^{203}Hg IT decay (22.1 μs)   **1986Ze03,1964Br27,2011St21**

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	F. G. Kondev	NDS 177, 509, 2021	4-Jul-2021

Parent: ^{203}Hg: E=933.14 23; J$^{\pi}$=(13/2^{+}); T$_{1/2}$=22.1 μs 10; %IT decay=100.0

1986Ze03: Using ^{204}Hg(γ,n) and E(γ)=13-23 MeV.

1964Br27: Using ^{202}Hg(d,pγ) and E(d)=14 and 18 MeV.

2011St21: E(^{208}Pb)=1000 MeV/A from the SIS-18 synchrotron (GSI). ^{9}Be 2.526 g/cm^{2}-thick target, backed by a ^{93}Nb foil of thickness 0.223 g/cm^{2}. Fragments were identified in flight by the Fragment Separator (FRS), based on time of flight, Bρ and energy loss. Transmitted ions were slowed in Al degraders and stopped in a plastic catcher. The stopper was surrounded by the RISING γ-ray spectrometer.

^{203}Hg Levels

E(level)†	J$^{\pi\ddagger}$	T$_{1/2}$	Comments
0.0$^{\#}$	5/2^{-}		
591.40$^{@}$ 20	(9/2^{-})		
932.9$^{\&}$ 3	(13/2^{+})	22.1 μs 10	T$_{1/2}$: Weighted average of 21 μs 5 (1964Br27), 27 μs 5 (1986Ze03) and 21.9 μs 10 (2011St21). Experimental isomeric ratio=11.8% $+11-20$ (2011St21).

† From a least-squares fit to Eγ.

‡ From Adopted Levels.

$^{\#}$ Configuration=ν(f$^{-1}_{5/2}$).

$^{@}$ Configuration=ν(f$^{-1}_{5/2}$)$\otimes$2^{+}.

$^{\&}$ Configuration=ν(i$^{-1}_{13/2}$).

γ(^{203}Hg)

Iγ normalization: from NR=100/Iγ(591.4γ)$\times$(1+α_{tot}(591.4γ)).

E$_{\gamma}$†	I$_{\gamma}$$^{\#}$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Mult.	$\alpha^{\ddagger}$	Comments
341.5 2	53.7 4	932.9	(13/2^{+})	591.40	(9/2^{-})	[M2]	0.898	α(K)=0.692 10; α(L)=0.1570 23; α(M)=0.0381 6 α(N)=0.00961 14; α(O)=0.00180 3; α(P)=0.0001279 18. E$_{\gamma}$: Other: 341.0 keV in 2011St21. I$_{\gamma}$: From intensity balance. Other: 57 2 in 2011St21.
591.4 2	100	591.40	(9/2^{-})	0.0	5/2^{-}	[E2]	0.0182	α(K)=0.01364 20; α(L)=0.00344 5; α(M)=0.000836 12 α(N)=0.000209 3; α(O)=3.76$\times$10^{-5} 6; α(P)=1.81$\times$10^{-6} 3. E$_{\gamma}$: Other: 591.1 keV in 2011St21.

† From 1986Ze03.

‡ Additional information 1.

$^{\#}$ For absolute intensity per 100 decays, multiply by 0.98213 25.

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<u>Decay Scheme</u>

Intensities: I$_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

341.5 [M2] 100.1

591.4 [E2] 100.00

(13/2$^+$)   932.9   22.1 μs *10*

(9/2$^-$)   591.40

5/2$^-$ 0.0

$^{203}_{80}$Hg$_{123}$