^{200}At α decay (3.5 s) 1992Hu04,1987Va09,1967Tr06

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong	NDS 108, 1093 (2007)	1-Jan-2006

Parent: ^{200}At: E=335 *4*; J^π=(10$^-$); $T_{1/2}$=3.5 s *2*; Q(α)=6596.4 *14*; %α decay=10.5 *3*

^{200}At-$T_{1/2}$: From 1992Hu04. Others: 4.3 S 3 (1967Tr06), 5 S 2 (1975BaYJ),7.3 S +26-15(2005Uu02).

J^π=(10$^-$), $T_{1/2}$=3.5 s isomer.

The decay scheme is from 1992Hu04.

2005Uu02: 141Pr(63,65Cu, xnypzα), 170Yb(36Ar, xnypzα),E=278-293MeV, measured Eα,T1/2.

1992Hu04: source prepared by natural Re(^{20}Ne,xn) E<245 MeV. Mass separated with LISOL facility. Measured Eγ, Iγ, x-ray, ce, Eα, Iα, Ag(t).

1987Va09: measured Eγ, Iγ (Ge detectors, FWHM=2.0 keV at 1332 keV, FWHM=580 eV at 122 keV), E(ce),Ice (Si(Li), FWHM=2.5 keV at 624 keV), $\gamma\gamma$ coin, ceγ coin, triparameter coin.

1967Tr06: sources from ^{185}Re,^{187}Re(^{20}Ne,xn), x=5,7; E(^{20}Ne)=100-200 MeV. Measured $T_{1/2}$, Eα.

^{196}Bi Levels

E(level)[†]	J^π[†]
0	(3$^+$)
158.3 *3*	(6$^+$)
167 *4*	(7$^+$)
269 *4*	(10$^-$)

[†] From ^{196}Bi Adopted Levels.

α radiations

Eα	E(level)	Iα[#]	HF[†‡]	Comments
6536.9 *21*	269	100	2.07 *14*	Eα: weighted average of 6537 *5* (1967Tr06 as adjusted by 1991Ry01), 6536 *5* (1975BaYJ), 6538 *3* (1992Hu04), and 6534 *6*(2005Uu02).

[†] r_0=1.500 *5* (1967Tr06).

[‡] r_0=1.502 *2*.

[#] For absolute intensity per 100 decays, multiply by 0.105 *3*.

γ(^{196}Bi)

E$_\gamma$[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[&]	I$_{(\gamma+ce)}$[†#@]	Comments
9 *4*	167	(7$^+$)	158.3	(6$^+$)			100	
102.0 *20*	269	(10$^-$)	167	(7$^+$)	(E3)	155	100	ce(K)/(γ+ce)=0.0025 *5*; ce(L)/(γ+ce)=0.72 *7*; ce(M)/(γ+ce)=0.21 *4*; ce(N+)/(γ+ce)=0.064 *11*
158.3 *3*	158.3	(6$^+$)	0	(3$^+$)	M3	77.3	100	ce(K)/(γ+ce)=0.401 *7*; ce(L)/(γ+ce)=0.426 *8*; ce(M)/(γ+ce)=0.121 *3*; ce(N+)/(γ+ce)=0.0386 *9*

[†] Relative to 100 for 1049.4γ in ^{196}Pb from ^{196}Bi ε+β^+ decay (240 s+308 s).

[‡] From ^{196}Bi adopted gammas.

[#] From the decay scheme, Ti(158γ)=Ti(9γ)=Ti(102γ).

[@] For absolute intensity per 100 decays, multiply by 0.105 *3*.

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

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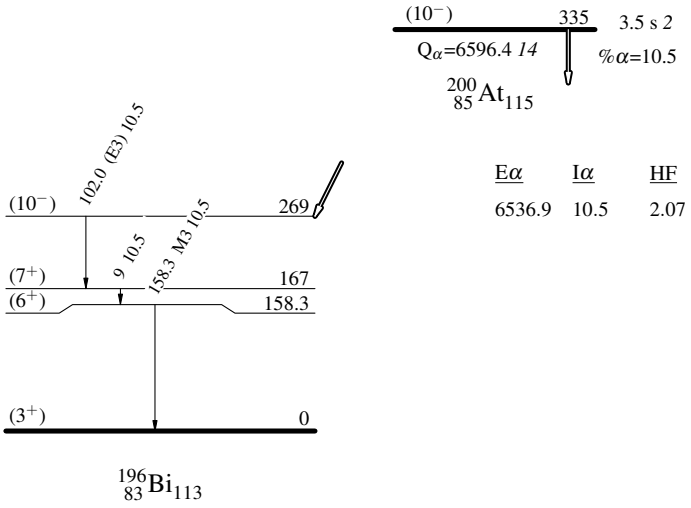
Decay Scheme



Eα	Iα	HF
6536.9	10.5	2.07