^{197}Au(μ^-,nγ) 1973Ev02

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

The capture of low energy μ^- to various levels in ^{196}Pt accounts for 36% 5 of the muons captured in the ^{197}Au target. The mean lifetime for nuclear capture is≈100 ns. Nuclear γ's measured in anticoin with atomic x-rays,Ge(Li) (1973Ev02).
Other: 1970Ba74.

^{196}Pt Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0	0$^+$	stable	
355.79 *13*	2$^+$		E(level): isomer shift in muonic atom: ΔE(356)=0.39 keV *+33−28* (1974Ba77). isomer shift refers to the difference between the γ-transition energy In the muonic atom and that of the normal atom.
688.91 *20*	2$^+$		
877.02 *20*	4$^+$		
1270.4 *3*	5$^-$		
1447.0 *5*	3$^-$		

[†] From least-squares fit to Eγ's.
[‡] From the Adopted Levels.

γ(^{196}Pt)

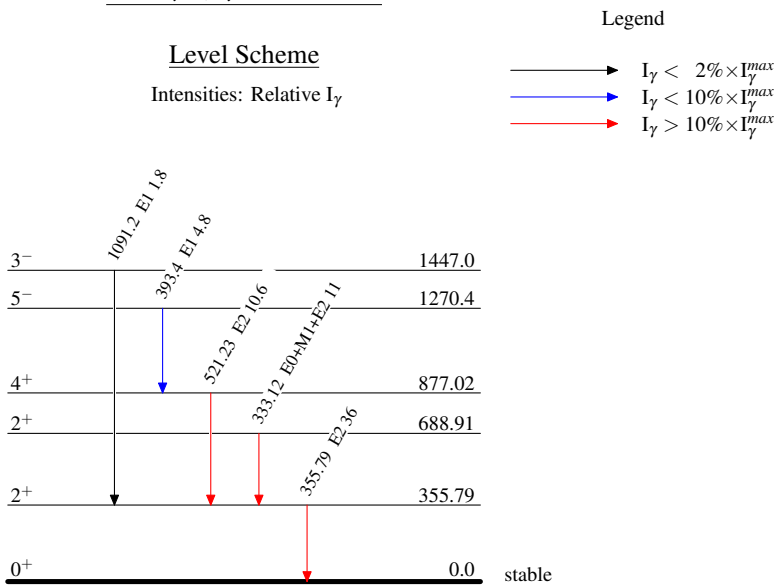
E$_\gamma$	I$_\gamma$[‡#]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[†]	δ	α[@]	Comments
333.12 *15*	11 *2*	688.91	2$^+$	355.79	2$^+$	E0+M1+E2	−5.2 *5*	0.0782 *17*	α(K)=0.0523 *14*; α(L)=0.0196 *3*; α(M)=0.00487 *7*; α(N+..)=0.001397 *21* δ: from adopted value.
355.79 *13*	36 *5*	355.79	2$^+$	0.0	0$^+$	E2		0.0602	α(K)=0.0402 *6*; α(L)=0.01518 *22*; α(M)=0.00377 *6*; α(N+..)=0.001080 *16* I$_\gamma$: the probability of directly populating the 355.7 level has been reported by 1974Wa22 as 0.12 *3* per muon capture.
393.4 *2*	4.8 *10*	1270.4	5$^-$	877.02	4$^+$	E1		0.01395	α(K)=0.01159 *17*; α(L)=0.00182 *3*; α(M)=0.000419 *6*; α(N+..)=0.0001220 *18*
521.23 *15*	10.6 *12*	877.02	4$^+$	355.79	2$^+$	E2		0.0224	α(K)=0.01667 *24*; α(L)=0.00436 *7*; α(M)=0.001055 *15*; α(N+..)=0.000305 *5*
1091.2 *4*	1.8 *8*	1447.0	3$^-$	355.79	2$^+$	E1		0.00181	α(K)=0.001522 *22*; α(L)=0.000222 *4*; α(M)=5.06×10^{-5} *7*; α(N+..)=1.486×10^{-5} *21*

[†] From the adopted γ.
[‡] Photon intensity per 100 muon captures.
[#] Absolute intensity per 100 decays.
[@] 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.

^{197}Au(μ^-,nγ) 1973Ev02

Level Scheme

Intensities: Relative I_γ



$^{196}_{78}Pt_{118}$