

¹⁷⁷Pt α decay 1979Ha10,1982Bo04,1993MeZZ

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Tuli	ENSDF	15-Aug-2015

Parent: ¹⁷⁷Pt: E=0.0; J ^{π} =5/2⁻; T_{1/2}=10.6 s 4; Q(α)=5643 3; % α decay=5.7 4

¹⁷⁷Pt-J ^{π} ,T_{1/2}: From ¹⁷⁷Pt Adopted Levels (2003Ko33).

¹⁷⁷Pt-Q(α): From 2012Wa38.

¹⁷⁷Pt-% α decay: From ¹⁷⁷Pt Adopted Levels (2003Ko33).

1979Ha10: ¹⁷⁷Pt produced from α decay of ¹⁸¹Hg; measured E α , I α (silicon surface-barrier detector, FWHM \approx 25), $\alpha\gamma$ coin (Ge(Li) used for γ 's).

1982Bo04: sources from proton bombardments of U, Th, Au, and Ta (E(p)=5 GeV), helium-jet transport; measured E α (silicon surface-barrier detector).

1993MeZZ: sources from ¹⁴⁶Nd(³⁶Ar,5n), helium-jet transport; measured E γ , I γ , E α , $\alpha\gamma$ coin, (α)(K x ray) coin.

Others: 1966Si08, 1968De01, 1973Ga08.

¹⁷³Os Levels

E(level)	J ^{π}	T _{1/2}
0.0	5/2 ⁻	22.4 s 9
91.8 2	7/2 ⁻	

α radiations

E α [†]	E(level)	I α [‡] #	HF [‡]	Comments
5423 10	91.8	11.5 9	3.7 5	E α : others: 5485 20 (1970Ha18), 5420 (1993MeZZ), 5435 10 (1979Ha10). I α : others: 12 1 (1979Ha10).
5517 4	0.0	88.5 7	1.27 11	E α : others: 5525 20 (1970Ha18), 5510 3 (1982Bo04), 5520 (1993MeZZ), 5527 6 (1979Ha10). I α : others: 88 7 (1979Ha10).

[†] From 1991Ry01. Data agree with ¹⁷³Os structure, as determined in (HI,xn γ) (1990Ba29,1991Ka05).

[‡] Using r₀(¹⁷³Os)=1.5626, average from even-even adjacent nuclei.

For absolute intensity per 100 decays, multiply by 0.057 4.

γ (¹⁷³Os)

I γ normalization: from I α (5423)=11.5 9, branching=0.056 4, and α (91.8)=7.35 11.

E γ [†]	I γ [‡]	E _i (level)	J _i ^{π}	E _f	J _f ^{π}	Mult. [†]	δ	α [#]	Comments
91.8 2	0.64 9	91.8	7/2 ⁻	0.0	5/2 ⁻	M1+E2	0.30 16	7.35 11	α (K)= 5.7 5; α (L)= 1.3 3; α (M)= 0.30 8; α (N+...)= 0.091 22 δ : from adopted gammas. α (K)exp=6.4 4 ($\alpha\gamma$, (α)(K x ray) coin (1993MeZZ)).

[†] From (HI,xn γ).

[‡] For absolute intensity per 100 decays, multiply by 0.00079 11.

Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^{177}Pt α decay 1979Ha10,1982Bo04,1993MeZZDecay SchemeIntensities: I γ : I(γ +ce) per 100 decays of parent. I α per 100 α decays