^{201}Po ε decay (15.50 min) 1986Br28

History

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

Parent: ^{201}Po: E=0; J^{π}=3/2$^-$; $T_{1/2}$=15.50 min *22*; Q(ε)=4908 *13*; %ε+%β^+ decay=100

1986Br28:^{193}Ir(^{14}N,6n), E=116 MeV, mass separated source; Detectors: Ge(Li) and cooled Si(Li); Measured: γ, $\gamma\gamma$ coin, $\gamma\gamma$(t), γ(x-ray)(t), ce, and $T_{1/2}$.

Others: 1986Be07, 1980Br23, 1976Ko13, 1970DaZM, 1970Jo26, 1969Al10.

^{201}Bi Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[‡]	Comments
0[#]	9/2$^-$	103 min *3*	
846.35[@] *18*	1/2$^+$	58.5 min *11*	%ε+%β^+≈88.7; %IT≈11.0; %α≈0.3 %IT determined by the evaluator from intensity balance considerations at the 846.35-keV level, using I(γ+ce)(1/2$^+$)=130 *4* and I(ε+β^+)(1/2$^+$)=20 *5*, determined from I(ε+β^+)(3/2$^+$,1086-keV)=18 *4* and by assuming log *ft*(1/2$^+$)=log *ft*(3/2$^+$,1086-keV). Other: %IT=6.8% in 1980Br23 (same collaboration as 1986Br28).
890.24[&] *13*	5/2$^-$		
904.23[&] *12*	(7/2)$^-$		
1086.21[a] *18*	3/2$^+$	260 ps *30*	$T_{1/2}$: From 188.5ce-239.8ce(Δt) in 1986Be07.
1186.59[b] *17*	(7/2)$^-$		
1274.45 *19*	(5/2)$^+$		
1441.71 *18*	7/2$^-$		
1470.87 *22*	(5/2,7/2)$^-$		
1483.54 *24*	(3/2$^-$)		
1616.3 *4*	1/2$^+$,3/2$^+$,5/2$^+$		
1778.92 *22*	(3/2$^-$,5/2)		
1817.86 *22*	1/2$^+$,3/2,5/2$^+$		
1848.16 *25*	(5/2$^-$)		
1858.02 *24*	3/2$^+$		
1927.32 *19*	(5/2$^-$)		
1944.24 *17*	(5/2$^-$)		
2053.59 *21*	(5/2)$^+$		
2065.82 *17*	5/2$^+$		
2386.7 *5*			
2422.1 *3*	(3/2$^-$,5/2)		
2434.9 *3*	1/2$^+$,3/2,5/2$^+$		
2455.5 *3*	1/2$^+$,3/2,5/2$^+$		
2484.3 *3*	1/2,3/2,5/2$^+$		
2592.88 *20*	(3/2$^-$,5/2$^+$)		
2902.09 *25*	1/2$^+$,3/2,5/2$^+$		
2905.9 *3*	1/2,3/2,5/2$^+$		

† From a least squares fit to Eγ.

‡ From Adopted Levels, unless otherwise stated.

\# Configuration=$\pi\ h^{+1}_{9/2}$.

@ Configuration=$\pi\ s^{-1}_{1/2}$.

& Configuration=$\pi\ (h^{+1}_{9/2})\otimes 2^+$.

a Configuration=$\pi\ d^{-1}_{3/2}$.

b Configuration=$\pi\ f^{+1}_{7/2}$.

^{201}Po ε decay (15.50 min) 1986Br28 (continued)

ε,β^+ radiations

The I(β^++ε), Iβ, Iε and log *ft* values are approximate, given the uncertain %IT value for the 846 keV, J^π=1/2$^+$ state and the incomplete decay scheme.

E(decay)	E(level)	Iβ^+ ‡	Iε‡	Log *ft*	I($\varepsilon+\beta^+$)†‡	Comments
(2002 *13*)	2905.9	≈0.0052	≈0.63	≈7.3	≈0.64	av Eβ=460.1 *57*; εK=0.7920 *3*; εL=0.1502 *2*; εM+=0.04969 *5*
(2006 *13*)	2902.09	≈0.0114	≈1.39	≈7.0	≈1.40	av Eβ=461.7 *57*; εK=0.7919 *3*; εL=0.1502 *2*; εM+=0.04968 *5*
(2315 *13*)	2592.88	≈0.098	≈4.59	≈6.6	≈4.69	av Eβ=596.9 *57*; εK=0.7835 *5*; εL=0.14708 *15*; εM+=0.04856 *6*
(2424 *13*)	2484.3	≈0.0680	≈2.44	≈6.9	≈2.51	av Eβ=644.4 *57*; εK=0.7790 *6*; εL=0.14579 *17*; εM+=0.04811 *6*
(2453 *13*)	2455.5	≈0.0790	≈2.65	≈6.9	≈2.73	av Eβ=657.0 *57*; εK=0.7777 *7*; εL=0.14543 *17*; εM+=0.04799 *6*
(2473 *13*)	2434.9	≈0.0624	≈2.00	≈7.0	≈2.06	av Eβ=666.0 *57*; εK=0.7767 *7*; εL=0.14516 *17*; εM+=0.04790 *6*
(2486 *13*)	2422.1	≈0.0620	≈1.93	≈7.0	≈1.99	av Eβ=671.6 *57*; εK=0.7760 *7*; εL=0.14500 *17*; εM+=0.04784 *6*
(2521 *13*)	2386.7	≈0.0410	≈1.18	≈7.3	≈1.22	av Eβ=687.0 *57*; εK=0.7742 *7*; εL=0.14453 *18*; εM+=0.04768 *6*
(2842 *13*)	2065.82	≈0.658	≈10.1	≈6.4	≈10.8	av Eβ=827.8 *58*; εK=0.7534 *10*; εL=0.13968 *22*; εM+=0.04603 *8*
(2854 *13*)	2053.59	≈0.34	≈5.2	≈6.7	≈5.5	av Eβ=833.1 *58*; εK=0.7525 *11*; εL=0.13947 *23*; εM+=0.04596 *8*
(2964 *13*)	1944.24	≈0.179	≈2.25	≈7.1	≈2.43	av Eβ=881.2 *58*; εK=0.7436 *12*; εL=0.13755 *24*; εM+=0.04531 *8*
(2981 *13*)	1927.32	≈0.0996	≈1.22	≈7.4	≈1.32	av Eβ=888.7 *58*; εK=0.7421 *12*; εL=0.13724 *24*; εM+=0.04520 *8*
(3050 *13*)	1858.02	≈0.267	≈2.93	≈7.0	≈3.20	av Eβ=919.2 *58*; εK=0.7360 *12*; εL=0.1359 *3*; εM+=0.04477 *9*
(3060 *13*)	1848.16	≈0.115	≈1.25	≈7.4	≈1.36	av Eβ=923.4 *58*; εK=0.7350 *12*; εL=0.1357 *3*; εM+=0.04470 *9*
(3090 *13*)	1817.86	≈0.337	≈3.48	≈7.0	≈3.82	av Eβ=936.8 *58*; εK=0.7322 *13*; εL=0.1352 *3*; εM+=0.04451 *9*
(3129 *13*)	1778.92	≈0.291	≈2.84	≈7.1	≈3.13	av Eβ=954.0 *58*; εK=0.7285 *13*; εL=0.1344 *3*; εM+=0.04425 *9*
(3292 *13*)	1616.3	≈0.371	≈2.89	≈7.1	≈3.26	av Eβ=1025.8 *58*; εK=0.7120 *14*; εL=0.1310 *3*; εM+=0.04312 *10*
(3425 *13*)	1483.54	≈0.627	≈4.10	≈7.0	≈4.73	av Eβ=1084.6 *58*; εK=0.6973 *15*; εL=0.1281 *3*; εM+=0.04215 *10*
(3437 *13*)	1470.87	≈0.242	≈1.56	≈7.4	≈1.80	av Eβ=1090.2 *58*; εK=0.6958 *15*; εL=0.1278 *3*; εM+=0.04205 *10*
(3466# *13*)	1441.71	≈0.563	≈3.50	≈7.1	≈4.06	av Eβ=1103.2 *58*; εK=0.6925 *16*; εL=0.1271 *3*; εM+=0.04183 *10* I($\varepsilon+\beta^+$): The existence of this decay branch is unlikely. Imbalance is probably due to a missing de-exciting γ-ray transition to the (7/2)$^-$ level at 1186.59 keV.
(3634# *13*)	1274.45					The ε feeding to this level is negative, indicating inconsistency of the decay scheme.
(3721# *13*)	1186.59	≈1.2	≈5.5	≈6.9	≈6.7	av Eβ=1216.6 *58*; εK=0.6612 *17*; εL=0.1210 *4*; εM+=0.03980 *11* I($\varepsilon+\beta^+$): The existence of this decay branch is unlikely. Imbalance is probably due to a missing de-exciting γ-ray transition to the (7/2)$^-$ level at 904.23 keV.
(3822 *13*)	1086.21	≈1.1	≈4.5	≈7.1	≈5.6	av Eβ=1261.3 *58*; εK=0.6482 *18*; εL=0.1185 *4*; εM+=0.03897 *11*
(4004# *13*)	904.23	≈1.8	≈6.3	≈6.9	≈8.1	av Eβ=1342.7 *59*; εK=0.6237 *18*; εL=0.1138 *4*; εM+=0.03742 *12* I($\varepsilon+\beta^+$): The existence of this decay branch is unlikely. Imbalance is probably due to a missing de-exciting γ-ray transition to the 5/2$^-$ level at 890.24 keV.

Continued on next page (footnotes at end of table)

^{201}Po ε decay (15.50 min) 1986Br28 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ ‡	Iε‡	Log *ft*	I($\varepsilon+\beta^+$)†‡	Comments
(4018 *13*)	890.24	≈2.80	≈9.50	≈6.8	≈12.3	av Eβ=1349.0 *59*; εK=0.6218 *18*; εL=0.1135 *4*; εM+=0.03730 *12*
(4062 *13*)	846.35	≈1.4	≈4.7	≈7.1	≈6.1	av Eβ=1368.6 *59*; εK=0.6158 *18*; εL=0.1123 *4*; εM+=0.03692 *12*

† Deduced from the decay scheme using intensity balances and by assuming no direct feeding to the g.s. (J^π=9/2$^-$). There is a negative decay feeding to the 1274.45-keV level.

‡ Absolute intensity per 100 decays.

Existence of this branch is questionable.

γ(^{201}Bi)

Iγ normalization: Using ΣI(γ+ce)(to g.s.)=100% and by assuming that there is no direct feeding to the g.s. (J^π=9/2$^-$).

Eγ[†]	Iγ[†a]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	δ[#]	α[&]	Comments
188.6 *3*	7.1 *3*	1274.45	(5/2)$^+$	1086.21	3/2$^+$	M1+E2	0.53 *8*	1.43 *6*	%Iγ=2.16 *10* α(K)=1.11 *6*; α(L)=0.245 *4*; α(M)=0.0593 *12* α(N)=0.01514 *30*; α(O)=0.00302 *5*; α(P)=0.000332 *6* Mult.,δ: α(K)exp=1.13 *15* and K/L=4.5 *3* in 1986Br28.
195.9 *3*	0.39 *6*	1086.21	3/2$^+$	890.24	5/2$^-$	E1		0.0841 *12*	%Iγ=0.119 *18* α(K)=0.0681 *10*; α(L)=0.01227 *18*; α(M)=0.00289 *4* α(N)=0.000730 *11*; α(O)=0.0001440 *21*; α(P)=1.541×10^{-5} *22* Mult.: α(K)exp<0.01 in 1986Br28.
240.1 *2*	65.3 *23*	1086.21	3/2$^+$	846.35	1/2$^+$	E2+M1	3.0 *+4−3*	0.303 *13*	%Iγ=19.8 *8* α(K)=0.169 *12*; α(L)=0.1004 *15*; α(M)=0.0259 *4* α(N)=0.00659 *10*; α(O)=0.001250 *19*; α(P)=0.0001106 *22* Mult.,δ: From K/L=1.75 *15* in 1986Be07; α(K)exp=0.152 *24*, K/L=1.68 *6* and L/M=4.1 *4* in 1986Br28; Other: α(K)exp=0.55 *25* in 1976Ko13.
296.1 *3*	1.78 *15*	1186.59	(7/2)$^-$	890.24	5/2$^-$	[M1]		0.481 *7*	%Iγ=0.54 *5* α(K)=0.392 *6*; α(L)=0.0678 *10*; α(M)=0.01592 *23* α(N)=0.00407 *6*; α(O)=0.000832 *12*; α(P)=9.91×10^{-5} *14*
428.2 *3*	12.7 *5*	1274.45	(5/2)$^+$	846.35	1/2$^+$	(E2)		0.0451 *6*	%Iγ=3.86 *18* α(K)=0.0298 *4*; α(L)=0.01146 *16*; α(M)=0.00290 *4* α(N)=0.000738 *10*; α(O)=0.0001423 *20*; α(P)=1.355×10^{-5} *19* Mult.: α(K)exp=0.038 *7* in 1986Br28.
[x]506.8 *4*	3.96 *22*								%Iγ=1.20 *7*
[x]516.7 *5*	1.97 *17*								%Iγ=0.60 *5*
530.1 *3*	10.2 *4*	1616.3	1/2$^+$,3/2$^+$,5/2$^+$	1086.21	3/2$^+$	M1+E2	1.4 *+5−3*	0.052 *9*	%Iγ=3.10 *14* α(K)=0.040 *8*; α(L)=0.0086 *10*; α(M)=0.00207 *22* α(N)=0.00053 *6*; α(O)=0.000106 *12*; α(P)=1.17×10^{-5} *16* Mult.,δ: α(K)exp=0.040 *8* in 1986Br28.
537.5 *2*	4.3[@] *5*	1441.71	7/2$^-$	904.23	(7/2)$^-$	M1		0.0968 *14*	%Iγ=1.31 *15* α(K)=0.0792 *11*; α(L)=0.01347 *19*; α(M)=0.00316 *4* α(N)=0.000808 *11*; α(O)=0.0001651 *23*; α(P)=1.969×10^{-5} *28* Mult.: α(K)exp=0.05 *3* in 1976Ko13.
543.4 *3*	3.48 *21*	1817.86	1/2$^+$,3/2,5/2$^+$	1274.45	(5/2)$^+$				%Iγ=1.06 *7*

From ENSDF

γ(^{201}Bi) (continued)

E_γ[†]	I_γ[†a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[#]	α[&]	Comments
551.9 *3*	7.4 *3*	1441.71	7/2⁻	890.24	5/2⁻	M1(+E2)	<0.7	0.079 *11*	%Iγ=2.25 *10* α(K)=0.065 *9*; α(L)=0.0113 *12*; α(M)=0.00267 *28* α(N)=0.00068 *7*; α(O)=0.000139 *15*; α(P)=1.64×10^{-5} *20* Mult.,δ: α(K)exp=0.074 *17* in 1986Br28; Other: α(K)exp=0.07 *3* in 1976Ko13.
566.6 *3*	1.41 *18*	1470.87	(5/2,7/2)⁻	904.23	(7/2)⁻	M1(+E2)	<0.9	0.071 *14*	%Iγ=0.43 *6* α(K)=0.057 *12*; α(L)=0.0102 *16*; α(M)=0.00239 *35* α(N)=0.00061 *9*; α(O)=0.000125 *19*; α(P)=1.46×10^{-5} *25* Mult.,δ: α(K)exp=0.079 *32* in 1986Br28.
583.6 *3*	5.3 *3*	1858.02	3/2⁺	1274.45	(5/2)⁺	M1+E2	1.0 *+10−5*	0.050 *17*	%Iγ=1.61 *10* α(K)=0.040 *14*; α(L)=0.0076 *19*; α(M)=0.0018 *4* α(N)=0.00046 *11*; α(O)=9.3×10^{-5} *24*; α(P)=1.07×10^{-5} *31* Mult.,δ: α(K)exp=0.040 *15* in 1986Br28.
593.3 *2*	14.5 *6*	1483.54	(3/2⁻)	890.24	5/2⁻	M1(+E2)	<0.33	0.0720 *28*	%Iγ=4.41 *21* α(K)=0.0588 *24*; α(L)=0.01006 *33*; α(M)=0.00236 *8* α(N)=0.000603 *19*; α(O)=0.000123 *4*; α(P)=1.47×10^{-5} *5* Mult.,δ: α(K)exp=0.072 *11* in 1986Br28.
624.7 *3*	2.44 *17*	2065.82	5/2⁺	1441.71	7/2⁻	[E1]		0.00631 *9*	%Iγ=0.74 *5* α(K)=0.00523 *7*; α(L)=0.000833 *12*; α(M)=0.0001936 *27* α(N)=4.92×10^{-5} *7*; α(O)=9.95×10^{-6} *14*; α(P)=1.148×10^{-6} *16*
636.5[b] *2*	1.75 *21*	1483.54	(3/2⁻)	846.35	1/2⁺	[E1]		0.00609 *9*	%Iγ=0.53 *6* α(K)=0.00504 *7*; α(L)=0.000802 *11*; α(M)=0.0001863 *26* α(N)=4.74×10^{-5} *7*; α(O)=9.58×10^{-6} *13*; α(P)=1.106×10^{-6} *15*
[x]650.9 *3*	1.41 *18*								%Iγ=0.43 *6*
731.7 *2*	3.6 *3*	1817.86	1/2⁺,3/2,5/2⁺	1086.21	3/2⁺				%Iγ=1.09 *9*
771.8 *2*	4.5 *3*	1858.02	3/2⁺	1086.21	3/2⁺	E0+M1		0.10 *3*	%Iγ=1.37 *10* Mult.: α(K)exp=0.079 *27* in 1986Br28. α: From α(K)exp in 1986Br28 and by assuming 10% contribution from α(L).
779.4 *3*	3.8 *3*	2053.59	(5/2)⁺	1274.45	(5/2)⁺	(M1)		0.0366 *6*	%Iγ=1.15 *9* Mult.: α(K)exp=0.11 *5* in 1986Br28; E0 contribution is possible.
791.4 *2*	14.1 *6*	2065.82	5/2⁺	1274.45	(5/2)⁺	M1(+E2)	≤0.4	0.0335 *17*	%Iγ=4.28 *21*

From ENSDF

γ(^{201}Bi) (continued)

E_γ[†]	I_γ[†a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[#]	α[&]	$I_{(\gamma+ce)}$[a]	Comments
										α(K)=0.0274 *14*; α(L)=0.00465 *21*; α(M)=0.00109 *5* α(N)=0.000278 *12*; α(O)=5.69×10^{-5} *26*; α(P)=6.78×10^{-6} *33* Mult.,δ: α(K)exp=0.033 *6* in 1986Br28.
[x]809.9 *4*	1.63 *21*									%Iγ=0.50 *6*
846.3 *3*	12.8 *15*	846.35	1/2$^+$	0	9/2$^-$	M4		0.292 *4*	150 *6*	%Iγ=35.3 *9* α(K)=0.2100 *30*; α(L)=0.0617 *9*; α(M)=0.01563 *22* α(N)=0.00404 *6*; α(O)=0.000810 *11*; α(P)=8.96×10^{-5} *13* I_γ: Corrected for equilibrium in 1986Br28. Mult.: α(K)exp=0.20 *3* and K/L=3.1 *4* in 1980Br23, where the 856γ was found to be doublet; Other: α(K)exp=0.13 *4* and K/L=2.3 *4* in 1969Al10.
874.6 *2*	4.8 *3*	1778.92	(3/2$^-$,5/2)	904.23	(7/2)$^-$					%Iγ=1.46 *10*
889.2 *5*	5.5[@] *6*	1778.92	(3/2$^-$,5/2)	890.24	5/2$^-$					%Iγ=1.67 *19*
890.1 *2*	92[@] *4*	890.24	5/2$^-$	0	9/2$^-$	E2		0.00880 *12*		%Iγ=28.0 *10* α(K)=0.00689 *10*; α(L)=0.001448 *20*; α(M)=0.000348 *5* α(N)=8.89×10^{-5} *12*; α(O)=1.774×10^{-5} *25*; α(P)=1.947×10^{-6} *27* Mult.: α(K)exp=0.0056 *8* in 1986Br28; Other: α(K)exp=0.030 *15* in 1976Ko13.
904.2 *2*	50.4 *20*	904.23	(7/2)$^-$	0	9/2$^-$	M1+E2	0.5 *4*	0.022 *4*		%Iγ=15.3 *6* α(K)=0.0177 *34*; α(L)=0.0030 *5*; α(M)=0.00071 *12* α(N)=0.000181 *30*; α(O)=3.7×10^{-5} *6*; α(P)=4.4×10^{-6} *8* Mult.,δ: α(K)exp=0.018 *3* in 1986Br28; Other: α(K)exp=0.036 *15* in 1976Ko13.
[x]918.7 *3*	1.46 *21*									%Iγ=0.44 *6*
[x]926.5 *3*	1.74 *18*									%Iγ=0.53 *6*
944.2 *4*	1.57 *22*	1848.16	(5/2$^-$)	904.23	(7/2)$^-$					%Iγ=0.48 *7*
967.4 *2*	3.1[@] *4*	2053.59	(5/2)$^+$	1086.21	3/2$^+$	(E2)		0.00746 *10*		%Iγ=0.94 *12* α(K)=0.00590 *8*; α(L)=0.001190 *17*; α(M)=0.000285 *4* α(N)=7.27×10^{-5} *10*; α(O)=1.456×10^{-5} *20*; α(P)=1.616×10^{-6} *23* Mult.: α(K)exp=0.0058 *11* in 1986Br28.
971.4 *3*	5.5 *3*	1817.86	1/2$^+$,3/2,5/2$^+$	846.35	1/2$^+$					%Iγ=1.67 *10*

$^{201}_{83}Bi_{118}$-6

γ(^{201}Bi) (continued)

E_γ[†]	I_γ[†a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[#]	α[&]	Comments
979.7 *3*	4.5 *3*	2065.82	5/2$^+$	1086.21	3/2$^+$	[M1]		0.02026 *28*	%Iγ=1.37 *10* α(K)=0.01663 *23*; α(L)=0.00278 *4*; α(M)=0.000650 *9* α(N)=0.0001662 *23*; α(O)=3.40×10^{-5} *5*; α(P)=4.07×10^{-6} *6*
1023.0 *2*	2.21 *23*	1927.32	(5/2$^-$)	904.23	(7/2)$^-$				%Iγ=0.67 *7*
^{x}1031.2 *2*	2.01 *23*								%Iγ=0.61 *7*
1039.7 *2*	2.18 *25*	1944.24	(5/2$^-$)	904.23	(7/2)$^-$				%Iγ=0.66 *8*
1054.7 *3*	2.90 *25*	1944.24	(5/2$^-$)	890.24	5/2$^-$				%Iγ=0.88 *8*
1160.6 *5*	1.86 *23*	2434.9	1/2$^+$,3/2,5/2$^+$	1274.45	(5/2)$^+$				%Iγ=0.57 *7*
1175.3 *2*	10.7 *5*	2065.82	5/2$^+$	890.24	5/2$^-$	(E1)		1.97×10^{-3} *3*	%Iγ=3.25 *17* α(K)=0.001634 *23*; α(L)=0.0002490 *35*; α(M)=5.75×10^{-5} *8* α(N)=1.465×10^{-5} *21*; α(O)=2.98×10^{-6} *4*; α(P)=3.52×10^{-7} *5*; α(IPF)=8.73×10^{-6} *13* Mult.: α(K)exp<0.005 in 1986Br28 allows mult=E1 or E2. The placement in the decay scheme requires Δπ=yes.
1181.3 *5*	1.08 *21*	2455.5	1/2$^+$,3/2,5/2$^+$	1274.45	(5/2)$^+$				%Iγ=0.33 *6*
1186.7 *2*	19.1 *8*	1186.59	(7/2)$^-$	0	9/2$^-$	M1(+E2)	<0.9	0.0107 *17*	%Iγ=5.80 *26* α(K)=0.0088 *14*; α(L)=0.00148 *21*; α(M)=0.00035 *5* α(N)=8.9×10^{-5} *12*; α(O)=1.81×10^{-5} *26*; α(P)=2.15×10^{-6} *32*; α(IPF)=4.7×10^{-6} *5* Mult.,δ: α(K)exp=0.012 *4* in 1986Br28.
^{x}1196.3 *3*	1.16 *22*								%Iγ=0.35 *7*
1207.1 *2*	11.0 *5*	2053.59	(5/2)$^+$	846.35	1/2$^+$	E2		0.0084 *35*	%Iγ=3.34 *17* α(K)=0.0068 *29*; α(L)=0.0012 *4*; α(M)=2.8×10^{-4} *10* α(N)=7.0×10^{-5} *26*; α(O)=1.4×10^{-5} *5*; α(P)=1.7×10^{-6} *7*; α(IPF)=6.2×10^{-6} *19* Mult.: α(K)exp<0.007 in 1986Br28 allows mult=E1 or E2. The placement in the decay scheme requires Δπ=no.
1219.3 *3*	3.2 *3*	2065.82	5/2$^+$	846.35	1/2$^+$	[E2]		0.00479 *7*	%Iγ=0.97 *9* α(K)=0.00386 *5*; α(L)=0.000710 *10*; α(M)=0.0001683 *24* α(N)=4.29×10^{-5} *6*; α(O)=8.66×10^{-6} *12*; α(P)=9.86×10^{-7} *14*; α(IPF)=5.48×10^{-6} *8*
1300.5 *4*	4.0 *3*	2386.7		1086.21	3/2$^+$				%Iγ=1.22 *10*
^{x}1306.9 *3*	3.5 *3*								%Iγ=1.06 *9*
1318.0 *5*	1.93 *25*	2592.88	(3/2$^-$,5/2$^+$)	1274.45	(5/2)$^+$				%Iγ=0.59 *8*
^{x}1346.2 *8*	1.8 *3*								%Iγ=0.55 *9*

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$\gamma(^{201}$Bi) (continued)

E_γ [†]	I_γ [†a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [#]	α [&]	Comments
1348.4 6	2.9 3	2434.9	1/2$^+$,3/2,5/2$^+$	1086.21	3/2$^+$				%Iγ=0.88 9
1369.3 4	4.0 3	2455.5	1/2$^+$,3/2,5/2$^+$	1086.21	3/2$^+$				%Iγ=1.22 10 α(K)exp<0.009 in 1986Br28.
1398.0 3	6.4 4	2484.3	1/2,3/2,5/2$^+$	1086.21	3/2$^+$				%Iγ=1.94 13
1442.2 6	3.1 3	1441.71	7/2$^-$	0	9/2$^-$	M1(+E2)	<1.4	0.0063 13	%Iγ=0.94 9 α(K)=0.0051 11; α(L)=0.00085 17; α(M)=0.00020 4 α(N)=5.1×10^{-5} 10; α(O)=1.04×10^{-5} 21; α(P)=1.23×10^{-6} 26; α(IPF)=7.1×10^{-5} 12 Mult.,δ: α(K)exp=0.008 4 in 1986Br28.
1470.9 3	4.4 3	1470.87	(5/2,7/2)$^-$	0	9/2$^-$				%Iγ=1.34 10
1506.6 3	3.2 3	2592.88	(3/2$^-$,5/2$^+$)	1086.21	3/2$^+$				%Iγ=0.97 9
1518.2 4	5.2 3	2422.1	(3/2$^-$,5/2)	904.23	(7/2)$^-$				%Iγ=1.58 10
^{x}1521.5 4	2.32 23								%Iγ=0.70 7
1531.7 3	1.36 24	2422.1	(3/2$^-$,5/2)	890.24	5/2$^-$				%Iγ=0.41 7
1588.5 3	2.0 3	2434.9	1/2$^+$,3/2,5/2$^+$	846.35	1/2$^+$				%Iγ=0.61 9
^{x}1593.9 3	3.3 3								%Iγ=1.00 9
1609.0 3	3.9 3	2455.5	1/2$^+$,3/2,5/2$^+$	846.35	1/2$^+$				%Iγ=1.19 10
1627.7 3	2.7 3	2902.09	1/2$^+$,3/2,5/2$^+$	1274.45	(5/2)$^+$				%Iγ=0.82 9
1638.1 5	1.87 25	2484.3	1/2,3/2,5/2$^+$	846.35	1/2$^+$				%Iγ=0.57 8
^{x}1676.3 4	4.5 3								%Iγ=1.37 10
1689.3 3	2.8 3	2592.88	(3/2$^-$,5/2$^+$)	904.23	(7/2)$^-$				%Iγ=0.85 9
1702.1 3	5.2 3	2592.88	(3/2$^-$,5/2$^+$)	890.24	5/2$^-$				%Iγ=1.58 10
1746.8 5	2.3 3	2592.88	(3/2$^-$,5/2$^+$)	846.35	1/2$^+$				%Iγ=0.70 9
1815.8 4	1.36 24	2902.09	1/2$^+$,3/2,5/2$^+$	1086.21	3/2$^+$				%Iγ=0.41 7
1819.8 3	0.95 23	2905.9	1/2,3/2,5/2$^+$	1086.21	3/2$^+$				%Iγ=0.29 7
^{x}1833.1 3	3.2 3								%Iγ=0.97 9
^{x}1841.6 4	2.0 3								%Iγ=0.61 9
1848.0 3	2.9 3	1848.16	(5/2$^-$)	0	9/2$^-$				%Iγ=0.88 9
1927.5 3	2.14 25	1927.32	(5/2$^-$)	0	9/2$^-$				%Iγ=0.65 8
^{x}1930.2 6	0.94 24								%Iγ=0.29 7
1944.2 3	2.9 3	1944.24	(5/2$^-$)	0	9/2$^-$				%Iγ=0.88 9
^{x}2028.9 5	1.8 3								%Iγ=0.55 9
2055.7 3	0.53 17	2902.09	1/2$^+$,3/2,5/2$^+$	846.35	1/2$^+$				%Iγ=0.16 5
2059.4 3	1.14 18	2905.9	1/2,3/2,5/2$^+$	846.35	1/2$^+$				%Iγ=0.35 6
^{x}2065.3 4	2.5 3								%Iγ=0.76 9
^{x}2073.2 3	0.48 21								%Iγ=0.15 6
^{x}2128.0 4	0.52 18								%Iγ=0.16 5
^{x}2191.5 3	3.0 3								%Iγ=0.91 9
^{x}2321.7 3	1.53 23								%Iγ=0.46 7

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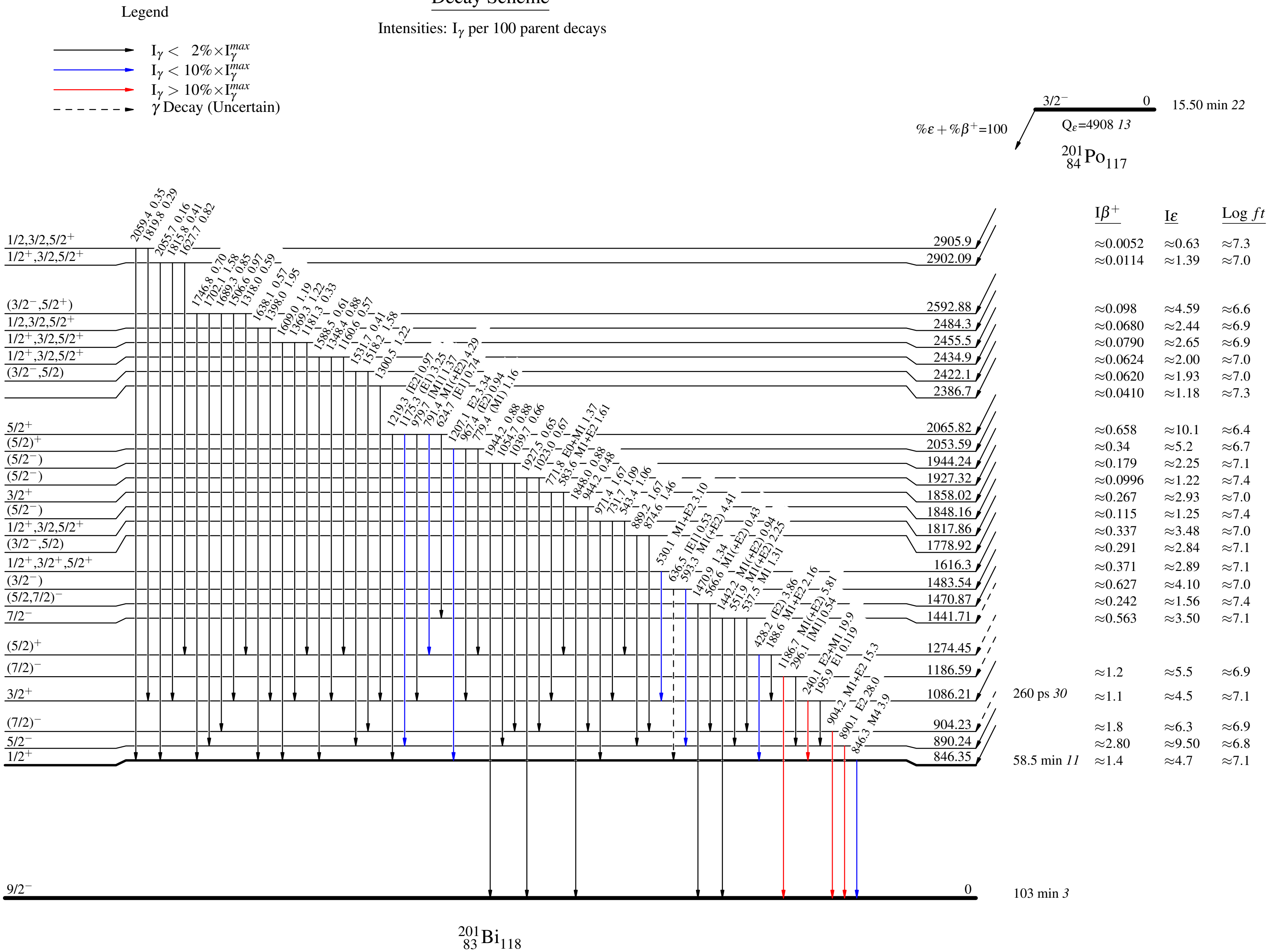
γ(^{201}Bi) (continued)

† From 1986Br28, unless otherwise stated.
‡ From the ce measurements in 1986Br28 and 1969Al10, unless otherwise stated.
# From α(K)exp and subshell ratios in 1986Br28 and the briccmixing program, unless otherwise stated.
@ Estimated from coincidence intensity.
& Additional information 1.
[a] For absolute intensity per 100 decays, multiply by 0.304 *7*.
[b] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{201}Po ε decay (15.50 min) 1986Br28

Decay Scheme

Intensities: I_γ per 100 parent decays



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