

$^{182}\text{Pt } \epsilon \text{ decay (2.67 min)}$ [2007Ho20,1995Sa42](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 130, 21 (2015)	15-Jul-2015

Parent: ^{182}Pt : E=0; $J^\pi=0^+$; $T_{1/2}=2.67$ min 12; $Q(\epsilon)=2883$ 25; % ϵ +% β^+ decay=99.962 2

$^{182}\text{Pt-T}_{1/2}$: From ^{182}Pt Adopted Levels.

$^{182}\text{Pt-Q}(\epsilon)$: From [2012Wa38](#).

$^{182}\text{Pt-}\% \epsilon + \% \beta^+$ decay: % α =0.038 2 (from ^{182}Pt Adopted Levels).

[2007Ho20](#): Measured $E\gamma$, $I\gamma$, ce, γ (ce) using a Si(Li) detector and an HPGe detector. The ce data were measured using a magnetic spectrometer and a Si(Li) detector. The source of ^{182}Pt obtained from successive decay of mass-separated ^{182}Hg isotope formed in Pb(p,X), 1 GeV protons, CERN-PS booster facility. [2000Ro41](#) from the same group report multipolarity assignments for 21 transitions from 17.8 to 123.4 keV, consistent with those in [2007Ho20](#).

[1995Sa42](#): Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, $\gamma\gamma(t)$ using a planar HPGe, x-ray detector and two coaxial HPGe detectors.

[1999Sa40](#): Conversion electron measurements for four transitions.

[2007Ho20](#), [1995Sa42](#) and [1999Sa40](#) are from the same group.

Others:

[1975Ho03](#): measured β strength function; population of levels indicated from 800 keV to ≈ 3 MeV.

[1970FiZZ](#): measured $E\gamma$, $I\gamma$ for four γ rays at 136.0, 146.0, 186.0 and 210.0. All are reported by [1995Sa42](#), except that 210γ is very weak in [1995Sa42](#).

All data are from [2007Ho20](#), unless indicated otherwise.

 ^{182}Ir Levels

E(level) [†]	J^π [‡]	Comments
0.0 [#]	3 ⁺	
8.1? 4		E(level): ordering of 8.1-374.1 cascade is not established.
25.85 [#] 17	(5) ⁺	About 20% of the total disintegration intensity populates this level.
71.06 ^{&} 16	(5) ⁺	
74.80 [#] 13	(2) ⁺	
87.39 [#] 13	(1,2) ⁺	J^π : (1) ⁺ from band assignment.
88.8 ^{&} 3	(4) ⁺	
95.07 [#] 16	(4) ⁺	
152.23 17	(1,2) ⁻	Configuration= $K^\pi=2^-$, $\pi 3/2[402] \otimes \nu 1/2[521]$.
152.46 15	(4) ⁻	Configuration= $K^\pi=4^-$, $\pi 1/2[541] \otimes \nu 9/2[624] + \pi 1/2[541] \otimes \nu 7/2[633]$.
174.49 18	(3) ⁻	Configuration= $K^\pi=3^-$, $\pi 1/2[541] \otimes \nu 7/2[633] + \pi 3/2[532] \otimes \nu 9/2[624]$.
190.39 ^a 19	(3) ⁺	
194.38 19	(1,2) ⁺	
199.8 4	(0 to 3) ⁻	Configuration= $K^\pi=1^-$, $\pi 3/2[402] \otimes \nu 1/2[521]$, if $J^\pi=3^-$.
210.97 [@] 15	1 ⁺	
255.1 4	0 ⁺ , 1 ⁺ , 2 ⁺	
259.61 17	(2) ⁺	
283.81 [@] 18	(2) ⁺	
320.94 17	(2) ⁻	Configuration= $K^\pi=2^-$, $\pi 5/2[402] \otimes \nu 1/2[521]$.
341.67 [@] 21	(2,3,4) ⁺	J^π : (3) ⁺ favored from band assignment.
345.69 19	(2) ⁻	Configuration= $K^\pi=2^-$, $\pi 3/2[532] \otimes \nu 7/2[633]$.
377.07 22	(2) ⁺	Configuration= $K^\pi=2^+$, $\pi 3/2[532] \otimes \nu 7/2[514]$.
382.17 15	(3) ⁺	Configuration= $K^\pi=3^+$, $\pi 1/2[541] \otimes \nu 5/2[512]$.
452.52 16	(2) ⁺	Configuration= $K^\pi=2^+$, $\pi 1/2[541] \otimes \nu 5/2[512]$.
458.31 25	(2,3,4) ⁺	
615.21 24	(2,3) ⁺	
636.88 16	(1,2) ⁺	
662.76 14	(1,2) ⁺	Configuration= $\pi 3/2[532] \otimes \nu 5/2[512]$.
782.9 3	(1,2) ⁺	

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^{182}Pt ε decay (2.67 min) 2007Ho20,1995Sa42 (continued) **^{182}Ir Levels (continued)**

E(level) [†]	J $^{\pi\ddagger}$	E(level) [†]	J $^{\pi\ddagger}$	E(level) [†]	J $^{\pi\ddagger}$
852.78 25	(3) ⁺	922.7 4	(0 ⁻ to 4 ⁻)	1024.87 16	(1) ⁺
904.1 3	(1,2,3) ⁺	1002.36 14	1 ⁺	1135.67 23	(1,2) ⁺
				1540.7 4	(0 ⁺ to 4 ⁺)

[†] From least-squares fit to $E\gamma$ data.[‡] From Adopted Levels.# Band(A): $K^\pi=1^+$, $\pi 1/2[541]+\nu 1/2[521]$. Mainly $K=1$, but mixed with $K=0$ partner of $p1/2[541]-\nu 1/2[521]$ and $K=1$ and $K=2$ members of configuration= $\pi 3/2[532]\otimes\nu 1/2[521]$.@ Band(B): $K^\pi=0^+$, $\pi 1/2[541]-\nu 1/2[521]$. Mainly $K=0$, but mixed with $K=1$ partner of $p1/2[541]-\nu 1/2[521]$ and $K=1$ and $K=2$ members of configuration= $\pi 3/2[532]\otimes\nu 1/2[521]$.& Band(C): $K^\pi=4^+$, $\pi 1/2[541]+\nu 7/2[514]$. Mainly $K=4$, but mixed with $K=3$ partner of $p1/2[541]-\nu 7/2[514]$ and weak admixture of configuration= $\pi 3/2[532]\otimes\nu 7/2[514]$.^ Band(D): $K^\pi=3^+$, $\pi 1/2[541]-\nu 7/2[514]$. Mainly $K=3$, but mixed with $K=3$ partner of $p1/2[541]-\nu 7/2[514]$ and weak admixture of configuration= $\pi 3/2[532]\otimes\nu 7/2[514]$. **ε, β^+ radiations**

E(decay)	E(level)	I $\beta^+ \#$	I $\varepsilon \#$	Log ft	I($\varepsilon + \beta^+$) $^{\dagger\#}$	Comments
(1.34 $\times 10^3$ 3)	1540.7		0.098 25	6.8 1	0.098 25	$\varepsilon K=0.8075$ 3; $\varepsilon L=0.14587$ 23; $\varepsilon M+=0.04643$ 9
(1.75 $\times 10^3$ 3)	1135.67	0.0063 15	1.5 3	5.9 1	1.5 3	av $E\beta=345$ 11; $\varepsilon K=0.8079$ 3; $\varepsilon L=0.14262$ 21; $\varepsilon M+=0.04524$ 8
(1.86 $\times 10^3$ 3)	1024.87	0.018 4	2.5 5	5.7 1	2.5 5	av $E\beta=393$ 11; $\varepsilon K=0.8062$ 6; $\varepsilon L=0.14168$ 23; $\varepsilon M+=0.04491$ 8
						I($\varepsilon + \beta^+$): deduced by the evaluators from intensity balance. 2007Ho20 give 2.4 8.
(1.88 $\times 10^3$ 3)	1002.36	0.055 13	6.9 14	5.3 1	7.0 14	av $E\beta=403$ 11; $\varepsilon K=0.8058$ 6; $\varepsilon L=0.14148$ 23; $\varepsilon M+=0.04484$ 8
						I($\varepsilon + \beta^+$): deduced by the evaluators from intensity balance. 2007Ho20 give 6.9 22.
(1.96 $\times 10^3$ 3)	922.7	0.0016 6	0.15 5	7.0 2	0.15 5	av $E\beta=438$ 11; $\varepsilon K=0.8038$ 8; $\varepsilon L=0.14074$ 25; $\varepsilon M+=0.04458$ 9
(1.98 $\times 10^3$ 3)	904.1	0.0023 7	0.20 6	6.9 2	0.20 6	av $E\beta=446$ 11; $\varepsilon K=0.8033$ 8; $\varepsilon L=0.1406$ 3; $\varepsilon M+=0.04452$ 9
(2.03 $\times 10^3$ @ 3)	852.78	0.0050 12	0.35 8	6.6 1	0.36 [‡] 8	av $E\beta=469$ 11; $\varepsilon K=0.8017$ 9; $\varepsilon L=0.1400$ 3; $\varepsilon M+=0.04434$ 9
(2.22 $\times 10^3$ 3)	662.76	0.007 4	0.28 14	6.8 2	0.29 14	av $E\beta=552$ 11; $\varepsilon K=0.7934$ 14; $\varepsilon L=0.1378$ 4; $\varepsilon M+=0.04361$ 11
(2.25 $\times 10^3$ 3)	636.88	0.023 7	0.82 23	6.4 1	0.84 24	av $E\beta=564$ 11; $\varepsilon K=0.7920$ 15; $\varepsilon L=0.1375$ 4; $\varepsilon M+=0.04350$ 11
(2.42 $\times 10^3$ @ 3)	458.31	0.0046 21	0.11 5	7.3 2	0.11 [‡] 5	av $E\beta=642$ 11; $\varepsilon K=0.7805$ 19; $\varepsilon L=0.1349$ 4; $\varepsilon M+=0.04265$ 13
(2.43 $\times 10^3$ @ 3)	452.52	0.03 2	0.8 4	6.5 2	0.8 [‡] 4	av $E\beta=644$ 11; $\varepsilon K=0.7801$ 19; $\varepsilon L=0.1348$ 4; $\varepsilon M+=0.04262$ 13
(2.51 $\times 10^3$ @ 3)	377.07	0.03 2	0.6 3	6.6 2	0.6 [‡] 3	av $E\beta=678$ 11; $\varepsilon K=0.7741$ 21; $\varepsilon L=0.1336$ 5; $\varepsilon M+=0.04222$ 14
(2.54 $\times 10^3$ @ 3)	345.69	0.21 7	3.8 12	5.8 2	4.0 [‡] 13	av $E\beta=691$ 11; $\varepsilon K=0.7715$ 22; $\varepsilon L=0.1330$ 5; $\varepsilon M+=0.04205$ 15
(2.60 $\times 10^3$ @ 3)	283.81	0.031 13	0.49 20	6.7 2	0.52 [‡] 21	av $E\beta=719$ 11; $\varepsilon K=0.7660$ 24; $\varepsilon L=0.1319$ 5; $\varepsilon M+=0.04169$ 15

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$^{182}\text{Pt } \varepsilon$ decay (2.67 min) 2007Ho20,1995Sa42 (continued) ε, β^+ radiations (continued)

E(decay)	E(level)	I β^+ #	I ε #	Log ft	I($\varepsilon + \beta^+$) $^{\dagger\#}$	Comments
(2.63×10 ³ 3)	255.1	0.11 4	1.7 6	6.2 2	1.8 6	av E β =731 11; ε K=0.7633 25; ε L=0.1314 5; ε M+=0.04151 16
(2.67×10 ³ 3)	210.97	3.7 10	50 13	4.7 1	54 14	av E β =751 11; ε K=0.759 3; ε L=0.1306 5; ε M+=0.04124 16 I($\varepsilon + \beta^+$): deduced by the evaluators from intensity balance. 2007Ho20 give 54 22.
(2.68×10 ³ 3)	199.8	0.13 4	1.7 6	6.2 2	1.8 6	av E β =756 11; ε K=0.758 3; ε L=0.1303 5; ε M+=0.04117 16
(2.69×10 ³ 3)	194.38	0.21 6	2.7 7	6.0 1	2.9 8	av E β =758 11; ε K=0.757 3; ε L=0.1302 5; ε M+=0.04114 16
(2.71×10 ³ @ 3)	174.49	0.5 3	6 4	5.6 3	7 [‡] 4	av E β =767 11; ε K=0.755 3; ε L=0.1298 5; ε M+=0.04101 17

[†] Deduced by the evaluators from I γ +ce intensity balance. The 2007Ho20 list $\varepsilon+\beta^+$ feedings and associated log ft values only some of the levels. Comparison of the two sets shows small deviations, but the agreement is within the quoted uncertainties.

[‡] Too high to be realistic for ΔJ involved in β decay.

For absolute intensity per 100 decays, multiply by 1.00003.

@ Existence of this branch is questionable.

$\gamma^{(182\text{Ir})}$

Iy normalization, I($\gamma+ce$) normalization: From estimated total disintegration intensity of 611 110 feeding the g.s. The normalization factor was 0.189 27 according to data presented in 1995Sa42 from estimated total disintegration intensity of 530 75 feeding the g.s., 8.1 and 25.7 levels.

All γ rays assigned in the level scheme were seen in $\gamma\gamma$ coin data of 1995Sa42.

When δ is given as approximate, 50% arbitrary uncertainty in this value is assumed by the evaluators in deducing total conversion coefficient.

E _γ [†]	I _γ ^{‡d}	E _i (level)	E _f	J _f ^π	Mult. [#]	δ^b	α^c	I _(γ+ce) ^{‡d}	Comments
(8.1)		8.1?	0.0	3 ⁺				0.70 20	I _(γ+ce) : from intensity balance at 8.1 level, assuming no $\varepsilon+\beta^+$ feeding to this level.
(12.6)	87.39	74.80 (2) ⁺	[M1]			115.3			$\alpha(L)=4.09$ 6; $\alpha(M)=86.0$ 12 $\alpha(N)=21.1$ 3; $\alpha(O)=3.74$ 6; $\alpha(P)=0.281$ 4
17.8 3	88.8	71.06 (5) ⁺	M1 [@]			173 10	16 3		L1/L2=15 12 $\text{ce}(L)/(γ+ce)=0.77$ 3; $\text{ce}(M)/(γ+ce)=0.177$ 13 $\text{ce}(N)/(γ+ce)=0.044$ 4; $\text{ce}(O)/(γ+ce)=0.0077$ 6; $\text{ce}(P)/(γ+ce)=0.00058$ 5 $\alpha(L)=133$ 7; $\alpha(M)=30.8$ 17 $\alpha(N)=7.6$ 4; $\alpha(O)=1.34$ 8; $\alpha(P)=0.100$ 6
22.0 3	1.1 2	174.49	152.46 (4) ⁻	M1		92 4	107 18		I _(γ+ce) : from intensity balance at 88.8 level deduced by the evaluators. 2007Ho20 give 34 7 implying $\varepsilon+\beta^+$ feeding which is not expected. δ : <0.07 from L1/L2. $\alpha(L)\exp=54$ 32; $\alpha(L3)\exp<2.5$; $\alpha(M1)\exp=15$ 4; $\alpha(M2)\exp=1.8$ 10; $\alpha(M3)\exp<0.42$ $\text{ce}(L)/(γ+ce)=0.762$ 23; $\text{ce}(M)/(γ+ce)=0.176$ 10 $\text{ce}(N)/(γ+ce)=0.043$ 3; $\text{ce}(O)/(γ+ce)=0.0077$ 5; $\text{ce}(P)/(γ+ce)=0.00058$ 4 $\alpha(L)=71$ 4; $\alpha(M)=16.4$ 8 $\alpha(N)=4.03$ 18; $\alpha(O)=0.71$ 4; $\alpha(P)=0.0536$ 24
24.8 3	345.69	320.94 (2) ⁻	M1+E2 [@]	0.05 3		73 14	24 6		L1/L2=5.3 35 $\text{ce}(L)/(γ+ce)=0.76$ 10; $\text{ce}(M)/(γ+ce)=0.18$ 5 $\text{ce}(N)/(γ+ce)=0.043$ 11; $\text{ce}(O)/(γ+ce)=0.0075$ 19; $\text{ce}(P)/(γ+ce)=0.00051$ 10 $\alpha(L)=56$ 10; $\alpha(M)=13$ 3 $\alpha(N)=3.2$ 6; $\alpha(O)=0.56$ 10; $\alpha(P)=0.0375$ 15
25.7 3	25.85	0.0	3 ⁺	E2 [@]		2.83×10 ³ 18	112 18		L1/L2≤0.054; L3/L2=1.3 3; M3/M2=1.4 7 $\text{ce}(L)/(γ+ce)=0.76$ 4; $\text{ce}(M)/(γ+ce)=0.192$ 15 $\text{ce}(N)/(γ+ce)=0.046$ 4; $\text{ce}(O)/(γ+ce)=0.0070$ 6; $\text{ce}(P)/(γ+ce)=5.9×10^{-6}$ 6 $\alpha(L)=2.14×10^3$ 14; $\alpha(M)=5.4×10^2$ 4 $\alpha(N)=130$ 8; $\alpha(O)=19.7$ 12; $\alpha(P)=0.0167$ 11 I _(γ+ce) : from intensity balance at 25.88 level.

$^{182}\text{Pt } \varepsilon$ decay (2.67 min) 2007Ho20,1995Sa42 (continued) $\gamma(^{182}\text{Ir})$ (continued)

E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
44.1 3	0.81 20	255.1	210.97	1^+	M1		11.8 3	10.7 27	$\alpha(L)\exp=10.4; \alpha(L3)\exp<0.50; \alpha(M1)\exp=2.1.10$ $\text{ce}(L)/(\gamma+ce)=0.710.12; \text{ce}(M)/(\gamma+ce)=0.164.5$ $\text{ce}(N)/(\gamma+ce)=0.0402.14; \text{ce}(O)/(\gamma+ce)=0.00712.24;$ $\text{ce}(P)/(\gamma+ce)=0.000536.18$ $\alpha(L)=9.08.23; \alpha(M)=2.09.6$ $\alpha(N)=0.514.13; \alpha(O)=0.0911.23; \alpha(P)=0.00685.17$
45.3 2	7.4 11	71.06	25.85 (5) ⁺	M1+E2	0.10 3	12.5 12	103 17		$\alpha(L1)\exp=7.0.20; \alpha(L2)\exp=1.3.4; \alpha(M1)\exp=1.6.4; \alpha(M2)\exp=0.3.1; \alpha(M3)\exp=0.15.8$ $\alpha(N)\exp=0.6.2$ $\text{ce}(L)/(\gamma+ce)=0.71.5; \text{ce}(M)/(\gamma+ce)=0.166.19$ $\text{ce}(N)/(\gamma+ce)=0.041.5; \text{ce}(O)/(\gamma+ce)=0.0071.9;$ $\text{ce}(P)/(\gamma+ce)=0.00047.4$ $\alpha(L)=9.6.9; \alpha(M)=2.24.22$ $\alpha(N)=0.55.6; \alpha(O)=0.095.8; \alpha(P)=0.00628.13$
47.6 3	1.0 2	199.8	152.23 (1,2) ⁻	M1		9.41 22	11 3		$\alpha(L1)\exp=7.0.36; \alpha(L2)\exp\leq1.7; \alpha(L3)\exp\leq0.38$ $\text{ce}(L)/(\gamma+ce)=0.696.11; \text{ce}(M)/(\gamma+ce)=0.161.5$ $\text{ce}(N)/(\gamma+ce)=0.0395.13; \text{ce}(O)/(\gamma+ce)=0.00698.22;$ $\text{ce}(P)/(\gamma+ce)=0.000525.17$ $\alpha(L)=7.25.17; \alpha(M)=1.67.4$ $\alpha(N)=0.411.10; \alpha(O)=0.0727.17; \alpha(P)=0.00547.13$
57.3 2	5.8 9	152.46	95.07 (4) ⁺	E1		0.353 6	7.9 12		$\alpha(L1)\exp=0.22.18; \alpha(L3)\exp=0.11.8; \alpha(M2)\exp<0.038;$ $\alpha(M3)\exp\leq0.051$ $\text{ce}(L)/(\gamma+ce)=0.201.3; \text{ce}(M)/(\gamma+ce)=0.0468.8$ $\text{ce}(N)/(\gamma+ce)=0.01119.20; \text{ce}(O)/(\gamma+ce)=0.00179.4;$ $\text{ce}(P)/(\gamma+ce)=7.48\times10^{-5}.13$ $\alpha(L)=0.272.5; \alpha(M)=0.0633.11$ $\alpha(N)=0.0151.3; \alpha(O)=0.00242.4; \alpha(P)=0.0001012.17$
^x 57.7 3	1.5 2			E1		0.346 7	2.0 3		$\alpha(L1)\exp\leq0.57; \alpha(L2)\exp<0.22; \alpha(L3)\exp<0.16$ $\text{ce}(L)/(\gamma+ce)=0.198.4; \text{ce}(M)/(\gamma+ce)=0.0461.10$ $\text{ce}(N)/(\gamma+ce)=0.01103.23; \text{ce}(O)/(\gamma+ce)=0.00176.4;$ $\text{ce}(P)/(\gamma+ce)=7.40\times10^{-5}.15$ $\alpha(L)=0.267.6; \alpha(M)=0.0621.13$ $\alpha(N)=0.0148.3; \alpha(O)=0.00237.5; \alpha(P)=9.96\times10^{-5}.19$ coin with 136 γ .
58.7 2	15.7 22	210.97	152.23 (1,2) ⁻	E1		0.330 6	21 3		$\alpha(L1)\exp=0.10.4; \alpha(L2)\exp=0.08.5; \alpha(M1)\exp=0.036.24$ $\text{ce}(L)/(\gamma+ce)=0.191.3; \text{ce}(M)/(\gamma+ce)=0.0445.8$ $\text{ce}(N)/(\gamma+ce)=0.01065.19; \text{ce}(O)/(\gamma+ce)=0.00170.3;$ $\text{ce}(P)/(\gamma+ce)=7.20\times10^{-5}.12$ $\alpha(L)=0.254.5; \alpha(M)=0.0592.10$ $\alpha(N)=0.01416.24; \alpha(O)=0.00227.4; \alpha(P)=9.58\times10^{-5}.16$
64.9 3	≈ 0.7	152.23	87.39 (1,2) ⁺	[E1]		0.251 5	≈ 0.9		$\alpha(L1)\exp<3.1; \alpha(L2)\exp<1.0$ $\text{ce}(L)/(\gamma+ce)=0.154.3; \text{ce}(M)/(\gamma+ce)=0.0359.7$ $\text{ce}(N)/(\gamma+ce)=0.00860.17; \text{ce}(O)/(\gamma+ce)=0.00139.3;$

$^{182}\text{Pt } \varepsilon \text{ decay (2.67 min)}$ **2007Ho20,1995Sa42 (continued)**

<u>$\gamma^{(182\text{Ir})}$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
69.3 3	1.6 3	95.07	25.85	(5) ⁺	M1+E2 [@]	≈0.2	≈3.85	8.0 16	$\text{ce}(P)/(\gamma+ce)=6.08\times 10^{-5} \text{ 11}$ $\alpha(L)=0.193 \text{ 4}; \alpha(M)=0.0449 \text{ 9}$ $\alpha(N)=0.01076 \text{ 21}; \alpha(O)=0.00173 \text{ 4}; \alpha(P)=7.61\times 10^{-5} \text{ 14}$ $\text{ce}(L)/(\gamma+ce)≈0.609; \text{ce}(M)/(\gamma+ce)≈0.144$ $\text{ce}(N)/(\gamma+ce)≈0.0352; \text{ce}(O)/(\gamma+ce)≈0.00602;$ $\text{ce}(P)/(\gamma+ce)≈0.000362$ $\alpha(L)≈2.95; \alpha(M)≈0.698$ $\alpha(N)≈0.171; \alpha(O)≈0.0292; \alpha(P)≈0.00176$
70.3 3	2.3 5	452.52	382.17	(3) ⁺	M1 ^{&}		3.00 6	9.5 19	$\alpha(L1)\text{exp}=2.1 \text{ 9}; \alpha(L)\text{exp}=1.4 \text{ 5}; \alpha(M1)\text{exp}=0.38 \text{ 23};$ $\alpha(M2)\text{exp}≤0.074$ $\text{ce}(L)/(\gamma+ce)=0.578 \text{ 7}; \text{ce}(M)/(\gamma+ce)=0.133 \text{ 3}$ $\text{ce}(N)/(\gamma+ce)=0.0327 \text{ 8}; \text{ce}(O)/(\gamma+ce)=0.00580 \text{ 14};$ $\text{ce}(P)/(\gamma+ce)=0.000436 \text{ 11}$ $\alpha(L)=2.31 \text{ 5}; \alpha(M)=0.533 \text{ 10}$ $\alpha(N)=0.1310 \text{ 25}; \alpha(O)=0.0232 \text{ 5}; \alpha(P)=0.00175 \text{ 4}$
71.1 3	≈0.3	71.06	0.0	3 ⁺	[E2]		19.4 5	3.3 30	$\text{ce}(L)/(\gamma+ce)=0.716 \text{ 13}; \text{ce}(M)/(\gamma+ce)=0.184 \text{ 6}$ $\text{ce}(N)/(\gamma+ce)=0.0444 \text{ 15}; \text{ce}(O)/(\gamma+ce)=0.00674 \text{ 23};$ $\text{ce}(P)/(\gamma+ce)=1.09\times 10^{-5} \text{ 4}$ $\alpha(L)=14.6 \text{ 4}; \alpha(M)=3.76 \text{ 10}$ $\alpha(N)=0.907 \text{ 23}; \alpha(O)=0.138 \text{ 4}; \alpha(P)=0.000223 \text{ 5}$ $I_{(\gamma+ce)}: 0.3 \text{ to } 6.2 \text{ (2007Ho20).}$
74.8 2	93.23	74.80	0.0	3 ⁺	M1+E2	0.27 5	3.4 4	$4.2\times 10^2 \text{ 10}$	$\alpha(L1)\text{exp}=1.4 \text{ 2}; \alpha(L2)\text{exp}=0.55 \text{ 14}; \alpha(L3)\text{exp}=0.38 \text{ 8};$ $\alpha(M1)\text{exp}=0.34 \text{ 12}; \alpha(M2)\text{exp}=0.13 \text{ 7}$ $\alpha(M3)\text{exp}=0.10 \text{ 3}$ $\text{ce}(L)/(\gamma+ce)=0.59 \text{ 4}; \text{ce}(M)/(\gamma+ce)=0.141 \text{ 16}$ $\text{ce}(N)/(\gamma+ce)=0.034 \text{ 5}; \text{ce}(O)/(\gamma+ce)=0.0058 \text{ 7};$ $\text{ce}(P)/(\gamma+ce)=0.000314 \text{ 25}$ $\alpha(L)=2.58 \text{ 25}; \alpha(M)=0.61 \text{ 7}$ $\alpha(N)=0.150 \text{ 16}; \alpha(O)=0.0254 \text{ 23}; \alpha(P)=0.00137 \text{ 4}$
77.4 2	17.0 26	152.23	74.80	(2) ⁺	E1		0.748	30 5	$\alpha(L1)\text{exp}≈0.11; \alpha(L2)\text{exp}≈0.08; \alpha(L3)\text{exp}≈0.04$ $\text{ce}(K)/(\gamma+ce)=0.339 \text{ 4}; \text{ce}(L)/(\gamma+ce)=0.0682 \text{ 11};$ $\text{ce}(M)/(\gamma+ce)=0.0158 \text{ 3}$ $\text{ce}(N)/(\gamma+ce)=0.00380 \text{ 7}; \text{ce}(O)/(\gamma+ce)=0.000620 \text{ 11};$ $\text{ce}(P)/(\gamma+ce)=2.89\times 10^{-5} \text{ 5}$ $\alpha(K)=0.593 \text{ 9}; \alpha(L)=0.1193 \text{ 19}; \alpha(M)=0.0277 \text{ 5}$ $\alpha(N)=0.00665 \text{ 11}; \alpha(O)=0.001083 \text{ 17}; \alpha(P)=5.06\times 10^{-5} \text{ 8}$
81.5 2	37.6	152.46	71.06	(5) ⁺	E1		0.666 11	62 9	$\alpha(K)\text{exp}=0.7 \text{ 5}; \alpha(L1)\text{exp}≤0.074; \alpha(L2)\text{exp}≤0.037;$ $\alpha(M1)\text{exp}=0.013 \text{ 9}; \alpha(M2)\text{exp}=0.011 \text{ 7}$ $\alpha(M3)\text{exp}=0.009 \text{ 6}$ $\text{ce}(K)/(\gamma+ce)=0.319 \text{ 4}; \text{ce}(L)/(\gamma+ce)=0.0622 \text{ 10};$ $\text{ce}(M)/(\gamma+ce)=0.01440 \text{ 24}$ $\text{ce}(N)/(\gamma+ce)=0.00346 \text{ 6}; \text{ce}(O)/(\gamma+ce)=0.000566 \text{ 10};$

¹⁸²Pt ε decay (2.67 min) 2007Ho20,1995Sa42 (continued)

<u>$\gamma^{(182)\text{Ir}}$ (continued)</u>										
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments	
87.4 2	6.4 10	87.39	0.0	3 ⁺	E2	8.10 14	59 9	$\text{ce}(P)/(\gamma+ce)=2.69 \times 10^{-5}$ 5 $\alpha(K)=0.532$ 8; $\alpha(L)=0.1036$ 16; $\alpha(M)=0.0240$ 4 $\alpha(N)=0.00577$ 9; $\alpha(O)=0.000944$ 15; $\alpha(P)=4.48 \times 10^{-5}$ 7 $\alpha(K)\exp=1.1$ 8; $\alpha(L1)\exp+\alpha(L2)\exp=3.3$ 16; $\alpha(L3)\exp=3.0$ 12; $\alpha(M1)\exp\leq 0.093$ $\alpha(M2)\exp=1.0$ 5; $\alpha(M3)\exp=0.8$ 4 $\text{ce}(K)/(\gamma+ce)=0.0914$ 18; $\text{ce}(L)/(\gamma+ce)=0.601$ 8; $\text{ce}(M)/(\gamma+ce)=0.155$ 4 $\text{ce}(N)/(\gamma+ce)=0.0374$ 9; $\text{ce}(O)/(\gamma+ce)=0.00568$ 14; $\text{ce}(P)/(\gamma+ce)=1.40 \times 10^{-5}$ 3 $\alpha(K)=0.832$ 12; $\alpha(L)=5.47$ 10; $\alpha(M)=1.407$ 25 $\alpha(N)=0.340$ 6; $\alpha(O)=0.0517$ 10; $\alpha(P)=0.0001273$ 20		
95.1 3	0.58 10	95.07	0.0	3 ⁺	M1(+E2)	<1.1	6.7 4	4.8 10	$\alpha(K)\exp=6$ 3; $\alpha(L1)\exp=1.1$ 7 $\text{ce}(K)/(\gamma+ce)=0.58$ 16; $\text{ce}(L)/(\gamma+ce)=0.221$ 76; $\text{ce}(M)/(\gamma+ce)=0.055$ 25 $\text{ce}(N)/(\gamma+ce)=0.0133$ 62; $\text{ce}(O)/(\gamma+ce)=0.00215$ 91; $\text{ce}(P)/(\gamma+ce)=7.2 \times 10^{-5}$ 23 $\alpha(K)=4.4$ 14; $\alpha(L)=1.70$ 75; $\alpha(M)=0.42$ 20 $\alpha(N)=0.102$ 48; $\alpha(O)=0.0165$ 69; $\alpha(P)=5.5 \times 10^{-4}$ 17	
^x 96.9 3	0.32 15			(M1)		6.70 12	2.6 18	$\alpha(K)\exp\approx 5$ $\text{ce}(K)/(\gamma+ce)=0.717$ 7; $\text{ce}(L)/(\gamma+ce)=0.1181$ 25; $\text{ce}(M)/(\gamma+ce)=0.0272$ 6 $\text{ce}(N)/(\gamma+ce)=0.00669$ 15; $\text{ce}(O)/(\gamma+ce)=0.00118$ 3; $\text{ce}(P)/(\gamma+ce)=8.92 \times 10^{-5}$ 20 $\alpha(K)=5.52$ 10; $\alpha(L)=0.910$ 16; $\alpha(M)=0.210$ 4 $\alpha(N)=0.0516$ 9; $\alpha(O)=0.00913$ 16; $\alpha(P)=0.000687$ 12		
101.6 3	2.2 3	190.39	88.8	(4) ⁺	M1(+E2)	<0.5	5.70 18	16 3	$\alpha(K)\exp=6.6$ 20; $\alpha(L1)\exp=1.0$ 4; $\alpha(M1)\exp=0.32$ 20 $\text{ce}(K)/(\gamma+ce)=0.66$ 3; $\text{ce}(L)/(\gamma+ce)=0.147$ 25; $\text{ce}(M)/(\gamma+ce)=0.035$ 8 $\text{ce}(N)/(\gamma+ce)=0.0085$ 19; $\text{ce}(O)/(\gamma+ce)=0.0015$ 3; $\text{ce}(P)/(\gamma+ce)=8.2 \times 10^{-5}$ 8 $\alpha(K)=4.4$ 5; $\alpha(L)=0.98$ 20; $\alpha(M)=0.23$ 6 $\alpha(N)=0.057$ 13; $\alpha(O)=0.0097$ 18; $\alpha(P)=0.00055$ 6	
106.9 3	2.5 4	194.38	87.39	(1,2) ⁺	M1(+E2) ^{&}	<0.5	4.90 18	16 3	$\alpha(K)\exp=5.0$ 15; $\alpha(K)\exp=3.2$ 7; $\alpha(L1)\exp=0.8$ 5; $\alpha(L)\exp=0.77$ 20 $\text{ce}(K)/(\gamma+ce)=0.647$ 24; $\text{ce}(L)/(\gamma+ce)=0.141$ 22; $\text{ce}(M)/(\gamma+ce)=0.033$ 7 $\text{ce}(N)/(\gamma+ce)=0.0082$ 16; $\text{ce}(O)/(\gamma+ce)=0.00139$ 23; $\text{ce}(P)/(\gamma+ce)=8.0 \times 10^{-5}$ 8 $\alpha(K)=3.8$ 4; $\alpha(L)=0.83$ 15; $\alpha(M)=0.20$ 4 $\alpha(N)=0.048$ 10; $\alpha(O)=0.0082$ 14; $\alpha(P)=0.00047$ 5	
110.1 3	0.81 12	320.94	210.97	1 ⁺	E1 ^{&}		0.312	1.1 2	$\alpha(K)\exp<1$; $\alpha(L)\exp\leq 0.18$	

¹⁸²Pt ε decay (2.67 min) 2007Ho20,1995Sa42 (continued)

<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. #	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
110.9 3	0.25 4	452.52	341.67 (2,3,4) ⁺	M1(+E2)	<1	4.2 4	0.9 6		$\text{ce(K)}/(\gamma+ce)=0.1929~25; \text{ce(L)}/(\gamma+ce)=0.0348~6;$ $\text{ce(M)}/(\gamma+ce)=0.00804~13$ $\text{ce(N)}/(\gamma+ce)=0.00194~4; \text{ce(O)}/(\gamma+ce)=0.000322~6;$ $\text{ce(P)}/(\gamma+ce)=1.68\times10^{-5}~3$ $\alpha(\text{K})=0.253~4; \alpha(\text{L})=0.0456~8; \alpha(\text{M})=0.01054~17$ $\alpha(\text{N})=0.00255~4; \alpha(\text{O})=0.000423~7; \alpha(\text{P})=2.20\times10^{-5}~4$ $\alpha(\text{K})\exp\approx4~2$ $\text{ce(K)}/(\gamma+ce)=0.58~9; \text{ce(L)}/(\gamma+ce)=0.176~48; \text{ce(M)}/(\gamma+ce)=0.043~16$ $\text{ce(N)}/(\gamma+ce)=0.0105~38; \text{ce(O)}/(\gamma+ce)=0.00172~55;$ $\text{ce(P)}/(\gamma+ce)=7.1\times10^{-5}~20$ $\alpha(\text{K})=2.98~78; \alpha(\text{L})=0.91~30; \alpha(\text{M})=0.222~80$ $\alpha(\text{N})=0.054~20; \alpha(\text{O})=0.0089~28; \alpha(\text{P})=3.67\times10^{-4}~99$ $I_{(\gamma+ce)}: 0.3 \text{ to } 1.4 \text{ (2007Ho20).}$ $\alpha(\text{K})\exp=3.9~33$ $\text{ce(K)}/(\gamma+ce)=0.45~21; \text{ce(L)}/(\gamma+ce)=0.223~83;$ $\text{ce(M)}/(\gamma+ce)=0.056~28$ $\text{ce(N)}/(\gamma+ce)=0.0135~68; \text{ce(O)}/(\gamma+ce)=0.00215~98;$ $\text{ce(P)}/(\gamma+ce)=5.5\times10^{-5}~41$ $\alpha(\text{K})=1.8~13; \alpha(\text{L})=0.88~39; \alpha(\text{M})=0.22~11$ $\alpha(\text{N})=0.054~26; \alpha(\text{O})=0.0085~36; \alpha(\text{P})=2.2\times10^{-4}~16$ Mult.: 2007Ho20 list M1, but their $\alpha(\text{K})\exp$ value gives M1 or E2.
119.6 3	0.63 10	194.38	74.80 (2) ⁺	M1,E2		3.0 7	3.0 9		
123.6 2	10.0 10	210.97	87.39 (1,2) ⁺	M1(+E2) ^{&}	<0.3	3.28 8	45 7		$\alpha(\text{K})\exp=3.1~5; \alpha(\text{K})\exp=2.5~5; \alpha(\text{L})\exp=0.47~13; \alpha(\text{M})\exp=0.21~6$ $\text{ce(K)}/(\gamma+ce)=0.621~9; \text{ce(L)}/(\gamma+ce)=0.112~6;$ $\text{ce(M)}/(\gamma+ce)=0.0260~18$ $\text{ce(N)}/(\gamma+ce)=0.0064~5; \text{ce(O)}/(\gamma+ce)=0.00111~7;$ $\text{ce(P)}/(\gamma+ce)=7.7\times10^{-5}~4$ $\alpha(\text{K})=2.66~10; \alpha(\text{L})=0.48~3; \alpha(\text{M})=0.111~8$ $\alpha(\text{N})=0.0273~18; \alpha(\text{O})=0.0048~3; \alpha(\text{P})=0.000329~13$ Additional information 5.
136.2 2	77 9	210.97	74.80 (2) ⁺	M1(+E2)	<0.5	2.42 13	281 56		$\alpha(\text{K})\exp=2.1~3$ $\text{ce(K)}/(\gamma+ce)=0.563~22; \text{ce(L)}/(\gamma+ce)=0.111~11;$ $\text{ce(M)}/(\gamma+ce)=0.026~3$ $\text{ce(N)}/(\gamma+ce)=0.0064~8; \text{ce(O)}/(\gamma+ce)=0.00110~11;$ $\text{ce(P)}/(\gamma+ce)=6.9\times10^{-5}~7$ $\alpha(\text{K})=1.92~17; \alpha(\text{L})=0.38~4; \alpha(\text{M})=0.089~11$ $\alpha(\text{N})=0.0218~25; \alpha(\text{O})=0.0038~4; \alpha(\text{P})=0.000237~22$ Additional information 6.
146.4 2	15.4 23	320.94	174.49 (3) ⁻	M1		2.06	48 7		$\alpha(\text{K})\exp=2.0~3$ $\text{ce(K)}/(\gamma+ce)=0.556~5; \text{ce(L)}/(\gamma+ce)=0.0909~15;$ $\text{ce(M)}/(\gamma+ce)=0.0209~4$ $\text{ce(N)}/(\gamma+ce)=0.00515~9; \text{ce(O)}/(\gamma+ce)=0.000911~16;$

$\gamma(^{182}\text{Ir})$ (continued)									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult.	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
152.5 3	3.8 6	152.46	0.0	3 ⁺	[E1]		0.1357 21	4.3 6	$\alpha(P)/(\gamma+ce)=6.87 \times 10^{-5}$ 12 $\alpha(K)=1.702$ 25; $\alpha(L)=0.278$ 4; $\alpha(M)=0.0641$ 10 $\alpha(N)=0.01577$ 23; $\alpha(O)=0.00279$ 4; $\alpha(P)=0.000210$ 3 $\alpha(K)\exp<0.56$ $\alpha(K)/(\gamma+ce)=0.0978$ 14; $\alpha(L)/(\gamma+ce)=0.01673$ 25; $\alpha(M)/(\gamma+ce)=0.00385$ 6 $\alpha(N)/(\gamma+ce)=0.000934$ 14; $\alpha(O)/(\gamma+ce)=0.0001574$ 24; $\alpha(P)/(\gamma+ce)=8.90 \times 10^{-6}$ 14 $\alpha(K)=0.1111$ 17; $\alpha(L)=0.0190$ 3; $\alpha(M)=0.00438$ 7 $\alpha(N)=0.001061$ 16; $\alpha(O)=0.000179$ 3; $\alpha(P)=1.011 \times 10^{-5}$ 15 $\alpha(K)/(\gamma+ce)=0.38$ 15; $\alpha(L)/(\gamma+ce)=0.134$ 39; $\alpha(M)/(\gamma+ce)=0.033$ 12 $\alpha(N)/(\gamma+ce)=0.0080$ 28; $\alpha(O)/(\gamma+ce)=0.00130$ 39; $\alpha(P)/(\gamma+ce)=4.5 \times 10^{-5}$ 33 $\alpha(K)=0.85$ 55; $\alpha(L)=0.30$ 8; $\alpha(M)=0.074$ 22 $\alpha(N)=0.0180$ 52; $\alpha(O)=0.0029$ 7; $\alpha(P)=1.02 \times 10^{-4}$ 71 $I_{(\gamma+ce)}$: 0.2 to 0.6 (2007Ho20).
157.0 3	0.22 3	615.21	458.31	(2,3,4) ⁺	[M1,E2]		1.25 45	0.4 2	
168.8 3	0.65 10	320.94	152.23	(1,2) ⁻	M1(+E2) ^{&}	<1.5	1.1 3	1.6 4	$\alpha(K)\exp=1.2$ 8; $\alpha(K)\exp=1.0$ 5 $\alpha(K)/(\gamma+ce)=0.39$ 9; $\alpha(L)/(\gamma+ce)=0.102$ 18; $\alpha(M)/(\gamma+ce)=0.025$ 6 $\alpha(N)/(\gamma+ce)=0.0060$ 13; $\alpha(O)/(\gamma+ce)=0.00100$ 18; $\alpha(P)/(\gamma+ce)=4.8 \times 10^{-5}$ 20 $\alpha(K)=0.83$ 31; $\alpha(L)=0.22$ 3; $\alpha(M)=0.052$ 10 $\alpha(N)=0.0127$ 22; $\alpha(O)=0.0021$ 3; $\alpha(P)=1.01 \times 10^{-4}$ 40 Additional information 7.
^x 170.4 3	0.52 8				[D,E2]		0.7 6	0.9 3	coin with 473 γ .
171.2 2	7.1 11	345.69	174.49	(3) ⁻	M1(+E2) ^{&}	<0.5	1.25 8	16.8 25	$\alpha(K)\exp=1.4$ 7; $\alpha(K)\exp=1.0$ 1; $\alpha(L)\exp=0.18$ 4 $\alpha(K)/(\gamma+ce)=0.448$ 21; $\alpha(L)/(\gamma+ce)=0.083$ 5; $\alpha(M)/(\gamma+ce)=0.0193$ 13 $\alpha(N)/(\gamma+ce)=0.0047$ 3; $\alpha(O)/(\gamma+ce)=0.00082$ 5; $\alpha(P)/(\gamma+ce)=5.5 \times 10^{-5}$ 6 $\alpha(K)=1.01$ 9; $\alpha(L)=0.186$ 9; $\alpha(M)=0.044$ 3 $\alpha(N)=0.0107$ 6; $\alpha(O)=0.00186$ 8; $\alpha(P)=0.000124$ 12 Additional information 8.
172.3 3	0.68 10	259.61	87.39	(1,2) ⁺	[M1,E2]		0.94 37	1.2 5	$\alpha(K)/(\gamma+ce)=0.34$ 14; $\alpha(L)/(\gamma+ce)=0.11$ 3; $\alpha(M)/(\gamma+ce)=0.0268$ 77 $\alpha(N)/(\gamma+ce)=0.0065$ 19; $\alpha(O)/(\gamma+ce)=0.0011$ 3; $\alpha(P)/(\gamma+ce)=4.1 \times 10^{-5}$ 29 $\alpha(K)=0.66$ 42; $\alpha(L)=0.21$ 4; $\alpha(M)=0.052$ 12 $\alpha(N)=0.013$ 3; $\alpha(O)=0.0021$ 4; $\alpha(P)=7.9 \times 10^{-5}$ 54 $I_{(\gamma+ce)}$: 0.7 to 1.6 (2007Ho20).
184.8 3	0.65 10	636.88	452.52	(2) ⁺	M1(+E2) ^{&}	<1.2	0.89 19	1.2 4	K/L=7 5; $\alpha(K)\exp=0.8$ 3; $\alpha(L)\exp=0.11$ 6

<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
184.9 3	4.9 7	259.61	74.80	(2) ⁺	M1(+E2) ^{&}	<1.5	0.86 22	9.4 23	$\text{ce(K)/(}\gamma+\text{ce)=0.36 } 7; \text{ce(L)/(}\gamma+\text{ce)=0.083 } 10; \text{ce(M)/(}\gamma+\text{ce)=0.020 } 3$ $\text{ce(N)/(}\gamma+\text{ce)=0.0048 } 7; \text{ce(O)/(}\gamma+\text{ce)=0.00082 } 10;$ $\text{ce(P)/(}\gamma+\text{ce)=4.4}\times 10^{-5} 15$ $\alpha(\text{K})=0.68 20; \alpha(\text{L})=0.156 13; \alpha(\text{M})=0.037 5$ $\alpha(\text{N})=0.0091 10; \alpha(\text{O})=0.00154 10; \alpha(\text{P})=8.3}\times 10^{-5} 26$ $K/\text{L}=4.2 19; \alpha(\text{K})\exp=0.8 3; \alpha(\text{L})\exp=0.18 8$ $\text{ce(K)/(}\gamma+\text{ce)=0.35 } 9; \text{ce(L)/(}\gamma+\text{ce)=0.085 } 12; \text{ce(M)/(}\gamma+\text{ce)=0.020 } 4$ $\text{ce(N)/(}\gamma+\text{ce)=0.0050 } 9; \text{ce(O)/(}\gamma+\text{ce)=0.00084 } 12;$ $\text{ce(P)/(}\gamma+\text{ce)=4.2}\times 10^{-5} 18$ $\alpha(\text{K})=0.65 24; \alpha(\text{L})=0.158 15; \alpha(\text{M})=0.038 5$ $\alpha(\text{N})=0.0093 12; \alpha(\text{O})=0.00155 12; \alpha(\text{P})=7.8}\times 10^{-5} 31$
186.7 3	3.6 5	377.07	190.39	(3) ⁺	M1(+E2) ^{&}	<0.7	0.94 10	7.5 15	$K/\text{L}=6.2 21; \alpha(\text{K})\exp=0.9 4; \alpha(\text{L})\exp=0.14 7$ $\text{ce(K)/(}\gamma+\text{ce)=0.39 } 4; \text{ce(L)/(}\gamma+\text{ce)=0.075 } 5; \text{ce(M)/(}\gamma+\text{ce)=0.0177 } 15$ $\text{ce(N)/(}\gamma+\text{ce)=0.0043 } 4; \text{ce(O)/(}\gamma+\text{ce)=0.00075 } 5;$ $\text{ce(P)/(}\gamma+\text{ce)=4.7}\times 10^{-5} 8$ $\alpha(\text{K})=0.75 11; \alpha(\text{L})=0.146 7; \alpha(\text{M})=0.0343 22$ $\alpha(\text{N})=0.0084 5; \alpha(\text{O})=0.00145 6; \alpha(\text{P})=9.2}\times 10^{-5} 15$
196.6 3	1.35 20	283.81	87.39	(1,2) ⁺	[E2]		0.366	2.1 9	Additional information 9. $\text{ce(K)/(}\gamma+\text{ce)=0.1299 } 17; \text{ce(L)/(}\gamma+\text{ce)=0.1041 } 15;$ $\text{ce(M)/(}\gamma+\text{ce)=0.0264 } 5$ $\text{ce(N)/(}\gamma+\text{ce)=0.00640 } 11; \text{ce(O)/(}\gamma+\text{ce)=0.000999 } 16;$ $\text{ce(P)/(}\gamma+\text{ce)=1.309}\times 10^{-5} 20$ $\alpha(\text{K})=0.177 3; \alpha(\text{L})=0.1422 22; \alpha(\text{M})=0.0361 6$ $\alpha(\text{N})=0.00875 14; \alpha(\text{O})=0.001364 21; \alpha(\text{P})=1.79}\times 10^{-5} 3$ $I_{(\gamma+ce)}: 1.2 \text{ to } 3.0 \text{ (2007Ho20).}$
210.3 3	1.4 2	662.76	452.52	(2) ⁺	M1,E2 ^{&}		0.52 23	2.0 6	$\alpha(\text{K})\exp=0.7 6$ $\text{ce(K)/(}\gamma+\text{ce)=0.25 } 12; \text{ce(L)/(}\gamma+\text{ce)=0.068 } 11; \text{ce(M)/(}\gamma+\text{ce)=0.017 } 3$ $\text{ce(N)/(}\gamma+\text{ce)=0.0040 } 7; \text{ce(O)/(}\gamma+\text{ce)=0.00067 } 11;$ $\text{ce(P)/(}\gamma+\text{ce)=3.0}\times 10^{-5} 21$ $\alpha(\text{K})=0.38 24; \alpha(\text{L})=0.104 4; \alpha(\text{M})=0.0251 21$ $\alpha(\text{N})=0.0061 5; \alpha(\text{O})=0.001018 20; \alpha(\text{P})=4.5}\times 10^{-5} 31$ $\alpha(\text{K})\exp=0.10 \text{ to } 1.2 \text{ (2007Ho20).}$
229.8 3	0.46 14	382.17	152.46	(4) ⁻	E1 ^{&}		0.0483	0.5 2	$\alpha(\text{K})\exp\approx 0.06$ $\text{ce(K)/(}\gamma+\text{ce)=0.0380 } 6; \text{ce(L)/(}\gamma+\text{ce)=0.00620 } 9;$ $\text{ce(M)/(}\gamma+\text{ce)=0.001425 } 21$ $\text{ce(N)/(}\gamma+\text{ce)=0.000346 } 5; \text{ce(O)/(}\gamma+\text{ce)=5.92}\times 10^{-5} 9;$ $\text{ce(P)/(}\gamma+\text{ce)=3.65}\times 10^{-6} 6$ $\alpha(\text{K})=0.0398 6; \alpha(\text{L})=0.00650 10; \alpha(\text{M})=0.001493 22$ $\alpha(\text{N})=0.000363 6; \alpha(\text{O})=6.21}\times 10^{-5} 9; \alpha(\text{P})=3.83}\times 10^{-6} 6$
241.9 3	0.53 8	1024.87	782.9	(1,2) ⁺	M1(+E2)	<0.5	0.47 4	0.8 2	$\alpha(\text{K})\exp=0.48 13$ $\text{ce(K)/(}\gamma+\text{ce)=0.263 } 16; \text{ce(L)/(}\gamma+\text{ce)=0.0455 } 13;$ $\text{ce(M)/(}\gamma+\text{ce)=0.0106 } 3$

¹⁸²Pt ε decay (2.67 min) 2007Ho20,1995Sa42 (continued)

$\gamma(^{182}\text{Ir})$ (continued)

E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
246.8 3	0.66 10	341.67	95.07 (4) ⁺					0.9 3	ce(N)/(γ+ce)=0.00260 7; ce(O)/(γ+ce)=0.000455 14; ce(P)/(γ+ce)=3.2×10 ⁻⁵ 3 $\alpha(K)=0.39$ 4; $\alpha(L)=0.0671$ 12; $\alpha(M)=0.01558$ 23 $\alpha(N)=0.00383$ 6; $\alpha(O)=0.000671$ 14; $\alpha(P)=4.7×10^{-5}$ 5 Additional information 23.
262.3 3	1.5 2	452.52	190.39 (3) ⁺	M1(+E2) ^{&}	<1.7	0.308 98	2.1 5	K/L=5 4; $\alpha(K)\exp=0.32$ 17; $\alpha(L)\exp=0.07$ 5 ce(K)/(γ+ce)=0.185 59; ce(L)/(γ+ce)=0.039 4; ce(M)/(γ+ce)=0.0091 8 ce(N)/(γ+ce)=0.00224 21; ce(O)/(γ+ce)=0.00038 5; ce(P)/(γ+ce)=2.23×10 ⁻⁵ 93 $\alpha(K)=0.242$ 94; $\alpha(L)=0.050$ 4; $\alpha(M)=0.0119$ 6 $\alpha(N)=0.00292$ 15; $\alpha(O)=0.00050$ 5; $\alpha(P)=2.9×10^{-5}$ 12 Additional information 11.	
266.7 3	0.8 1	341.67	74.80 (2) ⁺	M1,E2		0.26 13	1.0 2	$\alpha(K)\exp=0.2$ 1 ce(K)/(γ+ce)=0.159 80; ce(L)/(γ+ce)=0.037 6; ce(M)/(γ+ce)=0.0088 11 ce(N)/(γ+ce)=0.0022 3; ce(O)/(γ+ce)=0.00036 6; ce(P)/(γ+ce)=1.9×10 ⁻⁵ 13 $\alpha(K)=0.20$ 12; $\alpha(L)=0.047$ 6; $\alpha(M)=0.0111$ 8 $\alpha(N)=0.00272$ 22; $\alpha(O)=0.00046$ 6; $\alpha(P)=2.4×10^{-5}$ 16 Additional information 11.	
278.1 3	1.2 2	452.52	174.49 (3) ⁻	E1 ^{&}		0.0303	1.2 2	$\alpha(K)\exp<0.06$ ce(K)/(γ+ce)=0.0243 4; ce(L)/(γ+ce)=0.00390 6; ce(M)/(γ+ce)=0.000895 13 ce(N)/(γ+ce)=0.000218 4; ce(O)/(γ+ce)=3.75×10 ⁻⁵ 6; ce(P)/(γ+ce)=2.39×10 ⁻⁶ 4 $\alpha(K)=0.0251$ 4; $\alpha(L)=0.00402$ 6; $\alpha(M)=0.000922$ 14 $\alpha(N)=0.000225$ 4; $\alpha(O)=3.86×10^{-5}$ 6; $\alpha(P)=2.46×10^{-6}$ 4 $\alpha(K)\exp=0.25$ 5	
283.9 3	1.8 3	283.81	0.0 3 ⁺	M1(+E2)	<0.7	0.29 4	2.3 6	ce(K)/(γ+ce)=0.184 21; ce(L)/(γ+ce)=0.0324 17; ce(M)/(γ+ce)=0.0075 4 ce(N)/(γ+ce)=0.00185 9; ce(O)/(γ+ce)=0.000323 19; ce(P)/(γ+ce)=2.2×10 ⁻⁵ 4 $\alpha(K)=0.24$ 4; $\alpha(L)=0.0418$ 20; $\alpha(M)=0.0097$ 4 $\alpha(N)=0.00239$ 9; $\alpha(O)=0.000417$ 22; $\alpha(P)=2.9×10^{-5}$ 5 $\alpha(K)\exp=0.25$ 5	
287.2 3	1.6 2	382.17	95.07 (4) ⁺	M1(+E2) ^{&}	<0.6	0.29 3	2.1 5	$\alpha(K)\exp=0.26$ 5; $\alpha(K)\exp=0.40$ 19 ce(K)/(γ+ce)=0.183 17; ce(L)/(γ+ce)=0.0316 14; ce(M)/(γ+ce)=0.0073 3 ce(N)/(γ+ce)=0.00180 7; ce(O)/(γ+ce)=0.000316 15; ce(P)/(γ+ce)=2.2×10 ⁻⁵ 3 $\alpha(K)=0.24$ 3; $\alpha(L)=0.0408$ 16; $\alpha(M)=0.0095$ 3 $\alpha(N)=0.00232$ 8; $\alpha(O)=0.000407$ 18; $\alpha(P)=2.9×10^{-5}$ 4 Additional information 10.	

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<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
^x 304.5 3	0.36 8				(M1+E2)	≈ 0.7	≈ 0.211	0.42 12	$\alpha(K)\exp \approx 0.17$ $ce(K)/(\gamma+ce) \approx 0.1394$; $ce(L)/(\gamma+ce) \approx 0.0267$; $ce(M)/(\gamma+ce) \approx 0.00627$ $ce(N)/(\gamma+ce) \approx 0.001537$; $ce(O)/(\gamma+ce) \approx 0.000265$; $ce(P)/(\gamma+ce) \approx 1.682 \times 10^{-5}$ $\alpha(K) \approx 0.1688$; $\alpha(L) \approx 0.0324$; $\alpha(M) \approx 0.00760$ $\alpha(N) \approx 0.00186$; $\alpha(O) \approx 0.000321$; $\alpha(P) \approx 2.04 \times 10^{-5}$
307.2 3	1.7 3	382.17	74.80 (2) ⁺	M1(+E2) ^{&}	<0.7	0.23 3	2.2 5		K/L=3.0 25; $\alpha(K)\exp = 0.23$ 6; $\alpha(L)\exp = 0.07$ 6 $ce(K)/(\gamma+ce) = 0.155$ 19; $ce(L)/(\gamma+ce) = 0.0270$ 16; $ce(M)/(\gamma+ce) = 0.0063$ 4 $ce(N)/(\gamma+ce) = 0.00154$ 9; $ce(O)/(\gamma+ce) = 0.000269$ 18; $ce(P)/(\gamma+ce) = 1.9 \times 10^{-5}$ 3 $\alpha(K) = 0.19$ 3; $\alpha(L) = 0.0333$ 19; $\alpha(M) = 0.0077$ 4 $\alpha(N) = 0.00190$ 10; $\alpha(O) = 0.000333$ 21; $\alpha(P) = 2.3 \times 10^{-5}$ 4
339.8 3	0.76 11	1002.36	662.76 (1,2) ⁺	M1(+E2) ^{&}	<1.5	0.154 47	0.9 2		$\alpha(K)\exp = 0.16$ 8 $ce(K)/(\gamma+ce) = 0.107$ 33; $ce(L)/(\gamma+ce) = 0.020$ 3; $ce(M)/(\gamma+ce) = 0.0047$ 7 $ce(N)/(\gamma+ce) = 0.00116$ 16; $ce(O)/(\gamma+ce) = 0.00020$ 4; $ce(P)/(\gamma+ce) = 1.29 \times 10^{-5}$ 47 $\alpha(K) = 0.124$ 43; $\alpha(L) = 0.023$ 4; $\alpha(M) = 0.0054$ 7 $\alpha(N) = 0.00133$ 18; $\alpha(O) = 0.00023$ 4; $\alpha(P) = 1.49 \times 10^{-5}$ 54
^x 348.5 3	0.47 11			[D,E2]		0.10 8	0.5 2		coin with 70γ.
353.3 3	0.4 1	636.88	283.81 (2) ⁺	(M1)		0.181	0.5 1		$\alpha(K)\exp \approx 0.2$ $ce(K)/(\gamma+ce) = 0.1266$ 16; $ce(L)/(\gamma+ce) = 0.0204$ 3; $ce(M)/(\gamma+ce) = 0.00468$ 7 $ce(N)/(\gamma+ce) = 0.001150$ 17; $ce(O)/(\gamma+ce) = 0.000204$ 3; $ce(P)/(\gamma+ce) = 1.545 \times 10^{-5}$ 23 $\alpha(K) = 0.1495$ 22; $\alpha(L) = 0.0240$ 4; $\alpha(M) = 0.00552$ 8 $\alpha(N) = 0.001358$ 20; $\alpha(O) = 0.000241$ 4; $\alpha(P) = 1.82 \times 10^{-5}$ 3
362.2 3	1.5 2	1024.87	662.76 (1,2) ⁺	M1(+E2) ^{&}	<0.7	0.150 19	1.8 4		$\alpha(K)\exp = 0.12$ 3; $\alpha(K)\exp = 0.16$ 6 $ce(K)/(\gamma+ce) = 0.107$ 14; $ce(L)/(\gamma+ce) = 0.0182$ 14; $ce(M)/(\gamma+ce) = 0.0042$ 3 $ce(N)/(\gamma+ce) = 0.00104$ 8; $ce(O)/(\gamma+ce) = 0.000182$ 15; $ce(P)/(\gamma+ce) = 1.30 \times 10^{-5}$ 19 $\alpha(K) = 0.123$ 17; $\alpha(L) = 0.0210$ 16; $\alpha(M) = 0.0049$ 4 $\alpha(N) = 0.00119$ 8; $\alpha(O) = 0.000209$ 16; $\alpha(P) = 1.49 \times 10^{-5}$ 22
365.6 3	2.1 3	1002.36	636.88 (1,2) ⁺	M1(+E2) ^{&}	<0.6	0.150 15	2.5 5		Additional information 24. $\alpha(K)\exp = 0.14$ 3; $\alpha(K)\exp = 0.15$ 4 $ce(K)/(\gamma+ce) = 0.107$ 11; $ce(L)/(\gamma+ce) = 0.0180$ 11; $ce(M)/(\gamma+ce) = 0.00416$ 23 $ce(N)/(\gamma+ce) = 0.00102$ 6; $ce(O)/(\gamma+ce) = 0.000180$ 12; $ce(P)/(\gamma+ce) = 1.30 \times 10^{-5}$ 15

<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
374.1 3	0.61 9	382.17	8.1?	[D,E2]		0.09 7	0.7 2		$\alpha(K)=0.123$ 14; $\alpha(L)=0.0207$ 13; $\alpha(M)=0.0048$ 3 $\alpha(N)=0.00118$ 7; $\alpha(O)=0.000207$ 13; $\alpha(P)=1.50\times10^{-5}$ 17 Additional information 19.
377.2 3	2.7 4	636.88	259.61 (2) ⁺	M1(+E2)&	<0.5	0.141 11	3.1 6		$\alpha(K)\exp\leq0.14$ $\alpha(K)\exp=0.13$ 3; $\alpha(K)\exp=0.20$ 9; $\alpha(L1)\exp+\alpha(L2)\exp=0.020$ 5 $ce(K)/(\gamma+ce)=0.102$ 8; $ce(L)/(\gamma+ce)=0.0169$ 8; $ce(M)/(\gamma+ce)=0.00390$ 17 $ce(N)/(\gamma+ce)=0.00096$ 5; $ce(O)/(\gamma+ce)=0.000169$ 9; $ce(P)/(\gamma+ce)=1.24\times10^{-5}$ 11 $\alpha(K)=0.116$ 10; $\alpha(L)=0.0193$ 9; $\alpha(M)=0.00445$ 19 $\alpha(N)=0.00109$ 5; $\alpha(O)=0.000193$ 10; $\alpha(P)=1.41\times10^{-5}$ 12 Additional information 13.
382.1 3	0.3 1	382.17	0.0 3 ⁺	M1+E2	1.4 5	0.081 22	0.3 1		$\alpha(K)\exp=0.063$ 20 $ce(K)/(\gamma+ce)=0.058$ 17; $ce(L)/(\gamma+ce)=0.0128$ 17; $ce(M)/(\gamma+ce)=0.0031$ 4 $ce(N)/(\gamma+ce)=0.00075$ 9; $ce(O)/(\gamma+ce)=0.000127$ 18; $ce(P)/(\gamma+ce)=6.9\times10^{-6}$ 23 $\alpha(K)=0.063$ 19; $\alpha(L)=0.0139$ 19; $\alpha(M)=0.0033$ 4 $\alpha(N)=0.00081$ 10; $\alpha(O)=0.000137$ 19; $\alpha(P)=7.4\times10^{-6}$ 24
^x 386.5 ^a 3	0.3 ^a 1			M1+E2	1.3 +12-5	0.082 23	0.3 1		$\alpha(K)\exp=0.064$ 20 $ce(K)/(\gamma+ce)=0.059$ 18; $ce(L)/(\gamma+ce)=0.0126$ 19; $ce(M)/(\gamma+ce)=0.0030$ 4 $ce(N)/(\gamma+ce)=0.00073$ 10; $ce(O)/(\gamma+ce)=0.000125$ 19; $ce(P)/(\gamma+ce)=7.0\times10^{-6}$ 24 $\alpha(K)=0.064$ 21; $\alpha(L)=0.0137$ 20; $\alpha(M)=0.0032$ 5 $\alpha(N)=0.00079$ 11; $\alpha(O)=0.000135$ 21; $\alpha(P)=7.6\times10^{-6}$ 26
387 ^a 1	0.7 ^a 1	1002.36	615.21 (2,3) ⁺	[M1,E2]		0.094 48	0.7 1		$\alpha(K)\exp=0.068$ 37; $ce(L)/(\gamma+ce)=0.0134$ 38; $ce(M)/(\gamma+ce)=0.00316$ 80 $ce(N)/(\gamma+ce)=7.7\times10^{-4}$ 20; $ce(O)/(\gamma+ce)=1.33\times10^{-4}$ 40; $ce(P)/(\gamma+ce)=8.1\times10^{-6}$ 50 $\alpha(K)=0.075$ 43; $\alpha(L)=0.0147$ 42; $\alpha(M)=0.0035$ 9 $\alpha(N)=8.5\times10^{-4}$ 22; $\alpha(O)=1.46\times10^{-4}$ 43; $\alpha(P)=8.9\times10^{-6}$ 54
388.1 ^a 3	1.0 ^a 2	1024.87	636.88 (1,2) ⁺	M1(+E2)&	<0.8	0.122 19	1.1 2		$\alpha(K)\exp=0.14$ 6 $ce(K)/(\gamma+ce)=0.089$ 14; $ce(L)/(\gamma+ce)=0.0152$ 15; $ce(M)/(\gamma+ce)=0.0035$ 3 $ce(N)/(\gamma+ce)=0.00086$ 8; $ce(O)/(\gamma+ce)=0.000152$ 16; $ce(P)/(\gamma+ce)=1.08\times10^{-5}$ 19 $\alpha(K)=0.100$ 17; $\alpha(L)=0.0171$ 17; $\alpha(M)=0.0040$ 4 $\alpha(N)=0.00097$ 9; $\alpha(O)=0.000170$ 17; $\alpha(P)=1.21\times10^{-5}$ 21 Additional information 25.

$\gamma(^{182}\text{Ir})$ (continued)									
E_γ^\dagger	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
$x_{391.3} \ 3$	$0.67 \ 10$				E1		0.01364	$0.7 \ 1$	$\alpha(\text{K})\exp \leq 0.017$ $\text{ce(K)}/(\gamma+\text{ce})=0.01120 \ 16$; $\text{ce(L)}/(\gamma+\text{ce})=0.001743 \ 25$; $\text{ce(M)}/(\gamma+\text{ce})=0.000399 \ 6$ $\text{ce(N)}/(\gamma+\text{ce})=9.73 \times 10^{-5} \ 14$; $\text{ce(O)}/(\gamma+\text{ce})=1.687 \times 10^{-5} \ 24$; $\text{ce(P)}/(\gamma+\text{ce})=1.136 \times 10^{-6} \ 16$ $\alpha(\text{K})=0.01135 \ 16$; $\alpha(\text{L})=0.001767 \ 25$; $\alpha(\text{M})=0.000404 \ 6$ $\alpha(\text{N})=9.86 \times 10^{-5} \ 14$; $\alpha(\text{O})=1.710 \times 10^{-5} \ 25$; $\alpha(\text{P})=1.151 \times 10^{-6} \ 17$ coin with 87γ .
403.1 3	1.0 2	662.76	259.61	(2) ⁺	M1(+E2) ^{&}	<0.7	0.113 15	1.1 2	$\alpha(\text{K})\exp=0.13 \ 5$ $\text{ce(K)}/(\gamma+\text{ce})=0.083 \ 11$; $\text{ce(L)}/(\gamma+\text{ce})=0.0140 \ 12$; $\text{ce(M)}/(\gamma+\text{ce})=0.00324 \ 25$ $\text{ce(N)}/(\gamma+\text{ce})=0.00080 \ 7$; $\text{ce(O)}/(\gamma+\text{ce})=0.000140 \ 12$; $\text{ce(P)}/(\gamma+\text{ce})=1.01 \times 10^{-5} \ 15$ $\alpha(\text{K})=0.093 \ 13$; $\alpha(\text{L})=0.0156 \ 13$; $\alpha(\text{M})=0.0036 \ 3$ $\alpha(\text{N})=0.00089 \ 7$; $\alpha(\text{O})=0.000156 \ 14$; $\alpha(\text{P})=1.12 \times 10^{-5} \ 16$
$x_{413.2} \ 3$	0.58 11		(M1(+E2))	<1		0.099 21	0.62 14		Additional information 15.
$x_{417.5} \ 3$	0.45 9		M1 ^{&}			0.1157	0.49 10		$\alpha(\text{K})\exp=0.085 \ 20$ $\text{ce(K)}/(\gamma+\text{ce})=0.073 \ 15$; $\text{ce(L)}/(\gamma+\text{ce})=0.0127 \ 17$; $\text{ce(M)}/(\gamma+\text{ce})=0.0029 \ 4$ $\text{ce(N)}/(\gamma+\text{ce})=0.00072 \ 9$; $\text{ce(O)}/(\gamma+\text{ce})=0.000127 \ 18$; $\text{ce(P)}/(\gamma+\text{ce})=8.9 \times 10^{-6} \ 21$ $\alpha(\text{K})=0.081 \ 18$; $\alpha(\text{L})=0.0139 \ 19$; $\alpha(\text{M})=0.0032 \ 4$ $\alpha(\text{N})=0.00079 \ 10$; $\alpha(\text{O})=0.000139 \ 19$; $\alpha(\text{P})=9.7 \times 10^{-6} \ 23$
$x_{423.8} \ 3$	0.27 10		M1			0.1112	0.30 11		$\alpha(\text{K})\exp \approx 0.13$ $\text{ce(K)}/(\gamma+\text{ce})=0.0859 \ 12$; $\text{ce(L)}/(\gamma+\text{ce})=0.01374 \ 20$; $\text{ce(M)}/(\gamma+\text{ce})=0.00316 \ 5$ $\text{ce(N)}/(\gamma+\text{ce})=0.000776 \ 11$; $\text{ce(O)}/(\gamma+\text{ce})=0.0001376 \ 20$; $\text{ce(P)}/(\gamma+\text{ce})=1.044 \times 10^{-5} \ 15$ $\alpha(\text{K})=0.0958 \ 14$; $\alpha(\text{L})=0.01533 \ 22$; $\alpha(\text{M})=0.00352 \ 5$ $\alpha(\text{N})=0.000866 \ 13$; $\alpha(\text{O})=0.0001535 \ 22$; $\alpha(\text{P})=1.165 \times 10^{-5} \ 17$
$x_{425.9} \ 3$	0.58 9		M1,E2			0.073 37	0.6 1		$\alpha(\text{K})\exp=0.17 \ 8$ $\text{ce(K)}/(\gamma+\text{ce})=0.0829 \ 11$; $\text{ce(L)}/(\gamma+\text{ce})=0.01325 \ 19$; $\text{ce(M)}/(\gamma+\text{ce})=0.00304 \ 5$ $\text{ce(N)}/(\gamma+\text{ce})=0.000748 \ 11$; $\text{ce(O)}/(\gamma+\text{ce})=0.0001327 \ 19$; $\text{ce(P)}/(\gamma+\text{ce})=1.007 \times 10^{-5} \ 15$ $\alpha(\text{K})=0.0921 \ 13$; $\alpha(\text{L})=0.01472 \ 21$; $\alpha(\text{M})=0.00338 \ 5$ $\alpha(\text{N})=0.000832 \ 12$; $\alpha(\text{O})=0.0001474 \ 21$; $\alpha(\text{P})=1.119 \times 10^{-5} \ 16$

$\gamma^{(182)\text{Ir}}$ (continued)

E_γ^\dagger	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
^x 450.8 3	0.26 10								$\text{ce}(P)/(\gamma+ce)=6.5\times 10^{-6}$ 39
^x 452.2 3	0.44 9								$\alpha(K)=0.058$ 33; $\alpha(L)=0.0111$ 35; $\alpha(M)=0.00261$ 74
458.4 3	1.0 2	458.31	0.0	3 ⁺	M1(+E2)	<0.6	0.082 9	1.1 2	$\alpha(N)=6.4\times 10^{-4}$ 19; $\alpha(O)=1.10\times 10^{-4}$ 36; $\alpha(P)=7.0\times 10^{-6}$ 41 Mult.: 2007Ho20 give M1+E2, evaluators' analysis gives M1,E2 with $\delta>0.2$. coin with 77γ.
468.3 3	0.65 12	662.76	194.38	(1,2) ⁺	E2+M1	1.7 6	0.043 12	0.68 15	$\alpha(K)\exp=0.089$ 28 $\text{ce}(K)/(\gamma+ce)=0.063$ 7; $\text{ce}(L)/(\gamma+ce)=0.0103$ 8; $\text{ce}(M)/(\gamma+ce)=0.00238$ 16 $\text{ce}(N)/(\gamma+ce)=0.00058$ 4; $\text{ce}(O)/(\gamma+ce)=0.000103$ 8; $\text{ce}(P)/(\gamma+ce)=7.6\times 10^{-6}$ 9 $\alpha(K)=0.068$ 8; $\alpha(L)=0.0112$ 8; $\alpha(M)=0.00257$ 18 $\alpha(N)=0.00063$ 5; $\alpha(O)=0.000112$ 9; $\alpha(P)=8.2\times 10^{-6}$ 9 Additional information 12. $\alpha(K)\exp=0.033$ 11 $\text{ce}(K)/(\gamma+ce)=0.0321$ 92; $\text{ce}(L)/(\gamma+ce)=0.0068$ 11; $\text{ce}(M)/(\gamma+ce)=0.00162$ 23 $\text{ce}(N)/(\gamma+ce)=0.00040$ 6; $\text{ce}(O)/(\gamma+ce)=6.7\times 10^{-5}$ 11; $\text{ce}(P)/(\gamma+ce)=3.8\times 10^{-6}$ 12 $\alpha(K)=0.0334$ 99; $\alpha(L)=0.0071$ 11; $\alpha(M)=0.00169$ 24 $\alpha(N)=0.00041$ 6; $\alpha(O)=7.0\times 10^{-5}$ 12; $\alpha(P)=3.9\times 10^{-6}$ 13
^x 472.4 3	1.7 3				M1(+E2)	<0.5	0.078 6	1.8 3	$\alpha(K)\exp=0.077$ 20 $\text{ce}(K)/(\gamma+ce)=0.060$ 5; $\text{ce}(L)/(\gamma+ce)=0.0097$ 6; $\text{ce}(M)/(\gamma+ce)=0.00224$ 12 $\text{ce}(N)/(\gamma+ce)=0.00055$ 3; $\text{ce}(O)/(\gamma+ce)=9.7\times 10^{-5}$ 6; $\text{ce}(P)/(\gamma+ce)=7.2\times 10^{-6}$ 6 $\alpha(K)=0.064$ 5; $\alpha(L)=0.0105$ 6; $\alpha(M)=0.00241$ 13 $\alpha(N)=0.00059$ 3; $\alpha(O)=0.000105$ 6; $\alpha(P)=7.8\times 10^{-6}$ 7 Additional information 1. coin with 75γ, 77γ.
^x 473.7 3	1.2 2				M1		0.0829	1.3 2	$\alpha(K)\exp=0.081$ 20 $\text{ce}(K)/(\gamma+ce)=0.0634$ 9; $\text{ce}(L)/(\gamma+ce)=0.01011$ 15; $\text{ce}(M)/(\gamma+ce)=0.00232$ 4 $\text{ce}(N)/(\gamma+ce)=0.000570$ 8; $\text{ce}(O)/(\gamma+ce)=0.0001012$ 15; $\text{ce}(P)/(\gamma+ce)=7.69\times 10^{-6}$ 11 $\alpha(K)=0.0687$ 10; $\alpha(L)=0.01094$ 16; $\alpha(M)=0.00251$ 4 $\alpha(N)=0.000618$ 9; $\alpha(O)=0.0001095$ 16; $\alpha(P)=8.33\times 10^{-6}$ 12 $\delta(E2/M1)<0.5$. coin with 97γ.
^x 520.2 3	0.85 13				M1(+E2)	<1	0.054 11	0.9 2	$\alpha(K)\exp=0.053$ 19 $\text{ce}(K)/(\gamma+ce)=0.042$ 9; $\text{ce}(L)/(\gamma+ce)=0.0070$ 11;

$\gamma(^{182}\text{Ir})$ (continued)

E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
523.2 3	0.92 14	782.9	259.61	(2) ⁺	M1(+E2)	<0.3	0.0621 20	1.0 2	ce(M)/(γ+ce)=0.00163 24 ce(N)/(γ+ce)=0.00040 6; ce(O)/(γ+ce)=7.0×10 ⁻⁵ 11; ce(P)/(γ+ce)=5.1×10 ⁻⁶ 12 $\alpha(K)=0.044$ 10; $\alpha(L)=0.0074$ 12; $\alpha(M)=0.00172$ 25 $\alpha(N)=0.00042$ 6; $\alpha(O)=7.4\times10^{-5}$ 12; $\alpha(P)=5.3\times10^{-6}$ 12 $\alpha(K)\exp=0.071$ 21 ce(K)/(γ+ce)=0.0484 16; ce(L)/(γ+ce)=0.00775 21; ce(M)/(γ+ce)=0.00178 5 ce(N)/(γ+ce)=0.000438 12; ce(O)/(γ+ce)=7.75×10 ⁻⁵ 21; ce(P)/(γ+ce)=5.85×10 ⁻⁶ 20 $\alpha(K)=0.0514$ 17; $\alpha(L)=0.00823$ 22; $\alpha(M)=0.00189$ 5 $\alpha(N)=0.000465$ 12; $\alpha(O)=8.23\times10^{-5}$ 22; $\alpha(P)=6.22\times10^{-6}$ 21 Additional information 16.
527.2 3	0.76 11	904.1	377.07	(2) ⁺	M1(+E2)	<0.1	0.0624	0.8 2	$\alpha(K)\exp=0.074$ 21 ce(K)/(γ+ce)=0.0487 7; ce(L)/(γ+ce)=0.00774 11; ce(M)/(γ+ce)=0.00178 3 ce(N)/(γ+ce)=0.000437 7; ce(O)/(γ+ce)=7.74×10 ⁻⁵ 12; ce(P)/(γ+ce)=5.89×10 ⁻⁶ 9 $\alpha(K)=0.0517$ 8; $\alpha(L)=0.00822$ 12; $\alpha(M)=0.00189$ 3 $\alpha(N)=0.000464$ 7; $\alpha(O)=8.23\times10^{-5}$ 12; $\alpha(P)=6.26\times10^{-6}$ 9 Additional information 18.
549.3 3	0.5 1	636.88	87.39	(1,2) ⁺	[M1,E2]		0.038 19	0.5 1	ce(K)/(γ+ce)=0.029 16; ce(L)/(γ+ce)=0.0052 19; ce(M)/(γ+ce)=0.00122 42 ce(N)/(γ+ce)=3.0×10 ⁻⁴ 11; ce(O)/(γ+ce)=5.2×10 ⁻⁵ 20; ce(P)/(γ+ce)=3.5×10 ⁻⁶ 20 $\alpha(K)=0.031$ 17; $\alpha(L)=0.0054$ 20; $\alpha(M)=0.00127$ 43 $\alpha(N)=3.1\times10^{-4}$ 11; $\alpha(O)=5.4\times10^{-5}$ 20; $\alpha(P)=3.6\times10^{-6}$ 20 Additional information 18.
549.6 3	1.7 3	1002.36	452.52	(2) ⁺	M1(+E2)	<0.1	0.0560	1.8 4	$\alpha(K)\exp=0.060$ 14 ce(K)/(γ+ce)=0.0440 6; ce(L)/(γ+ce)=0.00698 10; ce(M)/(γ+ce)=0.001601 23 ce(N)/(γ+ce)=0.000394 6; ce(O)/(γ+ce)=6.98×10 ⁻⁵ 10; ce(P)/(γ+ce)=5.31×10 ⁻⁶ 8 $\alpha(K)=0.0464$ 7; $\alpha(L)=0.00737$ 11; $\alpha(M)=0.001691$ 25 $\alpha(N)=0.000416$ 6; $\alpha(O)=7.37\times10^{-5}$ 11; $\alpha(P)=5.61\times10^{-6}$ 9 Additional information 20.
561.9 3	3.2 4	636.88	74.80	(2) ⁺	M1(+E2)	<0.7	0.047 6	3.4 6	$\alpha(K)\exp=0.047$ 14 ce(K)/(γ+ce)=0.037 5; ce(L)/(γ+ce)=0.0061 6; ce(M)/(γ+ce)=0.00140 13 ce(N)/(γ+ce)=0.00034 4; ce(O)/(γ+ce)=6.1×10 ⁻⁵ 6; ce(P)/(γ+ce)=4.5×10 ⁻⁶ 6 $\alpha(K)=0.039$ 5; $\alpha(L)=0.0064$ 7; $\alpha(M)=0.00147$ 14 $\alpha(N)=0.00036$ 4; $\alpha(O)=6.4\times10^{-5}$ 7; $\alpha(P)=4.7\times10^{-6}$ 7 Additional information 14.

<u>$\gamma(^{182}\text{Ir})$</u> (continued)									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
572.3 3	3.7 4	1024.87	452.52	(2) ⁺	M1	—	0.0505	3.9 5	$\alpha(\text{K})\exp=0.049$ 12 $\text{ce}(\text{K})/(\gamma+\text{ce})=0.0399$ 6; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.00632$ 9; $\text{ce}(\text{M})/(\gamma+\text{ce})=0.001451$ 21 $\text{ce}(\text{N})/(\gamma+\text{ce})=0.000357$ 5; $\text{ce}(\text{O})/(\gamma+\text{ce})=6.33\times 10^{-5}$ 9; $\text{ce}(\text{P})/(\gamma+\text{ce})=4.82\times 10^{-6}$ 7 $\alpha(\text{K})=0.0419$ 6; $\alpha(\text{L})=0.00664$ 10; $\alpha(\text{M})=0.001524$ 22 $\alpha(\text{N})=0.000375$ 6; $\alpha(\text{O})=6.65\times 10^{-5}$ 10; $\alpha(\text{P})=5.06\times 10^{-6}$ 8 $\delta(\text{E}2/\text{M}1)<0.5$. coin with 146γ, 171γ.
^x 575.0 3	0.7 2								$\alpha(\text{K})\exp<0.01$
577.0 3	0.89 13	922.7	345.69	(2) ⁻	E1,E2		0.011 5	0.9 2	$\alpha(\text{K})\exp\approx 0.034$
^x 583.7 3	0.6 2				M1+E2	≈0.5	≈0.0417	0.6 2	$\text{ce}(\text{K})/(\gamma+\text{ce})\approx 0.0330$; $\text{ce}(\text{L})/(\gamma+\text{ce})\approx 0.00541$; $\text{ce}(\text{M})/(\gamma+\text{ce})\approx 0.001246$ $\text{ce}(\text{N})/(\gamma+\text{ce})\approx 0.000306$; $\text{ce}(\text{O})/(\gamma+\text{ce})\approx 5.40\times 10^{-5}$; $\text{ce}(\text{P})/(\gamma+\text{ce})\approx 3.97\times 10^{-6}$ $\alpha(\text{K})\approx 0.0344$; $\alpha(\text{L})\approx 0.00563$; $\alpha(\text{M})\approx 0.001298$ $\alpha(\text{N})\approx 0.000319$; $\alpha(\text{O})\approx 5.62\times 10^{-5}$; $\alpha(\text{P})\approx 4.13\times 10^{-6}$
588.0 3	≈0.7	662.76	74.80	(2) ⁺	M1		0.0471	≈0.7	$\alpha(\text{K})\exp\approx 0.054$ $\text{ce}(\text{K})/(\gamma+\text{ce})=0.0373$ 5; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.00591$ 9; $\text{ce}(\text{M})/(\gamma+\text{ce})=0.001355$ 19 $\text{ce}(\text{N})/(\gamma+\text{ce})=0.000333$ 5; $\text{ce}(\text{O})/(\gamma+\text{ce})=5.91\times 10^{-5}$ 9; $\text{ce}(\text{P})/(\gamma+\text{ce})=4.51\times 10^{-6}$ 7 $\alpha(\text{K})=0.0391$ 6; $\alpha(\text{L})=0.00619$ 9; $\alpha(\text{M})=0.001419$ 20 $\alpha(\text{N})=0.000349$ 5; $\alpha(\text{O})=6.19\times 10^{-5}$ 9; $\alpha(\text{P})=4.72\times 10^{-6}$ 7
593.6 3	0.95 14	852.78	259.61	(2) ⁺	M1(+E2)	<0.5	0.043 3	1.0 2	$I_\gamma: \approx 0.7$ 1. $\alpha(\text{K})\exp=0.047$ 12 $\text{ce}(\text{K})/(\gamma+\text{ce})=0.0341$ 25; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.0055$ 4; $\text{ce}(\text{M})/(\gamma+\text{ce})=0.00126$ 8 $\text{ce}(\text{N})/(\gamma+\text{ce})=0.000309$ 18; $\text{ce}(\text{O})/(\gamma+\text{ce})=5.5\times 10^{-5}$ 4; $\text{ce}(\text{P})/(\gamma+\text{ce})=4.1\times 10^{-6}$ 4 $\alpha(\text{K})=0.036$ 3; $\alpha(\text{L})=0.0057$ 4; $\alpha(\text{M})=0.00131$ 8 $\alpha(\text{N})=0.000323$ 19; $\alpha(\text{O})=5.7\times 10^{-5}$ 4; $\alpha(\text{P})=4.3\times 10^{-6}$ 4 <u>Additional information 17.</u>
615.1 3	0.51 8	615.21	0.0	3 ⁺	M1+E2	≈0.8	≈0.0312	0.5 1	$\alpha(\text{K})\exp\approx 0.026$ $\text{ce}(\text{K})/(\gamma+\text{ce})\approx 0.0248$; $\text{ce}(\text{L})/(\gamma+\text{ce})\approx 0.00421$; $\text{ce}(\text{M})/(\gamma+\text{ce})\approx 0.000974$ $\text{ce}(\text{N})/(\gamma+\text{ce})\approx 0.000239$; $\text{ce}(\text{O})/(\gamma+\text{ce})\approx 4.19\times 10^{-5}$; $\text{ce}(\text{P})/(\gamma+\text{ce})\approx 2.96\times 10^{-6}$ $\alpha(\text{K})\approx 0.0256$; $\alpha(\text{L})\approx 0.00434$; $\alpha(\text{M})\approx 0.001004$ $\alpha(\text{N})\approx 0.000246$; $\alpha(\text{O})\approx 4.32\times 10^{-5}$; $\alpha(\text{P})\approx 3.06\times 10^{-6}$
620.2 3	0.78 12	1002.36	382.17	(3) ⁺	[E2]		0.01429	0.8 1	$\alpha(\text{K})\exp\leq 0.027$ $\text{ce}(\text{K})/(\gamma+\text{ce})=0.01090$ 16; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.00244$ 4;

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 ^{182}Pt ε decay (2.67 min) 2007Ho20,1995Sa42 (continued)

$\gamma(^{182}\text{Ir})$ (continued)									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
625.1 3	1.5 2	1002.36	377.07 (2) ⁺	M1(+E2)	<1.6	0.0308 95	1.5 2		ce(M)/(γ +ce)=0.000581 9 ce(N)/(γ +ce)=0.0001419 20; ce(O)/(γ +ce)= 2.39×10^{-5} 4; ce(P)/(γ +ce)= 1.241×10^{-6} 18 $\alpha(K)=0.01106$ 16; $\alpha(L)=0.00247$ 4; $\alpha(M)=0.000589$ 9 $\alpha(N)=0.0001439$ 21; $\alpha(O)=2.43 \times 10^{-5}$ 4; $\alpha(P)=1.258 \times 10^{-6}$ 18 $\alpha(K)\exp=0.052$ 35 ce(K)/(γ +ce)=0.0245 77; ce(L)/(γ +ce)=0.0041 10; ce(M)/(γ +ce)=0.00095 23 ce(N)/(γ +ce)=0.00023 6; ce(O)/(γ +ce)= 4.1×10^{-5} 11; ce(P)/(γ +ce)= 2.93×10^{-6} 98 $\alpha(K)=0.0253$ 81; $\alpha(L)=0.0042$ 11; $\alpha(M)=0.00098$ 23 $\alpha(N)=0.00024$ 6; $\alpha(O)=4.2 \times 10^{-5}$ 11; $\alpha(P)=3.0 \times 10^{-6}$ 10 Additional information 21 .
642.7 3	0.83 12	1024.87	382.17 (3) ⁺	[E2]		0.01319	0.9 2		ce(K)/(γ +ce)=0.01013 14; ce(L)/(γ +ce)=0.00221 4; ce(M)/(γ +ce)=0.000526 8 ce(N)/(γ +ce)=0.0001286 18; ce(O)/(γ +ce)= 2.17×10^{-5} 3; ce(P)/(γ +ce)= 1.153×10^{-6} 17 $\alpha(K)=0.01026$ 15; $\alpha(L)=0.00224$ 4; $\alpha(M)=0.000533$ 8 $\alpha(N)=0.0001302$ 19; $\alpha(O)=2.20 \times 10^{-5}$ 3; $\alpha(P)=1.168 \times 10^{-6}$ 17
647.8 3	1.3 2	1024.87	377.07 (2) ⁺	M1(+E2)	<0.9	0.031 6	1.3 2		$\alpha(K)\exp=0.028$ 7 ce(K)/(γ +ce)=0.025 5; ce(L)/(γ +ce)=0.0041 6; ce(M)/(γ +ce)=0.00094 13 ce(N)/(γ +ce)=0.00023 4; ce(O)/(γ +ce)= 4.1×10^{-5} 6; ce(P)/(γ +ce)= 3.0×10^{-6} 6 $\alpha(K)=0.026$ 5; $\alpha(L)=0.0042$ 6; $\alpha(M)=0.00097$ 13 $\alpha(N)=0.00024$ 4; $\alpha(O)=4.2 \times 10^{-5}$ 6; $\alpha(P)=3.1 \times 10^{-6}$ 6
656.6 3	9.9 10	1002.36	345.69 (2) ⁻	E1		0.00453	9.9 10		$\alpha(K)\exp=0.0040$ 10 ce(K)/(γ +ce)=0.00378 6; ce(L)/(γ +ce)=0.000565 8; ce(M)/(γ +ce)=0.0001288 18 ce(N)/(γ +ce)= 3.15×10^{-5} 5; ce(O)/(γ +ce)= 5.52×10^{-6} 8; ce(P)/(γ +ce)= 3.96×10^{-7} 6 $\alpha(K)=0.00380$ 6; $\alpha(L)=0.000568$ 8; $\alpha(M)=0.0001293$ 19 $\alpha(N)=3.16 \times 10^{-5}$ 5; $\alpha(O)=5.54 \times 10^{-6}$ 8; $\alpha(P)=3.98 \times 10^{-7}$ 6
679.3 3	2.3 3	1024.87	345.69 (2) ⁻	[E1]		0.00424	2.3 3		$\alpha(K)\exp\leq 0.01$ ce(K)/(γ +ce)=0.00354 5; ce(L)/(γ +ce)=0.000528 8; ce(M)/(γ +ce)=0.0001201 17 ce(N)/(γ +ce)= 2.94×10^{-5} 5; ce(O)/(γ +ce)= 5.15×10^{-6} 8; ce(P)/(γ +ce)= 3.71×10^{-7} 6 $\alpha(K)=0.00355$ 5; $\alpha(L)=0.000530$ 8; $\alpha(M)=0.0001206$ 17 $\alpha(N)=2.95 \times 10^{-5}$ 5; $\alpha(O)=5.17 \times 10^{-6}$ 8; $\alpha(P)=3.72 \times 10^{-7}$ 6
681.4 3	18.0 18	1002.36	320.94 (2) ⁻	E1		0.00421	18.1 18		$\alpha(K)\exp=0.0040$ 7 ce(K)/(γ +ce)=0.00351 5; ce(L)/(γ +ce)=0.000524 8; ce(M)/(γ +ce)=0.0001193 17

$\gamma(^{182}\text{Ir})$ (continued)									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	a^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
^x 684.2 3	≤ 0.7					≤ 0.7			$\text{ce}(N)/(\gamma+ce)=2.92\times 10^{-5}~4; \text{ce}(O)/(\gamma+ce)=5.12\times 10^{-6}~8;$ $\text{ce}(P)/(\gamma+ce)=3.69\times 10^{-7}~6$ $\alpha(K)=0.00353~5; \alpha(L)=0.000526~8; \alpha(M)=0.0001198~17$ $\alpha(N)=2.93\times 10^{-5}~5; \alpha(O)=5.14\times 10^{-6}~8; \alpha(P)=3.70\times 10^{-7}~6$ coin with Ir x rays.
703.9 3	2.3 3	1024.87	320.94 (2) ⁻	E1		0.00395	2.3 3		I_γ : quoted by 2007Ho20 as $\leq 0.6~I$. $\alpha(K)\exp < 0.007$ $\text{ce}(K)/(\gamma+ce)=0.00330~5; \text{ce}(L)/(\gamma+ce)=0.000491~7;$ $\text{ce}(M)/(\gamma+ce)=0.0001117~16$ $\text{ce}(N)/(\gamma+ce)=2.73\times 10^{-5}~4; \text{ce}(O)/(\gamma+ce)=4.79\times 10^{-6}~7;$ $\text{ce}(P)/(\gamma+ce)=3.46\times 10^{-7}~5$ $\alpha(K)=0.00331~5; \alpha(L)=0.000493~7; \alpha(M)=0.0001121~16$ $\alpha(N)=2.74\times 10^{-5}~4; \alpha(O)=4.81\times 10^{-6}~7; \alpha(P)=3.48\times 10^{-7}~5$
713.5 3	0.38 6	904.1	190.39 (3) ⁺	[M1,E2]		0.0195 91	0.4 1		$\alpha(K)\exp < 0.05$ $\text{ce}(K)/(\gamma+ce)=0.0157~75; \text{ce}(L)/(\gamma+ce)=0.0027~10;$ $\text{ce}(M)/(\gamma+ce)=6.2\times 10^{-4}~23$ $\text{ce}(N)/(\gamma+ce)=1.51\times 10^{-4}~56; \text{ce}(O)/(\gamma+ce)=2.7\times 10^{-5}~11;$ $\text{ce}(P)/(\gamma+ce)=1.86\times 10^{-6}~94$ $\alpha(K)=0.0160~78; \alpha(L)=0.0027~11; \alpha(M)=6.3\times 10^{-4}~23$ $\alpha(N)=1.54\times 10^{-4}~57; \alpha(O)=2.7\times 10^{-5}~11; \alpha(P)=1.90\times 10^{-6}~96$
718.6 3	0.67 10	1002.36	283.81 (2) ⁺	M1(+E2)	<0.6	0.0257 24	0.7 1		$\alpha(K)\exp = 0.030~11$ $\text{ce}(K)/(\gamma+ce)=0.0208~20; \text{ce}(L)/(\gamma+ce)=0.0033~3;$ $\text{ce}(M)/(\gamma+ce)=0.00076~6$ $\text{ce}(N)/(\gamma+ce)=0.000187~15; \text{ce}(O)/(\gamma+ce)=3.3\times 10^{-5}~3;$ $\text{ce}(P)/(\gamma+ce)=2.49\times 10^{-6}~25$ $\alpha(K)=0.0213~21; \alpha(L)=0.0034~3; \alpha(M)=0.00078~6$ $\alpha(N)=0.000192~15; \alpha(O)=3.4\times 10^{-5}~3; \alpha(P)=2.6\times 10^{-6}~3$ Additional information 22.
742.7 3	0.44 7	1002.36	259.61 (2) ⁺	M1(+E2)	<2	0.0193 65	0.5 1		$\alpha(K)\exp = 0.020~10$ $\text{ce}(K)/(\gamma+ce)=0.0156~54; \text{ce}(L)/(\gamma+ce)=0.00258~72;$ $\text{ce}(M)/(\gamma+ce)=6.0\times 10^{-4}~17$ $\text{ce}(N)/(\gamma+ce)=1.46\times 10^{-4}~40; \text{ce}(O)/(\gamma+ce)=2.57\times 10^{-5}~73;$ $\text{ce}(P)/(\gamma+ce)=1.86\times 10^{-6}~68$ $\alpha(K)=0.0159~56; \alpha(L)=0.00263~74; \alpha(M)=6.1\times 10^{-4}~17$ $\alpha(N)=1.49\times 10^{-4}~41; \alpha(O)=2.62\times 10^{-5}~75; \alpha(P)=1.89\times 10^{-6}~69$
790.0 3	≈ 3.4	1135.67	345.69 (2) ⁻	E1		0.00316	≈ 3.4		$\alpha(K)\exp = 0.0032~15$ $\text{ce}(K)/(\gamma+ce)=0.00264~4; \text{ce}(L)/(\gamma+ce)=0.000390~6;$ $\text{ce}(M)/(\gamma+ce)=8.87\times 10^{-5}~13$ $\text{ce}(N)/(\gamma+ce)=2.17\times 10^{-5}~3; \text{ce}(O)/(\gamma+ce)=3.81\times 10^{-6}~6;$ $\text{ce}(P)/(\gamma+ce)=2.79\times 10^{-7}~4$ $\alpha(K)=0.00265~4; \alpha(L)=0.000391~6; \alpha(M)=8.90\times 10^{-5}~13$

$\gamma(^{182}\text{Ir})$ (continued)									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
791.4 3	3.1 4	1002.36	210.97	1 ⁺	M1		0.0219	3.1 4	$\alpha(N)=2.18 \times 10^{-5} 3; \alpha(O)=3.83 \times 10^{-6} 6; \alpha(P)=2.79 \times 10^{-7} 4$ $I_\gamma: \approx 3.4 4$, contaminated by a γ ray from ^{182}Ir decay. $\alpha(K)\exp=0.031 7$ $\alpha(K)/(y+ce)=0.01785 25; ce(L)/(y+ce)=0.00280 4;$ $ce(M)/(y+ce)=0.000641 9$ $ce(N)/(y+ce)=0.0001576 23; ce(O)/(y+ce)=2.80 \times 10^{-5} 4;$ $ce(P)/(y+ce)=2.14 \times 10^{-6} 3$ $\alpha(K)=0.0182 3; \alpha(L)=0.00286 4; \alpha(M)=0.000655 10$ $\alpha(N)=0.0001610 23; \alpha(O)=2.86 \times 10^{-5} 4; \alpha(P)=2.19 \times 10^{-6} 3$ $\alpha(K)\exp \approx 0.023$ $ce(K)/(y+ce)=0.01695 24; ce(L)/(y+ce)=0.00265 4;$ $ce(M)/(y+ce)=0.000608 9$ $ce(N)/(y+ce)=0.0001495 21; ce(O)/(y+ce)=2.65 \times 10^{-5} 4;$ $ce(P)/(y+ce)=2.03 \times 10^{-6} 3$ $\alpha(K)=0.01730 25; \alpha(L)=0.00271 4; \alpha(M)=0.000621 9$ $\alpha(N)=0.0001526 22; \alpha(O)=2.71 \times 10^{-5} 4; \alpha(P)=2.07 \times 10^{-6} 3$ $ce(K)/(y+ce)=0.00631 9; ce(L)/(y+ce)=0.001215 17;$ $ce(M)/(y+ce)=0.000285 4$ $ce(N)/(y+ce)=6.98 \times 10^{-5} 10; ce(O)/(y+ce)=1.197 \times 10^{-5} 17;$ $ce(P)/(y+ce)=7.19 \times 10^{-7} 10$ $\alpha(K)=0.00636 9; \alpha(L)=0.001225 18; \alpha(M)=0.000288 4$ $\alpha(N)=7.04 \times 10^{-5} 10; \alpha(O)=1.207 \times 10^{-5} 17; \alpha(P)=7.24 \times 10^{-7} 11$ $\alpha(K)\exp=0.0044 15$ $ce(K)/(y+ce)=0.00249 4; ce(L)/(y+ce)=0.000367 6;$ $ce(M)/(y+ce)=8.35 \times 10^{-5} 12$ $ce(N)/(y+ce)=2.04 \times 10^{-5} 3; ce(O)/(y+ce)=3.59 \times 10^{-6} 5;$ $ce(P)/(y+ce)=2.63 \times 10^{-7} 4$ $\alpha(K)=0.00250 4; \alpha(L)=0.000368 6; \alpha(M)=8.37 \times 10^{-5} 12$ $\alpha(N)=2.05 \times 10^{-5} 3; \alpha(O)=3.60 \times 10^{-6} 5; \alpha(P)=2.64 \times 10^{-7} 4$ $\alpha(K)\exp \approx 0.008$ $ce(K)/(y+ce)=0.00610 9; ce(L)/(y+ce)=0.001164 17;$ $ce(M)/(y+ce)=0.000273 4$ $ce(N)/(y+ce)=6.69 \times 10^{-5} 10; ce(O)/(y+ce)=1.148 \times 10^{-5} 17;$ $ce(P)/(y+ce)=6.94 \times 10^{-7} 10$ $\alpha(K)=0.00614 9; \alpha(L)=0.001173 17; \alpha(M)=0.000275 4$ $\alpha(N)=6.74 \times 10^{-5} 10; \alpha(O)=1.157 \times 10^{-5} 17; \alpha(P)=7.00 \times 10^{-7} 10$ $\alpha(K)\exp$ gives E2+M1 with $\delta \approx 2$, ΔJ^π suggests E2.
808.0 3	0.46 7	1002.36	194.38	(1,2) ⁺	(M1)		0.0208	0.5 1	
812.2 3	0.67 10	1002.36	190.39	(3) ⁺	[E2]		0.00796	0.7 1	
814.8 3	5.1 6	1135.67	320.94	(2) ⁻	E1		0.00297	5.1 6	
826.5 3	1.2 2	852.78	25.85	(5) ⁺	(E2)		0.00767	1.2 2	
834.3 3	0.78 12	1024.87	190.39	(3) ⁺	[E2]		0.00752	0.8 1	

<u>$\gamma(^{182}\text{Ir})$ (continued)</u>									
E_γ^{\dagger}	$I_\gamma^{\ddagger d}$	$E_i(\text{level})$	E_f	J_f^π	Mult. [#]	δ^b	α^c	$I_{(\gamma+ce)}^{\ddagger d}$	Comments
914.9 3	1.1 2	1002.36	87.39	(1,2) ⁺				1.1 2	$\text{ce}(P)/(\gamma+\text{ce})=6.82 \times 10^{-7} 10$ $\alpha(K)=0.00603 9; \alpha(L)=0.001147 16; \alpha(M)=0.000269 4$ $\alpha(N)=6.58 \times 10^{-5} 10; \alpha(O)=1.131 \times 10^{-5} 16; \alpha(P)=6.87 \times 10^{-7} 10$
924.6 3	0.66 10	1135.67	210.97	1 ⁺	M1(+E2)	<0.6	0.0136 12	0.7 1	$\alpha(K)\exp=0.017 7$ $\text{ce}(K)/(\gamma+\text{ce})=0.0112 10; \text{ce}(L)/(\gamma+\text{ce})=0.00176 14;$ $\text{ce}(M)/(\gamma+\text{ce})=0.00040 3$ $\text{ce}(N)/(\gamma+\text{ce})=9.9 \times 10^{-5} 8; \text{ce}(O)/(\gamma+\text{ce})=1.76 \times 10^{-5} 14;$ $\text{ce}(P)/(\gamma+\text{ce})=1.33 \times 10^{-6} 12$ $\alpha(K)=0.0113 10; \alpha(L)=0.00178 14; \alpha(M)=0.00041 3$ $\alpha(N)=0.000100 8; \alpha(O)=1.78 \times 10^{-5} 14; \alpha(P)=1.35 \times 10^{-6} 13$
1281.1 3	0.6 1	1540.7	259.61	(2) ⁺			0.6 1		Additional information 26.

[†] $\Delta(E\gamma)$ assigned as 0.2 keV for $I\gamma>5$ and $E\gamma>500$; and 0.3 keV or 1 keV for others, based on a general statement by 1995Sa42. 1995Sa42 state that weak γ rays ($I\gamma<0.5$) that were observed only in coin with Ir x rays were not listed in their paper, but several weak ($I\gamma<0.5$) γ rays are given by 2007Ho20.

[‡] Intensities quoted by 2007Ho20 are divided by a factor of 10.

[#] From ce data. Unless otherwise noted, the K conversion coefficients above 185 keV are from γ and Si(Li) ce singles spectra. The conversion coefficients below 185 keV are from γ and singles ce spectra with a spectrograph. The subshell ratios are from γ and spectrograph ce singles spectra. The γ ray and ce intensities were normalized to well-known stretched E2 transitions in ¹⁸²Ir.

[ⓐ] Subshell ratios are from singles electron spectra.

[ⓑ] The conversion coefficients are based on (ce) γ and $\gamma\gamma$ coincidence spectra.

[ⓐ] 386.5, 387 and 388.1 are unresolved, divided intensity given.

^b Deduced by the evaluators from ce data of 2007Ho20. For many transitions 2007Ho20 give pure M1 multipolarity, the evaluators deduce upper limits of mixing ratios in such cases.

^c Theoretical values from BrIcc v2.3b (16-Dec-2014) 2008Ki07, “Frozen Orbitals” approximation. If no value of $\delta(E2/M1)$ given it was as 1.00.

^d For absolute intensity per 100 decays, multiply by 0.16 3.

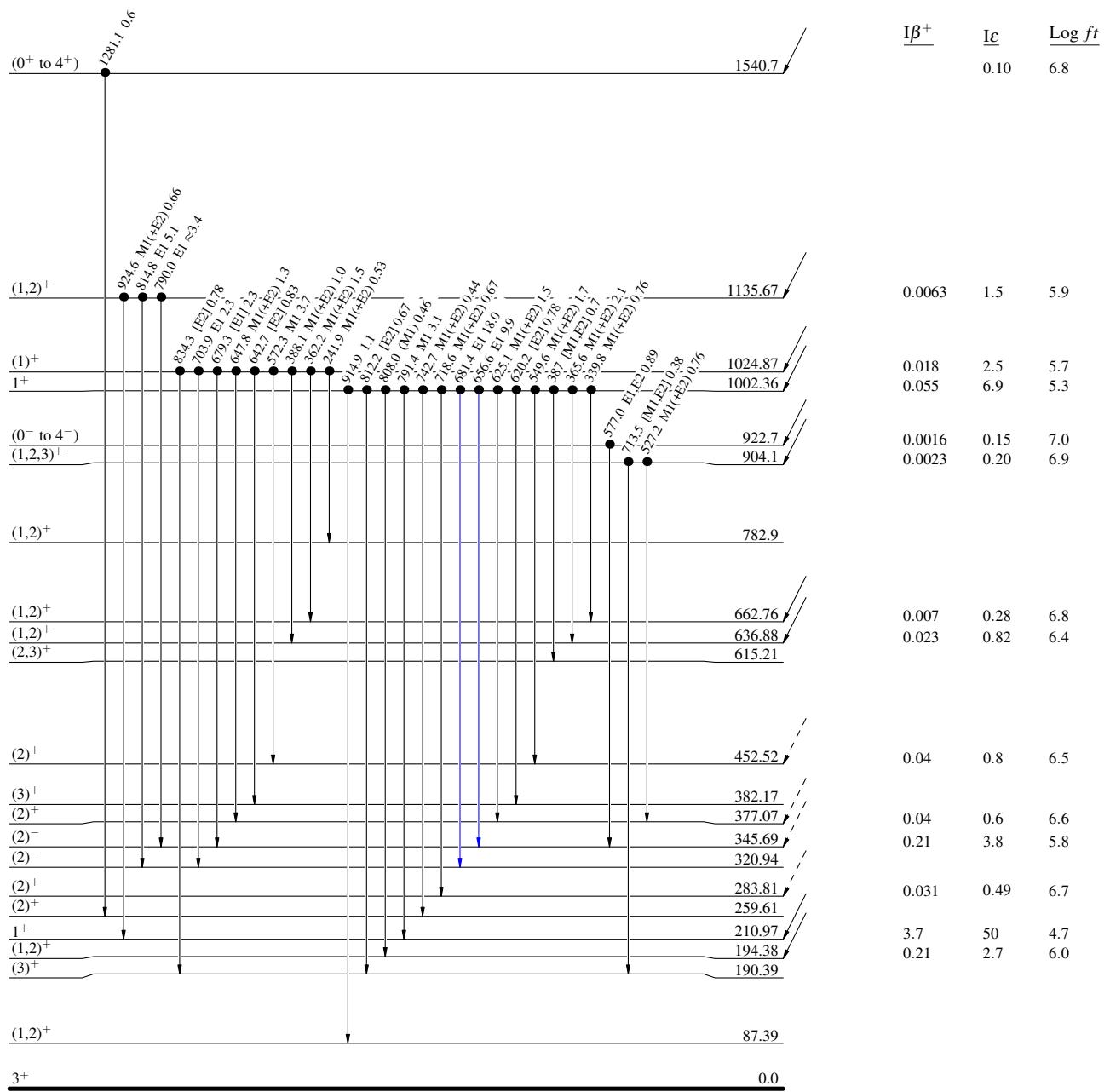
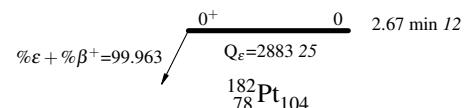
^x γ ray not placed in level scheme.

$^{182}\text{Pt } \epsilon \text{ decay (2.67 min)} \quad 2007\text{Ho20,1995Sa42}$

Legend

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

Decay Scheme

Intensities: Relative I_{γ} 

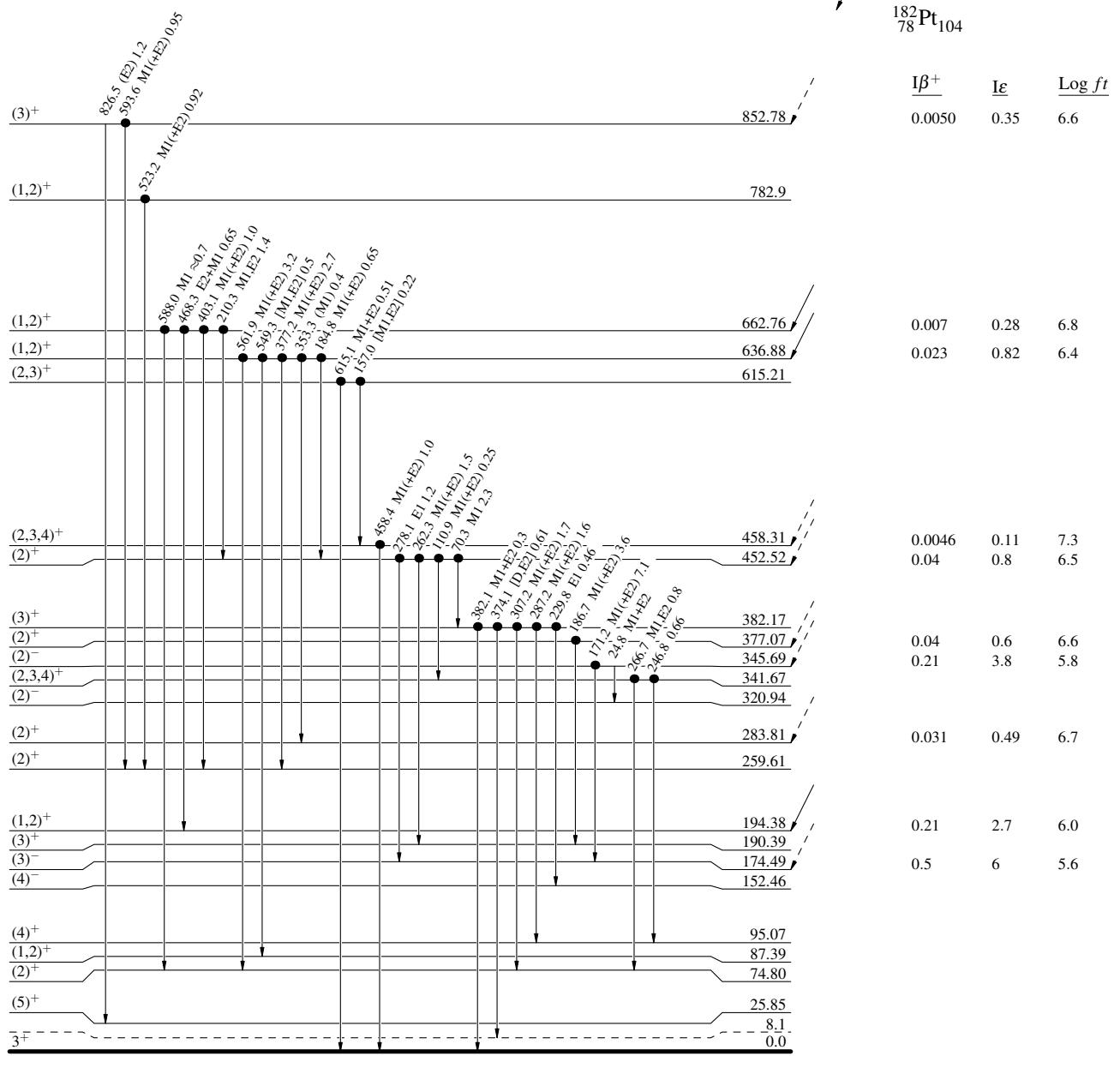
$^{182}\text{Pt } \epsilon$ decay (2.67 min) 2007Ho20,1995Sa42

Decay Scheme (continued)

Intensities: Relative I_γ

Legend

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



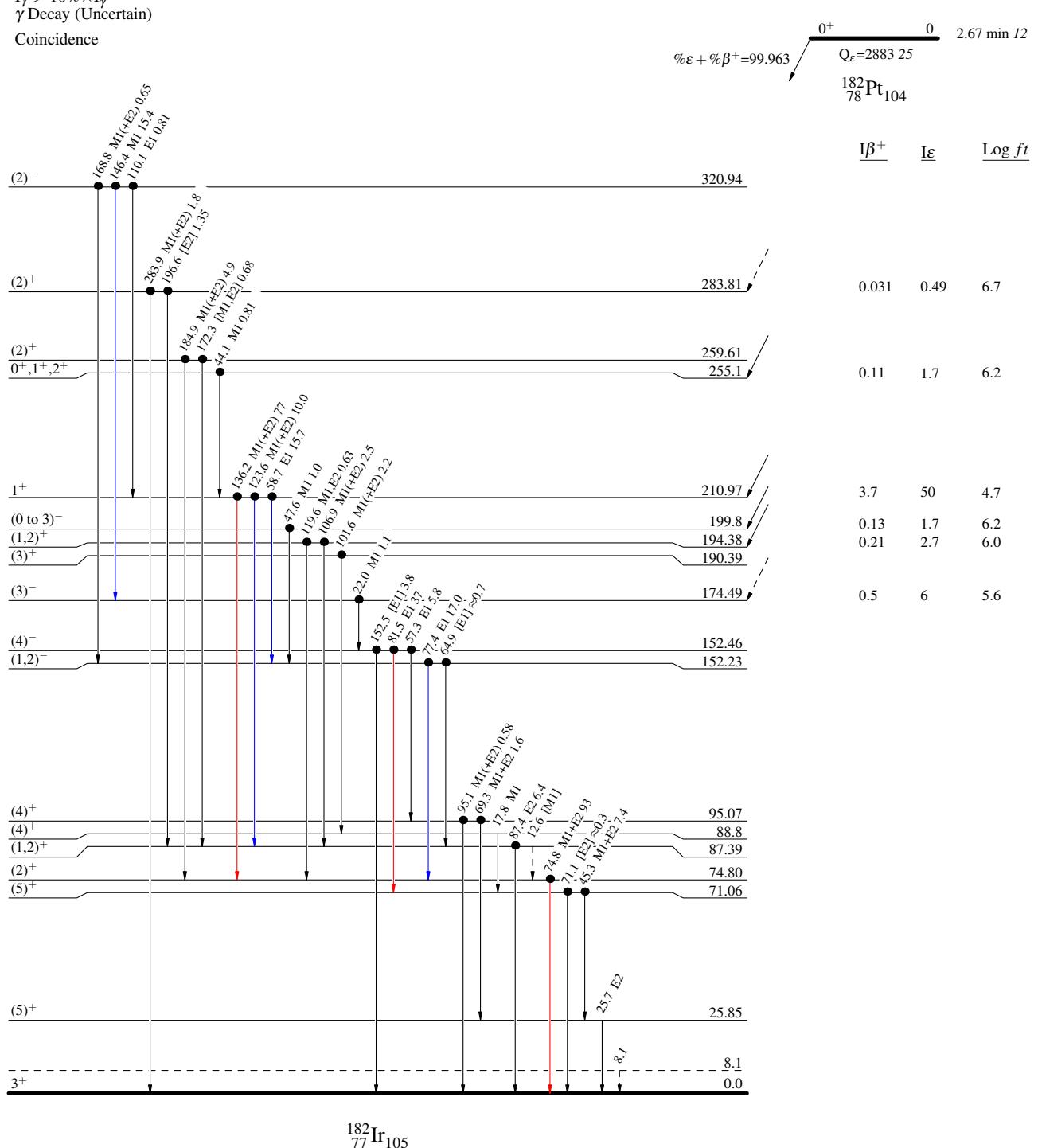
$^{182}\text{Pt } \epsilon$ decay (2.67 min) 2007Ho20,1995Sa42

Legend

Decay Scheme (continued)

Intensities: Relative I_γ

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



^{182}Pt ϵ decay (2.67 min) 2007Ho20,1995Sa42