^{204}At ε decay 1983He08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. J. Chiara and F. G. Kondev	NDS 111,141 (2010)	1-Oct-2009

Parent: ^{204}At: E=0.0; $J^\pi=7^+$; $T_{1/2}$=9.12 min *11*; Q(ε)=6460 *30*; %ε+%$β^+$ decay=96.09 *16*

1983He08: Mass separated source from ^{193}Ir(^{16}O,xn); measured γ′s, γγ, γγ(t) usingGe(Li); ce, ce-γ using Si(Li). Others: 1970BrZO, 1970DaZM, 1971Ha01.

$γ^±$=26.3 *8*, K$α_1$ x ray≈86, K$β_2$ x ray=4.0 *4*. Values are relative to Iγ(684.3γ)=100 (1983He08).

^{204}Po Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0	0^+		
684.341 *10*	2^+		
1200.661 *14*	4^+		
1255.30 *15*	$(3)^+$		
1552.18 *4*	4^+		
1626.915 *17*	6^+		
1634.55 *7*	(3^+)		
1639.03 *6*	8^+	140 ns *5*	$T_{1/2}$: From 1971Ha01. Others: 143 ns *5* (1970BrZO) and 150 ns *10* (1983He08).
1651.4? *3*	$(6^-,7^-)$		
1728.58 *6*	$(4)^+$		
1962.15 *3*	6^+		
2041.697 *23*	5^-		
2194?			
2227.33 *6*	9^-	≈17 ns	$T_{1/2}$: From 1983He08.
2248.17 *6*	8^+		
2289.70 *4*	7^-		
2303.14 *4*	6^-		
2323.65 *9*	6,7,8		
2376.37 *15*	(7)		
2471.58 *5*	$(6,7)^+$		
2547.55 *8*	$6^+,7,8^+$		
2553.26 *7*	6,7,8		
2727.95 *16*	$(7,8)^+$		
2789.14 *18*	$(6,7,8^+)$		
2803.35? *6*	$(6,7^-)$		
2899.86 *10*	7^-		
3009.82? *8*	$(6^+,7,8)$		

† From a least-squares fit to Eγ.

‡ From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	I$β^+$ ‡	Iε‡	Log *ft*	I(ε+$β^+$)†‡	Comments
(3.45×10^3 *3*)	3009.82?	0.31 *15*	2.1 *10*	7.11 *22*	2.4 *12*	av Eβ=1096 *14*; εK=0.699 *4*; εL=0.1300 *7*; εM+=0.04310 *23*
(3.56×10^3 *3*)	2899.86	0.219 *25*	1.31 *15*	7.34 *5*	1.53 *17*	av Eβ=1145 *14*; εK=0.687 *4*; εL=0.1275 *7*; εM+=0.04227 *23*
(3.66×10$^{3\#}$ *3*)	2803.35?	0.38 *19*	2.0 *10*	7.18 *22*	2.4 *12*	av Eβ=1188 *14*; εK=0.676 *4*; εL=0.1253 *7*; εM+=0.04152 *24*
(3.67×10^3 *3*)	2789.14	0.089 *21*	0.47 *11*	7.81 *11*	0.56 *13*	av Eβ=1194 *14*; εK=0.674 *4*; εL=0.1250 *7*; εM+=0.04141 *24*

Continued on next page (footnotes at end of table)

^{204}At ε decay 1983He08 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log *ft*	I(ε+β+)†‡	Comments
(3.73×10^3 *3*)	2727.95	0.13 *2*	0.62 *12*	7.71 *9*	0.75 *14*	av Eβ=1221 *14*; εK=0.667 *4*; εL=0.1235 *8*; εM+=0.04092 *24*
(3.91×10^3 *3*)	2553.26	0.261 *25*	1.07 *10*	7.51 *4*	1.33 *12*	av Eβ=1299 *14*; εK=0.645 *4*; εL=0.1193 *8*; εM+=0.03950 *25*
(3.91×10^3 *3*)	2547.55	0.27 *3*	1.09 *10*	7.51 *5*	1.36 *13*	av Eβ=1301 *14*; εK=0.644 *4*; εL=0.1191 *8*; εM+=0.03945 *25*
(3.99×10^3 *3*)	2471.58	0.30 *3*	1.12 *10*	7.51 *4*	1.42 *12*	av Eβ=1335 *14*; εK=0.634 *4*; εL=0.1172 *8*; εM+=0.0388 *3*
(4.08×10^3 *3*)	2376.37	0.14 *4*	0.50 *13*	7.89 *12*	0.64 *17*	av Eβ=1378 *14*; εK=0.622 *4*; εL=0.1148 *8*; εM+=0.0380 *3*
(4.14×10^3 *3*)	2323.65	0.16 *3*	0.54 *9*	7.86 *8*	0.70 *12*	av Eβ=1402 *14*; εK=0.615 *4*; εL=0.1135 *8*; εM+=0.0376 *3*
(4.16×10^3 *3*)	2303.14	0.86 *10*	2.7 *3*	7.16 *5*	3.6 *4*	av Eβ=1411 *14*; εK=0.612 *4*; εL=0.1129 *8*; εM+=0.0374 *3*
(4.17×10^3 *3*)	2289.70	1.5 *1*	4.9 *2*	6.913 *23*	6.4 *3*	av Eβ=1417 *14*; εK=0.610 *4*; εL=0.1126 *8*; εM+=0.0373 *3*
(4.21×10^3 *3*)	2248.17	5.8 *4*	17.8 *11*	6.36 *3*	23.6 *15*	av Eβ=1435 *14*; εK=0.605 *4*; εL=0.1115 *8*; εM+=0.0369 *3*
(4.23×10^3 *3*)	2227.33	0.73 *4*	6.1 *3*	8.650^{1u} *25*	6.8 *3*	av Eβ=1407 *13*; εK=0.7116 *23*; εL=0.1362 *5*; εM+=0.04538 *18*
(4.42×10^3 *3*)	2041.697	0.56 *16*	3.9 *11*	8.91^{1u} *13*	4.5 *13*	av Eβ=1486 *13*; εK=0.6973 *25*; εL=0.1331 *6*; εM+=0.04430 *18*
(4.50×10^3 *3*)	1962.15	1.1 *4*	2.7 *9*	7.24 *15*	3.8 *13*	av Eβ=1564 *14*; εK=0.566 *5*; εL=0.1040 *8*; εM+=0.0344 *3*
(4.82×10^3 *3*)	1639.03	≈5.3	≈9.7	≈6.7	≈15	av Eβ=1710 *14*; εK=0.521 *5*; εL=0.0956 *8*; εM+=0.0316 *3*
(4.83×10^3# *3*)	1626.915	≈4.2	≈7.8	≈6.8	≈12	av Eβ=1715 *14*; εK=0.519 *5*; εL=0.0953 *8*; εM+=0.0315 *3*

† From γ+ce intensity balances. The quoted uncertainties do not include the effect of≈12% unplaced Iγ.
‡ For absolute intensity per 100 decays, multiply by 0.9609 *16*.
# Existence of this branch is questionable.

γ(^{204}Po)

Iγ normalization: From Ti(684.34γ)=96.09% 16. The decay scheme is incomplete, since there is poor agreement between ^{204}At ε decay Q value of 5682 keV *107*, calculated using the decay scheme and RADLST, and that of 6207 keV *30*, as deduced from 2003Au03 and Branching. It should be noted that 12% imbalance in Iγ was obtained from intensity balances.

E_γ[‡]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[&]	α[†]	Comments
(12.1)	1.0×10^{-3} *3*	1639.03	8$^+$	1626.915	6$^+$	[E2]		5.3×10^4 *5*	α(M)=4.1×10^4 *4*; α(N+..)=1.25×10^4 *11* α(N)=1.04×10^4 *9*; α(O)=1.95×10^3 *17*; α(P)=169 *15* ce(N)/(γ+ce)=0.195 *22*; ce(O)/(γ+ce)=0.037 *5*; ce(P)/(γ+ce)=0.0032 *4* Iγ: From I(γ+ce)=52% 13 in 1983He08 and α.
24[c]	≈0.5	1651.4?	(6$^-$,7$^-$)	1626.915	6$^+$	(E1)		4.49	α(L)=3.39 *5*; α(M)=0.847 *12*; α(N+..)=0.250 *4* α(N)=0.209 *3*; α(O)=0.0377 *6*; α(P)=0.00328 *5* Mult.: From intensity balance.
74	≈0.108	1626.915	6$^+$	1552.18	4$^+$	[E2]		28.4	α(L)=21.1 *3*; α(M)=5.62 *8*; α(N+..)=1.737 *25* α(N)=1.439 *21*; α(O)=0.273 *4*; α(P)=0.0242 *4* ce(N)/(γ+ce)=0.0489 *10*; ce(O)/(γ+ce)=0.00927 *18*; ce(P)/(γ+ce)=0.000821 *16* Iγ: From I(γ+ce)≈3% in 1983He08 and α.
152[c]	≈0.5	2194?		2041.697	5$^-$				
[x]209.5 *3*	0.25 *3*								
222[c]	≈0.5	2471.58	(6,7)$^+$	2248.17	8$^+$	[M1,E2]		0.7 *5*	α(K)=0.5 *4*; α(L)=0.156 *10*; α(M)=0.0388 *7*; α(N+..)=0.0122 *3* α(N)=0.00997 *18*; α(O)=0.00201 *11*; α(P)=0.00023 *5*
261.44 *3*	2.45 *19*	2303.14	6$^-$	2041.697	5$^-$	M1		0.738	α(K)=0.4; α(L)=0.1 α(K)=0.600 *9*; α(L)=0.1051 *15*; α(M)=0.0248 *4*; α(N+..)=0.00789 *11* α(N)=0.00638 *9*; α(O)=0.001335 *19*; α(P)=0.0001725 *25* Mult.: α(K)exp=0.38; K/L=5.9 *4*.
[x]297.72 *12*	0.33 *8*					(M1)		0.516	α(K)=0.420 *6*; α(L)=0.0734 *11*; α(M)=0.01730 *25*; α(N+..)=0.00550 *8* α(N)=0.00445 *7*; α(O)=0.000932 *13*; α(P)=0.0001204 *17* Mult.: α(K)exp≈0.55.
327.69 *6*	3.51 *25*	2289.70	7$^-$	1962.15	6$^+$	E1		0.0256	α(K)=0.0209 *3*; α(L)=0.00359 *5*; α(M)=0.000844 *12*; α(N+..)=0.000265 *4* α(N)=0.000215 *3*; α(O)=4.41×10^{-5} *7*; α(P)=5.36×10^{-6} *8* Mult.: α(K)exp=0.023.
335.21 *3*	3.73 *26*	1962.15	6$^+$	1626.915	6$^+$	M1		0.373	α(K)=0.304 *5*; α(L)=0.0530 *8*; α(M)=0.01248 *18*; α(N+..)=0.00397 *6* α(N)=0.00321 *5*; α(O)=0.000672 *10*; α(P)=8.69×10^{-5} *13* Mult.: α(K)exp=0.335; K/L=6.6 *5*.
[x]338.37 *15*	0.44 *9*					E2,E1			Mult.: α(K)exp≤0.16.
[x]350.00 *15*	0.68 *14*								
351.70 *10*	3.08 *20*	1552.18	4$^+$	1200.661	4$^+$	M1+E2	0.7 *2*	0.25 *4*	α(K)=0.19 *3*; α(L)=0.039 *3*; α(M)=0.0094 *7*; α(N+..)=0.00298

$^{204}_{84}Po_{120}$-3

^{204}At ε decay 1983He08 (continued)

γ(^{204}Po) (continued)

E_γ[‡]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[&]	α[†]	Comments
									20 α(N)=0.00242 *16*; α(O)=0.00050 *4*; α(P)=6.2×10^{-5} *6* Mult.: α(K)exp=0.21 *5*. δ: 0.6 *4* from α(K)exp.
[x]361.17 *27*	0.50 *10*					(M1)		0.305	α(K)=0.248 *4*; α(L)=0.0432 *7*; α(M)=0.01018 *15*; α(N+..)=0.00324 *5* α(N)=0.00262 *4*; α(O)=0.000548 *8*; α(P)=7.09×10^{-5} *10* Mult.: α(K)exp=0.60.
379.1 *2*	0.44 *15*	1634.55	(3$^+$)	1255.30	(3)$^+$	[M1]		0.267	α(K)=0.218 *3*; α(L)=0.0379 *6*; α(M)=0.00892 *13*; α(N+..)=0.00284 *4* α(N)=0.00230 *4*; α(O)=0.000480 *7*; α(P)=6.21×10^{-5} *9* E$_\gamma$,I$_\gamma$: From Adopted Levels, gammas.
414.62 *5*	1.00 *9*	2041.697	5$^-$	1626.915	6$^+$	[E1]		0.01524	α(K)=0.01251 *18*; α(L)=0.00209 *3*; α(M)=0.000490 *7*; α(N+..)=0.0001543 *22* α(N)=0.0001253 *18*; α(O)=2.58×10^{-5} *4*; α(P)=3.17×10^{-6} *5*
426.24 *1*	71.3 *21*	1626.915	6$^+$	1200.661	4$^+$	E2		0.0476	α(K)=0.0309 *5*; α(L)=0.01252 *18*; α(M)=0.00318 *5*; α(N+..)=0.000996 *14* α(N)=0.000817 *12*; α(O)=0.0001618 *23*; α(P)=1.723×10^{-5} *25* Mult.: α(K)exp=0.0335;K/L=2.7 *2*.
433.7 *2*	0.72 *19*	1634.55	(3$^+$)	1200.661	4$^+$	[M1]		0.186	α(K)=0.1518 *22*; α(L)=0.0263 *4*; α(M)=0.00619 *9*; α(N+..)=0.00197 *3* α(N)=0.001593 *23*; α(O)=0.000333 *5*; α(P)=4.31×10^{-5} *6* E$_\gamma$,I$_\gamma$: From Adopted Levels, gammas.
479.78 *15*	0.69 *13*	2727.95	(7,8)$^+$	2248.17	8$^+$	M1		0.1422	α(K)=0.1160 *17*; α(L)=0.0200 *3*; α(M)=0.00471 *7*; α(N+..)=0.001500 *21* α(N)=0.001213 *17*; α(O)=0.000254 *4*; α(P)=3.29×10^{-5} *5* Mult.: α(K)exp=0.10.
[x]485.50 *25*	0.51 *10*								
489.52 *5*	2.88 *18*	2041.697	5$^-$	1552.18	4$^+$	E1		0.01073	α(K)=0.00883 *13*; α(L)=0.001453 *21*; α(M)=0.000340 *5*; α(N+..)=0.0001071 *15* α(N)=8.69×10^{-5} *13*; α(O)=1.79×10^{-5} *3*; α(P)=2.23×10^{-6} *4* Mult.: From adopted gammas.
516.32 *1*	95.4 *30*	1200.661	4$^+$	684.341	2$^+$	E2		0.0297	α(K)=0.0207 *3*; α(L)=0.00678 *10*; α(M)=0.001699 *24*; α(N+..)=0.000533 *8* α(N)=0.000436 *7*; α(O)=8.72×10^{-5} *13*; α(P)=9.63×10^{-6} *14* Mult.: α(K)exp=0.0217; K/L=3.7 *3*.
[x]522.47 *9*	0.66 *12*								
527.88 *6*	0.76 *10*	1728.58	(4)$^+$	1200.661	4$^+$	M1(+E2)[@]	≤0.5	0.102 *9*	α(K)=0.083 *8*; α(L)=0.0146 *10*; α(M)=0.00344 *22*; α(N+..)=0.00109 *7* α(N)=0.00089 *6*; α(O)=0.000185 *12*; α(P)=2.38×10^{-5} *17*
[x]539.22 *13*	0.53 *12*								
[x]558.30 *10*	0.43 *9*								
570.8 *2*	0.52 *18*	1255.30	(3)$^+$	684.341	2$^+$	M1+E2	0.6 *4*	0.072 *16*	α(K)=0.058 *14*; α(L)=0.0106 *18*; α(M)=0.0025 *4*;

$^{204}_{84}Po_{120}$-4

γ(^{204}Po) (continued)

E_γ[‡]	I_γ[‡a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[&]	α[†]	Comments
									α(N+..)=0.00080 *13* α(N)=0.00065 *11*; α(O)=0.000134 *23*; α(P)=1.7×10^{-5} *4*
									E_γ,Mult.: From Adopted Levels, gammas. I_γ: From intensity balances.
588.30 *2*	7.26 *26*	2227.33	9$^-$	1639.03	8$^+$	E1		0.00738 *11*	α=0.00738 *11*; α(K)=0.00609 *9*; α(L)=0.000986 *14*; α(M)=0.000230 *4*; α(N+..)=7.26×10^{-5} *11* α(N)=5.89×10^{-5} *9*; α(O)=1.218×10^{-5} *17*; α(P)=1.525×10^{-6} *22* Mult.: α(K)exp<0.028.
596.66 *25*	0.38 *9*	2899.86	7$^-$	2303.14	6$^-$	[M1]		0.0798	α(K)=0.0652 *10*; α(L)=0.01119 *16*; α(M)=0.00263 *4*; α(N+..)=0.000837 *12* α(N)=0.000677 *10*; α(O)=0.0001418 *20*; α(P)=1.84×10^{-5} *3* Mult.: 1983He08 report α(K)exp=0.21, consistent with a M2 mult. The adopted J^π requires M1 mult.
609.14 *3*	26.0 *8*	2248.17	8$^+$	1639.03	8$^+$	M1+E2	0.6 *4*	0.061 *13*	α(K)=0.049 *11*; α(L)=0.0089 *16*; α(M)=0.0021 *4*; α(N+..)=0.00067 *11* α(N)=0.00054 *9*; α(O)=0.000113 *19*; α(P)=1.4×10^{-5} *3* Mult.: α(K)exp=0.055.
621.20 *9*	0.60 *9*	2248.17	8$^+$	1626.915	6$^+$	[E2]		0.0195	Additional information 1. α(K)=0.01432 *20*; α(L)=0.00394 *6*; α(M)=0.000974 *14*; α(N+..)=0.000306 *5* α(N)=0.000250 *4*; α(O)=5.04×10^{-5} *7*; α(P)=5.75×10^{-6} *8* I_γ: From spectrum in Fig. 3 and Table V of 1983He08 (misprinted in Table I).
650.66 *6*	1.74 *14*	2289.70	7$^-$	1639.03	8$^+$	[E1]		0.00605 *9*	α=0.00605 *9*; α(K)=0.00500 *7*; α(L)=0.000803 *12*; α(M)=0.000187 *3*; α(N+..)=5.91×10^{-5} *9* α(N)=4.79×10^{-5} *7*; α(O)=9.92×10^{-6} *14*; α(P)=1.247×10^{-6} *18*
[x]656.60 *20*	0.70 *11*								
662.72 *4*	1.46 *13*	2289.70	7$^-$	1626.915	6$^+$	[E1]		0.00584 *9*	α=0.00584 *9*; α(K)=0.00483 *7*; α(L)=0.000774 *11*; α(M)=0.000180 *3*; α(N+..)=5.69×10^{-5} *8* α(N)=4.61×10^{-5} *7*; α(O)=9.56×10^{-6} *14*; α(P)=1.203×10^{-6} *17*
672.4[b] *6*	≤0.21[b]	2323.65	6,7,8	1651.4?	(6$^-$,7$^-$)				I_γ: 0.21 *2* for the doublet.
672.4[b] *6*	≤0.21[b]	2899.86	7$^-$	2227.33	9$^-$	[E2]		0.01645	α(K)=0.01226 *18*; α(L)=0.00316 *5*; α(M)=0.000778 *11*; α(N+..)=0.000245 *4* α(N)=0.000200 *3*; α(O)=4.05×10^{-5} *6*; α(P)=4.68×10^{-6} *7*
684.34 *1*	100 *3*	684.341	2$^+$	0	0$^+$	E2		0.01584	α(K)=0.01185 *17*; α(L)=0.00302 *5*; α(M)=0.000741 *11*; α(N+..)=0.000233 *4* α(N)=0.000190 *3*; α(O)=3.86×10^{-5} *6*; α(P)=4.47×10^{-6} *7* Mult.: α(K)exp=0.012 (this value was used to normalize the measured α(K)exp); K/L=3.6 *3*.
696.73 *9*	0.64 *11*	2323.65	6,7,8	1626.915	6$^+$				
[x]712.26 *11*	0.35 *8*								
749.45 *15*	0.68 *18*	2376.37	(7)	1626.915	6$^+$	D			

$^{204}_{84}$Po$_{120}$-5

^{204}At ε decay 1983He08 (continued)

γ(^{204}Po) (continued)

E_γ ‡	I_γ ‡ a	E_i(level)	J_i^π	E_f	J_f^π	Mult. #	α †	Comments
761.65 *5*	≤5	1962.15	6^+	1200.661	4^+	(E2) @	0.01266	α(K)=0.00965 *14*; α(L)=0.00228 *4*; α(M)=0.000556 *8*; α(N+..)=0.0001752 *25* α(N)=0.0001427 *20*; α(O)=2.90×10^{-5} *4*; α(P)=3.42×10^{-6} *5* Mult.: α(K)exp<0.007.
761.65 b *5*	≤5 b	2803.35?	$(6,7^-)$	2041.697	5^-			
761.65 b *5*	≤5 b	3009.82?	$(6^+,7,8)$	2248.17	8^+			
841.06 *2*	8.7 *3*	2041.697	5^-	1200.661	4^+	E1	0.00372 *6*	α=0.00372 *6*; α(K)=0.00309 *5*; α(L)=0.000485 *7*; α(M)=0.0001128 *16*; α(N+..)=3.57×10^{-5} *5* α(N)=2.89×10^{-5} *4*; α(O)=6.00×10^{-6} *9*; α(P)=7.62×10^{-7} *11* Mult.: From adopted gammas.
844.66 *4*	1.47 *12*	2471.58	$(6,7)^+$	1626.915	6^+	M1(+E2)	0.021 *11*	α(K)=0.017 *10*; α(L)=0.0031 *14*; α(M)=0.0007 *4*; α(N+..)=0.00023 *10* α(N)=0.00019 *8*; α(O)=3.9×10^{-5} *18*; α(P)=5.0×10^{-6} *24* α(N)=0.0001094 *16*; α(O)=2.24×10^{-5} *4*; α(P)=2.67×10^{-6} *4* Mult.: from adopted gammas.
858.18 *10*	1.10 *14*	2899.86	7^-	2041.697	5^-	[E2]	0.00994 *14*	α=0.00994 *14*; α(K)=0.00771 *11*; α(L)=0.001690 *24*; α(M)=0.000409 *6*; α(N+..)=0.0001292 α(N)=0.0001052 *15*; α(O)=2.15×10^{-5} *3*; α(P)=2.57×10^{-6} *4*
867.80 *4*	1.98 *14*	1552.18	4^+	684.341	2^+	E2 @	0.00972 *14*	α=0.00972 *14*; α(K)=0.00755 *11*; α(L)=0.001645 *23*; α(M)=0.000398 *6*; α(N+..)=0.0001257 α(N)=0.0001023 *15*; α(O)=2.09×10^{-5} *3*; α(P)=2.51×10^{-6} *4*
x899.39 *6*	2.62 *16*							E_γ: 1987Ra04 in (^{3}He,3nγ) report a 899.6 γ deexciting the 2100-keV level; however, the coin information of 1983He08 indicates that the 899.39γ is in coin with the 426.2γ. This is inconsistent with the γγ-coin results of 1987Ra04.
908.49 *7*	0.98 *10*	2547.55	$6^+,7,8^+$	1639.03	8^+			
920.72 *14*	0.46 *9*	2547.55	$6^+,7,8^+$	1626.915	6^+			
926.34 *6*	1.41 *12*	2553.26	6,7,8	1626.915	6^+			E_γ: Placement based on Adopted Levels, gammas.
x935.50 *25*	0.37 *11*							
950.25 *7*	1.06 *13*	1634.55	(3^+)	684.341	2^+	(M1+E2)	0.0237	α(K)=0.0194 *3*; α(L)=0.00329 *5*; α(M)=0.000772 *11*; α(N+..)=0.000246 *4* α(N)=0.000199 *3*; α(O)=4.16×10^{-5} *6*; α(P)=5.39×10^{-6} *8* E_γ: Placement based on adopted gammas. Coin with 684γ and no coin with any other γ (see Table IV of 1983He08) supports this assignment. Mult.: From adopted gammas.
x953.05 *10*	0.55 *11*							
x1003.45 *25*	0.59 *17*							
1044.32 *9*	0.61 *8*	1728.58	$(4)^+$	684.341	2^+	[E2]	0.00676 *10*	α=0.00676 *10*; α(K)=0.00536 *8*; α(L)=0.001067 *15*; α(M)=0.000256 *4*; α(N+..)=8.08×10^{-5} *12* α(N)=6.57×10^{-5} *10*; α(O)=1.351×10^{-5} *19*; α(P)=1.653×10^{-6} *24* E_γ: Placement based on Adopted Levels, gammas.
x1101.45 *15*	0.33 *8*							

$^{204}_{84}Po_{120}$-6

γ(^{204}Po) (continued)

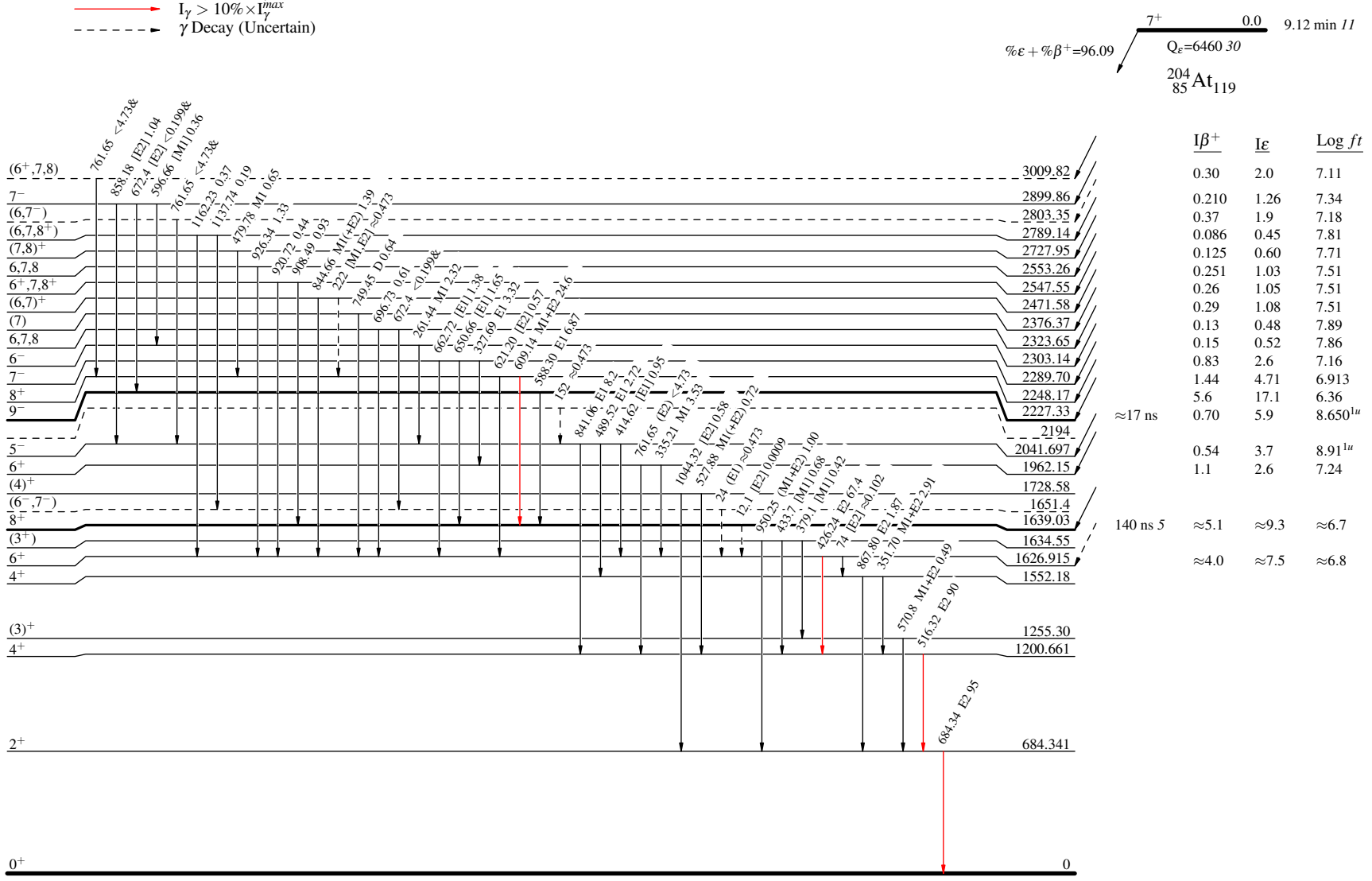
E_γ ‡	I_γ ‡a	E_i(level)	J_i^π	E_f	J_f^π
1137.74 *30*	0.20 *9*	2789.14	(6,7,8$^+$)	1651.4?	(6$^-$,7$^-$)
1162.23 *18*	0.39 *10*	2789.14	(6,7,8$^+$)	1626.915	6$^+$

† Additional information 2.
‡ From 1983He08, unless otherwise specified.
# From α(K)exp and K/L in 1983He08, unless otherwise specified. Uncertainties estimated by 1983He08 to be 5-11% for α(K)exp and 4-7% for K/L.
@ From adopted gammas.
& From adopted gammas.
a For absolute intensity per 100 decays, multiply by 0.9459 *16*.
b Multiply placed with undivided intensity.
c Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{204}At ε decay 1983He08

Decay Scheme

Intensities: I_γ per 100 parent decays
& Multiply placed: undivided intensity given



$^{204}_{84}Po_{120}$

$^{204}_{84}Po_{120}$-8