^{204}At IT decay (108 ms)   1975Gi02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. J. Chiara and F. G. Kondev	NDS 111,141 (2010)	1-Oct-2009

Parent: ^{204}At: E=587.30 *20*; J$^{\pi}$=10$^-$; T$_{1/2}$=108 ms *10*; %IT decay=100.0

1975Gi02: ^{193}Ir(^{16}O,xnγ) at E(^{16}O)=80-137 MeV, 7.7-mg/cm^2 enriched to 98.1% on a 1-mg/cm^2 Au backing; ^{197}Au(^{12}C,xnγ) at E(^{12}C)=71-80 MeV, 2-mg/cm^2 ^{197}Au target; and ^{196}Pt(^{15}N,xng) at E(^{15}N)=140 MeV, enriched ^{196}Pt target; 25 cm^3 coaxial Ge(Li) detector; measured Eγ, Iγ, T$_{1/2}$, excitation functions.

Other: 1969MoZU.

^{204}At Levels

E(level)[†]	J$^{\pi}$[†]	T$_{1/2}$[†]	Comments
0	7$^+$	9.12 min *11*	Configuration=((π h$_{9/2}$)$^{+1}$(ν f$_{5/2}$)$^{-1}$).
587.30 *20*	10$^-$	108 ms *10*	J$^{\pi}$: 587.3γ E3 to 7$^+$. The measured isomeric ratios in 1975Gi02 suggest that the spin of this state is higher than that for the 7$^+$ ground state.
			T$_{1/2}$: From 1969MoZU (misassigned to ^{203}At). A consistent result was obtained in 1975Gi02, but the measured value was not reported by the authors.
			Configuration=((π h$_{9/2}$)$^{+1}$(ν i$_{13/2}$)$^{-1}$).

[†] From Adopted Levels, unless otherwise specified.

γ(^{204}At)

E$_\gamma$	I$_\gamma$[‡]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	α[†]	Comments
587.3 *2*	100	587.30	10$^-$	0	7$^+$	E3	0.0714 *10*	α(K)=0.0402 *6*; α(L)=0.0232 *4*; α(M)=0.00607 *9*; α(N+..)=0.00194 *3*
								α(N)=0.001577 *23*; α(O)=0.000321 *5*; α(P)=3.76×10^{-5} *6*
								E$_\gamma$: No other γ rays with energies above 40 keV were observed to have excitation functions consistent with ^{204}At assignment. Other: 585.3 keV *2* in 1969MoZU.
								Mult.: α(K)exp<0.13, K/LM=1.5 *1* (1969MoZU).

[†] Additional information 1.
[‡] For absolute intensity per 100 decays, multiply by 0.933 *13*.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0

10^- 587.30   108 ms *10*

587.3 E3 100.0

7^+ 0   9.12 min *11*

$^{204}_{85}At_{119}$