

¹⁸⁰Hg α decay 1993Wa03,1979Ha10,1978Ha30

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107, 791 (2006)	15-Sep-2005

Parent: ¹⁸⁰Hg: E=0.0; J ^{π} =0⁺; T_{1/2}=2.58 s 1; Q(α)=6258 4; % α decay=48.0 17

¹⁸⁰Hg-T_{1/2}: From 2003Wu10.

Others: 2002Ro17, 2000Ko48.

1979Ha10, 1978Ha30: activity produced by bombarding Pb targets with 600-MeV protons. Measured E α , I α , E γ , $\alpha\gamma$ coin.

Detectors: semi,Ge(Li). Other: 1968De01.

1993Wa03: activity produced by ¹⁴⁴Sm(⁴⁰Ar,4n)¹⁸⁰Hg ϵ ¹⁸⁰Au, E(⁴⁰Ar)=225 MeV. Measured E α , I α (not reported), $\alpha\gamma$ coin, a ce coin, Ag(t), a Ce(t). Detectors: semi, germanium hyperpure, plastic scintillator. Measured T_{1/2}(lev).

¹⁷⁶Pt Levels

E(level)	J ^{π} †	T _{1/2} †	Comments
0.0	0 ⁺	6.33 s 15	
263 1	2 ⁺	76 ps 7	
443 1	0 ⁺	<0.7 ns	T _{1/2} : from 1993Wa03.

† From Adopted Levels, except otherwise noted.

α radiations

E α ‡	E(level)	I α †@	HF#	Comments
5689 5	443	7.9×10 ⁻²	17	I α : from 1994Wa13. Other value: 1.2×10 ⁻² (1979Ha10). HF: HF of 17 indicates a smaller degree of mixing between the 0 ⁺ states in ¹⁷⁶ Pt compared to a HF of 5.1 (1994Br18) in ¹⁷⁸ Pt. This is consistent with the calculation on the yrast behavior in ¹⁷⁶ Pt and ¹⁷⁸ Pt intruder bandhead, which gives 15% and 52% mixing, respectively, of intruder configuration in the g.s. (1986Dr05).
5862 5	263	5.4×10 ⁻² 9		HF: HF=disagrees with HF=77 9 from 1993Wa03. E α : E=5860 10 (1979Ha10).
6119 4	0.0	99.87 3	1.000	E α : From 2000Ko48. other values: 6120 5 (1993Wa03), 6118 15 (1970Ha18,1974Ho26), 6123 20 (1982HeZM). I α : From 1998Ak04 for 100 α decays.

† From 1979Ha10, except as noted.

‡ From 1993Wa03, except otherwise noted.

r₀(¹⁷⁶Pt)=1.533 8 (1998Ak04).

@ For absolute intensity per 100 decays, multiply by 0.480 17.

γ (¹⁷⁶Pt)

E γ †	E _i (level)	J _i ^{π}	E _f	J _f ^{π}	Mult.	Comments
179 1	443	0 ⁺	263	2 ⁺		E γ : E=170 (1979Ha10,1978Ha30).
263 1	263	2 ⁺	0.0	0 ⁺		E γ : from 1979Ha10, 1978Ha30.
443	443	0 ⁺	0.0	0 ⁺	E0	From α -e-t coincidence measurement in 1993Wa03. Ti(443 γ)/Ti(179 γ)=0.27 18.

† From 1993Wa03, unless otherwise specified.

^{180}Hg α decay 1993Wa03,1979Ha10,1978Ha30Decay Scheme