^{203}Bi IT decay   1984Lo16

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

Parent: ^{203}Bi: E=1098.21 9; J^π=1/2$^+$; $T_{1/2}$=305 ms 5; %IT decay=100.0

1984Lo16: produced using the ^{204}Pb(p,2n) reaction at E(p)=20 MeV; mass separated source; detectors: HPGe; measured: Eγ, γ(t);
deduced: $T_{1/2}$, configurations.

^{203}Bi Levels

E(level)[†]	$J^{\pi\ddagger}$	$T_{1/2}$	Comments
0	9/2$^-$		
893.48 9	5/2$^-$		
908.63 9	7/2$^-$		
1098.15 10	1/2$^+$	305 ms 5	$T_{1/2}$: Weighted average of 311 ms 13 (189.5γ(t)), 320 ms 50 (204.7γ(t)), 290 ms 30 (893.5γ(t)) and 304 ms 5 (908.6γ(t)) in 1984Lo16. configuration: Dominant (99.9%) configuration=$\pi(s_{1/2}^{+1})$ with small admixtures of configuration=$\pi(f_{7/2})^{+1})\otimes\nu(3^-)$ and configuration=$\pi(h_{9/2})^{+1}\otimes\nu(5^-)$ (1984Lo16).

[†] From a least-squares fit to Eγ.
[‡] From Adopted Levels.

$\gamma(^{203}$Bi)

E_γ[†]	$I_\gamma^{\dagger@}$	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	$\delta^\dagger$	α[#]	Comments
189.5 1	100 9	1098.15	1/2$^+$	908.63	7/2$^-$	E3		5.63	%Iγ=13.7 4 α(K)=0.473 7; α(L)=3.79 6; α(M)=1.050 15 α(N)=0.270 4; α(O)=0.0501 8; α(P)=0.00397 6
204.7 1	13 4	1098.15	1/2$^+$	893.48	5/2$^-$	M2+E3	3.4 4	4.04 8	%Iγ=1.8 5 α(K)=0.74 9; α(L)=2.43 5; α(M)=0.668 12 α(N)=0.171 3; α(O)=0.0320 6; α(P)=0.00260 4
893.5 1	65[‡] 20	893.48	5/2$^-$	0	9/2$^-$	E2		0.00873	%Iγ=9.0 25 α(K)=0.00684 10; α(L)=0.001434 20; α(M)=0.000345 5 α(N)=8.80×10^{-5} 13; α(O)=1.758×10^{-5} 25; α(P)=1.93×10^{-6} 3
908.6 1	652[‡] 60	908.63	7/2$^-$	0	9/2$^-$	M1+E2	0.96 20	0.0169 19	%Iγ=89.6 28 α(K)=0.0137 16; α(L)=0.00242 23; α(M)=0.00057 6 α(N)=0.000146 14; α(O)=3.0×10^{-5} 3; α(P)=3.5×10^{-6} 4
1098.1[&]	<0.1	1098.15	1/2$^+$	0	9/2$^-$	[M4]		0.1210	%Iγ≤0.0137 α(K)=0.0905 13; α(L)=0.0230 4; α(M)=0.00570 8 α(N)=0.001471 21; α(O)=0.000297 5; α(P)=3.35×10^{-5} 5 Iγ: From 1984Lo16.

[†] From adopted gammas, unless otherwise stated.

^{203}Bi IT decay   **1984Lo16** (continued)

$\gamma(^{203}Bi)$ (continued)

‡ From intensity balance and α.
# Additional information 1.
@ For absolute intensity per 100 decays, multiply by 0.137 *12*.
& Placement of transition in the level scheme is uncertain.

^{203}**Bi IT decay**   **1984Lo16**

Decay Scheme

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

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)

1098.1 [M4] <0.0154
204.7 M2+E3 9
189.5 E3 91
908.6 M1+E2 91
893.5 E2 9

$1/2^+$	1098.15	305 ms *5*
$7/2^-$	908.63	
$5/2^-$	893.48	
$9/2^-$	0	

$^{203}_{83}Bi_{120}$