

^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia		NDS 183, 1 (2022)	1-Mar-2022

Parent: ^{186}Hg : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=1.38$ min 10 ; $Q(\varepsilon)=3176$ 24 ; $\% \varepsilon + \% \beta^+$ decay=100.0
 also: TAS measurement from (2021A118).

 ^{186}Au Levels

E(level)	J^π ‡	$T_{1/2}$ †	E(level)	J^π ‡	E(level)
0.0	3^-	10.7 min 5	438.80 13	(1^+)	800.3 4
36.14 8	2^-	80 ps 15	441.70? 14		804.7 4
113.94 13	1^-	1.6 ns 2	464.20 14	(1^-)	942.6 4
189.74 17	1^-		487.30 13	(1^+)	1032.3 4
227.77 7	$3^+, (2^+)$	110 ns 10	496.60 14	(1^+)	1044.3 4
251.50 9	2^-	70 ps 20	556.80 14	($1,2^-$)	1144.1 4
288.00 8	2^+	870 ps 50	595.92 24		1145.1 5
337.64 10			598.21 11	(1^-)	1283.0 5
349.10 9	2^-		611.9 4		1300.6 4
350.87 13	1^+		664.30 14	(1^-)	1503.8 4
363.61 11	1^+	210 ps 30	689.43 12	(1^-)	1608.66 25
393.02 22			715.49 17	($0^+, 1^+$)	1686.96 25
405.21 10	(1^-)		732.7 3		1691.36 25

† From 1985Ab03 (ce- γ or ce-ce delayed coin).

‡ From Adopted Levels.

 ε, β^+ radiations

E(decay)	E(level)	$I\beta^+$ †	$I\varepsilon$ †	Log ft	$I(\varepsilon + \beta^+)$ †	Comments
(1485 24)	1691.36		0.186 24	6.41 7	0.186 24	$\varepsilon K=0.8039$ 2; $\varepsilon L=0.14779$ 21; $\varepsilon M+=0.04772$ 8
(1489 24)	1686.96		0.134 17	6.55 7	0.134 17	$\varepsilon K=0.8039$ 2; $\varepsilon L=0.14775$ 21; $\varepsilon M+=0.04771$ 8
(1567 24)	1608.66	0.00026 6	0.22 3	6.38 7	0.22 3	av $E\beta=266$ 11; $\varepsilon K=0.8042$; $\varepsilon L=0.14711$ 20; $\varepsilon M+=0.04747$ 8
(1672 24)	1503.8	9.1×10^{-5} 20	0.038 6	7.20 8	0.038 6	av $E\beta=313$ 11; $\varepsilon K=0.8042$ 1; $\varepsilon L=0.14627$ 20; $\varepsilon M+=0.04715$ 7
(1875 24)	1300.6	0.00106 18	0.159 22	6.69 7	0.160 22	av $E\beta=402$ 11; $\varepsilon K=0.8022$ 5; $\varepsilon L=0.14459$ 22; $\varepsilon M+=0.04655$ 8
(1893 24)	1283.0	0.00032 6	0.045 7	7.24 8	0.045 7	av $E\beta=410$ 11; $\varepsilon K=0.8019$ 5; $\varepsilon L=0.14444$ 22; $\varepsilon M+=0.04649$ 8
(2031 24)	1145.1	0.00054 10	0.044 7	7.31 8	0.045 7	av $E\beta=470$ 11; $\varepsilon K=0.7987$ 7; $\varepsilon L=0.14315$ 25; $\varepsilon M+=0.04604$ 9
(2032 24)	1144.1	0.00139 23	0.114 16	6.90 7	0.115 16	av $E\beta=471$ 11; $\varepsilon K=0.7987$ 7; $\varepsilon L=0.14314$ 25; $\varepsilon M+=0.04604$ 9
(2132 24)	1044.3	0.00064 11	0.037 6	7.43 8	0.038 6	av $E\beta=514$ 11; $\varepsilon K=0.7954$ 10; $\varepsilon L=0.1421$ 3; $\varepsilon M+=0.04568$ 9
(2144 24)	1032.3	0.0011 2	0.063 9	7.21 7	0.064 9	av $E\beta=520$ 11; $\varepsilon K=0.7950$ 10; $\varepsilon L=0.1420$ 3; $\varepsilon M+=0.04563$ 10
(2233 24)	942.6	0.0043 7	0.19 3	6.77 8	0.19 3	av $E\beta=559$ 11; $\varepsilon K=0.7912$ 12; $\varepsilon L=0.1409$ 3; $\varepsilon M+=0.04528$ 10
(2371 24)	804.7	0.0067 13	0.20 4	6.79 9	0.21 4	av $E\beta=619$ 11; $\varepsilon K=0.7841$ 15; $\varepsilon L=0.1391$ 4; $\varepsilon M+=0.04468$ 12
(2376 24)	800.3	0.0071 14	0.21 4	6.77 9	0.22 4	av $E\beta=621$ 11; $\varepsilon K=0.7838$ 15; $\varepsilon L=0.1391$ 4; $\varepsilon M+=0.04466$ 12
(2443 24)	732.7	0.0099 16	0.25 4	6.73 8	0.26 4	av $E\beta=651$ 11; $\varepsilon K=0.7796$ 16; $\varepsilon L=0.1381$ 4;

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^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03** (continued) ε, β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ †	$I\varepsilon$ †	Log <i>ft</i>	$I(\varepsilon + \beta^+)$ †	Comments
(2461 24)	715.49	0.023 3	0.56 8	6.38 7	0.58 8	$\varepsilon M^+=0.04434$ 12 av $E\beta=658$ 11; $\varepsilon K=0.7785$ 17; $\varepsilon L=0.1379$ 4; $\varepsilon M^+=0.04426$ 12
(2487 24)	689.43	0.012 2	0.28 4	6.70 7	0.29 4	av $E\beta=670$ 11; $\varepsilon K=0.7767$ 17; $\varepsilon L=0.1375$ 4; $\varepsilon M^+=0.04413$ 13
(2512 24)	664.30	0.0037 6	0.079 11	7.25 7	0.083 12	av $E\beta=681$ 11; $\varepsilon K=0.7749$ 18; $\varepsilon L=0.1371$ 4; $\varepsilon M^+=0.04400$ 13
(2564 24)	611.9	0.0072 11	0.140 20	7.02 7	0.147 21	av $E\beta=704$ 11; $\varepsilon K=0.7711$ 19; $\varepsilon L=0.1362$ 4; $\varepsilon M^+=0.04372$ 13
(2578 24)	598.21	0.042 6	0.79 10	6.27 7	0.83 11	av $E\beta=710$ 11; $\varepsilon K=0.7700$ 19; $\varepsilon L=0.1360$ 4; $\varepsilon M^+=0.04365$ 14
(2580 24)	595.92	0.010 2	0.19 3	6.89 8	0.20 3	av $E\beta=711$ 11; $\varepsilon K=0.7698$ 19; $\varepsilon L=0.1360$ 4; $\varepsilon M^+=0.04363$ 14
(2619 24)	556.80	0.0063 9	0.109 15	7.15 7	0.115 16	av $E\beta=728$ 11; $\varepsilon K=0.7667$ 20; $\varepsilon L=0.1353$ 5; $\varepsilon M^+=0.04342$ 14
(2679 24)	496.60	0.024 7	0.38 11	6.63 14	0.40 12	av $E\beta=755$ 11; $\varepsilon K=0.7616$ 22; $\varepsilon L=0.1343$ 5; $\varepsilon M^+=0.04307$ 15
(2689 24)	487.30	0.017 3	0.25 4	6.81 8	0.27 4	av $E\beta=759$ 11; $\varepsilon K=0.7608$ 22; $\varepsilon L=0.1341$ 5; $\varepsilon M^+=0.04301$ 15
(2712 24)	464.20	0.041 6	0.60 8	6.44 7	0.65 9	av $E\beta=769$ 11; $\varepsilon K=0.7587$ 22; $\varepsilon L=0.1337$ 5; $\varepsilon M^+=0.04288$ 15
(2737 24)	438.80	0.042 6	0.58 8	6.46 8	0.63 9	av $E\beta=780$ 11; $\varepsilon K=0.7564$ 23; $\varepsilon L=0.1332$ 5; $\varepsilon M^+=0.04272$ 15
(2771 24)	405.21	0.037 9	0.47 11	6.56 11	0.51 12	av $E\beta=795$ 11; $\varepsilon K=0.7533$ 24; $\varepsilon L=0.1326$ 5; $\varepsilon M^+=0.04251$ 16
(2783 24)	393.02	0.013 4	0.17 5	7.02 13	0.18 5	av $E\beta=800$ 11; $\varepsilon K=0.7521$ 24; $\varepsilon L=0.1323$ 5; $\varepsilon M^+=0.04244$ 16
(2812 24)	363.61	6.3 7	76 7	4.37 6	82 8	av $E\beta=813$ 11; $\varepsilon K=0.7492$ 24; $\varepsilon L=0.1318$ 5; $\varepsilon M^+=0.04225$ 16
(2825 24)	350.87	0.060 8	0.71 9	6.40 7	0.77 10	av $E\beta=819$ 11; $\varepsilon K=0.7479$ 25; $\varepsilon L=0.1315$ 5; $\varepsilon M^+=0.04217$ 16
(2838 24)	337.64	0.44 6	5.1 6	5.55 7	5.4 7	av $E\beta=825$ 11; $\varepsilon K=0.7466$ 25; $\varepsilon L=0.1312$ 5; $\varepsilon M^+=0.04208$ 16
(2986 24)	189.74	0.23 4	2.1 4	5.99 9	2.3 3	av $E\beta=890$ 11; $\varepsilon K=0.731$ 3; $\varepsilon L=0.1281$ 6; $\varepsilon M^+=0.04107$ 18
(3062 24)	113.94	0.35 8	2.8 6	5.88 11	3.0 7	av $E\beta=924$ 11; $\varepsilon K=0.722$ 3; $\varepsilon L=0.1264$ 6; $\varepsilon M^+=0.04051$ 18

† Absolute intensity per 100 decays.

 $\gamma(^{186}\text{Au})$ I γ normalization: Normalized assuming $\Sigma I(\gamma+ce)$ to g.s.=100.

E_γ ‡	I_γ ‡ ^b	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ † ^a	α &	Comments
36.1 1	4.5 5	36.14	2 ⁻	0.0	3 ⁻	M1+E2	0.10	31.6 6	%I $\gamma=0.29$ 4 $\alpha(L)_{\text{exp}}=18.4$; L1/L2=4.2 (1983Po10) $\alpha(L)=24.2$ 4; $\alpha(M)=5.74$ 10 $\alpha(N)=1.424$ 24; $\alpha(O)=0.254$ 5; $\alpha(P)=0.01408$ 23 δ : From L1/L2.
49.7 1	5.0 @ 5	337.64		288.00	2 ⁺	M1+E2	0.06	10.46 16	%I $\gamma=0.32$ 5

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^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03** (continued) $\gamma(^{186}\text{Au})$ (continued)

E_γ ‡	I_γ ‡ ^b	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	δ † ^a	α &	Comments
56.1 <i>I</i>	1.20 @ <i>I2</i>	405.21	(1 ⁻)	349.10	2 ⁻	M1+E2	0.13	8.10 <i>I3</i>	L1/L2=8 (1983Po10) $\alpha(L)=8.03$ <i>I3</i> ; $\alpha(M)=1.87$ <i>I3</i> $\alpha(N)=0.466$ <i>I8</i> ; $\alpha(O)=0.0852$ <i>I3</i> ; $\alpha(P)=0.00551$ <i>I9</i> %I γ =0.076 <i>I0</i>
60.2 <i>I</i>	5.2 @ <i>I5</i>	288.00	2 ⁺	227.77	3 ⁺ ,(2 ⁺)	M1+E2	0.49	14.47 <i>I23</i>	L1/L3 \approx 10 (1983Po10) $\alpha(L)=6.20$ <i>I0</i> ; $\alpha(M)=1.464$ <i>I23</i> $\alpha(N)=0.364$ <i>I6</i> ; $\alpha(O)=0.0655$ <i>I0</i> ; $\alpha(P)=0.00382$ <i>I6</i> %I γ =0.33 <i>I5</i> L1/L3=0.9; M2/M3=1.0 (1983Po10) $\alpha(L)=10.94$ <i>I8</i> ; $\alpha(M)=2.74$ <i>I5</i> $\alpha(N)=0.676$ <i>I1</i> ; $\alpha(O)=0.1126$ <i>I8</i> ; $\alpha(P)=0.00263$ <i>I4</i>
75.8# <i>I</i>	8.1 @ <i>I8</i>	189.74	1 ⁻	113.94	1 ⁻	M1+E2	0.18	3.35	%I γ =0.51 <i>I7</i> L1/L2=4.8 (1983Po10) $\alpha(L)=2.57$ <i>I4</i> ; $\alpha(M)=0.607$ <i>I9</i> $\alpha(N)=0.1508$ <i>I22</i> ; $\alpha(O)=0.0271$ <i>I4</i> ; $\alpha(P)=0.001563$ <i>I23</i>
77.8# <i>I</i>	19.0 @ <i>I19</i>	113.94	1 ⁻	36.14	2 ⁻	M1+E2	0.24	3.36	%I γ =1.21 <i>I6</i> L1/L2=3.2; L1/L3=6.0 (1983Po10) $\alpha(L)=2.57$ <i>I4</i> ; $\alpha(M)=0.613$ <i>I9</i> $\alpha(N)=0.1523$ <i>I23</i> ; $\alpha(O)=0.0271$ <i>I4</i> ; $\alpha(P)=0.001419$ <i>I21</i>
109.8 <i>I</i>	6.0 @ <i>I6</i>	337.64		227.77	3 ⁺ ,(2 ⁺)	E2		3.54	%I γ =0.38 <i>I5</i> L1/L2 \approx 0.07 (1983Po10) $\alpha(K)=0.600$ <i>I9</i> ; $\alpha(L)=2.20$ <i>I4</i> ; $\alpha(M)=0.573$ <i>I9</i> $\alpha(N)=0.1409$ <i>I21</i> ; $\alpha(O)=0.0226$ <i>I4</i> ; $\alpha(P)=7.45\times 10^{-5}$ <i>I11</i>
112.1 <i>I</i>	1000	363.61	1 ⁺	251.50	2 ⁻	E1		0.311	%I γ =64 <i>I6</i> $\alpha(K)\text{exp}=0.27$ (1983Po10); L1/L2=3; L2/L3=0.9 $\alpha(K)=0.250$ <i>I4</i> ; $\alpha(L)=0.0465$ <i>I7</i> ; $\alpha(M)=0.01083$ <i>I6</i> $\alpha(N)=0.00265$ <i>I4</i> ; $\alpha(O)=0.000458$ <i>I7</i> ; $\alpha(P)=2.10\times 10^{-5}$ <i>I3</i>
115.1 <i>I</i>	1.90 <i>I9</i>	464.20	(1 ⁻)	349.10	2 ⁻	M1+E2	0.61	4.33 <i>I7</i>	%I γ =0.121 <i>I6</i> $\alpha(K)\text{exp}=3.3$ (1983Po10); $\alpha(L1)\text{exp}=0.44$ $\alpha(K)=3.05$ <i>I5</i> ; $\alpha(L)=0.968$ <i>I4</i> ; $\alpha(M)=0.238$ <i>I4</i> $\alpha(N)=0.0589$ <i>I9</i> ; $\alpha(O)=0.01011$ <i>I15</i> ; $\alpha(P)=0.000367$ <i>I6</i>
123.1 <i>I</i>	2.4 <i>I2</i>	350.87	1 ⁺	227.77	3 ⁺ ,(2 ⁺)	M1		4.00	%I γ =0.152 <i>I9</i> $\alpha(K)\text{exp}=3.3$ (1983Po10) $\alpha(K)=3.29$ <i>I5</i> ; $\alpha(L)=0.551$ <i>I8</i> ; $\alpha(M)=0.1279$ <i>I9</i> $\alpha(N)=0.0319$ <i>I5</i> ; $\alpha(O)=0.00586$ <i>I9</i> ; $\alpha(P)=0.000395$ <i>I6</i>
133.0 <i>I</i>	4.5 <i>I5</i>	496.60	(1 ⁺)	363.61	1 ⁺	M1+E2	1.4	2.18 <i>I4</i>	%I γ =0.29 <i>I4</i> $\alpha(K)\text{exp}=1.2$ (1983Po10) $\alpha(K)=1.177$ <i>I7</i> ; $\alpha(L)=0.756$ <i>I1</i> ; $\alpha(M)=0.192$ <i>I3</i> $\alpha(N)=0.0474$ <i>I7</i> ; $\alpha(O)=0.00783$ <i>I12</i> ; $\alpha(P)=0.0001378$ <i>I20</i>

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^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03** (continued) $\gamma(^{186}\text{Au})$ (continued)

E_γ [‡]	I_γ ^{‡b}	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [†]	$\delta^\dagger a$	$\alpha\&$	Comments
150.8 1	3.3 3	438.80	(1 ⁺)	288.00	2 ⁺	M1+E2	0.55 3	1.96 4	$\%I_\gamma=0.21$ 3 $\alpha(\text{K})_{\text{exp}}=1.5$ 3 (1983Po10) $\alpha(\text{K})=1.49$ 4; $\alpha(\text{L})=0.358$ 7; $\alpha(\text{M})=0.0864$ 18 $\alpha(\text{N})=0.0214$ 5; $\alpha(\text{O})=0.00377$ 7; $\alpha(\text{P})=0.000178$ 5 δ : from $\alpha(\text{K})_{\text{exp}}$. $\alpha(\text{L}1)_{\text{exp}}=0.29$ (1983Po10) gives $\delta(\text{M1,E2})=0$. However, the L1 peak in the fig. 3 spectrum of 1983Po10 appears slightly broader than other single-line peaks so could conceivably include the L2 peak.
153.7 1	2.50 25	405.21	(1 ⁻)	251.50	2 ⁻	M1+E2	0.45 4	1.93 4	$\%I_\gamma=0.159$ 21 $\alpha(\text{K})_{\text{exp}}=1.5$ 3 (1983Po10) $\alpha(\text{K})=1.51$ 5; $\alpha(\text{L})=0.324$ 7; $\alpha(\text{M})=0.0773$ 18 $\alpha(\text{N})=0.0192$ 5; $\alpha(\text{O})=0.00342$ 7; $\alpha(\text{P})=0.000180$ 6
190.2 ^c 1		441.70?		251.50	2 ⁻				E_γ, I_γ : reported as doublet with $I_\gamma=59$ 6. The entire I_γ is needed to balance the feeding through the 228 level. The existence of this second transition is inferred from observed coincidence with the 252 γ .
191.6 1	59 6	227.77	3 ⁺ , (2 ⁺)	36.14	2 ⁻	E1		0.0802	$\%I_\gamma=3.7$ 5 $\alpha(\text{K})_{\text{exp}}<0.1$ (1983Po10) $\alpha(\text{K})=0.0657$ 10; $\alpha(\text{L})=0.01121$ 16; $\alpha(\text{M})=0.00260$ 4 $\alpha(\text{N})=0.000640$ 9; $\alpha(\text{O})=0.0001129$ 16; $\alpha(\text{P})=5.92\times 10^{-6}$ 9
193.1 1	3.2 3	598.21	(1 ⁻)	405.21	(1 ⁻)	M1+E2	2.3	0.534	I_γ : see comment on 190.2 γ . $\%I_\gamma=0.20$ 3 $\alpha(\text{K})_{\text{exp}}\approx 0.3$ (1983Po10) $\alpha(\text{K})=0.302$ 5; $\alpha(\text{L})=0.1744$ 25; $\alpha(\text{M})=0.0442$ 7 $\alpha(\text{N})=0.01091$ 16; $\alpha(\text{O})=0.00181$ 3; $\alpha(\text{P})=3.34\times 10^{-5}$ 5
^x 196.4 1	0.70 7					M1		1.069	$\%I_\gamma=0.044$ 6 $\alpha(\text{K})_{\text{exp}}\approx 1$ (1983Po10) $\alpha(\text{K})=0.879$ 13; $\alpha(\text{L})=0.1462$ 21; $\alpha(\text{M})=0.0339$ 5 $\alpha(\text{N})=0.00845$ 12; $\alpha(\text{O})=0.001554$ 22; $\alpha(\text{P})=0.0001050$ 15
199.3 1	2.10 21	487.30	(1 ⁺)	288.00	2 ⁺	M1		1.026	$\%I_\gamma=0.133$ 18 $\alpha(\text{K})_{\text{exp}}\approx 1$ (1983Po10) $\alpha(\text{K})=0.844$ 12; $\alpha(\text{L})=0.1403$ 20; $\alpha(\text{M})=0.0325$ 5 $\alpha(\text{N})=0.00811$ 12; $\alpha(\text{O})=0.001491$ 21; $\alpha(\text{P})=0.0001008$ 15
202.9 1	1.60 16	595.92		393.02		M1		0.976	$\%I_\gamma=0.102$ 14 $\alpha(\text{K})_{\text{exp}}\approx 1$ (1983Po10) $\alpha(\text{K})=0.802$ 12; $\alpha(\text{L})=0.1334$ 19; $\alpha(\text{M})=0.0309$ 5 $\alpha(\text{N})=0.00771$ 11; $\alpha(\text{O})=0.001418$ 20; $\alpha(\text{P})=9.58\times 10^{-5}$ 14

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^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03** (continued) $\gamma(^{186}\text{Au})$ (continued)

E_γ ‡	I_γ ‡b	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	$\delta^\dagger a$	$\alpha\&$	Comments
218.9 1	2.7 3	715.49	(0 ⁺ ,1 ⁺)	496.60	(1 ⁺)	M1		0.790	%I γ =0.172 24 $\alpha(\text{K})_{\text{exp}}=0.65$ (1983Po10); $\alpha(\text{L}1)_{\text{exp}}=0.1$ $\alpha(\text{K})=0.650$ 10; $\alpha(\text{L})=0.1079$ 16; $\alpha(\text{M})=0.0250$ 4 $\alpha(\text{N})=0.00623$ 9; $\alpha(\text{O})=0.001146$ 17; $\alpha(\text{P})=7.75\times 10^{-5}$ 11 $\delta(\text{M}1,\text{E}2)=0$ from $\alpha(\text{L}1)_{\text{exp}}$ and K/L1, 0.21 from $\alpha(\text{K})_{\text{exp}}$.
*220.0 1	0.70 7					M1+E2	>1.0	0.53 1	%I γ =0.044 6 $\alpha(\text{K})_{\text{exp}}<0.4$ (1983Po10) $\alpha(\text{K})=0.26$ 13; $\alpha(\text{L})=0.1042$ 17; $\alpha(\text{M})=0.0260$ 6 $\alpha(\text{N})=0.00643$ 13; $\alpha(\text{O})=0.001086$ 22; $\alpha(\text{P})=2.9\times 10^{-5}$ 16
*223.8 1	0.70 7								%I γ =0.044 6
227.7 1	48 5	227.77	3 ⁺ ,(2 ⁺)	0.0	3 ⁻	E1		0.0523	%I γ =3.0 4 $\alpha(\text{K})_{\text{exp}}=0.047$ (1983Po10) $\alpha(\text{K})=0.0429$ 6; $\alpha(\text{L})=0.00720$ 11; $\alpha(\text{M})=0.001666$ 24 $\alpha(\text{N})=0.000411$ 6; $\alpha(\text{O})=7.28\times 10^{-5}$ 11; $\alpha(\text{P})=3.96\times 10^{-6}$ 6
*231.2 1	1.00 10								%I γ =0.064 9
234.5 1	2.40 24	598.21	(1 ⁻)	363.61	1 ⁺				%I γ =0.152 20
251.5 1	870 87	251.50	2 ⁻	0.0	3 ⁻	M1		0.538	%I γ =55.3 11 $\alpha(\text{K})_{\text{exp}}=0.47$ (1983Po10); $\alpha(\text{L}1)_{\text{exp}}+\alpha(\text{L}2)_{\text{exp}}=0.076$; L1/L3=100 (1983Po10) $\alpha(\text{K})=0.443$ 7; $\alpha(\text{L})=0.0733$ 11; $\alpha(\text{M})=0.01700$ 24 $\alpha(\text{N})=0.00423$ 6; $\alpha(\text{O})=0.000779$ 11; $\alpha(\text{P})=5.27\times 10^{-5}$ 8
*268.3 1	0.60 6								%I γ =0.038 5
*271.4 1	0.50 5								%I γ =0.032 5
*276.5 1	2.10 21								%I γ =0.133 18
284.1 1	1.40 14	689.43	(1 ⁻)	405.21	(1 ⁻)	M1+E2	0.4	0.349	%I γ =0.089 12 $\alpha(\text{K})_{\text{exp}}=0.28$ (1983Po10) $\alpha(\text{K})=0.283$ 4; $\alpha(\text{L})=0.0503$ 7; $\alpha(\text{M})=0.01177$ 17 $\alpha(\text{N})=0.00293$ 5; $\alpha(\text{O})=0.000533$ 8; $\alpha(\text{P})=3.35\times 10^{-5}$ 5
288.1 1	5.0 5	288.00	2 ⁺	0.0	3 ⁻	E1		0.0296	%I γ =0.32 5 $\alpha(\text{K})_{\text{exp}}<0.05$ (1983Po10) $\alpha(\text{K})=0.0244$ 4; $\alpha(\text{L})=0.00400$ 6; $\alpha(\text{M})=0.000924$ 13 $\alpha(\text{N})=0.000228$ 4; $\alpha(\text{O})=4.07\times 10^{-5}$ 6; $\alpha(\text{P})=2.31\times 10^{-6}$ 4
*294.7 1	0.80 8								%I γ =0.051 7
*296.6 1	1.10 11								%I γ =0.070 10
305.3 1	1.40 14	556.80	(1,2) ⁻	251.50	2 ⁻	M1+E2	0.4	0.286	%I γ =0.089 12 $\alpha(\text{K})_{\text{exp}}\approx 0.23$ (1983Po10) $\alpha(\text{K})=0.233$ 4; $\alpha(\text{L})=0.0410$ 6; $\alpha(\text{M})=0.00957$ 14 $\alpha(\text{N})=0.00238$ 4; $\alpha(\text{O})=0.000434$ 6; $\alpha(\text{P})=2.75\times 10^{-5}$ 4 δ : Based on 0.0 4.
*308.1 1	1.00 10								%I γ =0.064 9

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^{186}Hg ε decay (1.38 min) **1983Po10,1985Ab03** (continued) $\gamma(^{186}\text{Au})$ (continued)

E_γ ‡	I_γ ‡ <i>b</i>	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	$\delta^\dagger a$	$\alpha\&$	Comments
315.2 1	1.00 10	664.30	(1 ⁻)	349.10	2 ⁻	M1		0.290	%I γ =0.064 9 α (K)exp \approx 0.28 (1983Po10) α (K)=0.239 4; α (L)=0.0394 6; α (M)=0.00912 13 α (N)=0.00227 4; α (O)=0.000418 6; α (P)=2.83 \times 10 ⁻⁵ 4
^x 323.0 1	1.40 14								%I γ =0.089 12
325.9 1	0.60 6	689.43	(1 ⁻)	363.61	1 ⁺				%I γ =0.038 5
^x 342.5 1	1.10 10								%I γ =0.070 9
346.7 1	7.7 8	598.21	(1 ⁻)	251.50	2 ⁻	E2		0.0673	%I γ =0.49 7 α (K)exp=0.044 (1983Po10) α (K)=0.0437 7; α (L)=0.0179 3; α (M)=0.00447 7 α (N)=0.001103 16; α (O)=0.000186 3; α (P)=4.73 \times 10 ⁻⁶ 7
349.1 1	15.0 15	349.10	2 ⁻	0.0	3 ⁻	M1+E2	0.43	0.196	%I γ =0.95 13 α (K)exp=0.16 (1983Po10) α (K)=0.1598 23; α (L)=0.0279 4; α (M)=0.00651 10 α (N)=0.001620 23; α (O)=0.000295 5; α (P)=1.88 \times 10 ⁻⁵ 3
351.8 3	3.5 4	715.49	(0 ⁺ ,1 ⁺)	363.61	1 ⁺	M1		0.216	%I γ =0.22 4 α (K)exp=0.18 (1983Po10) α (K)=0.178 3; α (L)=0.0292 5; α (M)=0.00676 10 α (N)=0.001684 24; α (O)=0.000310 5; α (P)=2.10 \times 10 ⁻⁵ 3
356.8 3	1.80 18	393.02		36.14	2 ⁻				%I γ =0.114 15
360.4 3	2.30 23	611.9		251.50	2 ⁻				%I γ =0.146 20
^x 388.5 3	1.00 10								%I γ =0.064 9
393.1 3	5.8 6	393.02		0.0	3 ⁻				%I γ =0.37 5
395.1 3	3.5 4	800.3		405.21	(1 ⁻)				%I γ =0.22 4
^x 400.0 3	0.60 6								%I γ =0.038 5
^x 402.9 3	0.60 6								%I γ =0.038 5
^x 405.8 3	0.50 5								%I γ =0.032 5
412.4 3	0.70 7	1145.1		732.7					%I γ =0.044 6
^x 417.2 3	0.60 6								%I γ =0.038 5
^x 432.6 3	0.60 6								%I γ =0.038 5
^x 436.8 3	0.50 5								%I γ =0.032 5
438.3 3	2.00 20	689.43	(1 ⁻)	251.50	2 ⁻				%I γ =0.127 17
^x 449.9 3	0.80 8								%I γ =0.051 7
^x 476.2 3	0.90 9								%I γ =0.057 8
478.3 3	0.70 7	1283.0		804.7					%I γ =0.044 6
^x 490.3 3	1.00 10								%I γ =0.064 9
^x 497.9 3	1.70 17								%I γ =0.108 15
553.2 3	4.0 4	804.7		251.50	2 ⁻				%I γ =0.25 4
^x 587.5 3	1.00 10								%I γ =0.064 9
639.3 3	1.00 10	1032.3		393.02					%I γ =0.064 9
651.3 3	0.60 6	1044.3		393.02					%I γ =0.038 5
^x 654.0 3	1.40 14								%I γ =0.089 12
^x 682.5 3	1.00 10								%I γ =0.064 9
691.1 3	2.9 3	942.6		251.50	2 ⁻				%I γ =0.184 25
702.4 3	2.50 25	1300.6		598.21	(1 ⁻)				%I γ =0.159 21
^x 721.4 3	1.60 16								%I γ =0.102 14
^x 725.9 3	2.30 23								%I γ =0.146 20
732.7 3	4.8 5	732.7		0.0	3 ⁻				%I γ =0.30 5

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^{186}Hg ε decay (1.38 min) [1983Po10,1985Ab03](#) (continued) $\gamma(^{186}\text{Au})$ (continued)

E_γ †	I_γ ‡ ^b	$E_i(\text{level})$	E_f	J_f^π	Comments
^x 739.4 3	1.00 10				%I γ =0.064 9
780.5 3	1.80 18	1144.1	363.61	1 ⁺	%I γ =0.114 15
^x 811.8 3	1.20 12				%I γ =0.076 10
^x 859.8 3	1.20 12				%I γ =0.076 10
^x 885.6 3	1.00 10				%I γ =0.064 9
^x 939.2 3	1.00 10				%I γ =0.064 9
1112.0 3	2.10 21	1608.66	496.60	(1 ⁺)	%I γ =0.133 18
1140.2 3	0.60 6	1503.8	363.61	1 ⁺	%I γ =0.038 5
1190.3 3	0.60 6	1686.96	496.60	(1 ⁺)	%I γ =0.038 5
1194.9 3	0.60 6	1691.36	496.60	(1 ⁺)	%I γ =0.038 5
1245.1 3	1.30 13	1608.66	363.61	1 ⁺	%I γ =0.083 11
1323.4 3	1.50 15	1686.96	363.61	1 ⁺	%I γ =0.095 13
1327.6 3	2.30 23	1691.36	363.61	1 ⁺	%I γ =0.146 20

† From conversion electron measurements of [1983Po10](#).

‡ From [1983Po10](#).

Transition mixed with $K\beta_1$ x ray of Pt and Au.

@ Deduced by [1983Po10](#) from their I(ce) data. $\Delta I_\gamma=10\%$ is assumed for these transitions also, since the authors do not specify otherwise.

& [Additional information 1](#).

^a If No value given it was assumed $\delta=1.00$ for E2/M1, $\delta=1.00$ for E3/M2 and $\delta=0.10$ for the other multipolarities.

^b For absolute intensity per 100 decays, multiply by 0.064 6.

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

^x γ ray not placed in level scheme.

¹⁸⁶Hg ε decay (1.38 min) 1983Po10,1985Ab03

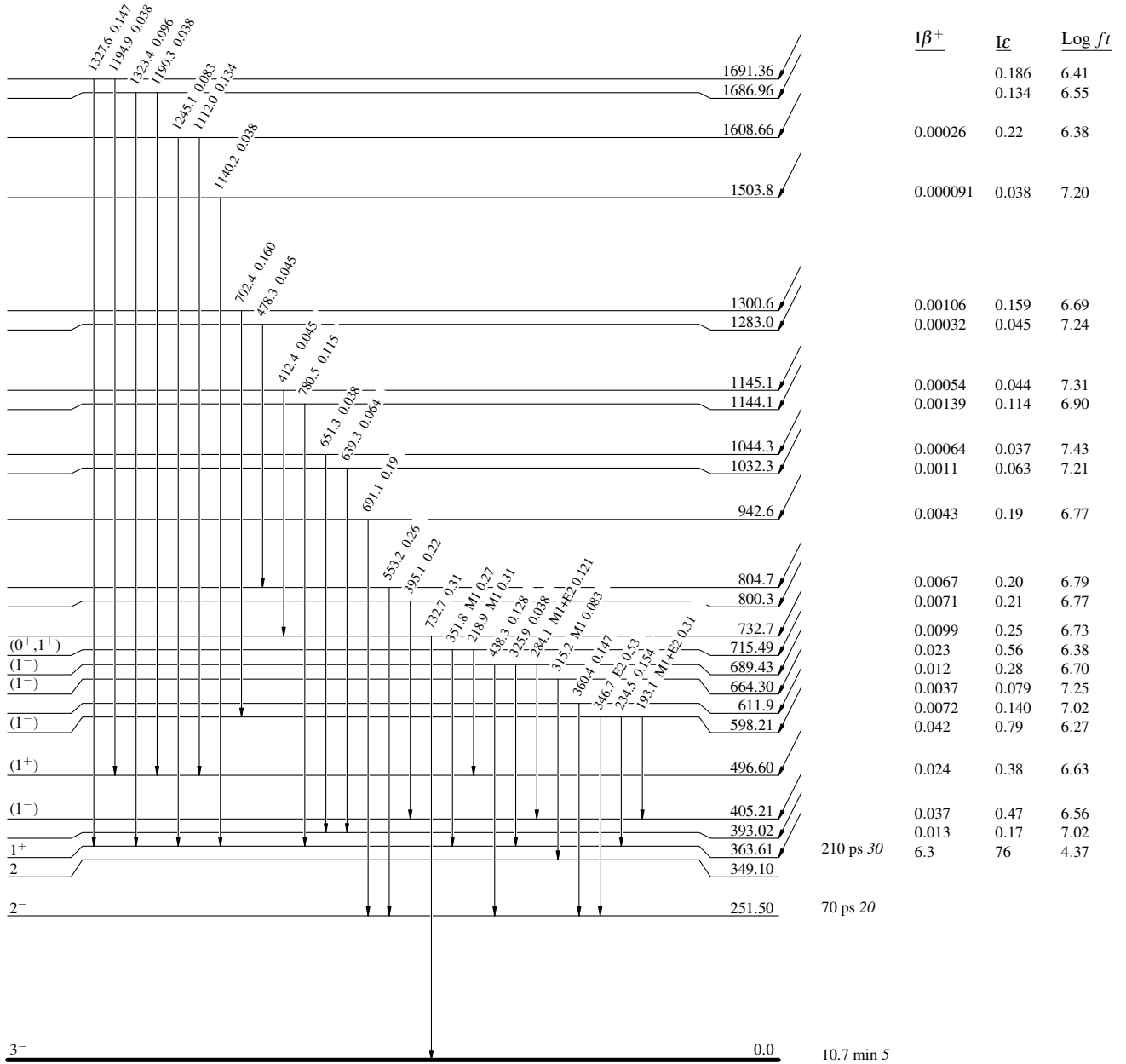
Decay Scheme

Intensities: I_(γ+ce) per 100 parent decays

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}

0+ 0.0 1.38 min 10
 Q_e=3176.24
¹⁸⁶Hg₈₀¹⁰⁶
 %ε + %β⁺=100.0



¹⁸⁶Au₇₉¹⁰⁷

^{186}Hg ϵ decay (1.38 min) 1983Po10,1985Ab03

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

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)

0^+ 0.0 1.38 min 10
 $Q_{\epsilon}=3176.24$
 $^{186}_{80}\text{Hg}_{106}$
 $\% \epsilon + \% \beta^+ = 100.0$

