^{187}Tl α decay 1976To06,1980Sc09,1991Wa21

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 134, 149 (2016)	15-Apr-2015

Parent: ^{187}Tl: E=335 *6*; J^{π}=(9/2$^-$); $T_{1/2}$=15.60 s *12*; Q(α)=5321 *7*; %α decay=0.15 *5*

^{187}Tl-%α decay: From 1991Wa21.

Others: 1985Co06.

1991Wa21: mass separated sources of ^{187}Tl following 240 MeV ^{40}Ar bombardment of enriched ^{155}Gd targets; measured time-defined α singles, $\alpha\gamma$(t), αX(t), α-ce(t); searched for fine structure in α decay from 9/2$^-$ isomer of ^{187}Tl.

1980Sc09: ^{187}Tl sources from 5.10 MeV/nucleon ^{48}Ti bombardment of ^{142}Nd; measured Eα.

1976To06: 168 MeV ^{14}N bombardment of ^{180}W and ^{182}W targets; mass separation; measured Eα, $T_{1/2}$(187TL).

For this decay scheme, QxBR=8.5 *28*.

^{183}Au Levels

E(level)[†]	J^{π}[†]
0.0	(5/2)$^-$
12.4 *4*	(9/2)$^-$

[†] From Adopted Levels.

α radiations

Eα	E(level)	Iα[†#]	HF[‡]	Comments
5524 *9*	12.4	>91	<1.1	Eα: weighted average of 5528 *10* (1980Sc09), 5510 *20* (1976To06).
5536[@] *CA*	0.0	<9	>7	Not observed. 1991Wa21 estimate that its intensity is <10% of I(5524α).

[†] Intensity per 100 α decays; from 1991Wa21.

[‡] If r_0=1.498 *7* (unweighted average of r_0(^{182}Pt)=1.504 *27* and r_0(^{184}Hg)=1.491 *14* (1998Ak04), $T_{1/2}$(^{187}Tl)=15.60 s *12*, Q(α)=5321 *7* (2012Wa38).

[#] For absolute intensity per 100 decays, multiply by 0.0015 *5*.

[@] Existence of this branch is questionable.

γ(^{183}Au)

E$_\gamma$	E$_i$(level)	J_i^{π}	E$_f$	J_f^{π}	Mult.	Comments
12.4 *CA*	12.4	(9/2)$^-$	0.0	(5/2)$^-$	[E2]	Eγ: 5524α is coincident with electrons with E<20 keV (1991Wa21).

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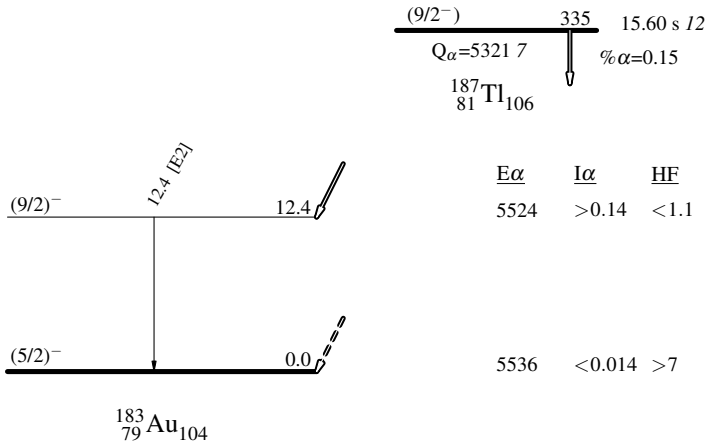
Decay Scheme



Eα	Iα	HF
5524	>0.14	<1.1
5536	<0.014	>7