^{191}Pt IT decay (104 μs) 1976Pi03,1968Io01,1967Co20

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Parent: ^{191}Pt: E=149.040 *22*; $J^\pi=(13/2)^+$; $T_{1/2}$=104 μs *4*; %IT decay=100

1976Pi03: Isomer studied via ^{190}Os(α,3nγ) E=30-50 MeV; beam 200 μs on target, 800 μs off. Measured Eγ, measured σ(E, Eγ, θ), $\gamma\gamma$-coin, $\gamma\gamma$(t), deduced level, $T_{1/2}$.

1968Io01 (preliminary report): Isomer produced from the Ir(p,X) reaction, E=7.6, 12 MeV; measured Eγ, deduced levels, $T_{1/2}$.

1967Co20: Isomer obtained by bombarding natural Ir with proton beam, E=17.5 MeV, Ge(Li) detector, measured Eγ, X-ray; deduced levels, α(K)exp, $T_{1/2}$, etc.

^{191}Pt Levels

E(level)†	J^π†	$T_{1/2}$	Comments
0.0	$3/2^-$	2.83 d *2*	$T_{1/2}$: From Adopted Levels.
9.554 *16*	$(5/2)^-$		
100.668 *20*	$(9/2)^-$	>1 μs	$T_{1/2}$: from 1976Pi03, $\gamma\gamma$(t).
149.040 *22*	$(13/2)^+$	104 μs *4*	$T_{1/2}$: Weighted average of 95 μs *5* (1976Pi03 − 91γ(t)), 107 μs *3* (1967Co20 − X-ray(t), 90.8γ(t)), and 111 μs *22* (1968Io01).

† From Adopted Levels.

γ(^{191}Pt)

Eγ	Iγ‡@	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	α†	I$_{(\gamma+ce)}$@	Comments
(9.56)		9.554	$(5/2)^-$	0.0	$3/2^-$			100	
48.2 *3*	0.216 *7*	149.040	$(13/2)^+$	100.668	$(9/2)^-$	M2	462 *15*	100	ce(L)/(γ+ce)=0.744 *17*; ce(M)/(γ+ce)=0.196 *8* ce(N)/(γ+ce)=0.0492 *22*; ce(O)/(γ+ce)=0.0085 *4*; ce(P)/(γ+ce)=0.000446 *20* Eγ: from 1976Pi03. Mult.: From α=600 *80*, deduced from intensity balance in 1976Pi03.
91.1 *1*	12.14 *16*	100.668	$(9/2)^-$	9.554	$(5/2)^-$	E2	7.24 *11*	100	ce(K)/(γ+ce)=0.0916 *17*; ce(L)/(γ+ce)=0.591 *7*; ce(M)/(γ+ce)=0.1529 *27* ce(N)/(γ+ce)=0.0373 *7*; ce(O)/(γ+ce)=0.00579 *11*; ce(P)/(γ+ce)=1.340×10^{-5} *26* Eγ: from 1976Pi03. Other values: 94 *10* (1968Io01), 90.8 *3* (1967Co20). Mult.: α(K)exp=1.1 *3* (1967Co20) is consistent with E2, E3, and E4 multipolarities. Not E3 or E4 from RUL for $T_{1/2}$(100.6 level)≤100 μs.

† Additional information 1.
‡ Deduced by evaluator from I(γ+ce) and α.
# From Adopted Gammas.
@ Absolute intensity per 100 decays.

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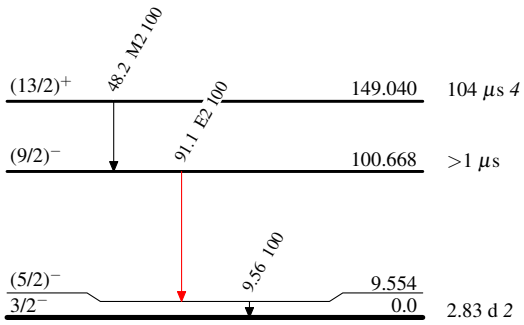
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 decays through this branch

%IT=100

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



$^{191}_{78}Pt_{113}$