^{192}Po IT decay 2003Va16

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 1871 (2012)	15-Jun-2012

Parent: ^{192}Po: E=2294.6; J^π=(11$^-$); $T_{1/2}$=0.58 μs *10*; %IT decay=100.0

2003Va16: ^{192}Po sources from ^{142}Nd(^{52}Cr,2n), E=4.25 MeV/nucleon (mid-target); 99.8% ^{142}Nd target; recoils separated by velocity filter SHIP and implanted into 16-strip position-sensitive Si detector; six Si detectors (for ce) and four-fold segmented Clover detector; measured Eγ, Eα, Iα, α-γ coin, parent $T_{1/2}$. Supersedes 2002VaZZ.

^{192}Po Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0[#]	0$^+$	31.8 ms *15*	$T_{1/2}$: from ^{192}Po α(t) (2003Va16).
262[#]	(2$^+$)		
605[#]	(4$^+$)		
1043[#]	(6$^+$)		
1561[#]	(8$^+$)		
2141[#]	(10$^+$)		
2295	(11$^-$)	0.58 μs *10*	%IT=100 E(level): level must lie above the (10$^+$) 2141 level because the 579γ from that level is observed In IT decay. $T_{1/2}$: from α(t) (2003Va16). J^π: an 11$^-$ isomer is known In neighboring even-A Po isotopes with A≥194.

† From Eγ.
‡ From Adopted Levels.
# Band(A): K^π=0$^+$ g.s. Band.

γ(^{192}Po)

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	α[#]	I$_{(\gamma+ce)}$[‡]	Comments
154[@]	86.52	2295	(11$^-$)	2141	(10$^+$)	E1	0.1558	100	ce(K)/(γ+ce)=0.1080 *14*; ce(L)/(γ+ce)=0.0205 *3*; ce(M)/(γ+ce)=0.00485 *7*; ce(N+)/(γ+ce)=0.001508 *22* ce(N)/(γ+ce)=0.001232 *18*; ce(O)/(γ+ce)=0.000248 *4*; ce(P)/(γ+ce)=2.85×10^{-5} *4* Mult.: based on observed I(K x ray), the upper limit for α(K)exp implies E1 multipolarity (2003Va16).
262		262	(2$^+$)	0.0	0$^+$	[E2]	0.191		α(K)=0.0910 *13*; α(L)=0.0746 *11*; α(M)=0.0195 *3*; α(N+..)=0.00607 *9* α(N)=0.00501 *7*; α(O)=0.000971 *14*; α(P)=9.50×10^{-5} *14*
343		605	(4$^+$)	262	(2$^+$)	[E2]	0.0854		α(K)=0.0496 *7*; α(L)=0.0267 *4*; α(M)=0.00689 *10*; α(N+..)=0.00215 *3* α(N)=0.001768 *25*; α(O)=0.000347 *5*; α(P)=3.55×10^{-5} *5*
[x]363									
[x]431									
438		1043	(6$^+$)	605	(4$^+$)	[E2]	0.0444		α(K)=0.0292 *4*; α(L)=0.01144 *16*; α(M)=0.00290 *4*; α(N+..)=0.000909 *13*

Continued on next page (footnotes at end of table)

^{192}Po IT decay 2003Va16 (continued)

$\gamma(^{192}Po)$ (continued)

E_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[#]	Comments
							α(N)=0.000745 *11*; α(O)=0.0001477 *21*; α(P)=1.582×10^{-5} *23*
[x]445							
518	1561	(8$^+$)	1043	(6$^+$)	[E2]	0.0295	α(K)=0.0206 *3*; α(L)=0.00671 *10*; α(M)=0.001682 *24*; α(N+..)=0.000528 *8* α(N)=0.000432 *6*; α(O)=8.63×10^{-5} *12*; α(P)=9.54×10^{-6} *14*
579	2141	(10$^+$)	1561	(8$^+$)	[E2]	0.0228	α(K)=0.01646 *23*; α(L)=0.00481 *7*; α(M)=0.001197 *17*; α(N+..)=0.000376 *6* α(N)=0.000307 *5*; α(O)=6.18×10^{-5} *9*; α(P)=6.96×10^{-6} *10*
[x]605							

[†] From 2003Va16; uncertainty unstated by authors.
[‡] 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.
[@] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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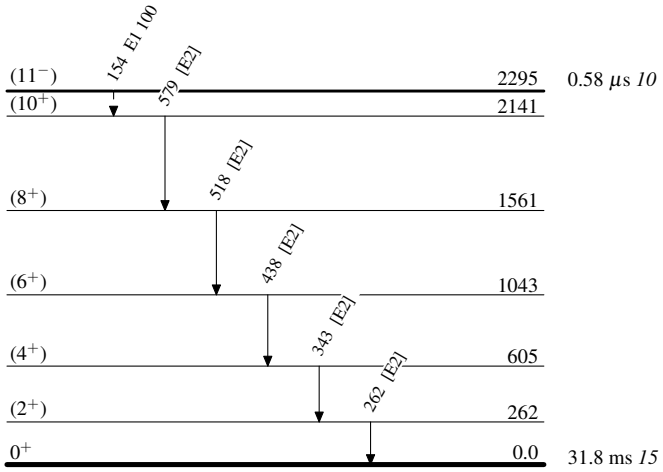
Legend

Decay Scheme

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

%IT=100.0

γ Decay (Uncertain)



$^{192}_{84}Po_{108}$

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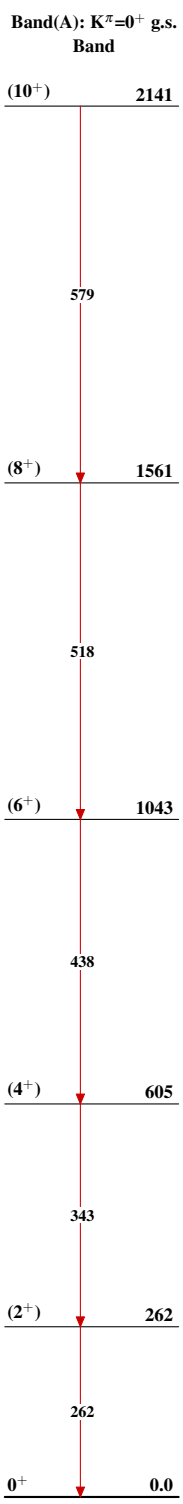

$^{192}_{84}Po_{108}$