

$^{196}\text{Au}$  IT decay (8.1 s) [1971Ro16](#),[1967Wa02](#)

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

Parent:  $^{196}\text{Au}$ : E=84.660 20;  $J^\pi=5^+$ ;  $T_{1/2}=8.1$  s 2; %IT decay=100.0

$^{196}\text{Au}$  (8.1 s) activity produced by (n,2n), E(n)=14 MeV ([1971Ro16](#)).

Others: [1959Va14](#), [1960Ka21](#), [1968Se02](#), [1972GIZX](#).

 $^{196}\text{Au}$  Levels

E(level)	$J^\pi$	$T_{1/2}$	Comments
0.0	$2^-$	6.1669 d 6	
84.660 20	$5^+$	8.1 s 2	E(level): from $E_\gamma=84.660$ keV 20 in $^{196}\text{Au}$ IT decay (9.6 h). $T_{1/2}$ : weighted average of 8.2 s 2 ( <a href="#">1971Ro16</a> ) and 7.4 s 6 ( <a href="#">1972GIZX</a> ).

 $\gamma(^{196}\text{Au})$ 

I $\gamma$  normalization: From I( $\gamma$ +ce)(84 $\gamma$ )=100.

$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\alpha^\#$	Comments
84.66 2	100	84.660	$5^+$	0.0	$2^-$	E3	327	$\alpha(\text{K})=0.289$ 5; $\alpha(\text{L})=239$ 4; $\alpha(\text{M})=68.0$ 10; $\alpha(\text{N}+..)=19.7$ 3 $\alpha$ : E3 $\alpha(\text{theory})$ 's multiplied by 0.975 10 (Cf. <a href="#">1990Ne01</a> ). Mult.: K:L1:L2:L3:M2:M3:(M4+M5):(N+O)=<10:18:450:340:100:85:6: 65 ( <a href="#">1967Wa02</a> ); $\alpha(\text{exp})=240$ 50 ( <a href="#">1971Ro16</a> ). See 9.7 h isomer decay. HF=160 wu; B(E3)= $1.4 \times 10^{-5}$ .

$^\dagger$  The energies of  $\gamma$  transitions reported by [1967Wa02](#) have been increased by 40 eV and normalized to more recent standards.

$^\ddagger$  For absolute intensity per 100 decays, multiply by 0.00305 10.

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

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Decay Scheme

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

