92 ns *5*	
2223.8 *3*	$(9)^-$		
2276.9 *4*	$1,2^+$		
2284.7 *5*			
2300.7 *3*	$(6,7,8)^-$		
2447.2 *3*	8^+		
2534.2? *5*			

† From least-squares fit to Eγ, omitting data for transitions which are tentatively- or multiply-placed.

‡ Adopted values. See 1981So09 for authors′ preferred J^π, based on Iγ(high-J decay)/Iγ(low-J decay) for individual transitions.

γ(^{192}Hg)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
133.1 *1*	4.34 *23*	1977.03	(7)$^-$	1843.90	(5)$^-$	E2		1.740	α(K)=0.419 *6*; α(L)=0.988 *15*; α(M)=0.258 *4*; α(N+..)=0.0747 *11* α(N)=0.0640 *10*; α(O)=0.01067 *16*; α(P)=5.68×10^{-5} *8* Iγ(low-J enhanced source)=1.06 *6*. Iγ(low J):Iγ(high J)=0.21:5.41. K/L=0.48 *13*, α(L)exp=0.91 *10* (1975Va20); α(L)exp=1.2 *3* (1981So09); α(L)exp=1.1 *3* (1968Pe13).
174.0 *1*	9.6 *5*	1977.03	(7)$^-$	1803.06	6$^+$	E1		0.1048	α(K)=0.0853 *12*; α(L)=0.01495 *21*; α(M)=0.00348 *5*; α(N+..)=0.001028 *15* α(N)=0.000862 *13*; α(O)=0.0001561 *22*; α(P)=8.98×10^{-6} *13* Iγ(low-J enhanced source)=2.66 *14*. Iγ(low J):Iγ(high J)=0.33:11.9. K/L=4.4 *16*, α(K)exp=0.077 *12* (1975Va20); α(K)exp=0.020 *3* (1981So09). Other α(K)exp: 0.067 *20* (1968Pe13).
[x]201.7 *3*	0.33 *5*								Iγ(low-J enhanced source)=0.16 *6*. Iγ(low J):Iγ(high J)=0.12:0.38.
[x]204.5 *3*	0.16 *5*								Iγ(low-J enhanced source)=0.03 *2*. Iγ(low J):Iγ(high J)=0.64:0.09.
239.2 *2*	2.96 *18*	2216.2	(8)$^-$	1977.03	(7)$^-$	M1+E2	0.64 *11*	0.54 *4*	α(K)=0.42 *4*; α(L)=0.0886 *16*; α(M)=0.0212 *4*; α(N+..)=0.00633 *10* α(N)=0.00530 *8*; α(O)=0.000974 *18*; α(P)=5.9×10^{-5} *5* Iγ(low-J enhanced source)=1.18 *10*. Iγ(low J):Iγ(high J)=0.53:3.54. δ: adopted value; δ=0.81 *15* from α(K)exp (1975Va20), 1.1 *3* from K/L. δ=1.79 *+24−19* from α(K)exp of 1981So09 appears to be erroneous. K/L=3.7 *7* (1975Va20); α(K)exp=0.22 *2* (1981So09), 0.39 *4* (1975Va20).
246.8 *2*	1.19 *7*	2223.8	(9)$^-$	1977.03	(7)$^-$	E2[a]		0.194	α(K)=0.1015 *15*; α(L)=0.0699 *10*; α(M)=0.0179 *3*; α(N+..)=0.00522 *8* α(N)=0.00445 *7*; α(O)=0.000759 *11*; α(P)=1.284×10^{-5} *19* Iγ(low-J enhanced source)=0.33 *7*. Iγ(low J):Iγ(high J)=0.02:1.45. K/L=1.6 *8* (1975Va20); α(K)exp=0.10 *4* (1975Va20).
[x]311.9 *2*	1.18 *8*					M1+E2	0.66 *22*	0.25 *4*	α(K)=0.20 *3*; α(L)=0.0395 *24*; α(M)=0.0094 *5*; α(N+..)=0.00281 *15* α(N)=0.00235 *12*; α(O)=0.00043 *3*; α(P)=2.8×10^{-5} *5* Iγ(low-J enhanced source)=0.33 *5*. Iγ(low J):Iγ(high J)=−0.08:1.48. α(K)exp=0.21 *3* (1981So09), 0.27 *7* (1975Va20); K/L=3.9 *13* (1975Va20).
323.7 *2*	2.51 *14*	2300.7	(6,7,8)$^-$	1977.03	(7)$^-$	M1+E2	0.75 *+17−16*	0.218 *22*	α(K)=0.173 *20*; α(L)=0.0346 *17*; α(M)=0.0082 *4*; α(N+..)=0.00246 *11* α(N)=0.00206 *9*; α(O)=0.000380 *19*; α(P)=2.4×10^{-5} *3* Iγ(low-J enhanced source)=0.87 *7*. Iγ(low J):Iγ(high J)=0.23:3.04. K/L=5.6 *19* (1975Va20); α(K)exp=0.18 *2* (1981So09). Other α(K)exp: 0.32 *7* (1975Va20).
343.1 *2*	1.9 *4*	2186.98	(6)$^-$	1843.90	(5)$^-$	M1		0.251	α(K)=0.206 *3*; α(L)=0.0343 *5*; α(M)=0.00796 *12*;

$^{192}_{80}Hg_{112}$-2

γ(^{192}Hg) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
									α(N+..)=0.00240 *4* α(N)=0.00200 *3*; α(O)=0.000378 *6*; α(P)=2.90×10^{-5} *4* May include component from ^{192}Pb (1981So09). Iγ(low-J enhanced source)=0.24 *9*. Iγ(low J):Iγ(high J)=−0.42:2.45. K/L=4.6 *26* (1975Va20); α(K)exp=0.30 *10* (1981So09), 0.15 *7* (1975Va20).
[x]375.2 *2*	0.87 *6*					M1+E2	1.2 *+4−3*	0.114 *21*	α(K)=0.088 *18*; α(L)=0.0196 *18*; α(M)=0.0047 *4*; α(N+..)=0.00140 *12* α(N)=0.00118 *10*; α(O)=0.000215 *20*; α(P)=1.2×10^{-5} *3* Iγ(low-J enhanced source)=0.28 *6*. Iγ(low J):Iγ(high J)=0.12:1.05. α(K)exp=0.091 *16* (1981So09). K/L=1.7 *6*, α(K)exp=0.100 *21* (1975Va20).
383.9 *2*	2.52 *14*	2186.98	(6)$^-$	1803.06	6$^+$	E1		0.01579	α(K)=0.01305 *19*; α(L)=0.00210 *3*; α(M)=0.000486 *7*; α(N+..)=0.0001450 *21* α(N)=0.0001211 *17*; α(O)=2.24×10^{-5} *4*; α(P)=1.504×10^{-6} *22* Mult.: adopted value. Iγ(low-J enhanced source)=0.69 *9*. Iγ(low J):Iγ(high J)=0.14:3.08. α(K)exp=0.021 *4* (1981So09); value lies mid-way between E1 and E2 theoretical values.
[x]397.5 *3*	0.92 *9*					M1+E2	1.08 *6*	0.104 *4*	α(K)=0.082 *4*; α(L)=0.0170 *4*; α(M)=0.00406 *9*; α(N+..)=0.00121 *3* α(N)=0.001016 *23*; α(O)=0.000187 *5*; α(P)=1.13×10^{-5} *5* Iγ(low-J enhanced source)=0.28 *5*. Iγ(low J):Iγ(high J)=8.04:1.13. α(K)exp=0.084 *3* (1981So09). Other α(K)exp: 0.067 *20* (1975Va20).
422.8 *1*	100	422.79	2$^+$	0.0	0$^+$	E2[a]		0.0410	α(K)=0.0282 *4*; α(L)=0.00967 *14*; α(M)=0.00240 *4*; α(N+..)=0.000708 *10* α(N)=0.000599 *9*; α(O)=0.0001055 *15*; α(P)=3.72×10^{-6} *6* Iγ(low-J enhanced source)=100. Iγ(low J):Iγ(high J)=100:100. K/L=2.9 *3* (1975Va20).
[x]445.2 *3*	1.34 *16*								Iγ(low J):Iγ(high J)=−0.87:1.86.
[x]451.7 *3*	2.14 *21*								Iγ(low J):Iγ(high J)=−1.36:2.96.
[x]456.5 *3*	1.2 *4*								Iγ(low J):Iγ(high J)=−0.61:1.66.
[x]472.2 *3*	0.48 *6*								Iγ(low J):Iγ(high J)=−0.21:0.82.
477.6 *3*	0.60 *7*	1535.2	(3)$^+$	1057.58	4$^+$	M1(+E2)	0.4 *+5−4*	0.093 *23*	α(K)=0.076 *20*; α(L)=0.0130 *24*; α(M)=0.0030 *6*; α(N+..)=0.00091 *16* α(N)=0.00076 *13*; α(O)=0.00014 *3*; α(P)=1.1×10^{-5} *3* Iγ(low-J enhanced source)=1.23 *12*. Iγ(low J):Iγ(high J)=1.29:0.44. Mult.: from α(K)exp=0.080 *22* (1975Va20).
[x]479.5 *3*	0.85 *8*								Iγ(low J):Iγ(high J)=0.13:1.02.
[x]535.5 *3*	0.52 *6*								Iγ(low J):Iγ(high J)=0.02:0.64.
[x]544.1 *2*	0.91 *8*								Iγ(low J):Iγ(high J)=0.05:1.11.
[x]559.5 *2*	1.63 *13*					M1		0.0682	α(K)=0.0562 *8*; α(L)=0.00922 *13*; α(M)=0.00214 *3*; α(N+..)=0.000646 *9* α(N)=0.000537 *8*; α(O)=0.0001016 *15*; α(P)=7.84×10^{-6} *11* α(K)exp=0.055 *12* (1981So09). Other α(K)exp: 0.033 *17* (1975Va20). Iγ(low J):Iγ(high J)=0.42:1.41.

$^{192}_{80}Hg_{112}$-3

γ(^{192}Hg) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[†]	Comments
[x]584.1 *1*	1.92 *16*					E2		0.0187	α(K)=0.01400 *20*; α(L)=0.00357 *5*; α(M)=0.000867 *13*; α(N+..)=0.000257 *4* α(N)=0.000216 *3*; α(O)=3.90×10^{-5} *6*; α(P)=1.86×10^{-6} *3* Iγ(low-J enhanced source)=0.91 *10*. Iγ(low J):Iγ(high J)=0.76:2.19. α(K)exp=0.017 *4* (1981So09). Other α(K)exp: 0.040 *14* (1975Va20).
[x]595.9 *2*	1.09 *12*								Iγ(low-J enhanced source)=0.49 *8*. Iγ(low J):Iγ(high J)=0.55:1.22.
619.4 *2*	1.79 *12*	1732.98	(4)$^+$	1113.60	(2)$^+$	E2		0.01637	α(K)=0.01240 *18*; α(L)=0.00302 *5*; α(M)=0.000732 *11*; α(N+..)=0.000217 *3* α(N)=0.000183 *3*; α(O)=3.30×10^{-5} *5*; α(P)=1.645×10^{-6} *23* Iγ(low-J enhanced source)=1.43 *10*. Iγ(low J):Iγ(high J)=1.10:1.9. α(K)exp=0.009 *3*. Other α(K)exp: 0.023 *16* (1975Va20).
634.8 *1*	76 *4*	1057.58	4$^+$	422.79	2$^+$	E2[a]		0.01550	α(K)=0.01179 *17*; α(L)=0.00282 *4*; α(M)=0.000683 *10*; α(N+..)=0.000203 *3* α(N)=0.0001704 *24*; α(O)=3.08×10^{-5} *5*; α(P)=1.564×10^{-6} *22* Iγ(low-J enhanced source)=30.0 *15*. Iγ(low J):Iγ(high J)=11.0:91.1. K/L=3.9 *11*, α(K)exp=0.0113 *18* (1975Va20). Other α(K)exp: 0.013 *4* (1968Pe13).
644.1 *2*	1.7 *3*	2447.2	8$^+$	1803.06	6$^+$	(E2)[a]		0.01501	α(K)=0.01145 *16*; α(L)=0.00271 *4*; α(M)=0.000655 *10*; α(N+..)=0.000195 *3* α(N)=0.0001636 *23*; α(O)=2.96×10^{-5} *5*; α(P)=1.518×10^{-6} *22* Iγ(low J):Iγ(high J)=−0.05:2.1. α(K)exp=0.042 *11* (1981So09). Mult.: α(K)exp implies mult=M1, in disagreement with stretched Q assignment from reaction data.
675.4 *1*	2.51 *23*	1732.98	(4)$^+$	1057.58	4$^+$	M1+E2	0.7 *+3−2*	0.032 *5*	α(K)=0.027 *5*; α(L)=0.0046 *6*; α(M)=0.00106 *13*; α(N+..)=0.00032 *4* α(N)=0.00027 *4*; α(O)=5.0×10^{-5} *7*; α(P)=3.7×10^{-6} *6* Iγ(low-J enhanced source)=1.48 *11*. Iγ(low J):Iγ(high J)=1.33:3.03. α(K)exp=0.027 *4*. Other α(K)exp: 0.022 *11* (1975Va20).
690.8 *1*	6.7 *4*	1113.60	(2)$^+$	422.79	2$^+$	M1+E2	1.7 *+5−3*	0.0197 *23*	α(K)=0.0157 *20*; α(L)=0.0030 *3*; α(M)=0.00072 *6*; α(N+..)=0.000215 *19* α(N)=0.000179 *15*; α(O)=3.3×10^{-5} *3*; α(P)=2.1×10^{-6} *3* Iγ(low-J enhanced source)=12.6 *6*. Iγ(low J):Iγ(high J)=14.7:4.78. K/L=2.3 *17* (1975Va20); α(K)exp=0.016 *2* (1981So09). Other α(K)exp: 0.016 *5* (1968Pe13), 0.015 *4* (1975Va20).
[x]714.7 *3*	1.83 *20*								Iγ(low-J enhanced source)=0.62 *15*. Iγ(low J):Iγ(high J)=0.14:2.2.

$^{192}_{80}Hg_{112}$-4

^{192}Tl ε decay (9.6 min+10.8 min) 1981So09 (continued)

γ(^{192}Hg) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
717.9 *3*	1.41 *16*	1831.62	(2$^+$,3,4$^+$)	1113.60	(2)$^+$			Iγ(low-J enhanced source)=1.39 *2*. Iγ(low J):Iγ(high J)=1.4:1.4.
x733.0 *2*	1.05 *16*							Iγ(low J):Iγ(high J)=0.73:1.13.
745.5 *1*	26.8 *14*	1803.06	6$^+$	1057.58	4$^+$	E2	0.01095	α(K)=0.00854 *12*; α(L)=0.00184 *3*; α(M)=0.000441 *7*; α(N+..)=0.0001315 *19* α(N)=0.0001102 *16*; α(O)=2.01×10^{-5} *3*; α(P)=1.130×10^{-6} *16* Iγ(low-J enhanced source)=6.2 *3*. Iγ(low J):Iγ(high J)=−1.9:33.5. K/L=7 *5* (1975Va20); α(K)exp=0.010 *3* (1981So09), 0.009 *3* (1968Pe13), 0.0088 *22* (1975Va20).
774.1 *2*	1.15 *11*	1831.62	(2$^+$,3,4$^+$)	1057.58	4$^+$			Iγ(low-J enhanced source)=0.98 *9*. Iγ(low J):Iγ(high J)=0.86:1.22.
786.3 *1*	31.7 *16*	1843.90	(5)$^-$	1057.58	4$^+$	E1	0.00360 *5*	α=0.00360 *5*; α(K)=0.00300 *5*; α(L)=0.000456 *7*; α(M)=0.0001048 *15*; α(N+..)=3.14×10^{-5} *5* α(N)=2.62×10^{-5} *4*; α(O)=4.91×10^{-6} *7*; α(P)=3.61×10^{-7} *5* Iγ(low-J enhanced source)=8.5 *4*. Iγ(low J):Iγ(high J)=−1.4:39.5. K/L=3.5 *20* (1975Va20); α(K)exp=0.0033 *4* (1981So09), 0.0025 *7* (1975Va20), 0.0030 *9* (1968Pe13).
x796.7 *3*	0.66 *11*							Iγ(low-J enhanced source)=2.29 *14*. Iγ(low J):Iγ(high J)=3.0:0.01.
x808.7 *2*	0.58 *9*							Iγ(low J):Iγ(high J)=0.44:0.61.
x856.0 *2*	0.36 *11*							Coincident with several placed γ's (1981So09). Iγ(low J):Iγ(high J)=1.02:0.21.
x857.2 *2*	0.58 *12*							Iγ(low-J enhanced source)=0.83 *23*. Iγ(low J):Iγ(high J)=1.08:0.46.
x867.2 *3*	0.65 *9*							Iγ(low J):Iγ(high J)=0.45:0.70.
x919.3 *2*	0.77 *11*							Iγ(low-J enhanced source)=0.27 *8*. Iγ(low J):Iγ(high J)=0.57:0.82.
999.0[d] *3*	0.41 *7*	2534.2?		1535.2	(3)$^+$			Iγ(low-J enhanced source)=0.93 *10*. Iγ(low J):Iγ(high J)=1.05:0.26.
1113.0[c] *2*	≈1.6[c]	1113.60	(2)$^+$	0.0	0$^+$	(E2)[b]	0.00490 *7*	α=0.00490 *7*; α(K)=0.00397 *6*; α(L)=0.000714 *10*; α(M)=0.0001677 *24*; α(N+..)=5.05×10^{-5} *7* α(N)=4.19×10^{-5} *6*; α(O)=7.80×10^{-6} *11*; α(P)=5.20×10^{-7} *8*; α(IPF)=2.74×10^{-7} *5* Iγ(exp)=6.5 *4* was estimated to be 25% from 2$^+$ level placement and 75% from 3$^+$ level placement on basis of coincidence data and Iγ, as determined for several mixtures of two parent isomers (1981So09). Iγ(low-J enhanced source)=13.1 *7* for doublet; ≈42% of this (i.e., ≈5.5 *3*) deexcites the 1114 level, based on γγ coin data (1981So09). Iγ(low J):Iγ(high J)=15.5:4.37.
1113.0[c] *2*	≈4.9[c]	1535.2	(3)$^+$	422.79	2$^+$	M1,E2[b]	0.008 *4*	α=0.008 *4*; α(K)=0.007 *3*; α(L)=0.0011 *5*; α(M)=0.00026 *10*; α(N+..)=8.E−5 *3* α(N)=6.6×10^{-5} *24*; α(O)=1.2×10^{-5} *5*; α(P)=9.E−7 *4*; α(IPF)=3.7×10^{-7} *10* I_γ: see comments on I(1113γ) from 1114 level.
x1129.3 *4*	0.48 *9*							Iγ(low-J enhanced source)=1.13 *11*. Iγ(low J):Iγ(high J)=1.56:0.23.
1171.1 *4*	0.46 *7*	2284.7		1113.60	(2)$^+$			Iγ(low-J enhanced source)=1.67 *14*. Iγ(low J):Iγ(high J)=2.43:0.01.
x1250.5 *3*	1.11 *9*							Iγ(low J):Iγ(high J)=0.01:1.35.
x1265.9 *3*	0.84 *9*							Iγ(low J):Iγ(high J)=0.43:0.80.
x1284.8 *3*	0.58 *6*							Iγ(low J):Iγ(high J)=0.40:0.62.
x1345.1 *3*	0.91 *10*							Iγ(low J):Iγ(high J)=0.47:1.01.

$^{192}_{80}Hg_{112}$-5

γ(^{192}Hg) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
[x]1365.5 *3*	1.06 *10*					Iγ(low J):Iγ(high J)=0.11:1.38.
[x]1375.5 *3*	0.85 *9*					Iγ(low J):Iγ(high J)=0.31:0.98.
[x]1380.0 *3*	0.65 *9*					Iγ(low J):Iγ(high J)=0.53:0.68.
1421.8 *2*	2.21 *19*	1844.59	(3,4)	422.79	2^+	Iγ(low-J enhanced source)=2.89 *20*. Iγ(low J):Iγ(high J)=3.18:1.98. α(K)exp<0.0037.
1486.1 *4*	0.47 *9*	1908.58	$1,2^+$	422.79	2^+	Iγ(low-J enhanced source)=0.83 *10*. Iγ(low J):Iγ(high J)=1.31:0.27.
1633.5 *2*	0.66 *11*	2056.29	$(1,2^+)$	422.79	2^+	Iγ(low-J enhanced source)=1.67 *13*. Iγ(low J):Iγ(high J)=2.48:0.23.
1658.9 *2*	0.90 *13*	2081.69	$(1,2^+)$	422.79	2^+	Iγ(low-J enhanced source)=2.30 *18*. Iγ(low J):Iγ(high J)=2.71:0.47.
[x]1687.0 *3*	0.76 *10*					Iγ(low-J enhanced source)=0.75 *10*. Iγ(low J):Iγ(high J)=0.66:0.78.
[x]1694.5 *4*	0.25 *8*					Iγ(low-J enhanced source)=0.71 *10*. Iγ(low J):Iγ(high J)=1.16:0.04.
[x]1726.9 *5*	0.68 *12*					Iγ(low-J enhanced source)=0.96 *9*. Iγ(low J):Iγ(high J)=1.35:0.52.
[x]1759.1 *4*	0.43 *13*					Iγ(low-J enhanced source)=0.42 *7*. Iγ(low J):Iγ(high J)=0.41:0.44.
1854.0 *4*	0.22 *5*	2276.9	$1,2^+$	422.79	2^+	Iγ(low-J enhanced source)=0.82 *8*. Iγ(low J):Iγ(high J)=1.64:−0.11.
[x]1860.6 *5*	0.26 *5*					Iγ(low-J enhanced source)=0.61 *8*. Iγ(low J):Iγ(high J)=1.23:0.03.
1908.4 *3*	0.45 *7*	1908.58	$1,2^+$	0.0	0^+	Iγ(low-J enhanced source)=1.23 *10*. Iγ(low J):Iγ(high J)=2.01:0.08.
[x]1926.7 *5*	0.28 *6*					Iγ(low-J enhanced source)=0.52 *7*. Iγ(low J):Iγ(high J)=0.82:0.15.
[x]2024.7 *4*	0.13 *7*					Iγ(low-J enhanced source)=0.67 *8*. Iγ(low J):Iγ(high J)=1.08:0.17.
[x]2053.0 *6*	0.31[&] *7*					Iγ(low-J enhanced source)=1.04 *23* for 2053.0γ+2056.0γ. Iγ(low J):Iγ(high J)=1.47:0.04 for doublet.
2056.0[d] *6*	0.31[&] *7*	2056.29	$(1,2^+)$	0.0	0^+	Iγ(low-J enhanced source)=1.04 *23* for 2053.0γ+2056.0γ. Iγ(low J):Iγ(high J)=1.47:0.04.
2081.9[d] *6*		2081.69	$(1,2^+)$	0.0	0^+	Iγ(low-J enhanced source)=0.08 *3*.
[x]2116.3 *3*	0.57 *13*					Iγ(low-J enhanced source)=1.99 *16*. Iγ(low J):Iγ(high J)=3.22:−0.05.
[x]2147.4 *6*	0.34 *7*					Iγ(low-J enhanced source)=0.80 *13*. Iγ(low J):Iγ(high J)=1.09:0.17.
[x]2167.4 *5*	0.32 *7*					Iγ(low-J enhanced source)=0.72 *10*. Iγ(low J):Iγ(high J)=1.43:0.06.
[x]2262.7 *4*	0.35 *7*					Iγ(low-J enhanced source)=1.23 *13*. Iγ(low J):Iγ(high J)=1.78:0.01.
2277.0 *6*	0.09 *5*	2276.9	$1,2^+$	0.0	0^+	Iγ(low-J enhanced source)=0.48 *8*. Iγ(low J):Iγ(high J)=0.96:−0.12.
[x]2300.0 *4*	0.42 *7*					Iγ(low-J enhanced source)=1.26 *11*. Iγ(low J):Iγ(high J)=2.40:−0.04.

[†] Additional information 1.

[‡] Intensity relative to I(423γ)=100. Values are from singles run using source most enhanced in (7^+) ^{192}Tl (from ^{180}W(^{16}O,4nγ) at 100 MeV). Iγ values from singles run using source most enhanced in (2^-) ^{192}Tl (from W(^{16}O,xnγ) at 113 MeV) are given in comments when available, along with authors′ calculated Iγ(low J):Iγ(high J) (estimates of Iγ for individual isomer decays) deduced using spectra from sources containing several different proportions of the parent isomers.

[#] From experimental conversion coefficients, determined by simultaneous measurement of ce and photon spectra (equipment calibrated assuming α(K)(E2 theory) for 422.8γ and 634.8γ) (1981So09), except where noted. Data from 1975Va20 were normalized so α(K)exp(423)=α(K)(E2 theory); see 1975Va20 for some additional data.

[@] From α(K)exp, except where noted.

[&] Combined value for 2053.0γ and 2056.0γ.

[a] From Adopted Gammas.

[b] α(K)exp=0.0077 *13* (1981So09) for composite 1113.0 peak corresponds to M1+E2, with δ=0.8 *4*; this α(K)exp rules out E1 for the (stronger) component placed

$\gamma(^{192}\text{Hg})$ (continued)

from the 1535 level, and is consistent with pure M1 for the latter if the component placed from the 2^+ 1113 level is taken to be pure E2. From the level scheme, $\Delta\pi$=no for the 1113γ from 1113 level and, since it feeds the 0^+ g.s., its mult must be pure. Other α(K)exp: 0.0042 *21* (1975Va20), possibly for different mixture of parent isomers.

[c] Multiply placed with intensity suitably divided.

[d] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

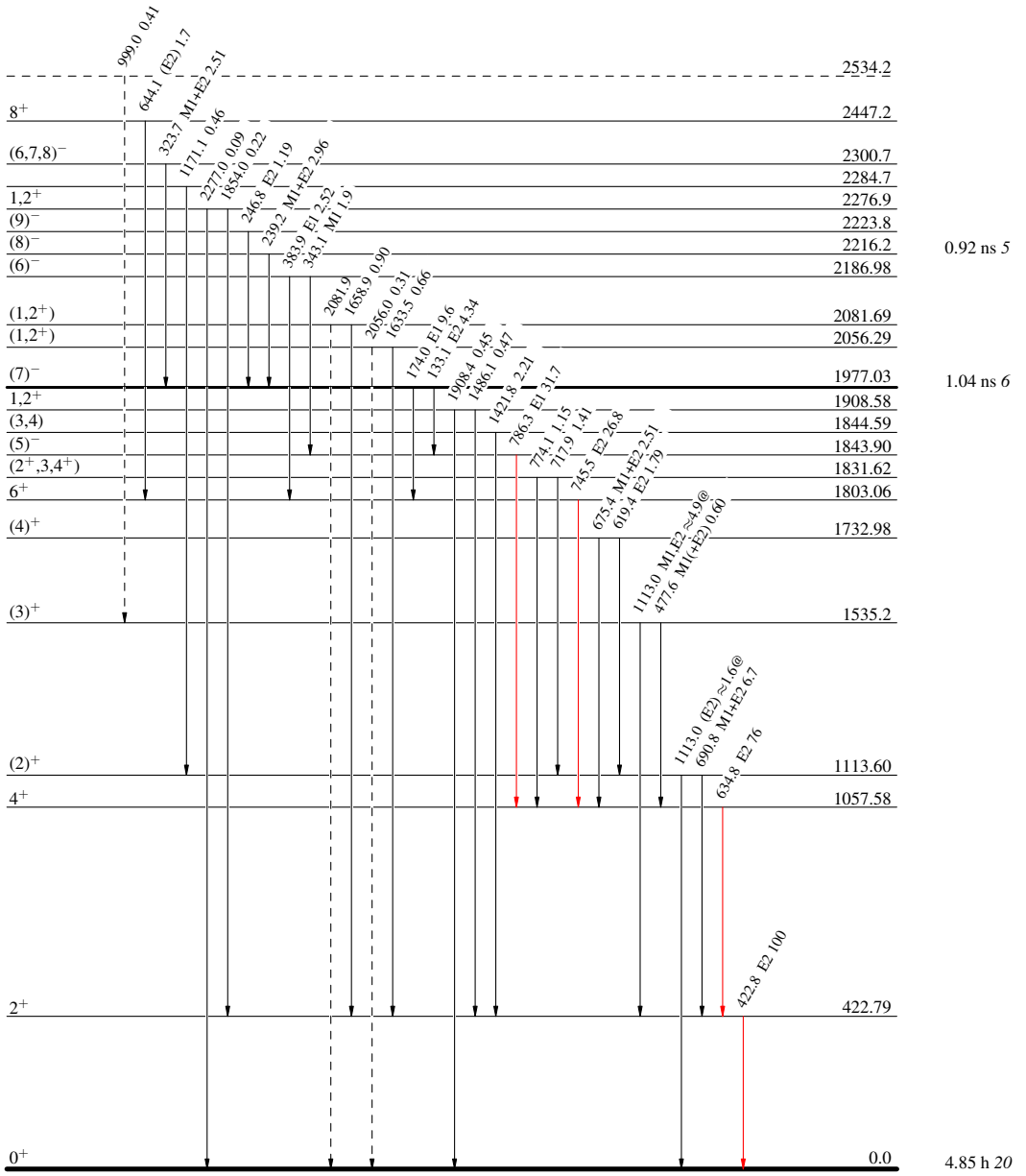
^{192}Tl ε decay (9.6 min+10.8 min) 1981So09

Decay Scheme

Intensities: Relative Iγ for source enhanced In (7^+) ^{192}Tl
@ Multiply placed: intensity suitably divided

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)

(7^+) 138 10.8 min 2
%ε + %β⁺=100.0 Qε=6140 35
(2^-) 0.0 9.6 min 4
%ε + %β⁺=100.0 Qε=6140 35
$^{192}_{81}Tl_{111}$



$^{192}_{80}Hg_{112}$