^{210}At ε decay (8.1 h) 1972Ja12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 121, 561 (2014)	31-Mar-2014

Parent: ^{210}At: E=0.0; $J^{\pi}=(5)^{+}$; $T_{1/2}$=8.1 h *4*; Q(ε)=3981 *8*; %ε+%β^{+} decay=99.825 *20*

1972Ja12: Measured Eγ and Iγ by Ge(Li) detector and conversion electron by Si(Li) detector.

^{210}Po Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[‡]	Comments
0.0	0^+	138.376 d *2*	
1181.4 *1*	2^+	5.9 ps *12*	
1426.7 *1*	4^+	1.56 ns *6*	$T_{1/2}$: Other values: 1.53 ns *8* (1973Be30), 1.8 ns *2* (1963Fu02), 1.60 ns *6* (1973Na21) via ^{210}At ε decay.
1473.2 *1*	6^+	42.6 ns *10*	
1556.8 *1*	8^+	98.9 ns *25*	
2187.6 *2*	8^+		
2290.2? *2*	2^+		
2326.0 *2*	6^+		
2382.4 *1*	4^+		
2386.8 *1*	3^-	≈0.3 ps	
2403.1 *1*	5^+		Branching: Iγ(930γ)/Iγ(976γ)=0.94 *6* (1972Ja12), 0.90 (1971Fa18) via (α,2nγ).
2438.1 *2*	7^+		Branching: Iγ(965γ)/Iγ(881γ)/Iγ(250γ)=73 *19*/100/95 *21* (1972Ja12), 33/100/83 (1971Fa18) via (α,2nγ).
2910.0[#] *1*	5^-		Branching: Iγ(1437γ)/Iγ(1483γ)=0.62 *4* (1972Ja12), 0.60 (1971Fa18) via (α,2nγ).
3016.7? *3*	$(7)^-$		
3026.2[#] *1*	5^-		
3075.1? *2*	$(4)^-$		
3111.5 *2*	4^-		
3124.7? *2*	$(6)^-$		
3428.3 *1*	5^-		
3525.2 *2*	6^-		
3699.3 *2*	5^-		
3711.2? *3*	(5^-)		
3727.2 *1*	$(6)^-$		
3779.4 *2*	$(4,5)^-$		

[†] Deduced by evaluator from a least-squares fit to γ-ray energies.
[‡] From Adopted Levels, except otherwise noted.
[#] Configuration=((π 1h$_{9/2}$) (π 1i$_{13/2}$)) mixed with Configuration=((208πB5$^-$) (π 1h$_{9/2}$0)). And the split in (α,t) strengths between the 5^- levels.

ε,β^{+} radiations

E(decay)	E(level)	Iε[†‡]	Log *ft*	I($\varepsilon+\beta^{+}$)[‡]	Comments
(202 *8*)	3779.4	0.31 *2*	6.9 *1*	0.31 *2*	εK= 0.58 *11*; εL= 0.31 *4*; εM+= 0.116 *12*
(254 *8*)	3727.2	5.4 *1*	5.9 *1*	5.4 *1*	εK= 0.65 *9*; εL= 0.257 *23*; εM+= 0.095 *8* εK/ε exp=0.45 *9* (1963Sc15) scin.
(270[#] *8*)	3711.2?	0.037 *3*	8.1 *1*	0.037 *3*	εK= 0.66 *8*; εL= 0.247 *21*; εM+= 0.090 *7*
(282 *8*)	3699.3	0.39 *1*	7.2 *1*	0.39 *1*	εK= 0.67 *8*; εL= 0.241 *19*; εM+= 0.088 *7*
(456 *8*)	3525.2	0.5 *1*	7.6 *1*	0.5 *1*	εK= 0.74 *4*; εL= 0.196 *10*; εM+= 0.069 *3*
(553 *8*)	3428.3	2.2 *1*	7.14 *5*	2.2 *1*	εK= 0.75 *4*; εL= 0.185 *8*; εM+= 0.0642 *25*
(856[#] *8*)	3124.7?	<0.08	>9.0	<0.08	εK= 0.773 *22*; εL= 0.169 *4*; εM+= 0.0577 *15*

Continued on next page (footnotes at end of table)

^{210}At ε decay (8.1 h) 1972Ja12 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ ‡	$I\varepsilon$†‡	Log *ft*	$I(\varepsilon+\beta^+)$‡	Comments
(870# *8*)	3111.5		<0.04	>9.3	<0.04	εK= 0.774 *22*; εL= 0.169 *4*; εM+= 0.0576 *14*
(906 *8*)	3075.1?		0.072 *8*	9.1 *1*	0.072 *8*	εK= 0.775 *21*; εL= 0.168 *4*; εM+= 0.0571 *14*
(955 *8*)	3026.2		19 *1*	6.73 *4*	19 *1*	εK= 0.777 *20*; εL= 0.166 *4*; εM+= 0.0566 *13*
(964# *8*)	3016.7?		<0.04	>9.4	<0.04	εK= 0.777 *19*; εL= 0.166 *4*; εM+= 0.0565 *13*
(1071 *8*)	2910.0	2.38×10^{-7} *10*	70 *3*	6.27 *4*	70 *3*	av Eβ= 32 *6*; εK= 0.781 *17*; εL= 0.164 *3*; εM+= 0.0556 *11*
(1578 *8*)	2403.1	$<8\times10^{-5}$	<0.1	>9.4	<0.1	av Eβ= 276 *5*; εK= 0.789 *12*; εL= 0.1574 *22*; εM+= 0.0530 *7*
(1599 *8*)	2382.4	2.8×10^{-4} *10*	0.3 *1*	9.0 *2*	0.3 *1*	av Eβ= 285 *5*; εK= 0.789 *11*; εL= 0.1572 *22*; εM+= 0.0529 *7*
(1655 *8*)	2326.0	8.1×10^{-4} *8*	0.59 *6*	8.75 *6*	0.59 *6*	av Eβ= 310 *5*; εK= 0.789 *11*; εL= 0.1567 *21*; εM+= 0.0527 *7*
(2508# *8*)	1473.2	<0.09	<2.9	>8.4	<3	av Eβ= 684 *5*; εK= 0.773 *7*; εL= 0.1484 *13*; εM+= 0.0496 *4*

† Deduced by evaluator from I(γ+ce) balance at each level.
‡ Absolute intensity per 100 decays.
# Existence of this branch is questionable.

γ(^{210}Po)

Iγ normalization: from decay scheme using Σ I(γ+ce) (g.s.)=99.825% 20.
α(K)exp=ce(K)/Iγ normalized to α(K)(1181γ,E2)=0.0043 (theory).
I(ce) intensities are normalized to I(ce(K), 1181γ)=0.43.
I(ce): 1954Mi70, 1958Ho71, 1968Pr03, 1972Ja12.
ceγ-,γγ-coin: 1954Mi70, 1958Ho71, 1963Sc15, 1972Ja12.
γγ(t): 1963Fu02, 1972Ja12, 1973Na21, 1973Be30, 1976Ha56.
γγ(θ): 1954Mi70, 1963Sc15.
Auger electrons: 1982Ba67, 1986Ba60.
No $\gamma^{\pm}$ (<5%) scin (1953Ho49).

E_γ	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[‡]	Comments
46.48 *5*	0.13	1473.2	6^+	1426.7	4^+	E2	269	α(L)=200 *3*; α(M)=53.1 *8* α(N)=13.57 *21*; α(O)=2.57 *4*; α(P)=0.225 *4* E_γ: from 1958Ho71. Others: 46.4 *3* (1968Pr03), 46.6 *2* (1972Ja12). I_γ: from I(ce(L) 46γ)=26.3 (1958Ho71), α(L)(E2)=200. Other: 0.110 *16* (1968Pr03) semi. L1+L2/L3=1.01 *8* (1972Ja12), 1.1 *1* (1968Pr03). Others: 1954Mi70, 1958Ho71.
77.2 *2*	≈0.027	2403.1	5^+	2326.0	6^+	M1	4.47 *8*	α(L)=3.41 *6*; α(M)=0.805 *13* α(N)=0.207 *4*; α(O)=0.0434 *7*; α(P)=0.00560 *9* E_γ: from E(ce L1)=60.2 (1972Ja12). Other: 77.20 (1976BaYH). I_γ: from Ti(77γ)≈0.15 (1972Ja12), 0.16 *4* (1976BaYH). L1/L2/M=100 *10*/14 *3*/29 *7* (1976BaYH).
83.54 *8*	0.031 *2*	1556.8	8^+	1473.2	6^+	E2	15.97	α(L)=11.83 *18*; α(M)=3.16 *5* α(N)=0.809 *12*; α(O)=0.1535 *23*; α(P)=0.01364 *20* E_γ: from 1976BaYH. Others: 83.44 *8* (1958Ho71), 83.67 (1970BeZQ). I_γ: from Ti(83γ)=Ti(631γ+881γ) for level intensity balance. L2/L3=1.24 (1954Mi70); L1/L2/L3=4 *1*/131 *10*/100 *6* (1976BaYH).
92.1 *2*	0.0011 *3*	2382.4	4^+	2290.2?	2^+	(E2)	10.07 *18*	α(L)=7.46 *13*; α(M)=1.99 *4* α(N)=0.510 *9*; α(O)=0.0969 *17*; α(P)=0.00865 *15* I_γ: from Ti(92γ)=Ti(2290γ) for level intensity balance. I(ce) L2,L3 lines predominant (1958Ho71).
112.2 *3*	≈0.03	2438.1	7^+	2326.0	6^+	(M1)	7.99 *13*	α(K)=6.48 *11*; α(L)=1.154 *19*; α(M)=0.272 *5* α(N)=0.0702 *12*; α(O)=0.01468 *24*; α(P)=0.00190 *3* E_γ: from E(ce(L1))=95.27 keV (1958Ho71). I_γ: from Ti(112γ)≈0.27 (1972Ja12) and α=8.4.
116.2 *1*	0.65 *6*	3026.2	5^-	2910.0	5^-	M1	7.23	α(K)=5.87 *9*; α(L)=1.043 *15*; α(M)=0.246 *4* α(N)=0.0634 *9*; α(O)=0.01327 *19*; α(P)=0.001714 *25* E_γ: other: 116.1 *1* (1958Ho71). α(L)exp=1.22 *14*, α(M)exp=0.30 *4*. K/L=5.8 (1958Ho71), L1/L2=9 (1954Mi70).
201.8 *2*	0.15 *2*	3727.2	$(6)^-$	3525.2	6^-	M1	1.516	α(K)=1.231 *18*; α(L)=0.217 *3*; α(M)=0.0511 *8*

$^{210}_{84}Po_{126}$-3

γ(^{210}Po) (continued)

E_γ	I_γ[@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ[†#]	α[‡]	Comments
									α(N)=0.01316 *19*; α(O)=0.00275 *4*; α(P)=0.000356 *5* α(K)exp=1.24 *11*, α(L)exp=0.22 *2*.
245.3 *1*	80 *4*	1426.7	4^+	1181.4	2^+	E2		0.236	α(K)=0.1057 *15*; α(L)=0.0971 *14*; α(M)=0.0255 *4* α(N)=0.00654 *10*; α(O)=0.001265 *18*; α(P)=0.0001225 *18* A_2(245γ) (1181γ)(θ)=0.092 *22* (1963Sc15) scin. α(K)exp=0.110 *13*, α(L)exp=0.102 *18*. L1+L2/L3=2.32 *24* (1972Ja12), 2.1 (1954Mi70).
250.5 *2*	0.21 *4*	2438.1	7^+	2187.6	8^+	M1		0.830	α(K)=0.675 *10*; α(L)=0.1184 *17*; α(M)=0.0279 *4* α(N)=0.00719 *11*; α(O)=0.001504 *22*; α(P)=0.000194 *3* α(K)exp=0.70 *14*.
298.8 *2*	0.11 *2*	3727.2	$(6)^-$	3428.3	5^-	M1		0.511	α(K)=0.416 *6*; α(L)=0.0727 *11*; α(M)=0.01713 *25* α(N)=0.00441 *7*; α(O)=0.000923 *13*; α(P)=0.0001192 *17* α(K)exp=0.44 *4*, α(L)exp=0.08 *1*.
316.8 *2*	0.17 *1*	3428.3	5^-	3111.5	4^-	M1		0.435	α(K)=0.354 *5*; α(L)=0.0619 *9*; α(M)=0.01458 *21* α(N)=0.00375 *6*; α(O)=0.000785 *11*; α(P)=0.0001015 *15* α(K)exp=0.31 *7*, α(L)exp=0.062 *8*.
^{x}334.3 *2*	0.05 *1*								
402.0 *2*	0.78 *2*	3428.3	5^-	3026.2	5^-	M1		0.228	α(K)=0.186 *3*; α(L)=0.0323 *5*; α(M)=0.00760 *11* α(N)=0.00196 *3*; α(O)=0.000410 *6*; α(P)=5.30×10^{-5} *8* α(K)exp=0.212 *15*, α(L)exp=0.037 *4*.
498.9 *2*	0.15 *1*	3525.2	6^-	3026.2	5^-	M1		0.1282	α(K)=0.1045 *15*; α(L)=0.0180 *3*; α(M)=0.00424 *6* α(N)=0.001092 *16*; α(O)=0.000229 *4*; α(P)=2.96×10^{-5} *5* α(K)exp=0.110 *10*.
506.8 *2*	0.69 *2*	2910.0	5^-	2403.1	5^+	E1		0.00998	α(K)=0.00822 *12*; α(L)=0.001349 *19*; α(M)=0.000315 *5* α(N)=8.06×10^{-5} *12*; α(O)=1.664×10^{-5} *24*; α(P)=2.07×10^{-6} *3* α(K)exp=0.0092 *12*.
518.3 *2*	0.15 *1*	3428.3	5^-	2910.0	5^-	M1		0.1158	α(K)=0.0945 *14*; α(L)=0.01628 *23*; α(M)=0.00383 *6* α(N)=0.000986 *14*; α(O)=0.000206 *3*; α(P)=2.67×10^{-5} *4* α(K)exp=0.107 *11*.
527.6 *1*	1.15 *4*	2910.0	5^-	2382.4	4^+	E1		0.00919	α(K)=0.00758 *11*; α(L)=0.001238 *18*; α(M)=0.000289 *4* α(N)=7.40×10^{-5} *11*; α(O)=1.528×10^{-5} *22*; α(P)=1.90×10^{-6} *3* α(K)exp=0.0083 *8*.
584.0 *2*	0.34 *2*	2910.0	5^-	2326.0	6^+	E1		0.00749	α(K)=0.00618 *9*; α(L)=0.001001 *14*; α(M)=0.000234 *4* α(N)=5.98×10^{-5} *9*; α(O)=1.236×10^{-5} *18*; α(P)=1.548×10^{-6} *22* α(K)exp=0.0070 *11*.
602.5 *2*	0.12 *2*	3727.2	$(6)^-$	3124.7?	$(6)^-$	M1		0.0778	α(K)=0.0635 *9*; α(L)=0.01090 *16*; α(M)=0.00256 *4* α(N)=0.000660 *10*; α(O)=0.0001381 *20*; α(P)=1.79×10^{-5} *3* α(K)exp=0.080 *12*.
615.3 *2*	0.36 *2*	3525.2	6^-	2910.0	5^-	M1+E2	1.1 *2*	0.044 *6*	α(K)=0.035 *5*; α(L)=0.0069 *7*; α(M)=0.00165 *15* α(N)=0.00042 *4*; α(O)=8.7×10^{-5} *8*; α(P)=1.09×10^{-5} *12* α(K)exp=0.059 *5*.
623.0 *2*	0.43 *2*	3026.2	5^-	2403.1	5^+	E1		0.00659	α(K)=0.00544 *8*; α(L)=0.000877 *13*; α(M)=0.000204 *3*

$^{210}_{84}Po_{126}$-4

γ(^{210}Po) (continued)

E_γ	I_γ[@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ[†#]	α[‡]	Comments
									α(N)=5.23×10^{-5} *8*; α(O)=1.083×10^{-5} *16*; α(P)=1.359×10^{-6} *19* α(K)exp=0.0064 *11*.
630.9 *2*	0.31 *2*	2187.6	8^+	1556.8	8^+	M1+E2	0.52 *5*	0.0583 *19*	α(K)=0.0473 *16*; α(L)=0.00840 *23*; α(M)=0.00198 *6* α(N)=0.000510 *14*; α(O)=0.000106 *3*; α(P)=1.36×10^{-5} *4* α(K)exp=0.057 *5*.
639.4 *2*	0.26 *2*	3026.2	5^-	2386.8	3^-	E2		0.0183	α(K)=0.01353 *19*; α(L)=0.00363 *5*; α(M)=0.000897 *13* α(N)=0.000230 *4*; α(O)=4.65×10^{-5} *7*; α(P)=5.33×10^{-6} *8* α(K)exp=0.0125 *17*.
643.8 *2*	0.46 *2*	3026.2	5^-	2382.4	4^+	E1		0.00618	α(K)=0.00511 *8*; α(L)=0.000820 *12*; α(M)=0.000191 *3* α(N)=4.89×10^{-5} *7*; α(O)=1.013×10^{-5} *15*; α(P)=1.274×10^{-6} *18* α(K)exp=0.0047 *8*.
701.0 *2*	0.47 *2*	3727.2	$(6)^-$	3026.2	5^-	M1		0.0523	α(K)=0.0427 *6*; α(L)=0.00730 *11*; α(M)=0.001716 *24* α(N)=0.000442 *7*; α(O)=9.25×10^{-5} *13*; α(P)=1.198×10^{-5} *17* α(K)exp=0.039 *4*.
721.6[&] *3*	0.10 *4*	3124.7?	$(6)^-$	2403.1	5^+	E1		0.00496	α(K)=0.00411 *6*; α(L)=0.000653 *10*; α(M)=0.0001521 *22* α(N)=3.89×10^{-5} *6*; α(O)=8.07×10^{-6} *12*; α(P)=1.019×10^{-6} *15*
724.7 *2*	0.21 *3*	3111.5	4^-	2386.8	3^-	M1+E2	1.02 *27*	0.031 *6*	α(K)=0.025 *5*; α(L)=0.0046 *7*; α(M)=0.00109 *15* α(N)=0.00028 *4*; α(O)=5.8×10^{-5} *8*; α(P)=7.3×10^{-6} *11* α(K)exp=0.040 *4*.
798.6[&] *3*	0.06 *2*	3124.7?	$(6)^-$	2326.0	6^+	E1		0.00410	α(K)=0.00340 *5*; α(L)=0.000536 *8*; α(M)=0.0001247 *18* α(N)=3.19×10^{-5} *5*; α(O)=6.63×10^{-6} *10*; α(P)=8.40×10^{-7} *12*
817.2 *2*	1.72 *5*	3727.2	$(6)^-$	2910.0	5^-	M1+E2	0.53 *23*	0.030 *4*	α(K)=0.024 *3*; α(L)=0.0042 *5*; α(M)=0.00100 *11* α(N)=0.00026 *3*; α(O)=5.4×10^{-5} *6*; α(P)=6.9×10^{-6} *8* α(K)exp=0.030 *2*, α(L)exp=0.0055 *5*.
852.7 *2*	1.39 *5*	2326.0	6^+	1473.2	6^+	M1+E2	0.59 *15*	0.0259 *21*	α(K)=0.0211 *18*; α(L)=0.0037 *3*; α(M)=0.00087 *6* α(N)=0.000223 *16*; α(O)=4.7×10^{-5} *4*; α(P)=6.0×10^{-6} *5* α(K)exp=0.024 *2*.
869.4 *2*	0.13 *2*	3779.4	$(4,5)^-$	2910.0	5^-	M1+E2	≤2	0.022 *8*	α(K)=0.018 *7*; α(L)=0.0031 *10*; α(M)=0.00074 *24* α(N)=0.00019 *6*; α(O)=4.0×10^{-5} *13*; α(P)=5.1×10^{-6} *18* α(K)exp≤0.017 *4*.
881.1 *2*	0.22 *2*	2438.1	7^+	1556.8	8^+	M1+E2	0.56 *17*	0.0242 *22*	α(K)=0.0197 *18*; α(L)=0.0034 *3*; α(M)=0.00081 *7* α(N)=0.000208 *16*; α(O)=4.3×10^{-5} *4*; α(P)=5.6×10^{-6} *5* α(K)exp=0.018 *3*.
909.2 *3*	0.09 *3*	2382.4	4^+	1473.2	6^+				
929.9 *2*	0.76 *3*	2403.1	5^+	1473.2	6^+	M1+E2	0.72 *11*	0.0194 *12*	α(K)=0.0158 *10*; α(L)=0.00277 *16*; α(M)=0.00065 *4* α(N)=0.000168 *9*; α(O)=3.50×10^{-5} *20*; α(P)=4.5×10^{-6} *3* α(K)exp=0.020 *2*.
955.8 *1*	1.81 *6*	2382.4	4^+	1426.7	4^+	M1+E2	0.47 *17*	0.0206 *17*	α(K)=0.0168 *15*; α(L)=0.00289 *22*; α(M)=0.00068 *5* α(N)=0.000175 *13*; α(O)=3.7×10^{-5} *3*; α(P)=4.7×10^{-6} *4* α(K)exp=0.019 *2*.
960.1[&] *5*	<0.04	2386.8	3^-	1426.7	4^+	E1		0.00292	α(K)=0.00243 *4*; α(L)=0.000378 *6*; α(M)=8.78×10^{-5} *13* α(N)=2.25×10^{-5} *4*; α(O)=4.68×10^{-6} *7*; α(P)=5.97×10^{-7} *9*

$^{210}_{84}$Po$_{126}$-5

γ(^{210}Po) (continued)

E_γ	I_γ[@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ[†#]	α[‡]	Comments
964.9 *2*	0.16 *4*	2438.1	7^+	1473.2	6^+	M1+E2	1.0 *2*	0.0153 *17*	α(K)=0.0124 *14*; α(L)=0.00222 *21*; α(M)=0.00052 *5* α(N)=0.000135 *13*; α(O)=2.8×10^{-5} *3*; α(P)=3.6×10^{-6} *4*
976.5 *2*	0.81 *4*	2403.1	5^+	1426.7	4^+	M1+E2	0.61 *20*	0.0182 *19*	α(K)=0.0148 *16*; α(L)=0.00257 *24*; α(M)=0.00061 *6* α(N)=0.000156 *14*; α(O)=3.3×10^{-5} *3*; α(P)=4.2×10^{-6} *4* α(K)exp=0.019 *2*.
1041.6 *2*	0.30 *4*	3428.3	5^-	2386.8	3^-	(E2)		0.00680	α(K)=0.00539 *8*; α(L)=0.001073 *15*; α(M)=0.000257 *4* α(N)=6.61×10^{-5} *10*; α(O)=1.359×10^{-5} *19*; α(P)=1.663×10^{-6} *24*
1045.9 *3*	0.16 *3*	3428.3	5^-	2382.4	4^+				
1087.2 *3*	0.22 *3*	3525.2	6^-	2438.1	7^+	(E1+M2)	0.29 *6*	0.0053 *12*	α(K)=0.0043 *10*; α(L)=0.00075 *19*; α(M)=0.00018 *5* α(N)=4.5×10^{-5} *12*; α(O)=9.5×10^{-6} *24*; α(P)=1.2×10^{-6} *3*
1181.4 *1*	100.0 *25*	1181.4	2^+	0.0	0^+	E2		0.00535	α(K)=0.00428 *6*; α(L)=0.000812 *12*; α(M)=0.000193 *3* α(N)=4.97×10^{-5} *7*; α(O)=1.025×10^{-5} *15*; α(P)=1.270×10^{-6} *18*; α(IPF)=2.37×10^{-6} *4*
1201.2 *2*	0.16 *2*	2382.4	4^+	1181.4	2^+	E2		0.00519	α(K)=0.00415 *6*; α(L)=0.000783 *11*; α(M)=0.000186 *3* α(N)=4.79×10^{-5} *7*; α(O)=9.89×10^{-6} *14*; α(P)=1.226×10^{-6} *18*; α(IPF)=3.78×10^{-6} *6* Mult.: from α(K)exp<0.012 and π(initial)=π(final).
1205.4 *2*	0.80 *3*	2386.8	3^-	1181.4	2^+	E1		0.00197	α(K)=0.001627 *23*; α(L)=0.000250 *4*; α(M)=5.79×10^{-5} *9* α(N)=1.484×10^{-5} *21*; α(O)=3.10×10^{-6} *5*; α(P)=3.97×10^{-7} *6*; α(IPF)=1.619×10^{-5} *24* α(K)exp<0.0025.
1289.0 *2*	0.52 *2*	3727.2	$(6)^-$	2438.1	7^+				
1324.1 *2*	0.47 *2*	3727.2	$(6)^-$	2403.1	5^+				
1436.7 *1*	29.2 *13*	2910.0	5^-	1473.2	6^+	E1		1.57×10^{-3}	α(K)=0.001205 *17*; α(L)=0.000184 *3*; α(M)=4.25×10^{-5} *6* α(N)=1.089×10^{-5} *16*; α(O)=2.27×10^{-6} *4*; α(P)=2.93×10^{-7} *4*; α(IPF)=0.0001258 *18* α(K)exp=0.00113 *10*.
1483.3 *1*	46.8 *20*	2910.0	5^-	1426.7	4^+	E1		1.52×10^{-3}	α(K)=0.001142 *16*; α(L)=0.0001738 *25*; α(M)=4.02×10^{-5} *6* α(N)=1.031×10^{-5} *15*; α(O)=2.15×10^{-6} *3*; α(P)=2.77×10^{-7} *4*; α(IPF)=0.0001557 *22* A_2(1483γ) (245γ)(θ)=−0.084 *21* (1963Sc15) scin. α(K)exp=0.00106 *10*.
1543.5[&] *3*	0.03 *1*	3016.7?	$(7)^-$	1473.2	6^+	E1		1.48×10^{-3}	α(K)=0.001069 *15*; α(L)=0.0001623 *23*; α(M)=3.76×10^{-5} *6* α(N)=9.62×10^{-6} *14*; α(O)=2.01×10^{-6} *3*; α(P)=2.59×10^{-7} *4*; α(IPF)=0.000196 *3*
1552.7 *2*	0.17 *1*	3026.2	5^-	1473.2	6^+				
1599.5 *1*	13.5 *6*	3026.2	5^-	1426.7	4^+	E1		1.44×10^{-3}	α(K)=0.001007 *14*; α(L)=0.0001527 *22*; α(M)=3.53×10^{-5} *5* α(N)=9.06×10^{-6} *13*; α(O)=1.89×10^{-6} *3*; α(P)=2.44×10^{-7} *4*; α(IPF)=0.000235 *4* A_2(1600γ) (245γ)(θ)=−0.082 *24* (1963Sc15) scin. α(K)exp=0.00093 *10*.

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γ(^{210}Po) (continued)

E_γ	I_γ[@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ[†#]	α[‡]	Comments
1648.4[&] 2	0.072 8	3075.1?	$(4)^-$	1426.7	4^+	E1		1.42×10^{-3}	α(K)=0.000958 14; α(L)=0.0001451 21; α(M)=3.36×10^{-5} 5 α(N)=8.60×10^{-6} 12; α(O)=1.80×10^{-6} 3; α(P)=2.32×10^{-7} 4; α(IPF)=0.000270 4
1684.6 5	0.026 4	3111.5	4^-	1426.7	4^+	E1		1.40×10^{-3}	α(K)=0.000924 13; α(L)=0.0001398 20; α(M)=3.23×10^{-5} 5 α(N)=8.29×10^{-6} 12; α(O)=1.732×10^{-6} 25; α(P)=2.24×10^{-7} 4; α(IPF)=0.000296 5
1955.0 2	0.41 2	3428.3	5^-	1473.2	6^+	E1		1.36×10^{-3}	α(K)=0.000723 11; α(L)=0.0001088 16; α(M)=2.52×10^{-5} 4 α(N)=6.45×10^{-6} 9; α(O)=1.348×10^{-6} 19; α(P)=1.746×10^{-7} 25; α(IPF)=0.000492 7
2001.7 2	0.11 1	3428.3	5^-	1426.7	4^+				
2051.9 3	0.071 3	3525.2	6^-	1473.2	6^+	(E1)		1.36×10^{-3}	α(K)=0.000668 10; α(L)=0.0001004 14; α(M)=2.32×10^{-5} 4 α(N)=5.95×10^{-6} 9; α(O)=1.244×10^{-6} 18; α(P)=1.612×10^{-7} 23; α(IPF)=0.000561 8
2226.0 3	0.046 3	3699.3	5^-	1473.2	6^+	E1+M2	0.61 19	0.0028 7	α(K)=0.0018 6; α(L)=0.00031 10; α(M)=7.2×10^{-5} 24 α(N)=1.9×10^{-5} 6; α(O)=3.9×10^{-6} 13; α(P)=5.1×10^{-7} 17; α(IPF)=0.00058 5
2237.9[&] 5	0.018 2	3711.2?	(5^-)	1473.2	6^+	(E1)		1.38×10^{-3}	α(K)=0.000581 9; α(L)=8.70×10^{-5} 13; α(M)=2.01×10^{-5} 3 α(N)=5.15×10^{-6} 8; α(O)=1.078×10^{-6} 16; α(P)=1.399×10^{-7} 20; α(IPF)=0.000688 10
2246.6[&] 5	0.026 4	3428.3	5^-	1181.4	2^+				E_γ: Uncertain placement − not adopted.
2254.0 2	1.53 5	3727.2	$(6)^-$	1473.2	6^+	E1		1.38×10^{-3}	α(K)=0.000574 8; α(L)=8.60×10^{-5} 12; α(M)=1.99×10^{-5} 3 α(N)=5.09×10^{-6} 8; α(O)=1.066×10^{-6} 15; α(P)=1.383×10^{-7} 20; α(IPF)=0.000698 10
[x]2266.8 3	0.029 5								
2272.7 3	0.35 1	3699.3	5^-	1426.7	4^+	E1		1.39×10^{-3}	α(K)=0.000566 8; α(L)=8.48×10^{-5} 12; α(M)=1.96×10^{-5} 3 α(N)=5.02×10^{-6} 7; α(O)=1.051×10^{-6} 15; α(P)=1.364×10^{-7} 20; α(IPF)=0.000711 10
2284.5[&] 3	0.019 2	3711.2?	(5^-)	1426.7	4^+				
2290.0[&] 3	0.012 3	2290.2?	2^+	0.0	0^+	E2		0.00198	α(K)=0.001303 19; α(L)=0.000213 3; α(M)=4.97×10^{-5} 7 α(N)=1.276×10^{-5} 18; α(O)=2.66×10^{-6} 4; α(P)=3.42×10^{-7} 5; α(IPF)=0.000395 6
2306.2 3	0.037 2	3779.4	$(4,5)^-$	1473.2	6^+				
2352.8 2	0.14 1	3779.4	$(4,5)^-$	1426.7	4^+	E1		1.40×10^{-3}	α(K)=0.000536 8; α(L)=8.02×10^{-5} 12; α(M)=1.85×10^{-5} 3 α(N)=4.75×10^{-6} 7; α(O)=9.93×10^{-7} 14; α(P)=1.290×10^{-7} 18; α(IPF)=0.000763 11
2386.8 3	0.008 2	2386.8	3^-	0.0	0^+	[E3]		0.00309	α(K)=0.00227 4; α(L)=0.000409 6; α(M)=9.68×10^{-5} 14 α(N)=2.49×10^{-5} 4; α(O)=5.18×10^{-6} 8; α(P)=6.57×10^{-7} 10; α(IPF)=0.000286 4

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$\gamma(^{210}$Po) (continued)

† From Adopted Gammas. Measured values of α(K)exp, K/L, and L-subshell ratios are consistent with adopted multipolarities.

‡ Additional information 1.

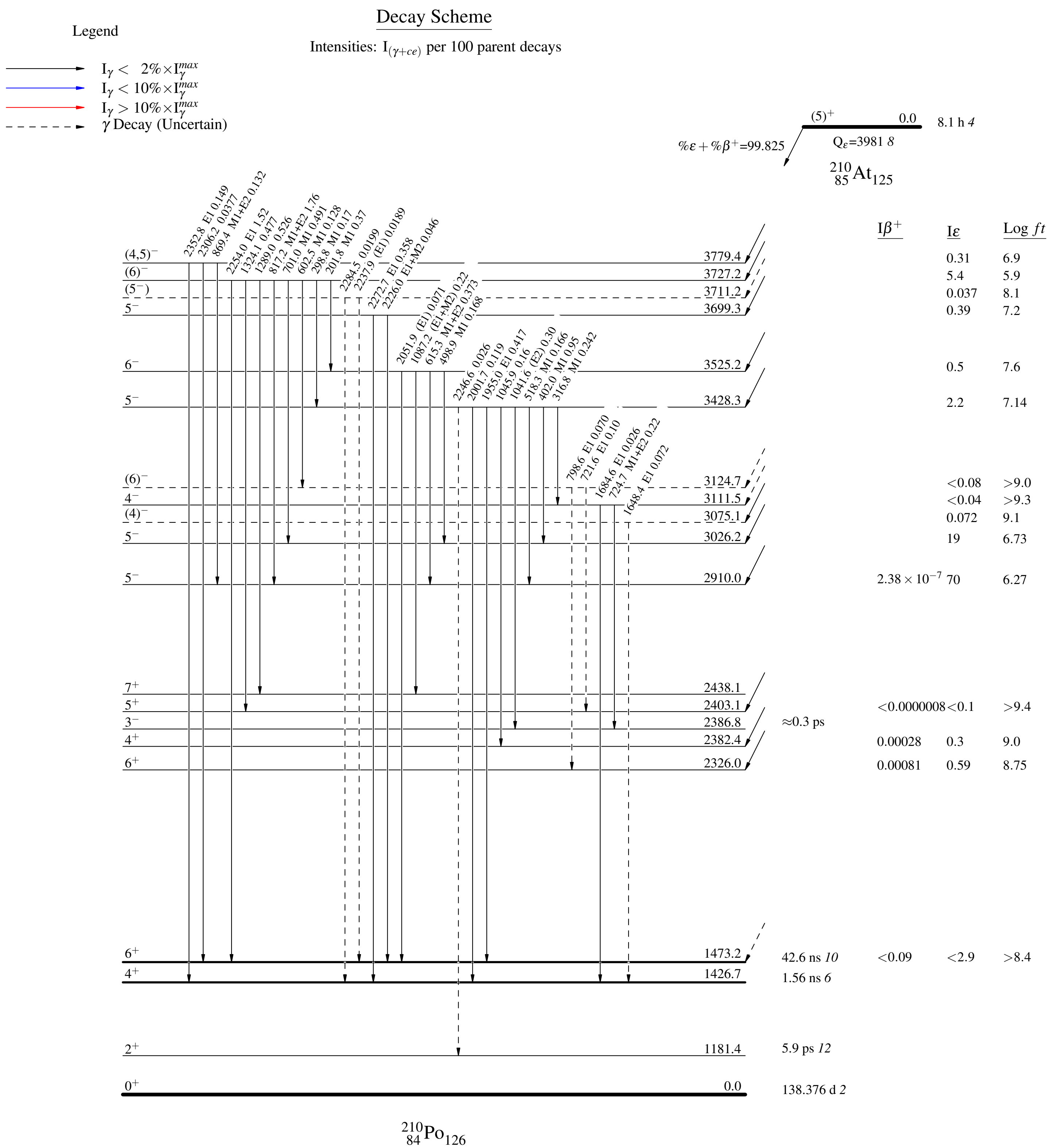
If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

@ For absolute intensity per 100 decays, multiply by 0.993 *25*.

& Placement of transition in the level scheme is uncertain.

^{x} γ ray not placed in level scheme.

^{210}At ε decay (8.1 h) 1972Ja12



^{210}At ε decay (8.1 h) 1972Ja12

Decay Scheme (continued)

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

Legend