

^{200}Tl ε decay [1971Ko03](#),[1971Ha09](#),[1965Sa02](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

Parent: ^{200}Tl : $E=0$; $J^\pi=2^-$; $T_{1/2}=26.1$ h I ; $Q(\varepsilon)=2456$ eV; $\% \varepsilon + \% \beta^+$ decay=100

[1971Ko03](#): Source: ^{200}Tl obtained in $\text{Au} + \alpha$ at 22 MeV and $\text{Hg} + d$ at 14 MeV; Detectors: two Ge(Li), one NaI(Tl), anti-Compton spectrometer and Ge(Li) LEPS detector; Measured: γ , $\gamma\gamma$, $E\gamma$, $I\gamma$ Deduced: level scheme, J^π .

[1971Ha09](#): Source: ^{200}Tl produced in $^{197}\text{Au}(\alpha,n)$ reaction at $E(\alpha)=43$ MeV; Detectors: one coaxial Ge(Li) and one NaI(Tl). The two detectors' front ends were shielded with 1mm Cd to suppress the Hg x-rays; the Ge(Li) was shielded by a lead cone; Measured: γ , $\gamma\gamma$, $\gamma\gamma(\theta)$, $E\gamma$; Deduced: level scheme, J^π , δ .

[1965Sa02](#): Source: ^{200}Pb source is obtained in $\text{Tl}(p,xn)\text{Pb}$ reaction at $E(p)=56$ MeV. The daughter ^{200}Tl is chemically separated from ^{200}Pb ; Detectors: sector-type double focusing beta-ray spectrometer, two NaI(Tl); Measured: γ , $\gamma\gamma$, $\gamma\gamma(\theta)$, $E\gamma$, $I\gamma$, $ce\gamma$, $ce\gamma(\theta)$ Ice; Deduced: level scheme, J^π , δ .

Others: [2019OI05](#), [1969Ho03](#), [1962Ja10](#), [1962Va10](#), [1961Le17](#), [1960Gu01](#), [1957He43](#), [1956Ge44](#).

The decay scheme is mainly based on [1971Ko03](#). A number of γ transitions were placed from the adopted gammas by the evaluator.

 ^{200}Hg Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [‡]	Comments
0.0	0^+	stable	
367.945 9	2^+	46.4 ps 4	$T_{1/2}$: Other: 44 ps 3 from $\gamma\gamma(\Delta t)$ in 2019OI05 .
947.248 10	4^+	3.21 ps 14	
1029.353 6	0^+	8 ps 4	
1254.107 7	2^+	3.5 ps 7	
1515.183 6	0^+		
1570.285 7	1^+		
1573.674 8	2^+		
1593.435 8	2^+		
1630.905 7	1^+		
1641.453 7	2^+		
1659.017 12	3^+		
1718.313 7	1^+		
1730.934 7	2^+		
1734.353 8	3^+		
1775.566 10	3^+		
1845.787 8	3^+		
1856.790 7	0^+		
1882.868 7	2^+		
1972.287 9	$(2)^+$		
1974.346 10	$(3)^+$		
2061.264 7	1^+		
2114.362 11	3^+		
2126.863 9	2^+		
2151.35 10	3^-		
2229.276 13	1^+		
2238.51 22	(3)		
2274.236 11	$(2)^+$		
2288.96 10	2^+		
2296.29 4	1^+		
2331.791 11	2^+		
2343.602 20	$1^+, 2^+, 3^+$		
2370.053 11	1^+		
2388.70 7	$(1, 2, 3)^+$		

Continued on next page (footnotes at end of table)

^{200}Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)** ^{200}Hg Levels (continued)† From a least-squares fit to $E\gamma$.

‡ From Adopted Levels, unless otherwise stated.

						<u>ε, β^+ radiations</u>
<u>E(decay)</u>	<u>E(level)</u>	<u>$I\beta^+$ ‡</u>	<u>$I\varepsilon$ †‡</u>	<u>Log ft</u>	<u>$I(\varepsilon + \beta^+)$ ‡</u>	<u>Comments</u>
(67 6)	2388.70		0.038 4	6.63 11	0.038 4	$\varepsilon\text{L}=0.680$ 10; $\varepsilon\text{M}+=0.320$ 10
(86 6)	2370.053		0.049 7	6.77 11	0.049 7	$\varepsilon\text{K}=0.01$ 5; $\varepsilon\text{L}=0.70$ 3; $\varepsilon\text{M}+=0.298$ 18
(112 6)	2343.602		0.060 7	7.09 11	0.060 7	$\varepsilon\text{K}=0.28$ 7; $\varepsilon\text{L}=0.52$ 5; $\varepsilon\text{M}+=0.206$ 20
(124 6)	2331.791		0.078 9	7.13 10	0.078 9	$\varepsilon\text{K}=0.37$ 5; $\varepsilon\text{L}=0.45$ 4; $\varepsilon\text{M}+=0.175$ 15
(160 6)	2296.29		0.058 6	7.64 7	0.058 6	$\varepsilon\text{K}=0.546$ 20; $\varepsilon\text{L}=0.331$ 14; $\varepsilon\text{M}+=0.123$ 6
(167 6)	2288.96		0.151 17	7.29 7	0.151 17	$\varepsilon\text{K}=0.567$ 18; $\varepsilon\text{L}=0.316$ 12; $\varepsilon\text{M}+=0.117$ 6
(182 6)	2274.236		0.201 13	7.28 6	0.201 13	$\varepsilon\text{K}=0.602$ 13; $\varepsilon\text{L}=0.292$ 9; $\varepsilon\text{M}+=0.106$ 4
(218 6)	2238.51		0.031 6	8.32 10	0.031 6	$\varepsilon\text{K}=0.657$ 8; $\varepsilon\text{L}=0.253$ 6; $\varepsilon\text{M}+=0.0901$ 22
(227 6)	2229.276		0.14 3	7.72 10	0.14 3	$\varepsilon\text{K}=0.667$ 7; $\varepsilon\text{L}=0.246$ 5; $\varepsilon\text{M}+=0.0872$ 19
(305 6)	2151.35		0.014 4	9.06 13	0.014 4	$\varepsilon\text{K}=0.719$ 3; $\varepsilon\text{L}=0.2088$ 20; $\varepsilon\text{M}+=0.0719$ 8
(329 6)	2126.863		0.84 8	7.37 5	0.84 8	$\varepsilon\text{K}=0.7290$ 23; $\varepsilon\text{L}=0.2018$ 16; $\varepsilon\text{M}+=0.0691$ 7
(342 6)	2114.362		0.27 4	7.90 7	0.27 4	$\varepsilon\text{K}=0.7333$ 20; $\varepsilon\text{L}=0.1988$ 15; $\varepsilon\text{M}+=0.0679$ 6
(395 6)	2061.264		0.089 8	8.54 5	0.089 8	$\varepsilon\text{K}=0.7477$ 14; $\varepsilon\text{L}=0.1885$ 10; $\varepsilon\text{M}+=0.0638$ 4
(482 6)	1974.346		0.115 19	8.63 8	0.115 19	$\varepsilon\text{K}=0.7630$ 9; $\varepsilon\text{L}=0.1775$ 6; $\varepsilon\text{M}+=0.05946$ 24
(484 6)	1972.287		1.31 10	7.58 4	1.31 10	$\varepsilon\text{K}=0.7633$ 9; $\varepsilon\text{L}=0.1773$ 6; $\varepsilon\text{M}+=0.05938$ 24
(573 6)	1882.868		7.7 4	6.978 25	7.7 4	$\varepsilon\text{K}=0.7732$ 6; $\varepsilon\text{L}=0.1702$ 4; $\varepsilon\text{M}+=0.05657$ 16
(610 6)	1845.787		1.32 7	7.81 3	1.32 7	$\varepsilon\text{K}=0.7763$ 5; $\varepsilon\text{L}=0.1680$ 4; $\varepsilon\text{M}+=0.05569$ 14
(680 6)	1775.566		19.6 13	6.74 3	19.6 13	$\varepsilon\text{K}=0.7812$ 4; $\varepsilon\text{L}=0.1645$ 3; $\varepsilon\text{M}+=0.05432$ 11
(722 6)	1734.353		2.4 4	7.71 8	2.4 4	$\varepsilon\text{K}=0.7835$ 4; $\varepsilon\text{L}=0.16282$ 24; $\varepsilon\text{M}+=0.05366$ 9
(725 6)	1730.934		6.0 5	7.32 4	6.0 5	$\varepsilon\text{K}=0.7837$ 4; $\varepsilon\text{L}=0.16269$ 23; $\varepsilon\text{M}+=0.05361$ 9
(738 6)	1718.313		0.6 3	8.33 22	0.6 3	$\varepsilon\text{K}=0.7843$ 3; $\varepsilon\text{L}=0.16223$ 22; $\varepsilon\text{M}+=0.05343$ 9
(797 6)	1659.017		0.24 23	8.8 5	0.24 23	$\varepsilon\text{K}=0.7871$ 3; $\varepsilon\text{L}=0.16025$ 19; $\varepsilon\text{M}+=0.05266$ 8
(815 6)	1641.453		3.4 4	7.67 6	3.4 4	$\varepsilon\text{K}=0.7878$ 3; $\varepsilon\text{L}=0.15972$ 18; $\varepsilon\text{M}+=0.05245$ 7
(863 6)	1593.435		1.6 4	8.05 11	1.6 4	$\varepsilon\text{K}=0.7896$ 3; $\varepsilon\text{L}=0.1584$ 2; $\varepsilon\text{M}+=0.05194$ 6
(882 6)	1573.674		30.3 17	6.80 3	30.3 17	$\varepsilon\text{K}=0.7903$ 2; $\varepsilon\text{L}=0.1579$ 2; $\varepsilon\text{M}+=0.05175$ 6
(886 6)	1570.285		0.12 7	9.2 3	0.12 7	$\varepsilon\text{K}=0.7904$ 2; $\varepsilon\text{L}=0.1578$ 2; $\varepsilon\text{M}+=0.05171$ 6
(941 6)	1515.183		<0.02	>10.5 ^{1u}	<0.02	$\varepsilon\text{K}=0.7598$ 5; $\varepsilon\text{L}=0.1796$ 4; $\varepsilon\text{M}+=0.06053$ 14
(1202 6)	1254.107		0.46 20	8.91 19	0.46 20	$\varepsilon\text{K}=0.7980$ 1; $\varepsilon\text{L}=0.15237$ 8; $\varepsilon\text{M}+=0.04958$ 3
(1427 6)	1029.353		<0.40	>10.0 ^{1u}	<0.40	$\varepsilon\text{K}=0.7823$ 2; $\varepsilon\text{L}=0.1636$ 2; $\varepsilon\text{M}+=0.05406$ 5
(1509 6)	947.248		<0.8	>9.8 ^{1u}	<0.8	$\varepsilon\text{K}=0.7844$ 2; $\varepsilon\text{L}=0.1620$ 1; $\varepsilon\text{M}+=0.05343$ 5
(2088 6)	367.945	0.336 14	24.6 9	7.680 16	24.9 9	av $E\beta=495.8$ 27; $\varepsilon\text{K}=0.7956$ 2; $\varepsilon\text{L}=0.14428$ 7; $\varepsilon\text{M}+=0.04658$ 3 E(decay): $E\beta+=1052$ 10 (1957He43), 1069 7 (1962Va10). I ε : From $ce(k)/I\beta^+=11.50$ 28 in 1962Va10 and $\alpha(K)=0.0388$ 5.
(2456 6)	0.0	0.042 3	4.4 3	9.91 ^{1u} 3	4.45 30	av $E\beta=660.7$ 26; $\varepsilon\text{K}=0.7906$; $\varepsilon\text{L}=0.15076$ 6; $\varepsilon\text{M}+=0.04908$ 3 E(decay): $E\beta+=1436$ 10 (1957He43), 1438 13 (1962Va10). I($\varepsilon + \beta^+$): From $I(\beta^+ + \varepsilon, 2^+)/I(\beta^+ + \varepsilon, 0^+)=5.60$ 32 (1962Va10).

† From the decay scheme, unless otherwise stated.

‡ Absolute intensity per 100 decays.

γ(²⁰⁰Hg)

I_γ normalization: Using (I_ε + I_{β⁺})(g.s.)=4.45% 30, determined from I(β⁺+ε, 2⁺)/I(β⁺+ε, 0⁺)=5.60 32 in 1962Va10.

<u>E_γ[†]</u>	<u>I_γ^{‡α}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>α&</u>	<u>Comments</u>
76.857 4	0.035 [#] 10	1718.313	1 ⁺	1641.453	2 ⁺	[M1,E2]	10 7	%I _γ =0.031 9 α(L)=8 5; α(M)=1.9 14 α(N)=0.48 34; α(O)=0.08 6; α(P)=0.0011 9
115.714 9	0.020 [#] 5	1630.905	1 ⁺	1515.183	0 ⁺	[M1]	5.20 7	%I _γ =0.018 4 α(K)=4.26 6; α(L)=0.723 10; α(M)=0.1683 24 α(N)=0.0422 6; α(O)=0.00799 11; α(P)=0.000610 9
116.51 15	0.13 4	1775.566	3 ⁺	1659.017	3 ⁺	[M1,E2]	4.0 11	%I _γ =0.115 35 α(K)=2.4 18; α(L)=1.3 6; α(M)=0.32 15 α(N)=0.08 4; α(O)=0.014 6; α(P)=3.4×10 ⁻⁴ 26
137.50 2	≈0.087 [#]	1730.934	2 ⁺	1593.435	2 ⁺	[M1,E2]	2.4 8	%I _γ ≈0.0770 α(K)=1.5 11; α(L)=0.65 21; α(M)=0.16 6 α(N)=0.040 15; α(O)=0.0070 22; α(P)=2.1×10 ⁻⁴ 16
138.471 16	≈0.00003 [@]	1856.790	0 ⁺	1718.313	1 ⁺	[M1]	3.12 4	%I _γ ≈2.65×10 ⁻⁵ α(K)=2.55 4; α(L)=0.432 6; α(M)=0.1006 14 α(N)=0.02524 35; α(O)=0.00477 7; α(P)=0.000365 5
140.898 12	0.19 [#] 7	1734.353	3 ⁺	1593.435	2 ⁺	[M1,E2]	2.2 8	%I _γ =0.17 6 α(K)=1.4 10; α(L)=0.59 18; α(M)=0.15 5 α(N)=0.037 13; α(O)=0.0064 19; α(P)=2.0×10 ⁻⁴ 15
144.639 10	0.018 [#] 3	1718.313	1 ⁺	1573.674	2 ⁺	[M1,E2]	2.0 7	%I _γ =0.0159 27 α(K)=1.3 10; α(L)=0.53 15; α(M)=0.13 4 α(N)=0.033 11; α(O)=0.0058 16; α(P)=1.8×10 ⁻⁴ 14
144.639 10	2.9 [#] 5	1775.566	3 ⁺	1630.905	1 ⁺	[E2]	1.264 18	%I _γ =2.6 4 α(K)=0.355 5; α(L)=0.680 10; α(M)=0.1771 25 α(N)=0.0440 6; α(O)=0.00735 10; α(P)=4.63×10 ⁻⁵ 6
148.026 4	0.0156 [#] 20	1718.313	1 ⁺	1570.285	1 ⁺	[M1,E2]	1.9 7	%I _γ =0.0138 18 α(K)=1.2 9; α(L)=0.49 13; α(M)=0.12 4 α(N)=0.030 9; α(O)=0.0053 13; α(P)=1.7×10 ⁻⁴ 13
148.500 6	0.087 [#] 19	1882.868	2 ⁺	1734.353	3 ⁺	[M1,E2]	1.8 7	%I _γ =0.077 17 α(K)=1.2 9; α(L)=0.48 13; α(M)=0.12 4 α(N)=0.030 9; α(O)=0.0052 13; α(P)=1.7×10 ⁻⁴ 13
151.932 5	0.14 [#] 3	1882.868	2 ⁺	1730.934	2 ⁺	[M1,E2]	1.7 7	%I _γ =0.124 27 α(K)=1.1 8; α(L)=0.44 11; α(M)=0.110 32 α(N)=0.027 8; α(O)=0.0048 11; α(P)=1.6×10 ⁻⁴ 12
160.659 11	≈0.015 [#]	1730.934	2 ⁺	1570.285	1 ⁺	[M1,E2]	1.4 6	%I _γ ≈0.0133

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	δ^\dagger	α &	Comments
160.659 11	≈0.027#	1734.353	3 ⁺	1573.674	2 ⁺	[M1,E2]		1.4 6	$\alpha(K)=1.0$ 7; $\alpha(L)=0.35$ 7; $\alpha(M)=0.088$ 23 $\alpha(N)=0.022$ 6; $\alpha(O)=0.0039$ 7; $\alpha(P)=1.4\times 10^{-4}$ 10 %I γ ≈0.0239
164.544 6	0.198# 23	1882.868	2 ⁺	1718.313	1 ⁺	[M1,E2]		1.3 6	$\alpha(K)=1.0$ 7; $\alpha(L)=0.35$ 7; $\alpha(M)=0.088$ 23 $\alpha(N)=0.022$ 6; $\alpha(O)=0.0039$ 7; $\alpha(P)=1.4\times 10^{-4}$ 10 %I γ =0.175 20
182.17 20	0.06 2	1775.566	3 ⁺	1593.435	2 ⁺	M1+E2	1.9 4	0.74 8	$\alpha(K)=0.9$ 6; $\alpha(L)=0.32$ 6; $\alpha(M)=0.081$ 19 $\alpha(N)=0.020$ 5; $\alpha(O)=0.0035$ 6; $\alpha(P)=1.3\times 10^{-4}$ 9 %I γ =0.053 18
186.771 13	0.014# 5	1845.787	3 ⁺	1659.017	3 ⁺	E2+M1		0.9 4	$\alpha(K)=0.42$ 9; $\alpha(L)=0.236$ 6; $\alpha(M)=0.0601$ 18 $\alpha(N)=0.0150$ 4; $\alpha(O)=0.00257$ 6; $\alpha(P)=5.7\times 10^{-5}$ 13 E γ : From 1971Ko03.
201.91 2	0.10# 4	1775.566	3 ⁺	1573.674	2 ⁺	[M1,E2]		0.73 35	%I γ =0.012 4 $\alpha(K)=0.6$ 4; $\alpha(L)=0.203$ 19; $\alpha(M)=0.050$ 7 $\alpha(N)=0.0125$ 17; $\alpha(O)=0.00222$ 18; $\alpha(P)=9.E-5$ 7
203.135 7	0.0091# 14	1718.313	1 ⁺	1515.183	0 ⁺	M1		1.058 15	%I γ =0.088 35 $\alpha(K)=0.5$ 4; $\alpha(L)=0.154$ 6; $\alpha(M)=0.0379$ 34 $\alpha(N)=0.0094$ 8; $\alpha(O)=0.00168$ 5; $\alpha(P)=7.E-5$ 5
204.477 8	0.000127# 9	2061.264	1 ⁺	1856.790	0 ⁺	[M1]		1.039 15	%I γ =0.0081 12 $\alpha(K)=0.868$ 12; $\alpha(L)=0.1460$ 20; $\alpha(M)=0.0340$ 5 $\alpha(N)=0.00852$ 12; $\alpha(O)=0.001612$ 23; $\alpha(P)=0.0001234$ 17
204.93 11	0.00042# 13	2331.791	2 ⁺	2126.863	2 ⁺	[M1,E2]		0.71 34	%I γ =0.000112 8 $\alpha(K)=0.852$ 12; $\alpha(L)=0.1433$ 20; $\alpha(M)=0.0333$ 5 $\alpha(N)=0.00836$ 12; $\alpha(O)=0.001583$ 22; $\alpha(P)=0.0001211$ 17
215.743 13	0.013# 4	1730.934	2 ⁺	1515.183	0 ⁺	[E2]		0.302 4	%I γ =0.00037 12 $\alpha(K)=0.51$ 35; $\alpha(L)=0.149$ 5; $\alpha(M)=0.0366$ 30 $\alpha(N)=0.0091$ 7; $\alpha(O)=0.00163$ 4; $\alpha(P)=7.E-5$ 5 E γ : From level energy differences.
224.750 6	0.0086# 9	1254.107	2 ⁺	1029.353	0 ⁺	[E2]		0.264 4	%I γ =0.0115 35 $\alpha(K)=0.1410$ 20; $\alpha(L)=0.1209$ 17; $\alpha(M)=0.0311$ 4 $\alpha(N)=0.00774$ 11; $\alpha(O)=0.001312$ 18; $\alpha(P)=1.767\times 10^{-5}$ 25
225.885 6	≈0.000046@	1856.790	0 ⁺	1630.905	1 ⁺	M1		0.788 11	%I γ =0.0076 8 $\alpha(K)=0.1276$ 18; $\alpha(L)=0.1021$ 14; $\alpha(M)=0.0263$ 4 $\alpha(N)=0.00653$ 9; $\alpha(O)=0.001109$ 16; $\alpha(P)=1.603\times 10^{-5}$ 22
241.356 12	0.0056# 21	1972.287	(2) ⁺	1730.934	2 ⁺	[M1,E2]		0.43 22	%I γ ≈4.07×10 ⁻⁵ $\alpha(K)=0.646$ 9; $\alpha(L)=0.1084$ 15; $\alpha(M)=0.02523$ 35 $\alpha(N)=0.00633$ 9; $\alpha(O)=0.001198$ 17; $\alpha(P)=9.17\times 10^{-5}$ 13

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	δ^\dagger	$\alpha^\&$	Comments
241.425 10	0.036# 9	1882.868	2 ⁺	1641.453	2 ⁺	[M1,E2]		0.43 22	$\alpha(\text{K})=0.32$ 22; $\alpha(\text{L})=0.083$ 7; $\alpha(\text{M})=0.0203$ 7 $\alpha(\text{N})=0.00507$ 21; $\alpha(\text{O})=0.00091$ 8; $\alpha(\text{P})=4.5\times 10^{-5}$ 31 %I $\gamma=0.032$ 8
243.411 7	0.0134# 11	1974.346	(3) ⁺	1730.934	2 ⁺	[M1,E2]		0.42 22	$\alpha(\text{K})=0.32$ 22; $\alpha(\text{L})=0.083$ 7; $\alpha(\text{M})=0.0203$ 7 $\alpha(\text{N})=0.00506$ 21; $\alpha(\text{O})=0.00091$ 8; $\alpha(\text{P})=4.5\times 10^{-5}$ 31 %I $\gamma=0.0119$ 10
251.969 7	0.37# 3	1882.868	2 ⁺	1630.905	1 ⁺	M1+E2	0.38 21	0.53 5	$\alpha(\text{K})=0.32$ 21; $\alpha(\text{L})=0.081$ 7; $\alpha(\text{M})=0.0197$ 8 $\alpha(\text{N})=0.00492$ 23; $\alpha(\text{O})=0.00089$ 9; $\alpha(\text{P})=4.4\times 10^{-5}$ 31 %I $\gamma=0.327$ 27
252.356 7	0.112# 9	1845.787	3 ⁺	1593.435	2 ⁺	[M1,E2]		0.38 20	$\alpha(\text{K})=0.43$ 5; $\alpha(\text{L})=0.0780$ 23; $\alpha(\text{M})=0.0183$ 4 $\alpha(\text{N})=0.00460$ 10; $\alpha(\text{O})=0.000860$ 27; $\alpha(\text{P})=6.1\times 10^{-5}$ 7 Mult.: $\alpha(\text{K})_{\text{exp}}=0.043$ 5.
253.991 15	0.0044# 14	1972.287	(2) ⁺	1718.313	1 ⁺	[M1,E2]		0.37 20	%I $\gamma=0.099$ 8 $\alpha(\text{K})=0.29$ 19; $\alpha(\text{L})=0.072$ 8; $\alpha(\text{M})=0.0174$ 11 $\alpha(\text{N})=0.00436$ 30; $\alpha(\text{O})=0.00079$ 9; $\alpha(\text{P})=4.0\times 10^{-5}$ 28
268.49 ^b 3	≈0.0036#	2114.362	3 ⁺	1845.787	3 ⁺	[M1,E2]		0.32 17	%I $\gamma=0.0039$ 12 $\alpha(\text{K})=0.28$ 19; $\alpha(\text{L})=0.070$ 8; $\alpha(\text{M})=0.0171$ 12 $\alpha(\text{N})=0.00427$ 31; $\alpha(\text{O})=0.00077$ 9; $\alpha(\text{P})=3.9\times 10^{-5}$ 27
270.530 12	0.00049# 10	2331.791	2 ⁺	2061.264	1 ⁺	[M1,E2]		0.31 17	%I $\gamma\approx 0.00319$ $\alpha(\text{K})=0.24$ 16; $\alpha(\text{L})=0.059$ 9; $\alpha(\text{M})=0.0142$ 14 $\alpha(\text{N})=0.0035$ 4; $\alpha(\text{O})=0.00064$ 10; $\alpha(\text{P})=3.4\times 10^{-5}$ 23
272.109 8	0.04 2	1845.787	3 ⁺	1573.674	2 ⁺	(M1)		0.471 7	%I $\gamma=0.00043$ 9 $\alpha(\text{K})=0.24$ 16; $\alpha(\text{L})=0.057$ 9; $\alpha(\text{M})=0.0138$ 15 $\alpha(\text{N})=0.0035$ 4; $\alpha(\text{O})=0.00063$ 10; $\alpha(\text{P})=3.3\times 10^{-5}$ 23 %I $\gamma=0.035$ 18
275.497 12	0.016# 3	1845.787	3 ⁺	1570.285	1 ⁺	[E2]		0.1377 19	$\alpha(\text{K})=0.387$ 5; $\alpha(\text{L})=0.0647$ 9; $\alpha(\text{M})=0.01504$ 21 $\alpha(\text{N})=0.00377$ 5; $\alpha(\text{O})=0.0007140$ 99; $\alpha(\text{P})=5.47\times 10^{-5}$ 8 %I $\gamma=0.0142$ 27
281.08 2	0.0019# 4	2126.863	2 ⁺	1845.787	3 ⁺	[M1,E2]		0.28 15	$\alpha(\text{K})=0.0775$ 11; $\alpha(\text{L})=0.0453$ 6; $\alpha(\text{M})=0.01154$ 16 $\alpha(\text{N})=0.00287$ 4; $\alpha(\text{O})=0.000493$ 7; $\alpha(\text{P})=9.91\times 10^{-6}$ 14 %I $\gamma=0.00168$ 35
286.518 13	≈0.000005@	1856.790	0 ⁺	1570.285	1 ⁺	[M1]		0.409 6	$\alpha(\text{K})=0.21$ 14; $\alpha(\text{L})=0.051$ 9; $\alpha(\text{M})=0.0122$ 16 $\alpha(\text{N})=0.0031$ 4; $\alpha(\text{O})=0.00055$ 10; $\alpha(\text{P})=3.0\times 10^{-5}$ 20 %I $\gamma\approx 4.42\times 10^{-6}$
289.425 9	0.66# 4	1882.868	2 ⁺	1593.435	2 ⁺	M1+E2	0.62 12	0.320 22	$\alpha(\text{K})=0.336$ 5; $\alpha(\text{L})=0.0561$ 8; $\alpha(\text{M})=0.01305$ 18 $\alpha(\text{N})=0.00327$ 5; $\alpha(\text{O})=0.000619$ 9; $\alpha(\text{P})=4.75\times 10^{-5}$ 7 %I $\gamma=0.584$ 35
									$\alpha(\text{K})=0.255$ 20; $\alpha(\text{L})=0.0498$ 15; $\alpha(\text{M})=0.01181$ 30

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ †	α &	Comments
299.887 12	0.0021# 4	2274.236	(2) ⁺	1974.346	(3) ⁺	[M1,E2]		0.23 13	$\alpha(N)=0.00296$ 8; $\alpha(O)=0.000548$ 17; $\alpha(P)=3.58 \times 10^{-5}$ 29 Mult.: $\alpha(K)_{exp}=0.25$ 2. %I $\gamma=0.00186$ 35 $\alpha(K)=0.18$ 12; $\alpha(L)=0.041$ 8; $\alpha(M)=0.0099$ 16 $\alpha(N)=0.0025$ 4; $\alpha(O)=0.00045$ 10; $\alpha(P)=2.5 \times 10^{-5}$ 17
301.963 13	0.0016# 3	2274.236	(2) ⁺	1972.287	(2) ⁺	[M1,E2]		0.23 13	%I $\gamma=0.00142$ 27 $\alpha(K)=0.18$ 11; $\alpha(L)=0.040$ 8; $\alpha(M)=0.0097$ 16 $\alpha(N)=0.0024$ 4; $\alpha(O)=0.00044$ 9; $\alpha(P)=2.5 \times 10^{-5}$ 17
306.863 11	0.0056# 5	1254.107	2 ⁺	947.248	4 ⁺	[E2]		0.0996 14	%I $\gamma=0.0050$ 4 $\alpha(K)=0.0597$ 8; $\alpha(L)=0.0300$ 4; $\alpha(M)=0.00760$ 11 $\alpha(N)=0.001892$ 26; $\alpha(O)=0.000327$ 5; $\alpha(P)=7.70 \times 10^{-6}$ 11
308.801 11	0.000088# 10	2370.053	1 ⁺	2061.264	1 ⁺	[M1,E2]		0.22 12	%I $\gamma=7.8 \times 10^{-5}$ 9 $\alpha(K)=0.17$ 11; $\alpha(L)=0.037$ 8; $\alpha(M)=0.0090$ 16 $\alpha(N)=0.0023$ 4; $\alpha(O)=0.00041$ 9; $\alpha(P)=2.3 \times 10^{-5}$ 16
309.209 8	0.281# 18	1882.868	2 ⁺	1573.674	2 ⁺	M1+E2	0.35 23	0.307 34	%I $\gamma=0.249$ 16 $\alpha(K)=0.250$ 31; $\alpha(L)=0.0437$ 24; $\alpha(M)=0.0102$ 5 $\alpha(N)=0.00256$ 12; $\alpha(O)=0.000482$ 27; $\alpha(P)=3.5 \times 10^{-5}$ 4 Mult.: $\alpha(K)_{exp}=0.25$ 3.
312.613 13	0.041# 5	1882.868	2 ⁺	1570.285	1 ⁺	[M1,E2]		0.21 11	%I $\gamma=0.036$ 4 $\alpha(K)=0.16$ 10; $\alpha(L)=0.036$ 8; $\alpha(M)=0.0087$ 16 $\alpha(N)=0.0022$ 4; $\alpha(O)=0.00040$ 9; $\alpha(P)=2.2 \times 10^{-5}$ 15
313.23 3	0.0044# 11	1972.287	(2) ⁺	1659.017	3 ⁺	[M1,E2]		0.21 11	%I $\gamma=0.0039$ 10 $\alpha(K)=0.16$ 10; $\alpha(L)=0.036$ 8; $\alpha(M)=0.0086$ 16 $\alpha(N)=0.0022$ 4; $\alpha(O)=0.00039$ 9; $\alpha(P)=2.2 \times 10^{-5}$ 15
316.176 8	0.00372# 25	1570.285	1 ⁺	1254.107	2 ⁺	M1(+E2)		0.20 11	%I $\gamma=0.00329$ 22 $\alpha(K)=0.16$ 10; $\alpha(L)=0.035$ 8; $\alpha(M)=0.0084$ 16 $\alpha(N)=0.0021$ 4; $\alpha(O)=0.00038$ 9; $\alpha(P)=2.2 \times 10^{-5}$ 15
319.566 15	0.069# 11	1573.674	2 ⁺	1254.107	2 ⁺	(M1+E2)		0.20 11	%I $\gamma=0.061$ 10 $\alpha(K)=0.15$ 10; $\alpha(L)=0.034$ 8; $\alpha(M)=0.0081$ 16 $\alpha(N)=0.0020$ 4; $\alpha(O)=0.00037$ 9; $\alpha(P)=2.1 \times 10^{-5}$ 14
330.303 16	0.000064# 9	2061.264	1 ⁺	1730.934	2 ⁺	[M1,E2]		0.18 10	%I $\gamma=5.7 \times 10^{-5}$ 8 $\alpha(K)=0.14$ 9; $\alpha(L)=0.030$ 8; $\alpha(M)=0.0073$ 15 $\alpha(N)=0.0018$ 4; $\alpha(O)=3.3 \times 10^{-4}$ 9; $\alpha(P)=1.9 \times 10^{-5}$ 13
330.84 3	≈0.0067#	1972.287	(2) ⁺	1641.453	2 ⁺	[M1,E2]		0.18 10	%I $\gamma \approx 0.00593$ $\alpha(K)=0.14$ 9; $\alpha(L)=0.030$ 8; $\alpha(M)=0.0073$ 15 $\alpha(N)=0.0018$ 4; $\alpha(O)=3.3 \times 10^{-4}$ 9; $\alpha(P)=1.9 \times 10^{-5}$ 13
338.75 2	0.0252# 20	2114.362	3 ⁺	1775.566	3 ⁺	[M1,E2]		0.17 9	%I $\gamma=0.0223$ 18

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡α	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α&	Comments
339.40	0.023# 12	1593.435	2+	1254.107	2+	M1(+E0)		α(K)=0.13 8; α(L)=0.028 7; α(M)=0.0067 15 α(N)=0.0017 4; α(O)=3.1×10 ⁻⁴ 8; α(P)=1.8×10 ⁻⁵ 12 %I _γ =0.020 11
341.375 12	0.0235# 19	1972.287	(2)+	1630.905	1+	[M1,E2]	0.16 9	%I _γ =0.0208 17 α(K)=0.13 8; α(L)=0.028 7; α(M)=0.0066 15 α(N)=0.0016 4; α(O)=3.0×10 ⁻⁴ 8; α(P)=1.8×10 ⁻⁵ 12
(341.606 14)		1856.790	0+	1515.183	0+	E0		
342.939 12	0.000218# 18	2061.264	1+	1718.313	1+	[M1,E2]	0.16 9	%I _γ =0.000193 16 α(K)=0.13 8; α(L)=0.027 7; α(M)=0.0065 15 α(N)=0.0016 4; α(O)=3.0×10 ⁻⁴ 8; α(P)=1.8×10 ⁻⁵ 12
346.406 14	0.0032# 4	2229.276	1+	1882.868	2+	[M1,E2]	0.16 9	%I _γ =0.00283 35 α(K)=0.12 8; α(L)=0.026 7; α(M)=0.0063 15 α(N)=0.0016 4; α(O)=2.9×10 ⁻⁴ 8; α(P)=1.7×10 ⁻⁵ 11
351.27 2	0.012# 2	2126.863	2+	1775.566	3+	[M1,E2]	0.15 8	%I _γ =0.0106 18 α(K)=0.12 8; α(L)=0.025 7; α(M)=0.0060 14 α(N)=0.0015 4; α(O)=2.8×10 ⁻⁴ 8; α(P)=1.6×10 ⁻⁵ 11
359.48 4	0.00050# 13	2331.791	2+	1972.287	(2)+	[M1,E2]	0.14 8	%I _γ =0.00044 12 α(K)=0.11 7; α(L)=0.024 7; α(M)=0.0056 14 α(N)=0.00141 35; α(O)=2.6×10 ⁻⁴ 7; α(P)=1.5×10 ⁻⁵ 10
367.942 10	100	367.945	2+	0.0	0+	E2	0.0594 8	%I _γ =88.49 22 α(K)=0.0388 5; α(L)=0.01553 22; α(M)=0.00389 5 α(N)=0.000970 14; α(O)=0.0001694 24; α(P)=5.08×10 ⁻⁶ 7 Mult.: α(K)exp=0.0395 8 (1961Le17), 0.0402 14 (1962Ja10), 0.0400 25 (1962Va10) and 0.030 4 (1965Sa02).
376.79 2	0.0032# 7	1630.905	1+	1254.107	2+	[M1,E2]	0.13 7	%I _γ =0.0028 6 α(K)=0.10 6; α(L)=0.020 6; α(M)=0.0049 13 α(N)=0.00122 33; α(O)=2.2×10 ⁻⁴ 7; α(P)=1.4×10 ⁻⁵ 9
380.03 2	0.0120# 16	2114.362	3+	1734.353	3+	[M1,E2]	0.12 7	%I _γ =0.0106 14 α(K)=0.10 6; α(L)=0.020 6; α(M)=0.0048 13 α(N)=0.00119 32; α(O)=2.2×10 ⁻⁴ 7; α(P)=1.3×10 ⁻⁵ 9
383.437 11	0.038# 4	2114.362	3+	1730.934	2+	[M1,E2]	0.12 7	%I _γ =0.0336 35 α(K)=0.09 6; α(L)=0.019 6; α(M)=0.0046 13 α(N)=0.00116 32; α(O)=2.1×10 ⁻⁴ 7; α(P)=1.3×10 ⁻⁵ 8
387.345 9	0.182# 11	1641.453	2+	1254.107	2+	M1(+E0)	0.181	%I _γ =0.161 10 α(K)=0.1486 21; α(L)=0.0246 4; α(M)=0.00572 8; α(N+..)=0.001728 25 α(N)=0.001436 21; α(O)=0.000272 4; α(P)=2.09×10 ⁻⁵ 3 Mult.: α(K)exp=0.12 2.

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	α &	Comments
392.524 17	0.0046# 8	2126.863	2 ⁺	1734.353	3 ⁺	[M1,E2]	0.11 6	%I _γ =0.0041 7 α(K)=0.09 6; α(L)=0.018 6; α(M)=0.0043 12 α(N)=0.00108 31; α(O)=2.0×10 ⁻⁴ 6; α(P)=1.2×10 ⁻⁵ 8
395.97 4	0.0023# 7	2126.863	2 ⁺	1730.934	2 ⁺	[M1,E2]	0.11 6	%I _γ =0.0020 6 α(K)=0.09 5; α(L)=0.018 6; α(M)=0.0042 12 α(N)=0.00105 30; α(O)=1.9×10 ⁻⁴ 6; α(P)=1.2×10 ⁻⁵ 8
397.765 14	0.00019# 3	2370.053	1 ⁺	1972.287	(2) ⁺	[M1,E2]	0.11 6	%I _γ =0.000168 27 α(K)=0.09 5; α(L)=0.017 6; α(M)=0.0041 12 α(N)=1.04×10 ⁻³ 30; α(O)=1.9×10 ⁻⁴ 6; α(P)=1.2×10 ⁻⁵ 8
398.63 2	0.025# 3	1972.287	(2) ⁺	1573.674	2 ⁺	[M1,E2]	0.11 6	%I _γ =0.0221 27 α(K)=0.08 5; α(L)=0.017 6; α(M)=0.0041 12 α(N)=1.03×10 ⁻³ 30; α(O)=1.9×10 ⁻⁴ 6; α(P)=1.2×10 ⁻⁵ 8
404.94 4	0.0124# 21	1659.017	3 ⁺	1254.107	2 ⁺	[M1,E2]	0.10 6	%I _γ =0.0110 19 α(K)=0.08 5; α(L)=0.017 5; α(M)=0.0039 11 α(N)=9.8×10 ⁻⁴ 29; α(O)=1.8×10 ⁻⁴ 6; α(P)=1.1×10 ⁻⁵ 7
408.556 10	0.050# 8	2126.863	2 ⁺	1718.313	1 ⁺	M1	0.1567 22	%I _γ =0.044 7 α(K)=0.1289 18; α(L)=0.02135 30; α(M)=0.00496 7 α(N)=0.001244 17; α(O)=0.0002354 33; α(P)=1.810×10 ⁻⁵ 25
414.41 ^b 7	≈0.00039#	2388.70	(1,2,3) ⁺	1974.346	(3) ⁺	[M1,E2]	0.10 5	%I _γ ≈0.000345 α(K)=0.08 5; α(L)=0.015 5; α(M)=0.0037 11 α(N)=9.2×10 ⁻⁴ 28; α(O)=1.7×10 ⁻⁴ 6; α(P)=1.1×10 ⁻⁵ 7
419.828 10	0.00100# 6	2061.264	1 ⁺	1641.453	2 ⁺	M1	0.1458 20	%I _γ =0.00088 5 α(K)=0.1199 17; α(L)=0.01984 28; α(M)=0.00461 6 α(N)=0.001156 16; α(O)=0.0002187 31; α(P)=1.682×10 ⁻⁵ 24
428.45 3	0.0030# 5	2274.236	(2) ⁺	1845.787	3 ⁺	[M1,E2]	0.09 5	%I _γ =0.0027 4 α(K)=0.07 4; α(L)=0.014 5; α(M)=0.0033 10 α(N)=8.3×10 ⁻⁴ 26; α(O)=1.5×10 ⁻⁴ 5; α(P)=1.0×10 ⁻⁵ 6
430.368 10	0.00260# 16	2061.264	1 ⁺	1630.905	1 ⁺	M1	0.1364 19	%I _γ =0.00230 14 α(K)=0.1123 16; α(L)=0.01856 26; α(M)=0.00431 6 α(N)=0.001081 15; α(O)=0.0002046 29; α(P)=1.574×10 ⁻⁵ 22
439.52 4	0.00032# 8	2296.29	1 ⁺	1856.790	0 ⁺	[M1]	0.1290 18	%I _γ =0.00028 7 α(K)=0.1062 15; α(L)=0.01754 25; α(M)=0.00407 6 α(N)=0.001021 14; α(O)=0.0001934 27; α(P)=1.488×10 ⁻⁵ 21
448.91 2	0.0076# 6	2331.791	2 ⁺	1882.868	2 ⁺	[M1,E2]	0.08 4	%I _γ =0.0067 5 α(K)=0.06 4; α(L)=0.012 4; α(M)=0.0029 9 α(N)=7.3×10 ⁻⁴ 24; α(O)=1.3×10 ⁻⁴ 5; α(P)=9.E-6 5
453.60 16	≈0.0012#	2229.276	1 ⁺	1775.566	3 ⁺	[E2]	0.0343 5	%I _γ ≈0.001062

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡a}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>α^{&}</u>	<u>Comments</u>
460.76 5	0.0012 [#] 3	2343.602	1 ⁺ ,2 ⁺ ,3 ⁺	1882.868	2 ⁺	[M1,E2]	0.07 4	α(K)=0.02412 34; α(L)=0.00768 11; α(M)=0.001900 27 α(N)=0.000474 7; α(O)=8.39×10 ⁻⁵ 12; α(P)=3.19×10 ⁻⁶ 4 %I _γ =0.00106 27
464.214 12	0.0217 [#] 15	1718.313	1 ⁺	1254.107	2 ⁺	E2+M1	0.07 4	α(K)=0.058 35; α(L)=0.011 4; α(M)=0.0027 9 α(N)=6.8×10 ⁻⁴ 23; α(O)=1.3×10 ⁻⁴ 5; α(P)=8.E-6 5 %I _γ =0.0192 13
467.86 2	0.00091 [#] 6	2061.264	1 ⁺	1593.435	2 ⁺	M1	0.1093 15	α(K)=0.057 34; α(L)=0.011 4; α(M)=0.0026 9 α(N)=6.6×10 ⁻⁴ 22; α(O)=1.2×10 ⁻⁴ 4; α(P)=8.E-6 5 %I _γ =0.00081 5
467.86 2	0.063 [#] 9	2126.863	2 ⁺	1659.017	3 ⁺	(M1)	0.1093 15	α(K)=0.0900 13; α(L)=0.01484 21; α(M)=0.00344 5 α(N)=0.000864 12; α(O)=0.0001636 23; α(P)=1.259×10 ⁻⁵ 18 %I _γ =0.056 8
^x 469.0 6	0.07 2							α(K)=0.0900 13; α(L)=0.01484 21; α(M)=0.00344 5 α(N)=0.000864 12; α(O)=0.0001636 23; α(P)=1.259×10 ⁻⁵ 18 %I _γ =0.062 18
475.08 4	0.00071 [#] 13	2331.791	2 ⁺	1856.790	0 ⁺	[E2]	0.0305 4	E _γ : From 1971Ko03. %I _γ =0.00063 12
476.815 13	0.42 [#] 3	1730.934	2 ⁺	1254.107	2 ⁺	E2+M1(+E0)	0.07 4	α(K)=0.02178 30; α(L)=0.00663 9; α(M)=0.001635 23 α(N)=0.000408 6; α(O)=7.24×10 ⁻⁵ 10; α(P)=2.88×10 ⁻⁶ 4 %I _γ =0.372 27
480.24 3	0.084 [#] 9	1734.353	3 ⁺	1254.107	2 ⁺	[M1,E2]	0.07 4	α(K)=0.054 32; α(L)=0.010 4; α(M)=0.0024 8 α(N)=6.1×10 ⁻⁴ 21; α(O)=1.1×10 ⁻⁴ 4; α(P)=7.E-6 5 %I _γ =0.074 8
483.34 9	≈0.008 [#]	2114.362	3 ⁺	1630.905	1 ⁺	[E2]	0.0293 4	α(K)=0.053 31; α(L)=0.010 4; α(M)=0.0024 8 α(N)=6.0×10 ⁻⁴ 21; α(O)=1.1×10 ⁻⁴ 4; α(P)=7.E-6 4 %I _γ ≈0.00708
485.36 2	0.038 [#] 6	2126.863	2 ⁺	1641.453	2 ⁺	[M1,E2]	0.064 35	α(K)=0.02097 29; α(L)=0.00628 9; α(M)=0.001547 22 α(N)=0.000386 5; α(O)=6.86×10 ⁻⁵ 10; α(P)=2.78×10 ⁻⁶ 4 %I _γ =0.034 5
(485.830 14)		1515.183	0 ⁺	1029.353	0 ⁺	E0		α(K)=0.051 30; α(L)=0.010 4; α(M)=0.0023 8 α(N)=5.8×10 ⁻⁴ 20; α(O)=1.1×10 ⁻⁴ 4; α(P)=7.E-6 4
487.12 3	0.00033 [#] 4	2370.053	1 ⁺	1882.868	2 ⁺	[M1,E2]	0.063 35	%I _γ =0.000292 35
487.56 2	0.00100 [#] 7	2061.264	1 ⁺	1573.674	2 ⁺	M1(+E2)	0.063 35	α(K)=0.051 30; α(L)=0.010 4; α(M)=0.0023 8 α(N)=5.8×10 ⁻⁴ 20; α(O)=1.1×10 ⁻⁴ 4; α(P)=7.E-6 4 %I _γ =0.00088 6

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²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ †	α &	Comments
490.95 2	0.00064# 4	2061.264	1 ⁺	1570.285	1 ⁺	E2+M1	≈1.2	≈0.0561	%I _γ =0.000566 35 α(K)≈0.0444; α(L)≈0.00888; α(M)≈0.002110 α(N)≈0.000528; α(O)≈9.75×10 ⁻⁵ ; α(P)≈6.12×10 ⁻⁶
495.93 2	0.09 4	2126.863	2 ⁺	1630.905	1 ⁺	M1		0.0937 13	%I _γ =0.080 35 α(K)=0.0772 11; α(L)=0.01270 18; α(M)=0.00295 4 α(N)=0.000739 10; α(O)=0.0001400 20; α(P)=1.078×10 ⁻⁵ 15
497.81 2	0.0115# 8	2343.602	1 ⁺ ,2 ⁺ ,3 ⁺	1845.787	3 ⁺	[M1,E2]		0.060 33	%I _γ =0.0102 7 α(K)=0.048 28; α(L)=0.0092 34; α(M)=0.0022 8 α(N)=5.4×10 ⁻⁴ 19; α(O)=1.0×10 ⁻⁴ 4; α(P)=7.E-6 4
498.63 4	0.0042# 6	2274.236	(2) ⁺	1775.566	3 ⁺	[M1,E2]		0.060 33	%I _γ =0.0037 5 α(K)=0.048 28; α(L)=0.0091 34; α(M)=0.0022 8 α(N)=5.4×10 ⁻⁴ 19; α(O)=1.0×10 ⁻⁴ 4; α(P)=7.E-6 4
520.91 5	0.025# 4	2114.362	3 ⁺	1593.435	2 ⁺	[M1,E2]		0.053 29	%I _γ =0.0221 35 α(K)=0.043 25; α(L)=0.0081 31; α(M)=0.0019 7 α(N)=4.8×10 ⁻⁴ 17; α(O)=8.9×10 ⁻⁵ 34; α(P)=6.E-6 4
521.41 7	0.34# 10	1775.566	3 ⁺	1254.107	2 ⁺	M1+E2	1.0 +7-4	0.053 14	%I _γ =0.30 9 α(K)=0.043 12; α(L)=0.0080 15; α(M)=0.00190 33 α(N)=0.00048 8; α(O)=8.8×10 ⁻⁵ 17; α(P)=5.9×10 ⁻⁶ 17
533.48 3	0.051# 22	2126.863	2 ⁺	1593.435	2 ⁺	M1		0.0773 11	%I _γ =0.045 19 α(K)=0.0637 9; α(L)=0.01046 15; α(M)=0.002428 34 α(N)=0.000609 9; α(O)=0.0001153 16; α(P)=8.89×10 ⁻⁶ 12
540.948 16	0.0326# 21	1570.285	1 ⁺	1029.353	0 ⁺	M1		0.0745 10	%I _γ =0.0288 19 α(K)=0.0614 9; α(L)=0.01008 14; α(M)=0.002340 33 α(N)=0.000587 8; α(O)=0.0001111 16; α(P)=8.57×10 ⁻⁶ 12
544.21 7	0.083# 18	1573.674	2 ⁺	1029.353	0 ⁺	[E2]		0.02201 31	%I _γ =0.073 16 α(K)=0.01625 23; α(L)=0.00438 6; α(M)=0.001070 15 α(N)=0.000267 4; α(O)=4.79×10 ⁻⁵ 7; α(P)=2.156×10 ⁻⁶ 30
546.10 2	0.00039# 3	2061.264	1 ⁺	1515.183	0 ⁺	M1		0.0727 10	%I _γ =0.000345 27 α(K)=0.0599 8; α(L)=0.00983 14; α(M)=0.002282 32 α(N)=0.000572 8; α(O)=0.0001083 15; α(P)=8.36×10 ⁻⁶ 12
553.18 2	0.057# 8	2126.863	2 ⁺	1573.674	2 ⁺	M1		0.0702 10	%I _γ =0.050 7 α(K)=0.0578 8; α(L)=0.00948 13; α(M)=0.002201 31 α(N)=0.000552 8; α(O)=0.0001045 15; α(P)=8.06×10 ⁻⁶ 11

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ^\dagger	$\alpha^\&$	Comments
556.58 2	0.11 4	2126.863	2 ⁺	1570.285	1 ⁺	M1(+E2)	≈0.4	≈0.0625	%I _γ =0.097 35 α(K)≈0.0513; α(L)≈0.00863; α(M)≈0.002008 α(N)≈0.000503; α(O)≈9.50×10 ⁻⁵ ; α(P)≈7.13×10 ⁻⁶
564.19 5	0.0193 [#] 19	1593.435	2 ⁺	1029.353	0 ⁺	[E2]		0.02024 28	%I _γ =0.0171 17 α(K)=0.01505 21; α(L)=0.00394 6; α(M)=0.000960 13 α(N)=0.0002397 34; α(O)=4.31×10 ⁻⁵ 6; α(P)=1.998×10 ⁻⁶ 28
568.04 7	0.0017 [#] 5	2343.602	1 ⁺ ,2 ⁺ ,3 ⁺	1775.566	3 ⁺	[M1,E2]		0.043 23	%I _γ =0.0015 4 α(K)=0.034 20; α(L)=0.0064 25; α(M)=0.0015 6 α(N)=3.8×10 ⁻⁴ 14; α(O)=7.0×10 ⁻⁵ 28; α(P)=4.8×10 ⁻⁶ 28
577.98 6	0.0008 [#] 3	2296.29	1 ⁺	1718.313	1 ⁺	[M1,E2]		0.041 22	%I _γ =0.00071 27 α(K)=0.033 19; α(L)=0.0061 24; α(M)=0.0014 5 α(N)=3.6×10 ⁻⁴ 13; α(O)=6.7×10 ⁻⁵ 27; α(P)=4.5×10 ⁻⁶ 26
579.300 17	15.8 8	947.248	4 ⁺	367.945	2 ⁺	E2		0.01905 27	%I _γ =14.0 7 α(K)=0.01424 20; α(L)=0.00365 5; α(M)=0.000888 12 α(N)=0.0002217 31; α(O)=3.99×10 ⁻⁵ 6; α(P)=1.891×10 ⁻⁶ 26 Mult.: A ₂ =0.102 9, A ₄ =0.021 14, from 579.30γ, 367.94γ coin. in 1971Ha09; A ₂ =0.102, A ₄ =0.009 from 579.28γ, 367.94γ coin. in 1965Sa02; A ₂ =0.148 30, A ₄ =-0.002 39 from 579.28ε, 367.94γ coin. in 1965Sa02; α(K)exp=0.016 2 (1965Sa02).
587.88 4	0.0045 [#] 6	2229.276	1 ⁺	1641.453	2 ⁺	[M1,E2]		0.039 21	%I _γ =0.0040 5 α(K)=0.032 18; α(L)=0.0058 23; α(M)=0.0014 5 α(N)=3.4×10 ⁻⁴ 13; α(O)=6.4×10 ⁻⁵ 25; α(P)=4.4×10 ⁻⁶ 25
591.66 3	0.33 [#] 3	1845.787	3 ⁺	1254.107	2 ⁺	(M1+E2)		0.0590 8	%I _γ =0.292 27 α(K)=0.0486 7; α(L)=0.00796 11; α(M)=0.001846 26 α(N)=0.000463 6; α(O)=8.76×10 ⁻⁵ 12; α(P)=6.77×10 ⁻⁶ 9
597.41 4	0.0022 [#] 4	2331.791	2 ⁺	1734.353	3 ⁺	[M1,E2]		0.038 20	%I _γ =0.00195 35 α(K)=0.030 17; α(L)=0.0055 22; α(M)=0.0013 5 α(N)=3.3×10 ⁻⁴ 12; α(O)=6.1×10 ⁻⁵ 24; α(P)=4.2×10 ⁻⁶ 24
598.35 3	0.0110 [#] 10	2229.276	1 ⁺	1630.905	1 ⁺	M1(+E2)		0.037 20	%I _γ =0.0097 9 α(K)=0.030 17; α(L)=0.0055 22; α(M)=0.0013 5 α(N)=3.3×10 ⁻⁴ 12; α(O)=6.1×10 ⁻⁵ 24; α(P)=4.2×10 ⁻⁶ 24
600.82 4	0.0026 [#] 3	2331.791	2 ⁺	1730.934	2 ⁺	[M1,E2]		0.037 20	%I _γ =0.00230 27 α(K)=0.030 17; α(L)=0.0055 22; α(M)=0.0013 5 α(N)=3.2×10 ⁻⁴ 12; α(O)=6.0×10 ⁻⁵ 24; α(P)=4.1×10 ⁻⁶ 24
601.48 5	0.0038 [#] 7	1630.905	1 ⁺	1029.353	0 ⁺	[M1]		0.0565 8	%I _γ =0.0034 6 α(K)=0.0466 7; α(L)=0.00762 11; α(M)=0.001767 25 α(N)=0.000443 6; α(O)=8.39×10 ⁻⁵ 12; α(P)=6.48×10 ⁻⁶ 9

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

$\gamma(^{200}\text{Hg})$ (continued)									
E_γ †	I_γ ‡α	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ †	α &	Comments
602.73 7	≈0.00001 @	1856.790	0 ⁺	1254.107	2 ⁺	[E2]		0.01740 24	%I γ ≈8.85×10 ⁻⁶ α(K)=0.01312 18; α(L)=0.00326 5; α(M)=0.000791 11 α(N)=0.0001976 28; α(O)=3.56×10 ⁻⁵ 5; α(P)=1.741×10 ⁻⁶ 24
612.12 3	0.285 # 23	1641.453	2 ⁺	1029.353	0 ⁺	E2		0.01681 24	%I γ =0.252 20 α(K)=0.01271 18; α(L)=0.00312 4; α(M)=0.000757 11 α(N)=0.0001890 26; α(O)=3.41×10 ⁻⁵ 5; α(P)=1.686×10 ⁻⁶ 24 Mult.: α(K)exp=0.011 3.
613.55 5	0.0018 # 4	2331.791	2 ⁺	1718.313	1 ⁺	[M1,E2]		0.035 18	%I γ =0.00159 35 α(K)=0.028 16; α(L)=0.0052 21; α(M)=0.0012 5 α(N)=3.0×10 ⁻⁴ 12; α(O)=5.7×10 ⁻⁵ 23; α(P)=3.9×10 ⁻⁶ 22
626.52 10	0.11 # 4	1573.674	2 ⁺	947.248	4 ⁺	[E2]		0.01596 22	%I γ =0.097 35 α(K)=0.01211 17; α(L)=0.00293 4; α(M)=0.000708 10 α(N)=0.0001769 25; α(O)=3.20×10 ⁻⁵ 4; α(P)=1.607×10 ⁻⁶ 23
628.80 3	0.96 # 7	1882.868	2 ⁺	1254.107	2 ⁺	M1(+E2)	≤0.3	0.0489 16	%I γ =0.85 6 α(K)=0.0403 13; α(L)=0.00662 19; α(M)=0.00154 4 α(N)=0.000385 11; α(O)=7.29×10 ⁻⁵ 20; α(P)=5.60×10 ⁻⁶ 19 Mult.: α(K)exp=0.044 12 (1965Sa02).
632.85 5	0.0045 # 10	2274.236	(2) ⁺	1641.453	2 ⁺	[M1,E2]		0.033 17	%I γ =0.0040 9 α(K)=0.026 14; α(L)=0.0048 19; α(M)=0.0011 4 α(N)=2.8×10 ⁻⁴ 11; α(O)=5.2×10 ⁻⁵ 21; α(P)=3.6×10 ⁻⁶ 20
635.86 16	≈0.0023 #	2229.276	1 ⁺	1593.435	2 ⁺	[M1,E2]		0.032 17	%I γ ≈0.00204 α(K)=0.026 14; α(L)=0.0047 19; α(M)=0.0011 4 α(N)=2.8×10 ⁻⁴ 11; α(O)=5.2×10 ⁻⁵ 21; α(P)=3.6×10 ⁻⁶ 20
635.86 16	≈0.00009 #	2370.053	1 ⁺	1734.353	3 ⁺	[E2]		0.01544 22	%I γ ≈7.96×10 ⁻⁵ α(K)=0.01175 16; α(L)=0.00281 4; α(M)=0.000679 10 α(N)=0.0001697 24; α(O)=3.07×10 ⁻⁵ 4; α(P)=1.559×10 ⁻⁶ 22
639.11 4	0.00051 # 4	2370.053	1 ⁺	1730.934	2 ⁺	[M1,E2]		0.032 16	%I γ =0.000451 35 α(K)=0.026 14; α(L)=0.0046 19; α(M)=0.0011 4 α(N)=2.7×10 ⁻⁴ 11; α(O)=5.1×10 ⁻⁵ 21; α(P)=3.5×10 ⁻⁶ 20
643.29 4	0.0145 # 21	2274.236	(2) ⁺	1630.905	1 ⁺	[M1,E2]		0.031 16	%I γ =0.0128 19 α(K)=0.025 14; α(L)=0.0046 18; α(M)=0.0011 4 α(N)=2.7×10 ⁻⁴ 10; α(O)=5.0×10 ⁻⁵ 20; α(P)=3.5×10 ⁻⁶ 20
646.17 7	0.0096 # 19	1593.435	2 ⁺	947.248	4 ⁺	[E2]		0.01490 21	%I γ =0.0085 17 α(K)=0.01137 16; α(L)=0.00269 4; α(M)=0.000649 9 α(N)=0.0001622 23; α(O)=2.94×10 ⁻⁵ 4; α(P)=1.508×10 ⁻⁶ 21
651.4 3	0.00012 # 4	2370.053	1 ⁺	1718.313	1 ⁺	[M1,E2]		0.030 16	%I γ =0.000106 35 α(K)=0.025 13; α(L)=0.0044 18; α(M)=1.0×10 ⁻³ 4 α(N)=2.6×10 ⁻⁴ 10; α(O)=4.8×10 ⁻⁵ 20; α(P)=3.4×10 ⁻⁶ 19

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡ ^a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α &	Comments
655.59 5	0.0053 [#] 8	2229.276	1 ⁺	1573.674	2 ⁺	[M1,E2]	0.030 15	%I _γ =0.0047 7 α(K)=0.024 13; α(L)=0.0043 17; α(M)=1.0×10 ⁻³ 4 α(N)=2.5×10 ⁻⁴ 10; α(O)=4.8×10 ⁻⁵ 19; α(P)=3.3×10 ⁻⁶ 19
659.01 3	0.024 [#] 3	2229.276	1 ⁺	1570.285	1 ⁺	[M1,E2]	0.029 15	%I _γ =0.0212 27 α(K)=0.024 13; α(L)=0.0043 17; α(M)=1.0×10 ⁻³ 4 α(N)=2.5×10 ⁻⁴ 10; α(O)=4.7×10 ⁻⁵ 19; α(P)=3.3×10 ⁻⁶ 18
661.36 3	2.61 14	1029.353	0 ⁺	367.945	2 ⁺	E2	0.01416 20	%I _γ =2.31 12 α(K)=0.01085 15; α(L)=0.002524 35; α(M)=0.000609 9 α(N)=0.0001520 21; α(O)=2.76×10 ⁻⁵ 4; α(P)=1.439×10 ⁻⁶ 20 Mult.: A ₂ =0.40 7, A ₄ =1.10 12 from 661.36γ, 367.94γ coin. in 1971Ha09; α(K)exp=0.023 6 (1965Sa02).
688.94 3	0.152 [#] 11	1718.313	1 ⁺	1029.353	0 ⁺	M1	0.0397 6	%I _γ =0.135 10 α(K)=0.0327 5; α(L)=0.00533 7; α(M)=0.001237 17 α(N)=0.000310 4; α(O)=5.87×10 ⁻⁵ 8; α(P)=4.54×10 ⁻⁶ 6 Mult.: α(K)exp=0.038 7.
690.28 6	0.0042 [#] 11	2331.791	2 ⁺	1641.453	2 ⁺	[M1,E2]	0.026 13	%I _γ =0.0037 10 α(K)=0.021 11; α(L)=0.0038 15; α(M)=8.9×10 ⁻⁴ 34 α(N)=2.2×10 ⁻⁴ 9; α(O)=4.2×10 ⁻⁵ 17; α(P)=2.9×10 ⁻⁶ 16
694.14 5	0.061 [#] 12	1641.453	2 ⁺	947.248	4 ⁺	[E2]	0.01275 18	%I _γ =0.054 11 α(K)=0.00984 14; α(L)=0.002218 31; α(M)=0.000533 7 α(N)=0.0001332 19; α(O)=2.424×10 ⁻⁵ 34; α(P)=1.304×10 ⁻⁶ 18
695.72 20	≈0.0028 [#]	2288.96	2 ⁺	1593.435	2 ⁺	[M1,E2]	0.026 13	%I _γ ≈0.00248 α(K)=0.021 11; α(L)=0.0037 15; α(M)=8.7×10 ⁻⁴ 34 α(N)=2.2×10 ⁻⁴ 8; α(O)=4.1×10 ⁻⁵ 17; α(P)=2.9×10 ⁻⁶ 16
700.17 15	0.0063 [#] 24	2274.236	(2) ⁺	1573.674	2 ⁺	[M1,E2]	0.025 13	%I _γ =0.0056 21 α(K)=0.021 11; α(L)=0.0036 15; α(M)=8.5×10 ⁻⁴ 33 α(N)=2.1×10 ⁻⁴ 8; α(O)=4.0×10 ⁻⁵ 16; α(P)=2.8×10 ⁻⁶ 15
701.56 3	1.79 [#] 16	1730.934	2 ⁺	1029.353	0 ⁺	(E2)	0.01246 17	%I _γ =1.58 14 α(K)=0.00963 13; α(L)=0.002156 30; α(M)=0.000518 7 α(N)=0.0001295 18; α(O)=2.357×10 ⁻⁵ 33; α(P)=1.276×10 ⁻⁶ 18
703.82 5	0.029 [#] 5	2274.236	(2) ⁺	1570.285	1 ⁺	[M1,E2]	0.025 13	%I _γ =0.026 4 α(K)=0.020 11; α(L)=0.0036 15; α(M)=8.4×10 ⁻⁴ 33 α(N)=2.1×10 ⁻⁴ 8; α(O)=3.9×10 ⁻⁵ 16; α(P)=2.8×10 ⁻⁶ 15
710.93 12	0.00013 [#] 6	2370.053	1 ⁺	1659.017	3 ⁺	[E2]	0.01211 17	%I _γ =0.00012 5 α(K)=0.00938 13; α(L)=0.002083 29; α(M)=0.000500 7 α(N)=0.0001249 18; α(O)=2.276×10 ⁻⁵ 32; α(P)=1.243×10 ⁻⁶ 17
711.70 5	0.31 4	1659.017	3 ⁺	947.248	4 ⁺	M1(+E2)	0.024 12	%I _γ =0.274 35 α(K)=0.020 10; α(L)=0.0035 14; α(M)=8.2×10 ⁻⁴ 32

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡α	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α &	Comments
713.94 10	0.0043# 8	2229.276	1 ⁺	1515.183	0 ⁺	[M1]	0.0362 5	$\alpha(N)=2.0\times 10^{-4}$ 8; $\alpha(O)=3.8\times 10^{-5}$ 16; $\alpha(P)=2.7\times 10^{-6}$ 15 Mult.: $\alpha(K)_{exp}=0.030$ 5 %I $\gamma=0.0038$ 7 $\alpha(K)=0.0299$ 4; $\alpha(L)=0.00486$ 7; $\alpha(M)=0.001127$ 16 $\alpha(N)=0.000282$ 4; $\alpha(O)=5.35\times 10^{-5}$ 7; $\alpha(P)=4.14\times 10^{-6}$ 6
718.04 10	0.056# 15	1972.287	(2) ⁺	1254.107	2 ⁺	[M1,E2]	0.024 12	%I $\gamma=0.050$ 13 $\alpha(K)=0.019$ 10; $\alpha(L)=0.0034$ 14; $\alpha(M)=8.0\times 10^{-4}$ 31 $\alpha(N)=2.0\times 10^{-4}$ 8; $\alpha(O)=3.7\times 10^{-5}$ 15; $\alpha(P)=2.6\times 10^{-6}$ 14
718.55 13	0.0059# 23	2288.96	2 ⁺	1570.285	1 ⁺	[M1,E2]	0.024 12	%I $\gamma=0.0052$ 20 $\alpha(K)=0.019$ 10; $\alpha(L)=0.0034$ 14; $\alpha(M)=8.0\times 10^{-4}$ 31 $\alpha(N)=2.0\times 10^{-4}$ 8; $\alpha(O)=3.7\times 10^{-5}$ 15; $\alpha(P)=2.6\times 10^{-6}$ 14
720.21 5	0.042# 4	1974.346	(3) ⁺	1254.107	2 ⁺	[M1,E2]	0.024 12	%I $\gamma=0.0372$ 35 $\alpha(K)=0.019$ 10; $\alpha(L)=0.0034$ 14; $\alpha(M)=7.9\times 10^{-4}$ 31 $\alpha(N)=2.0\times 10^{-4}$ 8; $\alpha(O)=3.7\times 10^{-5}$ 15; $\alpha(P)=2.6\times 10^{-6}$ 14
722.2 5	≈0.0008#	2296.29	1 ⁺	1573.674	2 ⁺	[M1,E2]	0.023 12	%I $\gamma\approx 0.000708$ $\alpha(K)=0.019$ 10; $\alpha(L)=0.0034$ 14; $\alpha(M)=7.9\times 10^{-4}$ 31 $\alpha(N)=2.0\times 10^{-4}$ 8; $\alpha(O)=3.7\times 10^{-5}$ 15; $\alpha(P)=2.6\times 10^{-6}$ 14
728.45 7	0.00051# 5	2370.053	1 ⁺	1641.453	2 ⁺	[M1,E2]	0.023 11	%I $\gamma=0.00045$ 4 $\alpha(K)=0.019$ 10; $\alpha(L)=0.0033$ 13; $\alpha(M)=7.7\times 10^{-4}$ 30 $\alpha(N)=1.9\times 10^{-4}$ 8; $\alpha(O)=3.6\times 10^{-5}$ 15; $\alpha(P)=2.6\times 10^{-6}$ 14
738.5 2	≈0.0018#	2331.791	2 ⁺	1593.435	2 ⁺	[M1,E2]	0.022 11	%I $\gamma\approx 0.00159$ $\alpha(K)=0.018$ 9; $\alpha(L)=0.0032$ 13; $\alpha(M)=7.4\times 10^{-4}$ 29 $\alpha(N)=1.9\times 10^{-4}$ 7; $\alpha(O)=3.5\times 10^{-5}$ 14; $\alpha(P)=2.5\times 10^{-6}$ 13
739.05 16	0.00026# 8	2370.053	1 ⁺	1630.905	1 ⁺	[M1,E2]	0.022 11	%I $\gamma=0.00023$ 7 $\alpha(K)=0.018$ 9; $\alpha(L)=0.0032$ 13; $\alpha(M)=7.4\times 10^{-4}$ 29 $\alpha(N)=1.9\times 10^{-4}$ 7; $\alpha(O)=3.5\times 10^{-5}$ 14; $\alpha(P)=2.5\times 10^{-6}$ 13
747.30 9	0.0037# 7	2388.70	(1,2,3) ⁺	1641.453	2 ⁺	[M1,E2]	0.022 11	%I $\gamma=0.0033$ 6 $\alpha(K)=0.018$ 9; $\alpha(L)=0.0031$ 12; $\alpha(M)=7.2\times 10^{-4}$ 28 $\alpha(N)=1.8\times 10^{-4}$ 7; $\alpha(O)=3.4\times 10^{-5}$ 14; $\alpha(P)=2.4\times 10^{-6}$ 13
759.30 11	0.0080# 16	2274.236	(2) ⁺	1515.183	0 ⁺	[E2]	0.01054 15	%I $\gamma=0.0071$ 14 $\alpha(K)=0.00823$ 12; $\alpha(L)=0.001758$ 25; $\alpha(M)=0.000421$ 6 $\alpha(N)=0.0001051$ 15; $\alpha(O)=1.921\times 10^{-5}$ 27; $\alpha(P)=1.089\times 10^{-6}$ 15
761.43 12	0.0042# 17	2331.791	2 ⁺	1570.285	1 ⁺	[M1,E2]	0.021 10	%I $\gamma=0.0037$ 15 $\alpha(K)=0.017$ 9; $\alpha(L)=0.0029$ 12; $\alpha(M)=6.8\times 10^{-4}$ 27 $\alpha(N)=1.7\times 10^{-4}$ 7; $\alpha(O)=3.2\times 10^{-5}$ 13; $\alpha(P)=2.3\times 10^{-6}$ 12
780.96 11	0.0011# 3	2296.29	1 ⁺	1515.183	0 ⁺	[M1]	0.0287 4	%I $\gamma=0.00097$ 27

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡α}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>δ[†]</u>	<u>α^{&}</u>	<u>Comments</u>
									α(K)=0.02371 33; α(L)=0.00385 5; α(M)=0.000891 12 α(N)=0.0002235 31; α(O)=4.24×10 ⁻⁵ 6; α(P)=3.28×10 ⁻⁶ 5
783.71 4	0.65 [#] 5	1730.934	2 ⁺	947.248	4 ⁺	E2		0.00986 14	%I _γ =0.58 4 α(K)=0.00774 11; α(L)=0.001623 23; α(M)=0.000388 5 α(N)=9.68×10 ⁻⁵ 14; α(O)=1.773×10 ⁻⁵ 25; α(P)=1.023×10 ⁻⁶ 14
787.10 4	1.18 20	1734.353	3 ⁺	947.248	4 ⁺	M1+E2	+0.08 4	0.0280 4	%I _γ =1.04 18 α(K)=0.02314 35; α(L)=0.00376 6; α(M)=0.000870 13 α(N)=0.0002182 32; α(O)=4.13×10 ⁻⁵ 6; α(P)=3.20×10 ⁻⁶ 5 Mult.: α(K) _{exp} =0.020 4 (1965Sa02).
796.41 6	0.00106 [#] 9	2370.053	1 ⁺	1573.674	2 ⁺	M1		0.0273 4	%I _γ =0.00094 8 α(K)=0.02254 32; α(L)=0.00366 5; α(M)=0.000847 12 α(N)=0.0002124 30; α(O)=4.02×10 ⁻⁵ 6; α(P)=3.12×10 ⁻⁶ 4
799.90 18	0.00036 [#] 11	2370.053	1 ⁺	1570.285	1 ⁺	[M1,E2]		0.018 9	%I _γ =0.00032 10 α(K)=0.015 7; α(L)=0.0026 10; α(M)=6.0×10 ⁻⁴ 23 α(N)=1.5×10 ⁻⁴ 6; α(O)=2.8×10 ⁻⁵ 11; α(P)=2.0×10 ⁻⁶ 11
807.20 5	0.00157 [#] 11	2061.264	1 ⁺	1254.107	2 ⁺	M1(+E2)	0.6 6	0.022 6	%I _γ =0.00139 10 α(K)=0.018 5; α(L)=0.0030 7; α(M)=0.00070 15 α(N)=0.00017 4; α(O)=3.3×10 ⁻⁵ 7; α(P)=2.5×10 ⁻⁶ 7
818.33 11	0.0063 [#] 10	2388.70	(1,2,3) ⁺	1570.285	1 ⁺	[M1,E2]		0.017 8	%I _γ =0.0056 9 α(K)=0.014 7; α(L)=0.0024 10; α(M)=5.7×10 ⁻⁴ 22 α(N)=1.4×10 ⁻⁴ 6; α(O)=2.7×10 ⁻⁵ 11; α(P)=1.9×10 ⁻⁶ 10
(827.436 14)		1856.790	0 ⁺	1029.353	0 ⁺	E0			
828.27 4	12.4 7	1775.566	3 ⁺	947.248	4 ⁺	M1+E2	-0.04 3	0.02466 35	%I _γ =11.0 6 α(K)=0.02037 29; α(L)=0.00330 5; α(M)=0.000764 11 α(N)=0.0001916 27; α(O)=3.63×10 ⁻⁵ 5; α(P)=2.82×10 ⁻⁶ 4 Mult.: A ₂ =-0.057 10, A ₄ =-0.015 15 from 828.32γ, 579.30γ, 367.94γ coin. in 1971Ha09; A ₂ =-0.031 21, A ₄ =0.007 29 from 828.27γ, 579.28γ coin. in 1965Sa02; α(K) _{exp} =0.025 3 (1965Sa02). δ: Others (γγ(θ)): 0.10 2 (1971Ha09), +0.07 (1965Sa02) and 1.0 1 (1957Li39).
872.93 14	0.08 2	2126.863	2 ⁺	1254.107	2 ⁺	[M1,E2]		0.015 7	%I _γ =0.071 18 α(K)=0.012 6; α(L)=0.0021 8; α(M)=4.8×10 ⁻⁴ 19 α(N)=1.2×10 ⁻⁴ 5; α(O)=2.3×10 ⁻⁵ 9; α(P)=1.6×10 ⁻⁶ 8

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡α	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	δ^\dagger	$\alpha^\&$	Comments
886.20 4	2.32 14	1254.107	2 ⁺	367.945	2 ⁺	E2+M1	-1.79 17	0.0108 5	%I _γ =2.05 12 α(K)=0.0087 4; α(L)=0.00158 6; α(M)=0.000370 15 α(N)=9.3×10 ⁻⁵ 4; α(O)=1.73×10 ⁻⁵ 7; α(P)=1.18×10 ⁻⁶ 6 Mult.: A ₂ =0.20 9, A ₄ =0.32 17 from 886.20γ, 367.94γ coin. in 1971Ha09; α(K)exp=0.036 11 (1965Sa02). δ: 2.8 +13-8 from γγ(θ) in 1971Ha09.
898.56 7	0.71 5	1845.787	3 ⁺	947.248	4 ⁺	M1+E2	-0.07 4	0.01997 29	%I _γ =0.63 4 α(K)=0.01650 24; α(L)=0.00267 4; α(M)=0.000618 9 α(N)=0.0001549 23; α(O)=2.94×10 ⁻⁵ 4; α(P)=2.279×10 ⁻⁶ 34 Mult.: α(K)exp=0.0070 14 (1965Sa02).
936.1 4	0.07 4	1882.868	2 ⁺	947.248	4 ⁺	(E2)		0.00688 10	%I _γ =0.062 35 α(K)=0.00550 8; α(L)=0.001057 15; α(M)=0.0002500 35 α(N)=6.25×10 ⁻⁵ 9; α(O)=1.154×10 ⁻⁵ 16; α(P)=7.23×10 ⁻⁷ 10 E _γ : From 1971Ko03.
975.15 7	0.09 3	2229.276	1 ⁺	1254.107	2 ⁺	M1+E2	0.8 +6-4	0.0124 27	%I _γ =0.080 27 α(K)=0.0102 23; α(L)=0.00170 33; α(M)=0.00039 7 α(N)=9.9×10 ⁻⁵ 19; α(O)=1.9×10 ⁻⁵ 4; α(P)=1.39×10 ⁻⁶ 32
1027.11 20	0.07 2	1974.346	(3) ⁺	947.248	4 ⁺	M1(+E2)		0.010 4	%I _γ =0.062 18 α(K)=0.008 4; α(L)=0.0014 5; α(M)=3.2×10 ⁻⁴ 12 α(N)=8.0×10 ⁻⁵ 30; α(O)=1.5×10 ⁻⁵ 6; α(P)=1.1×10 ⁻⁶ 5 E _γ : From 1971Ko03.
(1029.348 9)		1029.353	0 ⁺	0.0	0 ⁺	E0			
1034.9 10	≈0.013#	2288.96	2 ⁺	1254.107	2 ⁺	[M1,E2]		0.010 4	%I _γ ≈0.01150 α(K)=0.0081 35; α(L)=0.0013 5; α(M)=3.1×10 ⁻⁴ 12 α(N)=7.9×10 ⁻⁵ 29; α(O)=1.5×10 ⁻⁵ 6; α(P)=1.1×10 ⁻⁶ 5
1042.4 3	0.0072# 21	2296.29	1 ⁺	1254.107	2 ⁺	M1		0.01372 19	%I _γ =0.0064 19 α(K)=0.01134 16; α(L)=0.001824 26; α(M)=0.000422 6 α(N)=0.0001059 15; α(O)=2.007×10 ⁻⁵ 28; α(P)=1.562×10 ⁻⁶ 22
1116 1	≈0.000255#	2370.053	1 ⁺	1254.107	2 ⁺	[M1,E2]		0.0082 33	%I _γ ≈0.000226 α(K)=0.0067 28; α(L)=0.0011 4; α(M)=2.6×10 ⁻⁴ 9 α(N)=6.5×10 ⁻⁵ 24; α(O)=1.2×10 ⁻⁵ 5; α(P)=9.E-7 4; α(IPF)=4.2×10 ⁻⁷ 11
1147.20 8	0.14 4	1515.183	0 ⁺	367.945	2 ⁺	E2		0.00463 6	%I _γ =0.124 35 α(K)=0.00375 5; α(L)=0.000668 9; α(M)=0.0001568 22 α(N)=3.92×10 ⁻⁵ 5; α(O)=7.30×10 ⁻⁶ 10; α(P)=4.91×10 ⁻⁷ 7; α(IPF)=9.74×10 ⁻⁷ 14
1167.1 3	0.12 4	2114.362	3 ⁺	947.248	4 ⁺	M1(+E2)		0.0074 29	%I _γ =0.106 35 α(K)=0.0061 24; α(L)=1.0×10 ⁻³ 4; α(M)=2.3×10 ⁻⁴ 8

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ †	α &	Comments
1180.5 3	0.13 4	2126.863	2 ⁺	947.248	4 ⁺	[E2]		0.00438 6	$\alpha(N)=5.8\times 10^{-5}$ 21; $\alpha(O)=1.1\times 10^{-5}$ 4; $\alpha(P)=8.2\times 10^{-7}$ 35; $\alpha(IPF)=2.4\times 10^{-6}$ 6 E_γ : From 1971Ko03. Mult.: $\alpha(K)_{exp}=0.013$ 4. %I $\gamma=0.115$ 35 $\alpha(K)=0.00356$ 5; $\alpha(L)=0.000628$ 9; $\alpha(M)=0.0001472$ 21 $\alpha(N)=3.68\times 10^{-5}$ 5; $\alpha(O)=6.86\times 10^{-6}$ 10; $\alpha(P)=4.65\times 10^{-7}$ 7; $\alpha(IPF)=2.56\times 10^{-6}$ 4
1202.35 7	0.124# 12	1570.285	1 ⁺	367.945	2 ⁺	M1+E2	-0.43 4	0.00873 18	%I $\gamma=0.110$ 11 $\alpha(K)=0.00721$ 15; $\alpha(L)=0.001162$ 23; $\alpha(M)=0.000269$ 5 $\alpha(N)=6.75\times 10^{-5}$ 13; $\alpha(O)=1.277\times 10^{-5}$ 26; $\alpha(P)=9.87\times 10^{-7}$ 21; $\alpha(IPF)=6.66\times 10^{-6}$ 12
1205.75 7	34.4 19	1573.674	2 ⁺	367.945	2 ⁺	M1+E2	+0.252 19	0.00917 14	%I $\gamma=30.4$ 17 $\alpha(K)=0.00758$ 11; $\alpha(L)=0.001217$ 18; $\alpha(M)=0.000282$ 4 $\alpha(N)=7.06\times 10^{-5}$ 10; $\alpha(O)=1.338\times 10^{-5}$ 20; $\alpha(P)=1.040\times 10^{-6}$ 16; $\alpha(IPF)=7.43\times 10^{-6}$ 11 Mult.: $A_2=0.040$ 21, $A_4=0.06$ 4 from 1205.75 γ , 367.94 γ coin. in 1971Ha09; $A_2=0.078$ 6; $A_4=0.029$ 9 from 1205.70 γ , 367.94 γ coin. in 1965Sa02; $\alpha(K)_{exp}=0.0065$ 7 (1965Sa02). δ : Others: -0.24 1 (1957Li39), -0.27 +2-3 (1971Ha09) and -0.25 (1965Sa02)from $\gamma\gamma(\theta)$.
1225.44 8	3.85 23	1593.435	2 ⁺	367.945	2 ⁺	M1+E2(+E0)	-2.48 +16-32	0.00479 15	%I $\gamma=3.41$ 20 $\alpha(K)=0.00391$ 13; $\alpha(L)=0.000667$ 19; $\alpha(M)=0.000156$ 4 $\alpha(N)=3.90\times 10^{-5}$ 11; $\alpha(O)=7.30\times 10^{-6}$ 21; $\alpha(P)=5.18\times 10^{-7}$ 18; $\alpha(IPF)=7.06\times 10^{-6}$ 15 Mult.: $A_2=0.26$ 4; $A_4=0.25$ 7 from 1225.50 γ , 367.94 γ coin. in 1971Ha09; $\alpha(K)_{exp}=0.0043$ 6 (1965Sa02). δ : Other: 2.2 +3-4 from $\gamma\gamma(\theta)$ in 1971Ha09.
1254.14 10	1.07 8	1254.107	2 ⁺	0.0	0 ⁺	E2		0.00391 5	%I $\gamma=0.95$ 7 $\alpha(K)=0.00318$ 4; $\alpha(L)=0.000552$ 8; $\alpha(M)=0.0001290$ 18 $\alpha(N)=3.23\times 10^{-5}$ 5; $\alpha(O)=6.02\times 10^{-6}$ 8; $\alpha(P)=4.15\times 10^{-7}$ 6; $\alpha(IPF)=9.75\times 10^{-6}$ 14 Mult.: $\alpha(K)_{exp}=0.0033$ 11.
1262.96 8	0.90 8	1630.905	1 ⁺	367.945	2 ⁺	M1+E2	+0.12 5	0.00838 13	%I $\gamma=0.80$ 7 $\alpha(K)=0.00692$ 11; $\alpha(L)=0.001108$ 17; $\alpha(M)=0.000256$ 4 $\alpha(N)=6.42\times 10^{-5}$ 10; $\alpha(O)=1.218\times 10^{-5}$ 19; $\alpha(P)=9.50\times 10^{-7}$ 15; $\alpha(IPF)=1.796\times 10^{-5}$ 27
1266.9 6	≈0.0095#	2296.29	1 ⁺	1029.353	0 ⁺	[M1]		0.00838 12	%I $\gamma\approx 0.00841$ $\alpha(K)=0.00692$ 10; $\alpha(L)=0.001107$ 16; $\alpha(M)=0.000256$ 4

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡a}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>δ[†]</u>	<u>α&</u>	<u>Comments</u>
1273.43 10	3.80 23	1641.453	2 ⁺	367.945	2 ⁺	M1(+E2)	+0.02 3	0.00828 12	α(N)=6.42×10 ⁻⁵ 9; α(O)=1.217×10 ⁻⁵ 17; α(P)=9.51×10 ⁻⁷ 13; α(IPF)=1.890×10 ⁻⁵ 29 %I _γ =3.36 20 α(K)=0.00683 10; α(L)=0.001093 15; α(M)=0.0002527 35 α(N)=6.33×10 ⁻⁵ 9; α(O)=1.201×10 ⁻⁵ 17; α(P)=9.38×10 ⁻⁷ 13; α(IPF)=2.032×10 ⁻⁵ 29 Mult.: A ₂ =0.24 3; A ₄ =-0.01 4 from 1273.43γ, 367.94γ coin. in 1971Ha09 . δ: Other: -0.01 4 using γγ(θ) in 1971Ha09 . %I _γ =0.61 5 α(K)=0.0048 18; α(L)=7.9×10 ⁻⁴ 27; α(M)=1.8×10 ⁻⁴ 6 α(N)=4.6×10 ⁻⁵ 15; α(O)=8.6×10 ⁻⁶ 30; α(P)=6.5×10 ⁻⁷ 26; α(IPF)=2.0×10 ⁻⁵ 5 E _γ : From 1971Ko03 .
1291.11 11	0.69 6	1659.017	3 ⁺	367.945	2 ⁺	M1(+E2)		0.0059 21	%I _γ =0.043 14 α(K)=0.00281 4; α(L)=0.000479 7; α(M)=0.0001117 16 α(N)=2.79×10 ⁻⁵ 4; α(O)=5.22×10 ⁻⁶ 7; α(P)=3.66×10 ⁻⁷ 5; α(IPF)=2.354×10 ⁻⁵ 34 Mult.: α(K)=0.0038 15 (1965Sa02). %I _γ =0.150 13 α(K)=0.00589 8; α(L)=0.000940 13; α(M)=0.0002174 31 α(N)=5.45×10 ⁻⁵ 8; α(O)=1.034×10 ⁻⁵ 15; α(P)=8.08×10 ⁻⁷ 11; α(IPF)=4.16×10 ⁻⁵ 6 E _γ : From 1971Ko03 . %I _γ =3.45 35 α(K)=0.00548 19; α(L)=0.000876 29; α(M)=0.000203 7 α(N)=5.08×10 ⁻⁵ 17; α(O)=9.63×10 ⁻⁶ 32; α(P)=7.49×10 ⁻⁷ 27; α(IPF)=4.44×10 ⁻⁵ 12 E _γ : Other: 1362.9 keV 3 in 1971Ko03 . Mult.: A ₂ =0.49 8; A ₄ =0.19 13 from 1362.2γ, 367.94γ coin. in 1971Ha09 ; α(K) _{exp} =0.0050 8 (1965Sa02). δ: Other: 1.0 +2-5 using γγ(θ) in 1971Ha09 . %I _γ =0.88 27 α(K)=0.0042 15; α(L)=6.9×10 ⁻⁴ 23; α(M)=1.6×10 ⁻⁴ 5 α(N)=4.0×10 ⁻⁵ 13; α(O)=7.5×10 ⁻⁶ 25; α(P)=5.7×10 ⁻⁷ 22; α(IPF)=3.8×10 ⁻⁵ 9 Mult.: α(K) _{exp} =0.0050 8 (1965Sa02). %I _γ =0.037 7 α(K)=0.00265 4; α(L)=0.000448 6; α(M)=0.0001045 15
1341.7 5	0.049 [#] 16	2288.96	2 ⁺	947.248	4 ⁺	(E2)		0.00346 5	
1350.35 16	0.170 15	1718.313	1 ⁺	367.945	2 ⁺	M1+E2	+0.035 31	0.00716 10	
1363.2 2	3.9 4	1730.934	2 ⁺	367.945	2 ⁺	M1+E2	-0.32 10	0.00666 23	
1366.8 7	1.0 3	1734.353	3 ⁺	367.945	2 ⁺	M1(+E2)		0.0051 18	
1385.0 3	0.042 [#] 8	2331.791	2 ⁺	947.248	4 ⁺	(E2)		0.00327 5	

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ †	α &	Comments
1407.64 11	1.66 15	1775.566	3 ⁺	367.945	2 ⁺	M1+E2	0.44 +3-5	0.00594 13	$\alpha(N)=2.61 \times 10^{-5}$ 4; $\alpha(O)=4.89 \times 10^{-6}$ 7; $\alpha(P)=3.45 \times 10^{-7}$ 5; $\alpha(IPF)=3.31 \times 10^{-5}$ 5 %I γ =1.47 13 $\alpha(K)=0.00487$ 11; $\alpha(L)=0.000779$ 17; $\alpha(M)=0.000180$ 4 $\alpha(N)=4.52 \times 10^{-5}$ 10; $\alpha(O)=8.56 \times 10^{-6}$ 18; $\alpha(P)=6.64 \times 10^{-7}$ 15; $\alpha(IPF)=5.93 \times 10^{-5}$ 11 E γ : From 1971Ko03. Mult., δ : A ₂ =-0.38 2; A ₄ =0.01 3 from 1407.64 γ , 367.94 γ coin. in 1971Ha09; Other: $\alpha(K)_{exp}=0.0030$ 6 (1965Sa02). %I γ =0.154 13 $\alpha(K)=0.0035$ 12; $\alpha(L)=5.7 \times 10^{-4}$ 18; $\alpha(M)=1.3 \times 10^{-4}$ 4 $\alpha(N)=3.3 \times 10^{-5}$ 10; $\alpha(O)=6.3 \times 10^{-6}$ 20; $\alpha(P)=4.8 \times 10^{-7}$ 17; $\alpha(IPF)=7.6 \times 10^{-5}$ 18 E γ : From 1971Ko03.
1477.78 14	0.174 15	1845.787	3 ⁺	367.945	2 ⁺	[M1,E2]		0.0043 14	%I γ =0.154 13 $\alpha(K)=0.0035$ 12; $\alpha(L)=5.7 \times 10^{-4}$ 18; $\alpha(M)=1.3 \times 10^{-4}$ 4 $\alpha(N)=3.3 \times 10^{-5}$ 10; $\alpha(O)=6.3 \times 10^{-6}$ 20; $\alpha(P)=4.8 \times 10^{-7}$ 17; $\alpha(IPF)=7.6 \times 10^{-5}$ 18 E γ : From 1971Ko03.
1488.5 4	≈0.0007@	1856.790	0 ⁺	367.945	2 ⁺	E2		0.00289 4	%I γ ≈0.000619 $\alpha(K)=0.002328$ 33; $\alpha(L)=0.000387$ 5; $\alpha(M)=8.99 \times 10^{-5}$ 13 $\alpha(N)=2.250 \times 10^{-5}$ 32; $\alpha(O)=4.22 \times 10^{-6}$ 6; $\alpha(P)=3.03 \times 10^{-7}$ 4; $\alpha(IPF)=6.14 \times 10^{-5}$ 9
1514.90 10	4.6 3	1882.868	2 ⁺	367.945	2 ⁺	M1+E2(+E0)	+0.10 4	0.00542 8	%I γ =4.07 27 $\alpha(K)=0.00440$ 6; $\alpha(L)=0.000699$ 10; $\alpha(M)=0.0001617$ 24 $\alpha(N)=4.05 \times 10^{-5}$ 6; $\alpha(O)=7.69 \times 10^{-6}$ 11; $\alpha(P)=6.02 \times 10^{-7}$ 9; $\alpha(IPF)=0.0001121$ 16 E γ : From 1971Ko03. Mult.: A ₂ =0.14 3; A ₄ =0.11 5 from 1514.90 γ , 367.94 γ coin. in 1971Ha09; A ₂ =0.104 14, A ₄ =-0.017 20 from 1514.90 γ , 367.94 γ coin. in 1965Sa02; $\alpha(K)_{exp}=0.0042$ 5 (1965Sa02). δ : Other: -0.14 4 and -0.25 from $\gamma\gamma(\theta)$ in 1971Ha09 and 1965Sa02, respectively.
(1515.178 9) 1570.45 15	0.31 5	1515.183 1570.285	0 ⁺ 1 ⁺	0.0 0.0	0 ⁺ 0 ⁺	E0 M1		0.00501 7	%I γ =0.27 4 $\alpha(K)=0.00404$ 6; $\alpha(L)=0.000641$ 9; $\alpha(M)=0.0001483$ 21 $\alpha(N)=3.72 \times 10^{-5}$ 5; $\alpha(O)=7.05 \times 10^{-6}$ 10; $\alpha(P)=5.52 \times 10^{-7}$ 8; $\alpha(IPF)=0.0001423$ 20
1573.6 10	0.06 3	1573.674	2 ⁺	0.0	0 ⁺	[E2]		0.00264 4	%I γ =0.053 27 $\alpha(K)=0.002105$ 30; $\alpha(L)=0.000346$ 5; $\alpha(M)=8.03 \times 10^{-5}$ 11 $\alpha(N)=2.009 \times 10^{-5}$ 28; $\alpha(O)=3.77 \times 10^{-6}$ 5; $\alpha(P)=2.73 \times 10^{-7}$ 4; $\alpha(IPF)=8.93 \times 10^{-5}$ 13 E γ : From 1971Ko03.
1593.18 18	0.042# 27	1593.435	2 ⁺	0.0	0 ⁺	[E2]		0.00259 4	%I γ =0.037 24

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

									<u>γ(²⁰⁰Hg) (continued)</u>
<u>E_γ[†]</u>	<u>I_γ^{‡α}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>δ[†]</u>	<u>α^{&}</u>	<u>Comments</u>
1604.50 14	1.34 11	1972.287	(2) ⁺	367.945	2 ⁺	M1+E2	+0.15 4	0.00473 7	α(K)=0.002059 29; α(L)=0.000337 5; α(M)=7.83×10 ⁻⁵ 11 α(N)=1.959×10 ⁻⁵ 27; α(O)=3.68×10 ⁻⁶ 5; α(P)=2.67×10 ⁻⁷ 4; α(IPF)=9.63×10 ⁻⁵ 14 %I _γ =1.19 10 α(K)=0.00379 6; α(L)=0.000602 9; α(M)=0.0001390 21 α(N)=3.48×10 ⁻⁵ 5; α(O)=6.61×10 ⁻⁶ 10; α(P)=5.18×10 ⁻⁷ 8; α(IPF)=0.0001602 24 E _γ : From 1971Ko03 . Mult.: α(K)exp=0.007 3 (1965Sa02).
1630.7 4	0.077 [#] 17	1630.905	1 ⁺	0.0	0 ⁺	(M1)		0.00461 6	%I _γ =0.068 15 α(K)=0.00367 5; α(L)=0.000583 8; α(M)=0.0001347 19 α(N)=3.38×10 ⁻⁵ 5; α(O)=6.41×10 ⁻⁶ 9; α(P)=5.02×10 ⁻⁷ 7; α(IPF)=0.0001767 25
1693.13 14	0.091 8	2061.264	1 ⁺	367.945	2 ⁺	M1+E2	-0.03 2	0.00424 6	%I _γ =0.081 7 α(K)=0.00334 5; α(L)=0.000530 7; α(M)=0.0001224 17 α(N)=3.07×10 ⁻⁵ 4; α(O)=5.82×10 ⁻⁶ 8; α(P)=4.57×10 ⁻⁷ 6; α(IPF)=0.0002137 30
1718.35 14	0.38 3	1718.313	1 ⁺	0.0	0 ⁺	M1		0.00411 6	%I _γ =0.336 26 α(K)=0.00322 5; α(L)=0.000511 7; α(M)=0.0001180 17 α(N)=2.96×10 ⁻⁵ 4; α(O)=5.61×10 ⁻⁶ 8; α(P)=4.40×10 ⁻⁷ 6; α(IPF)=0.0002294 32 E _γ : From 1971Ko03 . Mult.: α(K)exp=0.0034 5.
1746.40 18	0.065 7	2114.362	3 ⁺	367.945	2 ⁺	M1(+E2)		0.0031 9	%I _γ =0.058 6 α(K)=0.0024 7; α(L)=3.9×10 ⁻⁴ 10; α(M)=8.9×10 ⁻⁵ 24 α(N)=2.2×10 ⁻⁵ 6; α(O)=4.2×10 ⁻⁶ 12; α(P)=3.2×10 ⁻⁷ 10; α(IPF)=0.00020 5 E _γ : From 1971Ko03 . Mult.: α(K)exp=0.0055 13.
1759.15 14	0.21 2	2126.863	2 ⁺	367.945	2 ⁺	M1(+E2)		0.0031 8	%I _γ =0.186 18 α(K)=0.0024 7; α(L)=3.8×10 ⁻⁴ 10; α(M)=8.8×10 ⁻⁵ 24 α(N)=2.2×10 ⁻⁵ 6; α(O)=4.2×10 ⁻⁶ 11; α(P)=3.2×10 ⁻⁷ 10; α(IPF)=0.00021 5 E _γ : From 1971Ko03 . Mult.: α(K)exp=0.0030 6.
1783.4 1	0.016 4	2151.35	3 ⁻	367.945	2 ⁺	[E1]		1.23×10 ⁻³ 2	%I _γ =0.0142 35 α(K)=0.0007138 99; α(L)=0.0001040 15; α(M)=2.375×10 ⁻⁵ 33 α(N)=5.93×10 ⁻⁶ 8; α(O)=1.122×10 ⁻⁶ 16; α(P)=8.76×10 ⁻⁸ 12; α(IPF)=0.000378 5

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡a}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>δ[†]</u>	<u>α&</u>	<u>Comments</u>
(1856.784 10) 1861.0 5	0.009 4	1856.790 2229.276	0 ⁺ 1 ⁺	0.0 367.945	0 ⁺ 2 ⁺	E0 [M1,E2]		0.0028 7	%I _γ =0.0080 35 α(K)=0.0021 5; α(L)=3.3×10 ⁻⁴ 8; α(M)=7.7×10 ⁻⁵ 20 α(N)=1.9×10 ⁻⁵ 5; α(O)=3.6×10 ⁻⁶ 9; α(P)=2.8×10 ⁻⁷ 8; α(IPF)=0.00026 6 E _γ : From 1971Ko03.
1870.56 22	0.035 6	2238.51	(3)	367.945	2 ⁺	[M1,E1]		0.0023 11	%I _γ =0.031 5 α(K)=0.0016 10; α(L)=2.5×10 ⁻⁴ 16; α(M)=6.E-5 4 α(N)=1.5×10 ⁻⁵ 9; α(O)=2.8×10 ⁻⁶ 17; α(P)=2.2×10 ⁻⁷ 14; α(IPF)=0.00039 6 E _γ : From 1971Ko03.
1906.30 18	0.131 11	2274.236	(2) ⁺	367.945	2 ⁺	(E2)		2.02×10 ⁻³ 3	%I _γ =0.116 10 α(K)=0.001488 21; α(L)=0.0002366 33; α(M)=5.47×10 ⁻⁵ 8 α(N)=1.368×10 ⁻⁵ 19; α(O)=2.58×10 ⁻⁶ 4; α(P)=1.925×10 ⁻⁷ 27; α(IPF)=0.0002248 31 E _γ : From 1971Ko03.
1921.1 3	0.074 9	2288.96	2 ⁺	367.945	2 ⁺	(M1)		0.00330 5	%I _γ =0.065 8 α(K)=0.002435 34; α(L)=0.000385 5; α(M)=8.89×10 ⁻⁵ 12 α(N)=2.228×10 ⁻⁵ 31; α(O)=4.23×10 ⁻⁶ 6; α(P)=3.32×10 ⁻⁷ 5; α(IPF)=0.000363 5 Mult.: α(K)=0.0010 4.
1928.2 3	0.0076 [#] 25	2296.29	1 ⁺	367.945	2 ⁺	[M1,E2]		0.0026 6	%I _γ =0.0067 22 α(K)=0.0019 5; α(L)=0.00031 8; α(M)=7.1×10 ⁻⁵ 17 α(N)=1.8×10 ⁻⁵ 4; α(O)=3.4×10 ⁻⁶ 8; α(P)=2.6×10 ⁻⁷ 7; α(IPF)=0.00030 7
1963.5 4	0.018 5	2331.791	2 ⁺	367.945	2 ⁺	[M1,E2]		0.0026 6	%I _γ =0.016 4 α(K)=0.0019 4; α(L)=0.00029 7; α(M)=6.8×10 ⁻⁵ 16 α(N)=1.7×10 ⁻⁵ 4; α(O)=3.2×10 ⁻⁶ 8; α(P)=2.5×10 ⁻⁷ 7; α(IPF)=0.00032 7
1975.8 3	0.052 7	2343.602	1 ⁺ ,2 ⁺ ,3 ⁺	367.945	2 ⁺	M1(+E2)		0.0025 6	%I _γ =0.046 6 α(K)=0.0018 4; α(L)=0.00029 7; α(M)=6.7×10 ⁻⁵ 16 α(N)=1.7×10 ⁻⁵ 4; α(O)=3.2×10 ⁻⁶ 8; α(P)=2.5×10 ⁻⁷ 6; α(IPF)=0.00033 7
2002.1 2	0.049 7	2370.053	1 ⁺	367.945	2 ⁺	M1(+E2)	-0.014 19	0.00307 4	%I _γ =0.043 6 α(K)=0.002196 31; α(L)=0.000347 5; α(M)=8.01×10 ⁻⁵ 11

²⁰⁰Tl ε decay **1971Ko03,1971Ha09,1965Sa02 (continued)**

γ(²⁰⁰Hg) (continued)

E_γ †	I_γ ‡ ^a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α &	Comments
2020.5 7	0.033 4	2388.70	(1,2,3) ⁺	367.945	2 ⁺	M1+E2	0.0025 6	%I _γ =0.043 6 α(K)=0.002196 31; α(L)=0.000347 5; α(M)=8.01×10 ⁻⁵ 11 α(N)=2.007×10 ⁻⁵ 28; α(O)=3.81×10 ⁻⁶ 5; α(P)=3.00×10 ⁻⁷ 4; α(IPF)=0.000418 6
2229.0 10	0.004 2	2229.276	1 ⁺	0.0	0 ⁺	[M1]	0.00260 4	%I _γ =0.0292 35 α(K)=0.0017 4; α(L)=0.00028 6; α(M)=6.4×10 ⁻⁵ 15 α(N)=1.6×10 ⁻⁵ 4; α(O)=3.0×10 ⁻⁶ 7; α(P)=2.3×10 ⁻⁷ 6; α(IPF)=0.00035 8
2274.0 6	0.019 5	2274.236	(2) ⁺	0.0	0 ⁺	[E2]	1.70×10 ⁻³ 2	%I _γ =0.0035 18 α(K)=0.001679 24; α(L)=0.000264 4; α(M)=6.10×10 ⁻⁵ 9 α(N)=1.530×10 ⁻⁵ 21; α(O)=2.90×10 ⁻⁶ 4; α(P)=2.288×10 ⁻⁷ 32; α(IPF)=0.000575 8 E _γ : From 1971Ko03.
2289.6 7	0.025 [#]	2288.96	2 ⁺	0.0	0 ⁺	[E2]	1.69×10 ⁻³ 2	%I _γ =0.017 4 α(K)=0.001084 15; α(L)=0.0001684 24; α(M)=3.88×10 ⁻⁵ 5 α(N)=9.71×10 ⁻⁶ 14; α(O)=1.833×10 ⁻⁶ 26; α(P)=1.398×10 ⁻⁷ 20; α(IPF)=0.000395 6 E _γ : From 1971Ko03. 2270.0γ shown in the level scheme (1971Ko03) seems to be a misprint.
2296.3 3	0.038 5	2296.29	1 ⁺	0.0	0 ⁺	M1	2.50×10 ⁻³ 4	%I _γ ≈0.02212 α(K)=0.001070 15; α(L)=0.0001662 23; α(M)=3.83×10 ⁻⁵ 5 α(N)=9.58×10 ⁻⁶ 13; α(O)=1.810×10 ⁻⁶ 25; α(P)=1.381×10 ⁻⁷ 19; α(IPF)=0.000402 6
2370.0 3	0.0021 [#] 4	2370.053	1 ⁺	0.0	0 ⁺	M1	2.41×10 ⁻³ 3	%I _γ =0.034 4 α(K)=0.001559 22; α(L)=0.0002453 34; α(M)=5.66×10 ⁻⁵ 8 α(N)=1.419×10 ⁻⁵ 20; α(O)=2.69×10 ⁻⁶ 4; α(P)=2.124×10 ⁻⁷ 30; α(IPF)=0.000621 9
								%I _γ =0.00186 35 α(K)=0.001441 20; α(L)=0.0002265 32; α(M)=5.23×10 ⁻⁵ 7 α(N)=1.311×10 ⁻⁵ 18; α(O)=2.488×10 ⁻⁶ 35; α(P)=1.962×10 ⁻⁷ 27; α(IPF)=0.000671 9

† From adopted gammas, unless otherwise stated. The electron conversion coefficient values were determined by the evaluator using the conversion electron intensities in 1965Sa02 and the adopted I_γ in the present dataset, and normalized to α(K,367.943γ)=0.0388, unless otherwise stated.

‡ From 1971Ko03, unless otherwise stated.

From adopted gammas normalized to I_γ for the strongest transition that depopulates the level of interest.

@ Estimated by the evaluator from the adopted gammas and the feeding intensity to this level.

$\gamma(^{200}\text{Hg})$ (continued)

& [Additional information 1.](#)

^a For absolute intensity per 100 decays, multiply by 0.8849 22.

^b Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

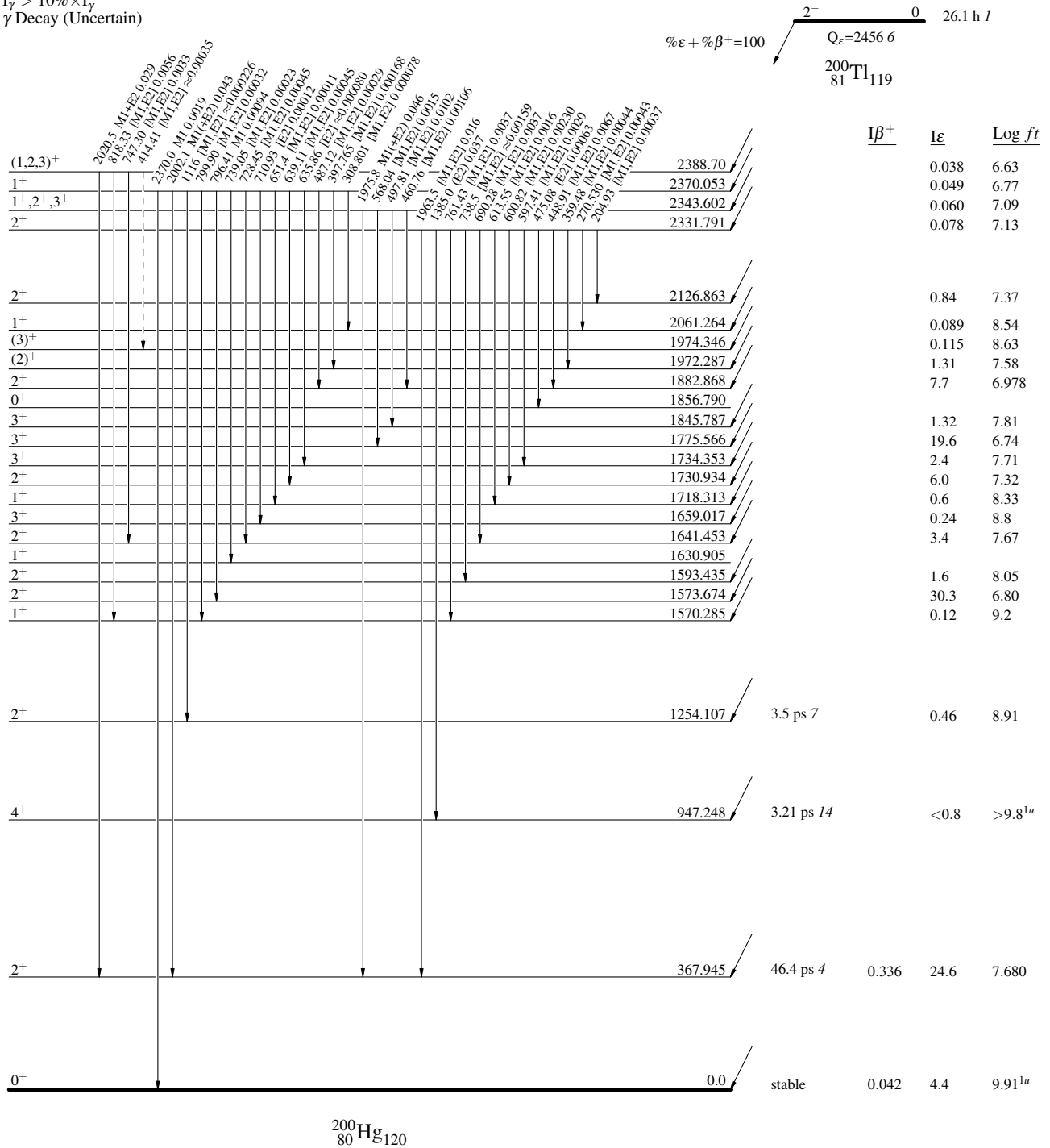
^{200}Tl ϵ decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme

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)

Intensities: I_γ per 100 parent decays



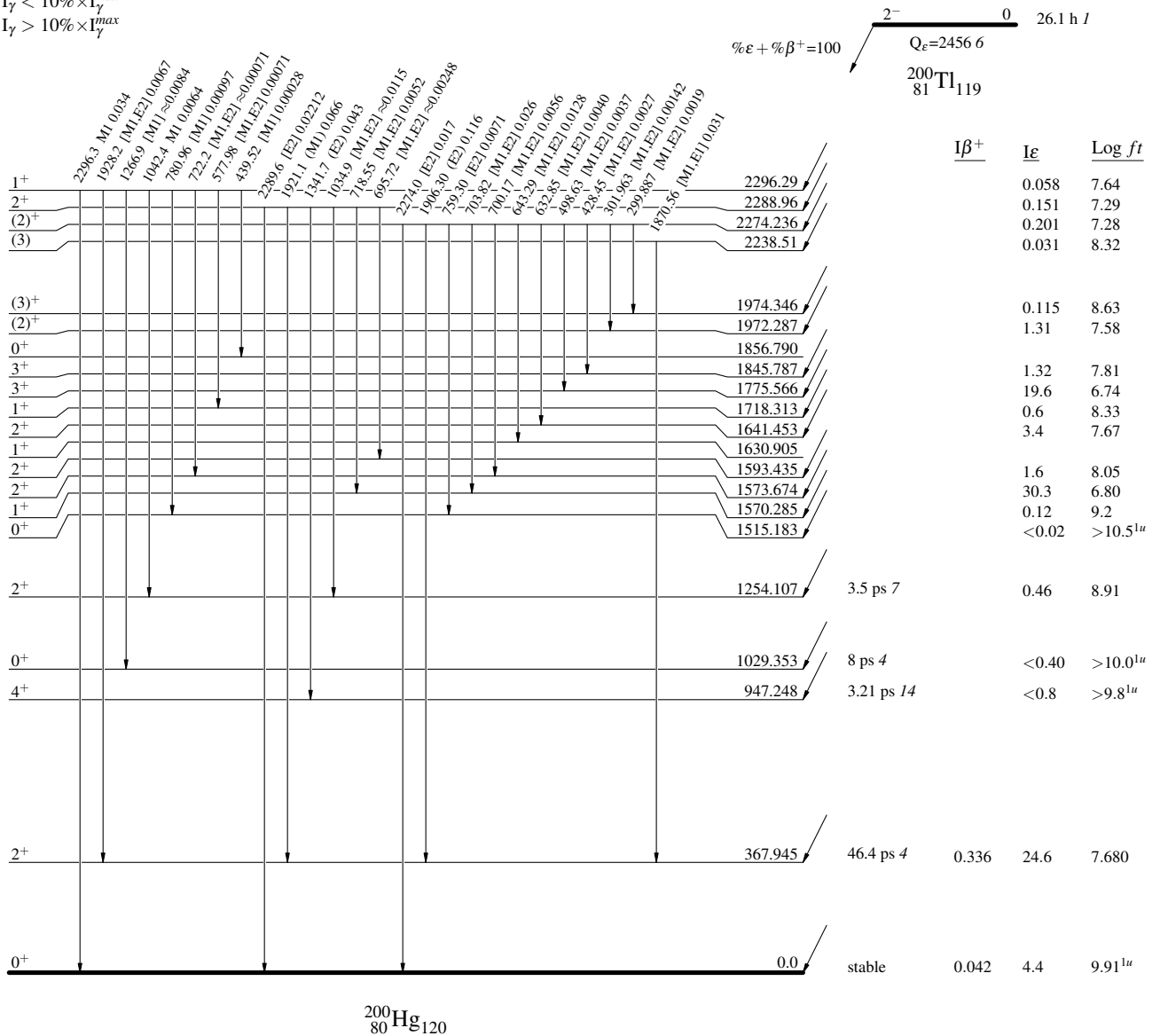
^{200}Tl ϵ decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme (continued)

Legend

Intensities: I_γ per 100 parent decays

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



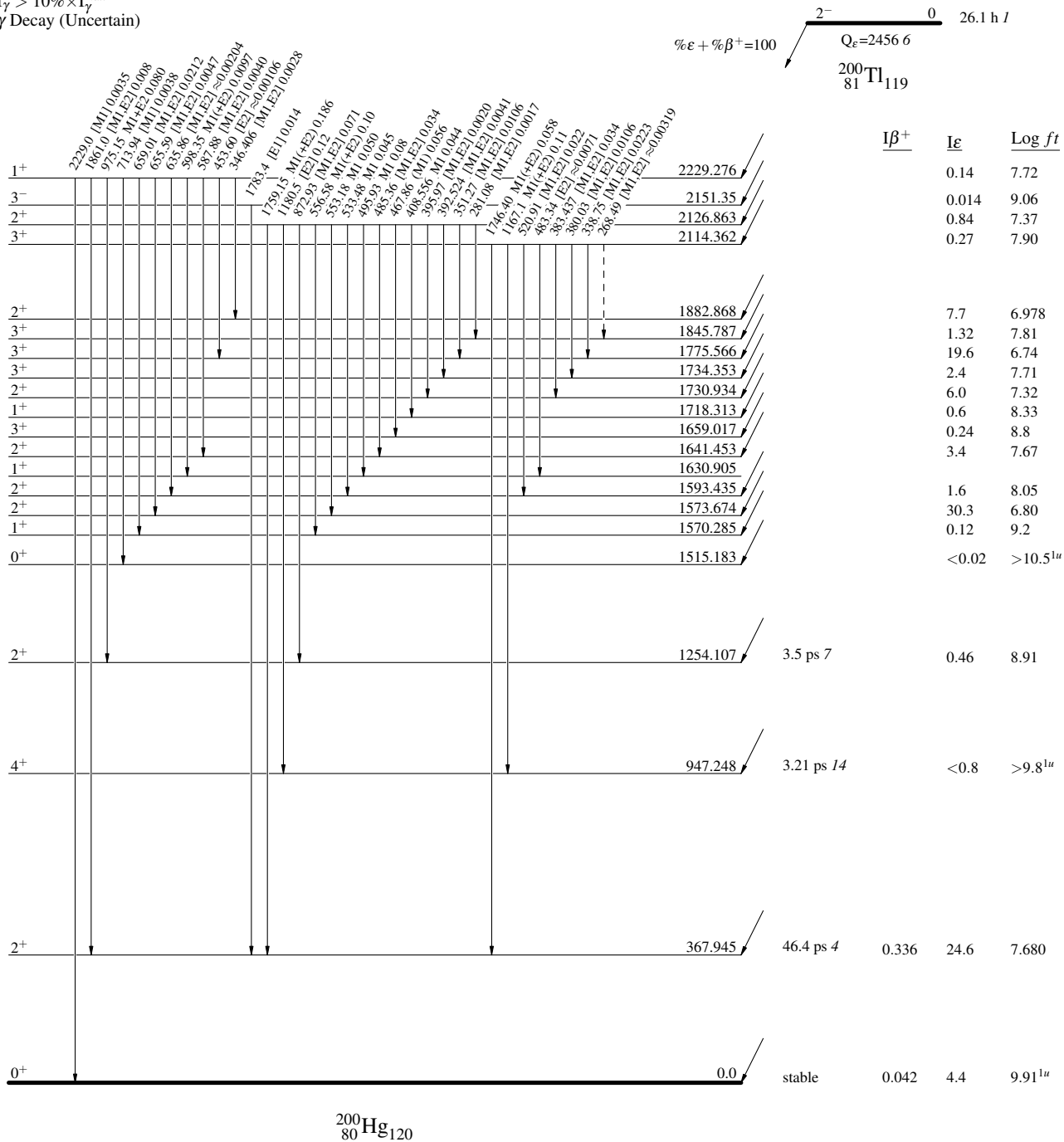
^{200}Tl ϵ decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme (continued)

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)

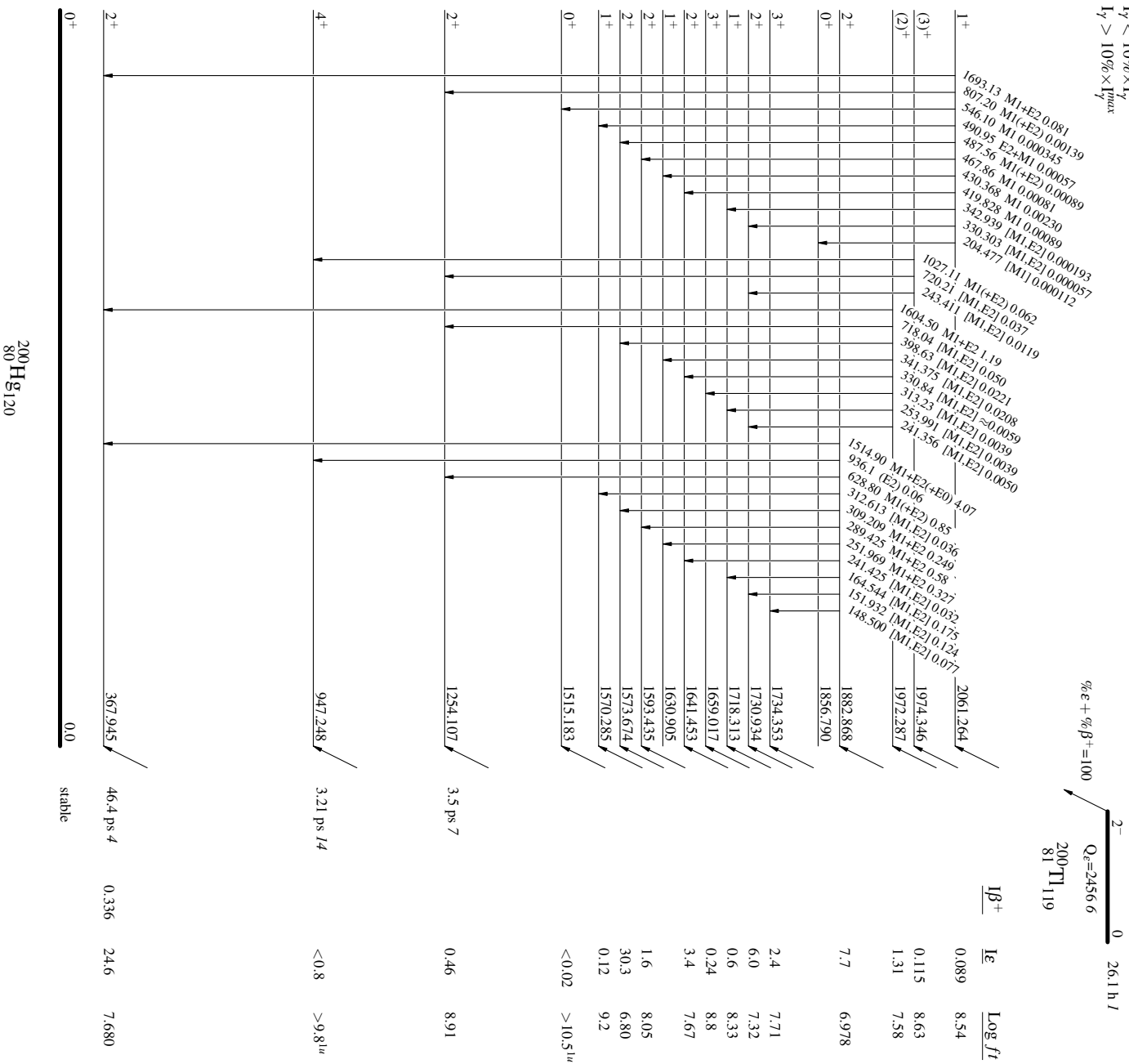
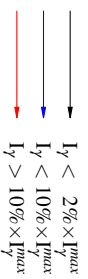
Intensities: I_γ per 100 parent decays



²⁰⁰Tl e decay ^{1971Ko03,1971Ha09,1965Sa02}

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays



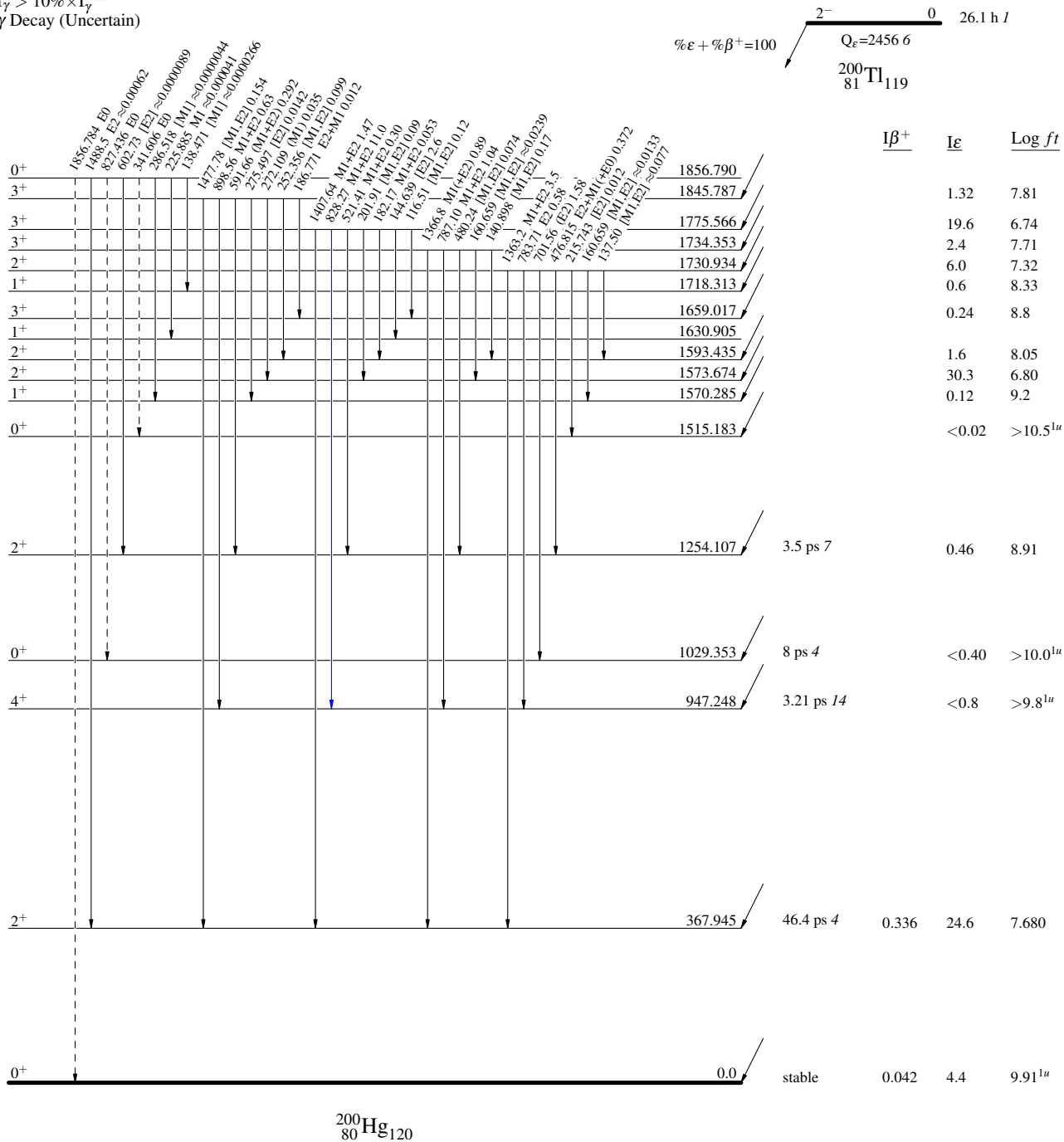
^{200}Tl ϵ decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme (continued)

Legend

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

Intensities: I_γ per 100 parent decays



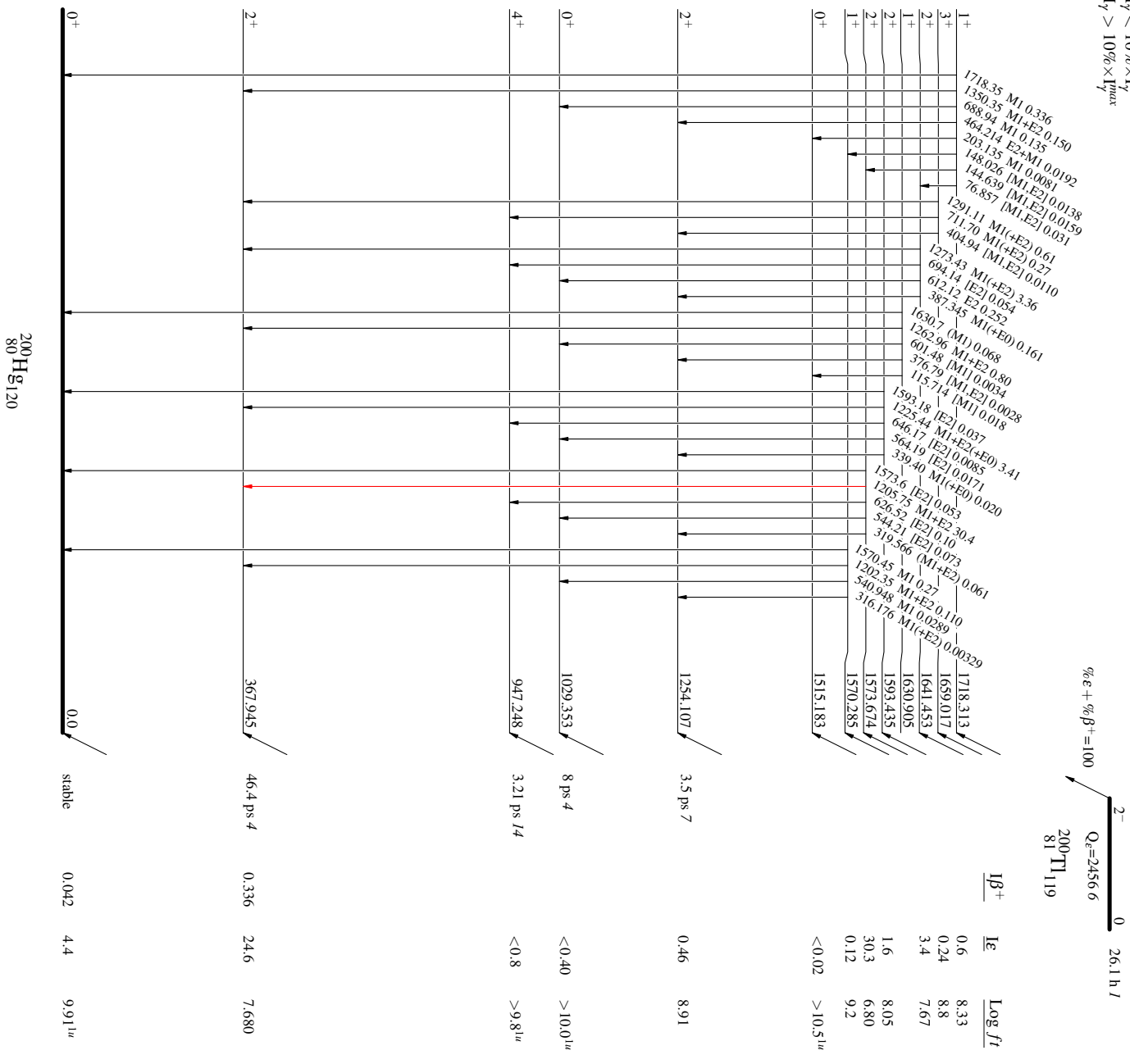
$^{200}_{80}\text{Hg}_{120}$

²⁰⁰Tl e decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays

- I_γ < 2% × I_{γmax}
- I_γ < 10% × I_{γmax}
- I_γ > 10% × I_{γmax}



^{200}Tl ϵ decay 1971Ko03,1971Ha09,1965Sa02

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays

Legend

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

