

^{178}Pt ε decay [1993Me13](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Achterberg, O. A. Capurro, G. V. Marti		NDS 110, 1473 (2009)	31-May-2008

Parent: ^{178}Pt : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=21.1$ s 6; $Q(\varepsilon)=4254$ 23; $\% \varepsilon + \% \beta^+$ decay=92.3 3

^{178}Pt - $T_{1/2}$, branching, are adopted values from [2003Au02](#). $Q(\beta)$ from [2003Au03](#).

^{178}Pt activity produced by $^{146}\text{Nd}(^{36}\text{Ar},4n)$ and $^{148}\text{Nd}(^{36}\text{Ar},6n)$, $E=173$ -201 MeV, using highly enriched targets. ^{178}Pt was identified by excitation functions and coincidences with daughter Ir K-x rays. Measured E_γ , I_γ , $\gamma\gamma$ coin.

 ^{178}Ir Levels

γ ray energies, relative intensities and coincidence data are from [1993Me13](#).

E(level)	Comments
0.0	
55.0	E(level): This level seen also in ^{182}Au α decay (1995Bi01), with $E(\text{lev})=54.4$ keV.
91.7?	This level suggested in 1993Me13 on the basis of the observed coincidences of the 36.9 and 55.0 keV γ rays, and the agreement of the energy sum with the energy of the probable cross-over 91.7 keV γ ray.
127?	a similar level is suggested from α decay studies in 1995Bi01 , who quote an $E(\text{lev})=123$ 7 keV, deduced from their α -ray energy differences.

 $\gamma(^{178}\text{Ir})$

E_γ	I_γ	$E_i(\text{level})$	E_f	Comments
36.9 ‡	43 2	91.7?	55.0	
55.0	39 2	55.0	0.0	E_γ : 1995Bi01 quote a 54.4 keV γ ray following ^{182}Au α decay.
x 84.6	100			
x 88 †				γ ray seen only in doubtful coincidences with the 90.4 keV γ ray.
x 90.4	80 6			
91.7 ‡	54 4	91.7?	0.0	
x 101 †				from coincidence results where a 101 keV γ ray is seen in spectra gated by the 101.3-keV transition.
x 101.3	76 4			
127 ‡ ‡		127?	0.0	
x 137 †				
x 148 †				

† γ rays reported only from coincidence spectra.

‡ Placement of transition in the level scheme is uncertain.

x γ ray not placed in level scheme.

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Decay Scheme

Intensities: Type not specified

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 21.1 s 6
 $Q_\varepsilon = 4254.23$
 $^{178}\text{Pt}_{100}$

