

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 187,355 (2023)	20-Sep-2022

$Q(\beta^-)=1262$ 3; $S(n)=7232$ 27; $S(p)=7090$ 20; $Q(\alpha)=-561$ 20 [2021Wa16](#)

 ^{201}Au LevelsCross Reference (XREF) Flags

- A** ^{201}Pt β^- decay
B $^{202}\text{Hg}(t,\alpha)$
C $^{202}\text{Hg}(\text{pol } d, ^3\text{He})$
D $^9\text{Be}(^{208}\text{Pb}, X\gamma)$

E(level) [†]	J^π [‡]	$T_{1/2}$	XREF	Comments
0 [#]	3/2 ⁺	26.0 min 8	ABCD	$\% \beta^- = 100$ $T_{1/2}$: Weighted average of 26 min 1 (1957Er24), 27 min 2 (1962Fa06), 22 min 3 (1962Eu01) and 26.4 min 16 (1972Pa24). Other: 26 min (1952Bu80).
101 [@] 5	1/2 ⁺		ABC	XREF: A(70?)C(94).
359 5	3/2 ⁺		AB	XREF: A(230?).
553.0 10	(7/2 ⁺)		B D	XREF: B(549?).
				J^π : Similarity with ^{203}Au ($E(7/2^+)=563$ keV); shell model predictions.
594 ^{&} 5	11/2 ⁻	0.34 ms +90-29	B D	$T_{1/2}$: From 553 $\gamma(t)$ in $^9\text{Be}(^{208}\text{Pb}, X\gamma)$ (2011St21).
653 5	5/2 ⁺		B	
810 5	5/2 ⁺		B	
897 5	1/2 ⁺		BC	XREF: C(907).
1055 5	3/2 ⁺		B	
1216 5	5/2 ⁺		B	
1232 ^a 6	(15/2 ⁻)		D	E(level): Introduced by the evaluator by assuming that 638 γ directly feeds the $J^\pi=11/2^-$ isomer. The existence is tentative.
1242 5	(5/2 ⁺)		B	
1465 5	5/2 ⁺		BC	XREF: C(1459).
1506 5	11/2 ⁻		BC	XREF: C(1508).
1548 5			B	
1610 6	(19/2 ⁺)	5.6 μs 24	D	E(level): Introduced by the evaluator by assuming that 378.2 γ precedes 638.0 γ . The assignment is tentative. J^π : From 378.2 γ (M2) to (15/2 ⁻). The assignment is tentative. $T_{1/2}$: From 378.2,638.0 $\gamma(t)$ in $^9\text{Be}(^{208}\text{Pb}, X\gamma)$ (2011St21).
1664 5			B	
1698 5			B	
1760? 20			A	E(level): From the observed E_γ following $\beta\gamma$ -coin in ^{201}Pt β^- decay (1963Go06).
1900 5			B	
1941 5			B	
1981 5			B	
2055 5			B	

[†] From $^{202}\text{Hg}(t,\alpha)$ ([1981Fl05](#)) and from a least-squares fit to E_γ when γ -ray data are available.

[‡] From $\sigma(\theta, \text{pol})$ and analyzing powers in $^{202}\text{Hg}(t,\alpha)$ ([1981Fl05](#)), unless otherwise stated.

[#] Main configuration= $\pi d_{3/2}^{-1}$.

Adopted Levels, Gammas (continued) ^{201}Au Levels (continued)

@ Main configuration= $\pi s_{1/2}^{-1}$.

& Main configuration= $\pi h_{11/2}^{-1}$.

^a Probable configuration= $\pi (h_{11/2}^{-1})\otimes 2^{+}$.

 $\gamma(^{201}\text{Au})$

$E_i(\text{level})$	J_i^{π}	$E_{\gamma}^{\dagger}$	$I_{\gamma}^{\dagger}$	E_f	J_f^{π}	Mult.	$\alpha^{@}$	Comments
553.0 594	(7/2 ⁺) 11/2 ⁻	553 1 (41 5)	100 100	0 553.0	3/2 ⁺ (7/2 ⁺)	[M2]	1.1×10^3 9	B(M2)(W.u.)=0.021 +79-17 $\alpha(\text{L})=8 \times 10^2$ 6; $\alpha(\text{M})=2.1 \times 10^2$ 17 $\alpha(\text{N})=5.1$ 4; $\alpha(\text{O})=9$ 8; $\alpha(\text{P})=0.5$ 4 E_{γ} : From level energy differences; not observed in 2011St21 .
1232 1610	(15/2 ⁻) (19/2 ⁺)	638.0 [‡] 5 378.2 [‡] 5	100 100	594 1232	11/2 ⁻ (15/2 ⁻)	(M2)	0.601 9	B(M2)(W.u.)=0.013 +9-4 $\alpha(\text{K})=0.468$ 7; $\alpha(\text{L})=0.1013$ 15; $\alpha(\text{M})=0.0244$ 4 $\alpha(\text{N})=0.00610$ 9; $\alpha(\text{O})=0.001113$ 16; $\alpha(\text{P})=7.03 \times 10^{-5}$ 10 Mult.: From $\alpha(\text{tot}, 378\gamma) \sim 0.7$ from total intensity balance between 638-keV and 378-keV γ rays in $^9\text{Be}(^{208}\text{Pb}, X\gamma)$ (2011St21).
1760?		1760 [#] 20	100 [#]	0	3/2 ⁺			

[†] From $^9\text{Be}(^{208}\text{Pb}, X\gamma)$ ([2011St21](#)), unless otherwise stated.

[‡] This γ ray shows the 5.6- μs isomer half-life, but the ordering and placement in the decay scheme are not experimentally known.
The interpretation is made by the evaluator.

[#] From $^{201}\text{Pt} \beta^{-}$ decay ([1963Go06](#)).

@ [Additional information 1](#).

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

