^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111,275 (2010)	1-Oct-2009

Parent: ^{184}Ir: E=0.0; $J^\pi=5^-$; $T_{1/2}$=3.09 h *3*; Q(ε)=4645 *28*; %ε+%$β^+$ decay=100.0

Others: 1960Ba43.

1994Ki01: sources from ^{170}Er(^{19}F,5nγ), E=103 MeV, 300 ns irradiation time followed by 300 ns acquisition time; CAESAR array (6 Ge detectors with BGO Compton-suppression); superconducting solenoid spectrometer (lens mode) measured Eγ (20-2000), Iγ, I(ce), γγ coin, (±140 ns time window), γγ(t), γγ(θ) (θ=48°, 145°, −49°, −97°, −146°), α(K)exp; deduced δ, q^2(E0/E2), X(E0/E2).

1989Po09: sources from Pt(p,xn), on-line mass separation; HPGe, Si(Li) detectors, ΔE-E β telescope, magnetic filter; measured Eγ, Iγ, I(ce), βγ coin, γγ coin, Q value.

1973Ho09: sources from ^{185}Re(^{3}He,4n), 96.7% ^{185}Re target; Ge(Li), Si(Li), anthracene detectors; measured Eγ, Iγ, I(ce), E($β^+$), γγ coin, $β^+$ γ coin.

The adopted decay scheme is that of 1989Po09, with the addition of transitions placed only by 1994Ki01.

^{184}Os Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0.0	0^+		
119.80 *9*	2^+	1.184 ns *13*	$T_{1/2}$: from ce-γ(t) (1971Bb09). Others: 1.18 ns *5* (1970Be18), 1.36 ns *3* (1970BrZP), 1.10 ns *5* (1970ErZY).
383.77 *11*	4^+	46 ps *13*	$T_{1/2}$: from ce-γ(t) (1970Mo39).
774.17 *12*	6^+		
942.77 *11*	2^+		
1081.01 *11*	3^+		
1205.1	2^+		
1225.04 *12*	4^+		
1274.90 *19*	8^+		
1428.25 *12*	5^+		
1445.71 *12*	$(3,4)^+$		
1500.63 *14*	4^+		
1543.94 *12*	$(3)^-$		
1613.18 *15*	6^+		
1620.72 *12*	4^-		
1631.55 *12*	$(4,5)^+$		
1697.98 *16*	$(3^+,4^+)$		
1707.57 *13*	$(4)^-$		
1718.17 *12*	5^-		
1832.78 *13*	6^-		
1836.29 *14*	5^-		
1840.39 *13*	$(6)^-$		
1840.7	$(4,5,6)^+$		
1841.9			
1877.61 *17*	6^+		
1892.8	$(3^+,4,5^-)$		
1898.8			
1916.5	(6^-)		
1928.5	$(4^+,5,6^+)$		
1934.6			
1959.0	(7^-)		
1991.5	6^+		
2001.5	(7^-)		
2055.8	$(4,5,6)^-$		
2076.1			
2086.3	$(4^+,5,6^-)$		

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^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

^{184}Os Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
2128.2	(4,5)$^-$	2221.9	(5,6)$^-$	2400.3	5$^+$,6$^+$	2493.7	
2136.0		2278.9	(5,6)$^+$	2446.65 *13*	(4,5)$^+$	2518.3	
2170.8		2330.4		2463.7	(4$^+$,5,6$^+$)	2549.3	(5,6)$^-$
2201.5	(4)$^+$	2399.05 *13*	(5)$^+$	2472.4	(4$^+$,5,6$^+$)	2719.87 *20*	(5,6$^+$)

† From least-squares fit to Eγ, omitting data for multiply-placed transitions.
‡ From Adopted Levels.

ε,β$^+$ radiations

E(decay)	E(level)	Iβ$^+$ ‡	Iε‡	Log *ft*†	I(ε+β$^+$)‡	Comments
(1.93×10^3 *3*)	2719.87	0.0103 *14*	1.00 *8*	7.94 *4*	1.01 *8*	av Eβ=422 *13*; εK=0.8065 *8*; εL=0.1395 *3*; εM+=0.04385 *10*
(2.10×10^3 *3*)	2549.3	0.0082 *15*	0.43 *7*	8.38 *7*	0.44 *7*	av Eβ=497 *13*; εK=0.8004 *13*; εL=0.1377 *4*; εM+=0.04325 *11*
(2.13×10^3 *3*)	2518.3	0.018 *2*	0.87 *6*	8.09 *4*	0.89 *6*	av Eβ=511 *13*; εK=0.7990 *14*; εL=0.1373 *4*; εM+=0.04313 *12*
(2.15×10^3 *3*)	2493.7	0.012 *2*	0.53 *9*	8.32 *8*	0.54 *9*	av Eβ=521 *13*; εK=0.7978 *15*; εL=0.1370 *4*; εM+=0.04303 *12*
(2.17×10^3 *3*)	2472.4	0.019 *4*	0.79 *15*	8.15 *9*	0.81 *15*	av Eβ=531 *13*; εK=0.7967 *15*; εL=0.1368 *4*; εM+=0.04294 *12*
(2.18×10^3 *3*)	2463.7	0.015 *3*	0.61 *10*	8.26 *7*	0.63 *10*	av Eβ=535 *13*; εK=0.7963 *16*; εL=0.1366 *4*; εM+=0.04290 *12*
(2.20×10^3 *3*)	2446.65	0.31 *3*	12.0 *6*	6.981 *25*	12.3 *6*	av Eβ=542 *13*; εK=0.7953 *16*; εL=0.1364 *4*; εM+=0.04283 *12*
(2.24×10^3 *3*)	2400.3	0.086 *9*	2.90 *20*	7.62 *4*	2.99 *21*	av Eβ=562 *13*; εK=0.7927 *18*; εL=0.1358 *4*; εM+=0.04263 *13*
(2.25×10^3 *3*)	2399.05	0.15 *2*	5.0 *4*	7.38 *4*	5.2 *4*	av Eβ=563 *13*; εK=0.7926 *18*; εL=0.1358 *4*; εM+=0.04263 *13*
(2.31×10^3 *3*)	2330.4	0.025 *4*	0.70 *10*	8.26 *6*	0.73 *10*	av Eβ=593 *13*; εK=0.7883 *20*; εL=0.1348 *5*; εM+=0.04231 *14*
(2.37×10^3 *3*)	2278.9	0.031 *4*	0.76 *10*	8.25 *6*	0.79 *10*	av Eβ=616 *13*; εK=0.7846 *21*; εL=0.1340 *5*; εM+=0.04206 *15*
(2.42×10^3 *3*)	2221.9	0.056 *8*	1.18 *16*	8.07 *6*	1.24 *17*	av Eβ=641 *13*; εK=0.7803 *23*; εL=0.1331 *5*; εM+=0.04176 *15*
(2.47×10^3 *3*)	2170.8	0.011 *3*	0.21 *6*	8.85 *12*	0.22 *6*	av Eβ=663 *13*; εK=0.7761 *25*; εL=0.1323 *5*; εM+=0.04149 *16*
(2.51×10^3 *3*)	2136.0	0.026 *3*	0.45 *5*	8.52 *5*	0.48 *5*	av Eβ=679 *13*; εK=0.773 *3*; εL=0.1317 *5*; εM+=0.04129 *17*
(2.52×10^3 *3*)	2128.2	0.030 *4*	0.51 *7*	8.47 *6*	0.54 *7*	av Eβ=682 *13*; εK=0.772 *3*; εL=0.1315 *5*; εM+=0.04125 *17*
(2.56×10^3 *3*)	2086.3	0.042 *6*	0.66 *8*	8.38 *6*	0.70 *9*	av Eβ=701 *13*; εK=0.769 *3*; εL=0.1308 *6*; εM+=0.04100 *17*
(2.57×10^3 *3*)	2076.1	0.022 *3*	0.34 *5*	8.67 *7*	0.36 *5*	av Eβ=705 *13*; εK=0.768 *3*; εL=0.1306 *6*; εM+=0.04094 *17*
(2.59×10^3 *3*)	2055.8	0.029 *3*	0.43 *4*	8.57 *4*	0.46 *4*	av Eβ=714 *13*; εK=0.766 *3*; εL=0.1302 *6*; εM+=0.04082 *18*
(2.65×10^3 *3*)	1991.5	0.026 *3*	0.34 *4*	8.69 *5*	0.37 *4*	av Eβ=742 *13*; εK=0.759 *3*; εL=0.1289 *6*; εM+=0.04041 *19*
(2.71×10^3 *3*)	1934.6	0.040 *5*	0.47 *6*	8.57 *6*	0.51 *6*	av Eβ=767 *13*; εK=0.753 *4*; εL=0.1278 *6*; εM+=0.04004 *19*
(2.72×10^3 *3*)	1928.5	0.091 *7*	1.04 *6*	8.23 *3*	1.13 *7*	av Eβ=770 *13*; εK=0.752 *4*; εL=0.1276 *6*;

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^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log ft†	I(ε+β+)‡	Comments
						εM+=0.04000 *19*
(2.73×10^3 *3*)	1916.5	0.098 *13*	1.10 *14*	8.21 *6*	1.20 *15*	av Eβ=775 *13*; εK=0.751 *4*; εL=0.1274 *6*; εM+=0.03992 *20*
(2.75×10^3 *3*)	1898.8	0.028 *5*	0.30 *5*	8.78 *8*	0.33 *6*	av Eβ=783 *13*; εK=0.749 *4*; εL=0.1270 *6*; εM+=0.03980 *20*
(2.75×10^3 *3*)	1892.8	0.083 *9*	0.89 *8*	8.31 *5*	0.97 *9*	av Eβ=786 *13*; εK=0.748 *4*; εL=0.1269 *7*; εM+=0.03976 *20*
(2.77×10^3 *3*)	1877.61	0.159 *15*	1.66 *14*	8.04 *4*	1.82 *15*	av Eβ=793 *13*; εK=0.746 *4*; εL=0.1265 *7*; εM+=0.03965 *20*
(2.80×10^3 *3*)	1841.9	0.124 *12*	1.22 *10*	8.19 *4*	1.34 *11*	av Eβ=808 *13*; εK=0.742 *4*; εL=0.1257 *7*; εM+=0.03940 *20*
(2.80×10^3 *3*)	1840.7	0.13 *3*	1.3 *3*	8.17 *10*	1.4 *3*	av Eβ=809 *13*; εK=0.742 *4*; εL=0.1257 *7*; εM+=0.03939 *21*
(2.80×10^3 *3*)	1840.39	0.177 *24*	1.73 *22*	8.04 *6*	1.91 *24*	av Eβ=809 *13*; εK=0.742 *4*; εL=0.1257 *7*; εM+=0.03939 *21*
(2.81×10^3 *3*)	1836.29	0.26 *5*	2.5 *5*	7.87 *8*	2.8 *5*	av Eβ=811 *13*; εK=0.742 *4*; εL=0.1256 *7*; εM+=0.03936 *21*
(2.81×10^3 *3*)	1832.78	0.39 *7*	3.7 *6*	7.71 *8*	4.1 *7*	av Eβ=812 *13*; εK=0.741 *4*; εL=0.1255 *7*; εM+=0.03934 *21*
(2.93×10^3 *3*)	1718.17	0.83 *10*	6.6 *7*	7.50 *5*	7.4 *8*	av Eβ=863 *13*; εK=0.727 *4*; εL=0.1229 *7*; εM+=0.03849 *22*
(2.94×10^3 *3*)	1707.57	0.21 *3*	1.63 *21*	8.11 *6*	1.84 *24*	av Eβ=868 *13*; εK=0.725 *4*; εL=0.1226 *7*; εM+=0.03841 *22*
(2.95×10^3 *3*)	1697.98	0.125 *11*	0.96 *7*	8.34 *4*	1.08 *8*	av Eβ=872 *13*; εK=0.724 *4*; εL=0.1224 *7*; εM+=0.03833 *22*
(3.01×10^3 *3*)	1631.55	0.47 *7*	3.2 *4*	7.83 *6*	3.7 *5*	av Eβ=902 *13*; εK=0.715 *4*; εL=0.1207 *8*; εM+=0.03781 *23*
(3.02×10^3 *3*)	1620.72	0.30 *8*	2.0 *5*	8.04 *12*	2.3 *6*	av Eβ=907 *13*; εK=0.713 *4*; εL=0.1205 *8*; εM+=0.03772 *23*
(3.03×10^3 *3*)	1613.18	0.29 *3*	1.91 *17*	8.06 *4*	2.20 *19*	av Eβ=910 *13*; εK=0.712 *4*; εL=0.1203 *8*; εM+=0.03766 *23*
(3.14×10^3 *3*)	1500.63	0.29 *3*	1.66 *14*	8.16 *4*	1.95 *17*	av Eβ=960 *13*; εK=0.696 *5*; εL=0.1173 *8*; εM+=0.03673 *24*
(3.20×10^3 *3*)	1445.71	0.45 *10*	2.4 *5*	8.02 *10*	2.8 *6*	av Eβ=984 *13*; εK=0.687 *5*; εL=0.1158 *8*; εM+=0.03626 *25*
(3.22×10^3 *3*)	1428.25	0.52 *5*	2.7 *3*	7.97 *5*	3.2 *3*	av Eβ=992 *13*; εK=0.685 *5*; εL=0.1153 *8*; εM+=0.03611 *25*
(3.42×10^3 *3*)	1225.04	1.1 *1*	4.5 *4*	7.80 *4*	5.6 *5*	av Eβ=1083 *13*; εK=0.652 *5*; εL=0.1095 *9*; εM+=0.0343 *3*
(3.56×10$^{3\#}$ *3*)	1081.01	0.037 *13*	0.35 *13*	10.61^{1u} *16*	0.39 *14*	av Eβ=1135 *12*; εK=0.738 *3*; εL=0.1284 *6*; εM+=0.04040 *17*
(3.70×10$^{3\#}$ *3*)	942.77					E(decay): measured β^+ endpoint energy of 2320 *70* is associated with feeding to 943 level In 1989Po09; if correct, this implies Q=4285 *70* (cf. 4645 *28* from 2003Au03, 2009AuZZ). However, feeding to this level is not expected from 5^- parent and No significant I(γ+ce) imbalance is evident At the 943 level.
(3.87×10^3 *3*)	774.17	2.4 *7*	5.7 *15*	7.81 *12*	8.1 *22*	av Eβ=1286 *13*; εK=0.573 *5*; εL=0.0959 *9*; εM+=0.0300 *3* E(decay): measured β^+ endpoint energy is 415 *40* lower than 2900β+ (i.e., 2485 *108*) (1973Ho09) and 390γ-2485β+ coin was observed. This implies Q=4281 *108* (cf. 4645 *28* from 2003Au03, 2009AuZZ).

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^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log *ft*†	I(ε+β+)‡	Comments
(4.26×10^3 *3*)	383.77	2.8 *10*	4.4 *15*	8.00 *16*	7.2 *25*	av Eβ=1463 *13*; εK=0.503 *5*; εL=0.0840 *9*; εM+=0.0263 *3* E(decay): measured β+ endpoint energy is 2900 *100* (1973Ho09) and (2900β+)(264γ,119γ) coin were observed. this implies Q=4306 *100* (cf. 4645 *28* from 2003Au03, 2009AuZZ).

† Due to an unplaced γ intensity of≈5%, log *ft* values for weakly-fed levels may be unreliable. I(511γ)=87 *7* (1973Ho09), on the same scale as gammas; this corresponds to Iβ+≈3% (cf. ≈10% from adopted level scheme) which suggests little, if any, direct feeding to the low-lying levels. However, 1973Ho09 report positron endpoints in coincidence with gammas deexciting the 4+ and 6+ levels; they do not report β intensity information and the energies disagree by 430 keV (4σ) with the Q value from 2003Au03, 2009AuZZ.

‡ Absolute intensity per 100 decays.

Existence of this branch is questionable.

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os)

Iγ normalization: from Σ (I(γ+ce) to g.s.)=100%; No ε branch to g.s. is expected (ΔJ=5).
Approximately 5% of the γ intensity is unplaced.

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
76.9 *3*	1.2 *4*	1620.72	4⁻	1543.94	(3)⁻	[M1,E2]	12.5 *7*	α(K)=5 *5*; α(L)=5 *4*; α(M)=1.4 *10*; α(N+..)=0.4 *3* α(N)=0.33 *24*; α(O)=0.05 *4*; α(P)=0.0007 *5* Iγ: weighted average of 1.0 *5* (1989Po09) and 1.4 *5* (1994Ki01).
97.40 *20*	2.7 *3*	1718.17	5⁻	1620.72	4⁻	M1+E2	5.5 *7*	α(K)=2.9 *21*; α(L)=1.9 *11*; α(M)=0.5 *3*; α(N+..)=0.13 *8* α(N)=0.12 *7*; α(O)=0.018 *10*; α(P)=0.00034 *25* α(L)exp=2.5 *4* (1989Po09) Iγ: weighted average of 3.2 *6* (1973Ho09), 2.9 *8* (1989Po09) and 2.4 *4* (1994Ki01).
114.67 *20*	11.4 *12*	1832.78	6⁻	1718.17	5⁻	(M1+E2)	3.2 *7*	α(K)=3.14 *5*; α(L)=0.510 *8*; α(M)=0.1170 *18*; α(N+..)=0.0339 *5* α(N)=0.0286 *5*; α(O)=0.00493 *8*; α(P)=0.000367 *6* Iγ: weighted average of 12.0 *10* (1994Ki01) and 9.0 *23* (1989Po09). Iγ=9.4 *1* from 1973Ho09 appears to claim unreasonably high precision. Mult.: from Adopted Gammas.
119.79 *10*	478 *8*	119.80	2⁺	0.0	0⁺	E2	2.13	α(K)=0.582 *9*; α(L)=1.166 *17*; α(M)=0.298 *5*; α(N+..)=0.0820 *12* α(N)=0.0714 *11*; α(O)=0.01058 *16*; α(P)=5.47×10^{-5} *8* α(L)exp=1.1 *2* (1989Po09) Iγ: weighted average of 449 *31* (1973Ho09), 500 *25* (1989Po09) and 477 *9* (1994Ki01). %Iγ=30.8 *6*, assuming recommended decay scheme normalization. Mult.: from ce data of 1960Ba43 and 1989Po09.
[x]127.5 *3*	1.3 *4*							
[x]131.8 *3*	2.6 *4*							
[x]153.57 *20*	6.2 *5*							
[x]158.26 *20*	7.5 *6*							
163.63 *20*	2.8 *3*	1707.57	(4)⁻	1543.94	(3)⁻	M1	1.384	α(K)=1.144 *17*; α(L)=0.185 *3*; α(M)=0.0424 *7*; α(N+..)=0.01228 *18* α(N)=0.01036 *15*; α(O)=0.00179 *3*; α(P)=0.0001332 *20* α(K)exp=1.1 *3* (1989Po09)
167.81 *20*	4.0 *3*	2446.65	(4,5)⁺	2278.9	(5,6)⁺	M1	1.289	α(K)=1.066 *16*; α(L)=0.1721 *25*; α(M)=0.0395 *6*; α(N+..)=0.01143 *17* α(N)=0.00964 *14*; α(O)=0.001665 *24*; α(P)=0.0001240 *18* α(K)exp=1.3 *3* (1989Po09)
174.32 *20*	2.46 *18*	1718.17	5⁻	1543.94	(3)⁻	E2	0.533	α(K)=0.242 *4*; α(L)=0.220 *4*; α(M)=0.0557 *9*; α(N+..)=0.01542 *23* α(N)=0.01339 *20*; α(O)=0.00201 *3*; α(P)=2.22×10^{-5} *4* α(L)exp=0.25 *7* (1989Po09) Iγ: weighted average of 2.4 *2* (1973Ho09), 2.4 *6* (1989Po09) and 2.9 *5* (1994Ki01).
185.76 *10*	15.1 *26*	1631.55	(4,5)⁺	1445.71	(3,4)⁺	M1+E2	0.7 *3*	α(K)=0.5 *3*; α(L)=0.148 *20*; α(M)=0.036 *7*; α(N+..)=0.0102 *16* α(N)=0.0087 *15*; α(O)=0.00139 *15*; α(P)=6.E−5 *4*

$^{184}_{76}Os_{108}$-5

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡][g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
								α(L)exp=1.6 *5* (1989Po09) I_γ: weighted average of 14 *3* (1973Ho09) and 18 *5* (1989Po09). However, transition not reported by 1994Ki01.
197.46 *20*	6.3 *5*	2399.05	$(5)^+$	2201.5	$(4)^+$	M1+E2	0.58 *24*	α(K)=0.4 *3*; α(L)=0.119 *11*; α(M)=0.029 *4*; α(N+..)=0.0081 *10* α(N)=0.0070 *9*; α(O)=0.00112 *7*; α(P)=5.E−5 *4* α(K)exp=0.32 *5* (1989Po09) γ placed instead from 1698 level by 1973Ho09.
203.31 *25*	2.3 *3*	1631.55	$(4,5)^+$	1428.25	5^+	M1+E2	0.53 *22*	α(K)=0.39 *23*; α(L)=0.108 *8*; α(M)=0.026 *3*; α(N+..)=0.0073 *7* α(N)=0.0063 *7*; α(O)=0.00101 *5*; α(P)=4.E−5 *3* α(K)exp=4.5 *10* (1989Po09) I_γ: weighted average of 2.5 *3* (1973Ho09), 1.9 *5* (1989Po09).
209.08 *20*	6.7 *5*	1840.7	$(4,5,6)^+$	1631.55	$(4,5)^+$	M1	0.697	α(K)=0.577 *9*; α(L)=0.0928 *14*; α(M)=0.0213 *3*; α(N+..)=0.00616 *9* α(N)=0.00520 *8*; α(O)=0.000897 *13*; α(P)=6.69×10^{-5} *10* α(K)exp=0.60 *10* (1989Po09)
212.02 *10*	30 *3*	1832.78	6^-	1620.72	4^-	E2	0.273	α(K)=0.1457 *21*; α(L)=0.0964 *14*; α(M)=0.0242 *4*; α(N+..)=0.00673 *10* α(N)=0.00583 *9*; α(O)=0.000885 *13*; α(P)=1.378×10^{-5} *20* α(K)exp=0.16 *3* (1989Po09) I_γ: unweighted average of 27.5 *19* (1973Ho09), 26 *6* (1989Po09) and 36.4 *9* (1994Ki01). the weighted average is 34.6 *25*. 1989Po09 give α(K)exp=1.6 *3* but assign mult=E2; evaluator assumes a typographical omission of exponent −1, so α(K)exp should read 0.16 *3* In table 3, consistent with assigned mult.
219.4[f] *2*	11.4 *12*	1840.39	$(6)^-$	1620.72	4^-	(E2)	0.244	α(K)=0.1332 *19*; α(L)=0.0837 *13*; α(M)=0.0210 *3*; α(N+..)=0.00584 *9* α(N)=0.00506 *8*; α(O)=0.000769 *12*; α(P)=1.268×10^{-5} *18* I_γ: weighted average of 11 *3* (1989Po09) and 10.1 *10* (1973Ho09). This γ presumably differs from the weak 219.8γ placed from the 1833 level by 1994Ki01; those authors do not report this transition. Mult.: α(K)exp=1.60 *4* (1989Po09) for 219.4γ+220.8γ doublet dominated by this transition, but authors assign mult=E2; evaluator assumes typographical error, the intended value being α(K)exp=0.16 *4*.
219.8[c]	0.9[c] *3*	1832.78	6^-	1613.18	6^+			see comment on 219.4γ from 1840 level. low intensity for this branch is consistent with its absence In (^{13}C,5nγ) and (^{18}O,4nγ) studies which also excite the 1833 level.
220.8[f] *2*	2.4[e] *6*	1445.71	$(3,4)^+$	1225.04	4^+			Mult.: please see comment on 219.4γ. E=219.70 *20*, Iγ=10.1 *10* for doublet In 1973Ho09.
[x]242.35 *20*	2.1 *2*							
[x]245.15 *20*	2.7 *2*							
263.98 *10*	1000 *16*	383.77	4^+	119.80	2^+	E2	0.1349	α(K)=0.0821 *12*; α(L)=0.0400 *6*; α(M)=0.00996 *14*; α(N+..)=0.00278 *4* α(N)=0.00240 *4*; α(O)=0.000369 *6*; α(P)=8.07×10^{-6} *12* α(L)exp=0.041 *8* (1989Po09) I_γ: uncertainties of 5% and 1.6% are indicated by 1989Po09 and 1994Ki01, so the evaluator assigns the smaller of these to I(264γ). 1973Ho09 show No uncertainty for this Iγ, and it is unclear whether the uncertainty In

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
								their I(264γ) measurement has been propagated through their Iγ data for the other transitions.
[x]272.1 *4*	1.8 *5*							
282.38 *20*	2.57 *18*	1225.04	4^+	942.77	2^+	E2	0.1096	α(K)=0.0690 *10*; α(L)=0.0308 *5*; α(M)=0.00765 *11*; α(N+..)=0.00214 *3* α(N)=0.00184 *3*; α(O)=0.000285 *4*; α(P)=6.86×10^{-6} *10* α(K)exp=0.09 *4* (1989Po09) Iγ: weighted average of 2.6 *2* (1973Ho09), 2.4 *6* (1989Po09) and 2.5 *7* (1994Ki01).
295.6 *2*	1.7 *3*	1500.63	4^+	1205.1	2^+			Iγ: weighted average of 1.9 *5* (1994Ki01) and 1.5 *4* (1989Po09).
[x]308.0 *3*	1.5 *3*							other Eγ (Iγ): 307.9 *3* (2.0 *5*) (1989Po09).
337.76 *20*	6.0 *5*	2055.8	$(4,5,6)^-$	1718.17	5^-	M1	0.188	α(K)=0.1556 *22*; α(L)=0.0248 *4*; α(M)=0.00567 *8*; α(N+..)=0.001642 *24* α(N)=0.001385 *20*; α(O)=0.000239 *4*; α(P)=1.79×10^{-5} *3* α(L)exp=0.028 *8* (1989Po09)
347.32 *20*	4.1 *3*	1428.25	5^+	1081.01	3^+	[E2]	0.0597	α(K)=0.0408 *6*; α(L)=0.01439 *21*; α(M)=0.00353 *5*; α(N+..)=0.000990 *14* α(N)=0.000852 *12*; α(O)=0.0001339 *19*; α(P)=4.18×10^{-6} *6* Iγ: weighted average of 4.0 *3* (1973Ho09), 3.4 *9* (1989Po09) and 5.4 *9* (1994Ki01). Mult.: α(K)exp=0.06 *2* for 347.3γ+348.9γ doublet (1989Po09).
348.93 *20*	4.6 *4*	1892.8	$(3^+,4,5^-)$	1543.94	$(3)^-$			Mult.: α(K)exp=0.06 *2* for 347.3γ+348.9γ doublet (1989Po09).
[x]361.11 *25*	3.2 *3*					M1	0.1569	α(K)=0.1301 *19*; α(L)=0.0207 *3*; α(M)=0.00473 *7*; α(N+..)=0.001371 *20* α(N)=0.001156 *17*; α(O)=0.000200 *3*; α(P)=1.497×10^{-5} *22* α(K)exp=0.14 *4* (1989Po09)
364.72 *10*	16.6 *12*	1445.71	$(3,4)^+$	1081.01	3^+	M1+E2	0.10 *5*	α(K)=0.08 *5*; α(L)=0.016 *4*; α(M)=0.0038 *9*; α(N+..)=0.0011 *3* α(N)=0.00092 *21*; α(O)=0.00015 *4*; α(P)=9.E−6 *6* α(K)exp=0.050 *10* (1989Po09) not reported by 1994Ki01.
[x]368.03 *20*	2.4 *2*					M1	0.1491	α(K)=0.1237 *18*; α(L)=0.0196 *3*; α(M)=0.00450 *7*; α(N+..)=0.001302 *19* α(N)=0.001098 *16*; α(O)=0.000190 *3*; α(P)=1.422×10^{-5} *20* α(K)exp=0.15 *6* (1989Po09)
376.91 *20*	2.3 *3*	1877.61	6^+	1500.63	4^+			Iγ: unweighted average of 2.8 *3* (1973Ho09), 2.4 *6* (1989Po09) and 1.8 *2* (1994Ki01). the weighted average is 2.1 *3*.
378.65 *25*	1.9 *2*	2086.3	$(4^+,5,6^-)$	1707.57	$(4)^-$			
381.70 *15*	8.2 *6*	2221.9	$(5,6)^-$	1840.39	$(6)^-$	M1	0.1352	α(K)=0.1122 *16*; α(L)=0.01779 *25*; α(M)=0.00407 *6*; α(N+..)=0.001180 *17* α(N)=0.000995 *14*; α(O)=0.0001720 *25*; α(P)=1.289×10^{-5} *18* α(K)exp=0.15 *5* (1989Po09)
388.2[f] *3*	4.5 *5*	1613.18	6^+	1225.04	4^+			Iγ: weighted average of 5.0 *13* (1989Po09) and 4 *1* (1994Ki01).
390.36 *10*	405 *30*	774.17	6^+	383.77	4^+	E2	0.0432	α(K)=0.0306 *5*; α(L)=0.00960 *14*; α(M)=0.00234 *4*; α(N+..)=0.000658 *10* α(N)=0.000565 *8*; α(O)=8.96×10^{-5} *13*; α(P)=3.18×10^{-6} *5* α(K)exp=0.032 *7* (1989Po09); α(L)exp=0.0090 *20* (1989Po09) Iγ: unweighted average of 381 *27* (1973Ho09), 370 *19* (1989Po09) and 465 *8* (1994Ki01). the weighted average is 446 *26*.
394.88 *20*	7.7 *8*	1840.7	$(4,5,6)^+$	1445.71	$(3,4)^+$	E2	0.0419	α(K)=0.0298 *5*; α(L)=0.00923 *13*; α(M)=0.00225 *4*; α(N+..)=0.000632 *9* α(N)=0.000543 *8*; α(O)=8.62×10^{-5} *13*; α(P)=3.10×10^{-6} *5*

$^{184}_{76}Os_{108}$-7

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
								α(K)exp=0.035 *7* (1989Po09) I_γ: weighted average of 8.1 *7* (1973Ho09) and 6.0 *15* (1989Po09).
[x]400.0 *3*	1.6 *2*							
404.51 *20*	7.2 *14*	1832.78	6^-	1428.25	5^+			I_γ: unweighted average of 5.6 *4* (1973Ho09), 6.0 *15* (1989Po09) and 9.9 *5* (1994Ki01). the weighted average is 7.2 *3*. Mult.: α(K)exp=0.020 *6* for 404.5γ+406.5γ doublet (1989Po09).
406.60 *15*	13.2 *9*	1631.55	$(4,5)^+$	1225.04	4^+			Mult.: α(K)exp=0.020 *6* for 404.5γ+406.5γ doublet (1989Po09).
410.21 *25*	3.1 *3*	2128.2	$(4,5)^-$	1718.17	5^-	M1	0.1117	α(K)=0.0927 *13*; α(L)=0.01466 *21*; α(M)=0.00336 *5*; α(N+..)=0.000972 *14* α(N)=0.000820 *12*; α(O)=0.0001417 *20*; α(P)=1.063×10^{-5} *15* α(K)exp=0.09 *3* (1989Po09)
411.95 *10*	11.7 *8*	1840.39	$(6)^-$	1428.25	5^+	E1	0.01172	α(K)=0.00978 *14*; α(L)=0.001501 *21*; α(M)=0.000342 *5*; α(N+..)=9.78×10^{-5} *14* α(N)=8.29×10^{-5} *12*; α(O)=1.403×10^{-5} *20*; α(P)=9.45×10^{-7} *14* α(K)exp<0.02 (1989Po09)
419.3 *4*	1.0 *3*	1500.63	4^+	1081.01	3^+			
[x]420.53 *25*	3.1 *3*							
[x]427.0 *3*	1.5 *2*							other Eγ (Iγ): 420.3 *3* (1.5 *4*) (1989Po09).
431.19 *20*	4.8 *3*	2330.4		1898.8				
438.2[f] *3*	1.5[e] *4*	2278.9	$(5,6)^+$	1840.39	$(6)^-$			
[x]441.7[b] *3*	1.00[b] *25*							
444.0[f] *3*	2.0[e] *5*	2076.1		1631.55	$(4,5)^+$			
[x]444.9 *3*	1.6 *2*							
449.2 *3*	0.49 *12*	1877.61	6^+	1428.25	5^+			Eγ=449.8 *3*, Iγ=2.4 *3* In 1973Ho09.
464.42[if] *20*	3.9[i] *9*	1892.8	$(3^+,4,5^-)$	1428.25	5^+			I_γ: unweighted average of 4.8 *4* (1973Ho09) and 3.0 *8* (1989Po09). The weighted average is 4.4 *7*.
464.42[i] *20*	1.5[ie] *4*	2399.05	$(5)^+$	1934.6				I_γ: 4.8 *4* In 1973Ho09 for doublet.
[x]480.7[f] *3*	0.98[e] *25*							
482.5[f] *3*	2.0 *7*	1707.57	$(4)^-$	1225.04	4^+			I_γ: weighted average of 1.5 *5* (1973Ho09) and 2.9 *7* (1989Po09).
[x]483.9[d] *4*	2.4 *7*							other Eγ (Iγ): 483.8 *3* (2.9 *7*) (1989Po09).
488.2[f] *3*	8.0[e] *20*	1916.5	(6^-)	1428.25	5^+			Mult.: α(K)exp=0.03 *1* for 488.2γ+488.6γ doublet dominated by this transition (1989Po09); consistent with E1 or E2.
488.8[f] *3*	1.5[e] *4*	2330.4		1841.9				Mult.: please see comment on 488.2γ. Eγ=488.41 *20*, Iγ=6.7 *13* for doublet In 1973Ho09.
493.0[f] *3*	90[e] *3*	1718.17	5^-	1225.04	4^+	E1	0.00790	α(K)=0.00661 *10*; α(L)=0.001000 *14*; α(M)=0.000227 *4*; α(N+..)=6.52×10^{-5} *10* α(N)=5.52×10^{-5} *8*; α(O)=9.38×10^{-6} *14*; α(P)=6.46×10^{-7} *9* I_γ: weighted average of 75 *19* (1973Ho09), 86 *6* (1989Po09) and 92 *3* (1994Ki01). Mult.: from α(K)exp=0.008 *2* for 493.0γ+493.6γ doublet (1989Po09)

$^{184}_{76}Os_{108}$-8

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡][g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
								dominated by this transition. Eγ=493.11 *10*, Iγ=86 *6* for doublet In 1973Ho09.
493.6 *3*	7.0 *18*	2201.5	(4)$^+$	1707.57	(4)$^-$			Mult.: α(K)exp=0.008 *2* for 493.0γ+493.6γ doublet (1989Po09). Eγ=493.11 *10*, Iγ=86 *6* for doublet In 1973Ho09.
500.73 *15*	13.3 *13*	1274.90	8$^+$	774.17	6$^+$	E2	0.0227	α(K)=0.01707 *24*; α(L)=0.00431 *6*; α(M)=0.001034 *15*; α(N+..)=0.000293 *5* α(N)=0.000250 *4*; α(O)=4.05×10^{-5} *6*; α(P)=1.81×10^{-6} *3* α(K)exp=0.020 *5* (1989Po09) Iγ: weighted average of 13.8 *10* (1973Ho09) and 9.9 *25* (1989Po09).
502.95 *15*	43.5 *30*	1445.71	(3,4)$^+$	942.77	2$^+$	E2	0.0225	α(K)=0.01690 *24*; α(L)=0.00425 *6*; α(M)=0.001020 *15*; α(N+..)=0.000289 *4* α(N)=0.000247 *4*; α(O)=3.99×10^{-5} *6*; α(P)=1.79×10^{-6} *3* α(K)exp=0.018 *3* (1989Po09) not reported by 1994Ki01.
522.6 *3*	1.8 *3*	2136.0		1613.18	6$^+$			
x524.5[b] *3*	1.00[b] *25*							
x530.24 *20*	2.1 *2*							
539.69 *10*	100.0 *19*	1620.72	4$^-$	1081.01	3$^+$	E1	0.00652	α(K)=0.00546 *8*; α(L)=0.000820 *12*; α(M)=0.000186 *3*; α(N+..)=5.35×10^{-5} *8* α(N)=4.52×10^{-5} *7*; α(O)=7.70×10^{-6} *11*; α(P)=5.36×10^{-7} *8* α(K)exp=0.0052 *5* (1989Po09) Iγ: weighted average of 100 *7* (1973Ho09), 94 *24* (1989Po09) and 100 *2* (1994Ki01).
550.53 *20*	10.6 *21*	1631.55	(4,5)$^+$	1081.01	3$^+$	E2	0.0180	α(K)=0.01380 *20*; α(L)=0.00325 *5*; α(M)=0.000775 *11*; α(N+..)=0.000220 *3* α(N)=0.000188 *3*; α(O)=3.06×10^{-5} *5*; α(P)=1.472×10^{-6} *21* α(K)exp=0.012 *4* (1989Po09)
x554.2[b] *3*	2.0[b] *5*							
x556.0[f] *3*	2.4[e] *6*							
558.0 *4*	4.1 *12*	1500.63	4$^+$	942.77	2$^+$			
559.6[jf] *3*	2.4[je] *6*	942.77	2$^+$	383.77	4$^+$			Mult.: α(K)exp=0.033 *11* for 559.6γ+559.6γ doublet (1989Po09). Eγ=559.3 *4*, Iγ=5.6 *11* for doublet In 1973Ho09.
559.6[jf] *3*	8.5[je] *21*	2400.3	5$^+$,6$^+$	1840.7	(4,5,6)$^+$	M1,E2	0.033 *16*	α(K)=0.027 *14*; α(L)=0.0048 *17*; α(M)=0.0011 *4*; α(N+..)=0.00032 *11* α(N)=0.00027 *9*; α(O)=4.6×10^{-5} *17*; α(P)=3.1×10^{-6} *17* Mult.: α(K)exp=0.033 *11* for 559.6γ+559.6γ doublet (1989Po09) In which this is the major component. Eγ=559.3 *4*, Iγ=5.6 *11* for doublet In 1973Ho09.
562.5[f] *3*	2.4[e] *6*	2399.05	(5)$^+$	1836.29	5$^-$			Mult.: α(K)exp=0.028 *9* for 562.5γ+563.9γ doublet (1989Po09). E_γ,I_γ: E=563.41 *20*, Iγ=5.6 *5* In 1973Ho09 for doublet.
563.9[f] *3*	6.0[e] *15*	2400.3	5$^+$,6$^+$	1836.29	5$^-$	[E1]	0.00595	α(K)=0.00498 *7*; α(L)=0.000746 *11*; α(M)=0.0001695 *24*; α(N+..)=4.86×10^{-5} *7*

$^{184}_{76}Os_{108}$-9

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									α(N)=4.11×10^{-5} *6*; α(O)=7.01×10^{-6} *10*; α(P)=4.91×10^{-7} *7* Mult.: α(K)exp=0.028 *9* for 562.5γ+563.9γ doublet (1989Po09) In which this is the major component; however placement implies E1. E_γ,I_γ: E=563.41 *20*, Iγ=5.6 *5* Iβ 1973Ho09 for doublet.
566.3[f] *3*	3.4[e] *9*	2399.05	(5)$^+$	1832.78	6$^-$				
567.5[f] *3*	1.5[e] *4*	2400.3	5$^+$,6$^+$	1832.78	6$^-$				
571.19 *20*	5.5 *5*	2278.9	(5,6)$^+$	1707.57	(4)$^-$				
584.2[f] *3*	1.5[e] *4*	2128.2	(4,5)$^-$	1543.94	(3)$^-$				
601.16[jf] *11*	43.9[j] *14*	1543.94	(3)$^-$	942.77	2$^+$	[E1]		0.00521	α(K)=0.00437 *7*; α(L)=0.000651 *10*; α(M)=0.0001478 *21*; α(N+..)=4.24×10^{-5} *6* α(N)=3.59×10^{-5} *5*; α(O)=6.12×10^{-6} *9*; α(P)=4.31×10^{-7} *6* I_γ: weighted average of 48 *3* (1973Ho09), 51 *13* (1989Po09) and 43.0 *13* (1994Ki01). Mult.: α(K)exp=0.055 *15* for doublet (1989Po09) dominated by this component. I_γ: 48 *3* for doublet In 1973Ho09.
601.16[j] *11*	9.9[je] *25*	2221.9	(5,6)$^-$	1620.72	4$^-$				Mult.: α(K)exp=0.055 *15* for doublet (1989Po09). I_γ: 48 *3* for doublet In 1973Ho09.
602.6[c]	4[c] *1*	1877.61	6$^+$	1274.90	8$^+$				
606.41 *20*	7.5 *6*	2446.65	(4,5)$^+$	1840.7	(4,5,6)$^+$				
611.26 *11*	11.5 *8*	1836.29	5$^-$	1225.04	4$^+$				
613.82 *11*	19.6 *14*	2446.65	(4,5)$^+$	1832.78	6$^-$				
615.0[f] *3*	1.5[e] *4*	1840.39	(6)$^-$	1225.04	4$^+$				
626.59 *11*	36.1 *25*	1707.57	(4)$^-$	1081.01	3$^+$	E1		0.00479	α(K)=0.00402 *6*; α(L)=0.000597 *9*; α(M)=0.0001355 *19*; α(N+..)=3.89×10^{-5} *6* α(N)=3.29×10^{-5} *5*; α(O)=5.62×10^{-6} *8*; α(P)=3.97×10^{-7} *6*
653.98 *11*	10.0 *6*	1428.25	5$^+$	774.17	6$^+$	E2+M1	+8 +*5*−*2*	0.0125 *3*	α(K)exp=0.0036 *11* (1989Po09) α(K)=0.0098 *3*; α(L)=0.00204 *4*; α(M)=0.000481 *9*; α(N+..)=0.000137 *3* α(N)=0.0001168 *22*; α(O)=1.93×10^{-5} *4*; α(P)=1.05×10^{-6} *3* α(K)exp=0.009 *3* (1989Po09) I_γ: weighted average of 10.9 *8* (1973Ho09), 13 *3* (1989Po09) and 9.4 *6* (1994Ki01). Mult.: from A_2=−0.09 *9*, A_4=−0.18 *11* (1994Ki01).
657.88[j] *20*	4.1[je] *10*	2086.3	(4$^+$,5,6$^-$)	1428.25	5$^+$				Iγ=7.4 *6* for doublet In 1973Ho09.
657.88[j] *20*	2.9[je] *7*	2201.5	(4)$^+$	1543.94	(3)$^-$				Iγ=7.4 *6* for doublet In 1973Ho09.
667.60 *20*	6.5 *7*	1892.8	(3$^+$,4,5$^-$)	1225.04	4$^+$				
[x]674.3[b] *3*	1.5[b] *4*								

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
[x]675.8[b] 3	1.00[b] 25								
682.14 10	9.3 7	2400.3	$5^+,6^+$	1718.17	5^-	E1		0.00404	α(K)=0.00339 5; α(L)=0.000501 7; α(M)=0.0001136 16; α(N+..)=3.26×10^{-5} 5 α(N)=2.76×10^{-5} 4; α(O)=4.72×10^{-6} 7; α(P)=3.37×10^{-7} 5 Mult.: α(K)exp=0.0045 25 for 682.2γ+684.1γ doublet (1989Po09) In which this transition is the major component.
684.3 3	2.4 3	1959.0	(7^-)	1274.90	8^+	(E1+M2)		0.04 4	Mult.: α(K)exp=0.0045 25 for 682.2γ+684.1γ doublet (1989Po09).
[x]687.8[b] 3	1.5[b] 4								
[x]689.5[b] 3	2.9[b] 7								
691.58 20	12.3 9	2399.05	$(5)^+$	1707.57	$(4)^-$	E1		0.00393	α(K)=0.00330 5; α(L)=0.000487 7; α(M)=0.0001104 16; α(N+..)=3.17×10^{-5} 5 α(N)=2.68×10^{-5} 4; α(O)=4.59×10^{-6} 7; α(P)=3.28×10^{-7} 5 α(K)exp=0.004 2 (1989Po09)
697.26 12	23.3 9	1081.01	3^+	383.77	4^+	E2+M1	−10 +2−4	0.01070 18	α(K)=0.00847 15; α(L)=0.00171 3; α(M)=0.000402 7; α(N+..)=0.0001148 18 α(N)=9.77×10^{-5} 15; α(O)=1.620×10^{-5} 25; α(P)=9.10×10^{-7} 16 α(K)exp=0.0075 22 (1989Po09) I_γ: weighted average of 24.8 17 (1973Ho09), 24 6 (1989Po09) and 22.6 11 (1994Ki01). δ: from A_2=+0.11 5, A_4=−0.20 6 (1994Ki01).
[x]706.2[f] 3	1.6[e] 4								
716.3 3	2.6 3	2549.3	$(5,6)^-$	1832.78	6^-	M1		0.0262	α(K)=0.0218 3; α(L)=0.00339 5; α(M)=0.000773 11; α(N+..)=0.000224 4 α(N)=0.000189 3; α(O)=3.27×10^{-5} 5; α(P)=2.47×10^{-6} 4 α(K)exp=0.0022 11 (1989Po09)
726.1 3	5.8 5	2001.5	(7^-)	1274.90	8^+	D			Mult.: from Adopted Gammas; α(K)exp=0.010 4 for 726.2γ+728.6γ doublet (1989Po09).
726.6[c]	5.7[c] 4	1500.63	4^+	774.17	6^+				I_γ: weighted average of 5.8 5 (1973Ho09), 5.5 14 (1989Po09) and 5.4 10 (1994Ki01).
728.40 20	2.8 4	2446.65	$(4,5)^+$	1718.17	5^-				E_γ: average from 1973Ho09 and 1989Po09. Mult.: α(K)exp=0.010 4 for 726.2γ+728.6γ doublet (1989Po09).
[x]738.1 3	2.3 2								other Eγ (Iγ): 737.9 3 (2.4 6) (1989Po09).
[x]751.6[b] 3	1.0[b] 5								
[x]756.8[b] 3	2.4[b] 6								
760.7[f] 3	2.0[e] 5	1841.9		1081.01	3^+				
767.49 13	17.0 17	2399.05	$(5)^+$	1631.55	$(4,5)^+$	M1+E2		0.015 7	α(K)=0.013 6; α(L)=0.0021 8; α(M)=0.00048 17;

$^{184}_{76}Os_{108}$-11

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									α(N+..)=0.00014 *5* α(N)=0.00012 *5*; α(O)=2.0×10^{-5} *8*; α(P)=1.4×10^{-6} *7* α(K)exp=0.015 *5* (1989Po09)
[x]775.7[b] *3*	2.0[b] *4*								
778.25[j] *13*	2.4[je] *6*	2278.9	(5,6)$^+$	1500.63	4$^+$				Mult.: α(K)exp=0.0044 *13* for 778.2γ+778.2γ doublet (1989Po09).
778.25[j] *13*	15[je] *4*	2399.05	(5)$^+$	1620.72	4$^-$	E1		0.00312	α(K)=0.00262 *4*; α(L)=0.000384 *6*; α(M)=8.70×10^{-5} *13*; α(N+..)=2.50×10^{-5} *4* α(N)=2.11×10^{-5} *3*; α(O)=3.62×10^{-6} *5*; α(P)=2.62×10^{-7} *4* Mult.: α(K)exp=0.0044 *13* for 778.2γ+778.2γ doublet (1989Po09) dominated by this transition. Iγ=15.9 *11* for doublet In 1989Po09.
[x]781.7 *3*	2.3 *3*								
786.96 *25*	7.9 *6*	2400.3	5$^+$,6$^+$	1613.18	6$^+$	M1+E2		0.014 *7*	α(K)=0.012 *6*; α(L)=0.0019 *7*; α(M)=0.00045 *16*; α(N+..)=0.00013 *5* α(N)=0.00011 *4*; α(O)=1.9×10^{-5} *7*; α(P)=1.3×10^{-6} *7* α(K)exp=0.011 *4* (1989Po09)
[x]803.4 *4*	1.2 *2*								
815.03 *14*	10.8 *9*	2446.65	(4,5)$^+$	1631.55	(4,5)$^+$	M1,E2		0.013 *6*	α(K)=0.011 *5*; α(L)=0.0018 *7*; α(M)=0.00041 *15*; α(N+..)=0.00012 *5* α(N)=0.00010 *4*; α(O)=1.7×10^{-5} *7*; α(P)=1.2×10^{-6} *6* α(K)exp=0.014 *6* (1989Po09)
821.6[c]	3.0[c] *6*	1205.1	2$^+$	383.77	4$^+$				absent In 1973Ho09 and 1989Po09, but May have been masked by (or included with) strong 823γ.
822.97 *13*	52.3 *13*	942.77	2$^+$	119.80	2$^+$	E2+M1	−12 +*2*−*3*	0.00746	α(K)=0.00600 *9*; α(L)=0.001121 *17*; α(M)=0.000262 *4*; α(N+..)=7.49×10^{-5} *11* α(N)=6.36×10^{-5} *10*; α(O)=1.065×10^{-5} *16*; α(P)=6.45×10^{-7} *10* α(K)exp=0.0060 *18* (1989Po09) I_γ: from 1994Ki01. other Iγ: 56 *4* (1973Ho09, 60 *15* (1989Po09); it is unclear whether these intensities include the 821.6γ (Iγ=3.0 *6*) reported In 1994Ki01 alone. δ: from A_2=−0.01 *6*, A_4=±0.31 *6* (1994Ki01).
826.05 *14*	18.9 *15*	2446.65	(4,5)$^+$	1620.72	4$^-$	E1		0.00278	α(K)=0.00234 *4*; α(L)=0.000341 *5*; α(M)=7.73×10^{-5} *11*; α(N+..)=2.22×10^{-5} *4* α(N)=1.88×10^{-5} *3*; α(O)=3.22×10^{-6} *5*; α(P)=2.34×10^{-7} *4* α(K)exp=0.004 *2* (1989Po09)
832.96 *24*	3.2 *7*	2278.9	(5,6)$^+$	1445.71	(3,4)$^+$				E_γ,I_γ: weighted average from 1973Ho09 and 1989Po09.
839.1 *3*	22.7 *15*	1613.18	6$^+$	774.17	6$^+$	E2+M1	+8 *4*	0.0073 *5*	α(K)=0.0058 *4*; α(L)=0.00108 *6*; α(M)=0.000252 *13*; α(N+..)=7.2×10^{-5} *4* α(N)=6.1×10^{-5} *3*; α(O)=1.03×10^{-5} *6*; α(P)=6.3×10^{-7} *5* I_γ: unweighted average of 21.3 *15* (1973Ho09), 21 *5* (1989Po09) and 25.7 *13* (1994Ki01). the weighted average is 23.7 *16*. Mult.: from γ(θ); Δπ=No based on large δ. α(K)exp=0.0061

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									15 for 839.1γ+841.3γ doublet (1989Po09).
									δ: from A_2=−0.14 *7*, A_4=+0.13 *8* (1994Ki01).
841.33 *20*	131.1 *25*	1225.04	4^+	383.77	4^+	E2+M1	−10 +*2*−*4*	0.00716 *12*	α(K)=0.00577 *10*; α(L)=0.001066 *17*; α(M)=0.000249 *4*; α(N+..)=7.12×10^{-5} *11* α(N)=6.04×10^{-5} *10*; α(O)=1.013×10^{-5} *16*; α(P)=6.20×10^{-7} *11* I_γ: weighted average of 117 *8* (1973Ho09), 121 *30* (1989Po09) and 132 *2* (1994Ki01). Mult.: from γ(θ); Δπ=No based on large δ. α(K)exp=0.0061 *15* for 839.1γ+841.3γ doublet (1989Po09) dominated by this transition. A_2=−0.04 *8*, A_4=+0.14 *4* (1994Ki01).
857.5 *3*	6.9 *6*	1631.55	$(4,5)^+$	774.17	6^+				I_γ: weighted average of 7.0 *6* (1973Ho09) and 6.5 *16* (1989Po09). Not reported by 1994Ki01.
[x]868.7 *3*	2.5 *3*								
[x]884.3[b] *3*	2.4[b] *6*								
886.7 *3*	4.3 *4*	2719.87	$(5,6^+)$	1832.78	6^-				E_γ: average from 1973Ho09 and 1989Po09.
895.9[f] *3*	3.4[e] *9*	2170.8		1274.90	8^+				probably the Eγ=896.6 *4*, Iγ=2.6 *3* line placed by 1973Ho09 from an otherwise unknown 2325 level.
[x]905.1 *4*	3.4 *3*								
[x]931.1[f] *3*	3.4[e] *9*								
942.87 *20*	47.5 *16*	942.77	2^+	0.0	0^+	E2[&]		0.00559	α(K)=0.00454 *7*; α(L)=0.000806 *12*; α(M)=0.000187 *3*; α(N+..)=5.36×10^{-5} *8* α(N)=4.55×10^{-5} *7*; α(O)=7.66×10^{-6} *11*; α(P)=4.87×10^{-7} *7* α(K)exp=0.0035 *9* (1989Po09) I_γ: weighted average of 54 *4* (1973Ho09), 55 *14* (1989Po09) and 46.7 *13* (1994Ki01); the unweighted average is 52 *3*. the evaluator assumes Iγ=5.5 In 1989Po09 is a typographical error (one order of magnitude too low); branching shown In fig. 1 of 1989Po09 supports this interpretation.
944.14 *20*	41.5 *21*	1718.17	5^-	774.17	6^+	(E1+M2)[&]	−0.09 *2*	0.00241 *13*	α(K)=0.00202 *11*; α(L)=0.000298 *18*; α(M)=6.8×10^{-5} *4*; α(N+..)=1.95×10^{-5} *12* α(N)=1.65×10^{-5} *10*; α(O)=2.83×10^{-6} *17*; α(P)=2.08×10^{-7} *13* I_γ: weighted average of 40 *3* (1973Ho09), 41 *10* (1989Po09) and 43 *3* (1994Ki01). Mult.,δ: A_2=−0.05 *5*, A_4=0.10 *6* (1994Ki01); Δπ=yes from level scheme.
953.45 *16*	11.3 *12*	2399.05	$(5)^+$	1445.71	$(3,4)^+$	M1		0.01267	α(K)=0.01056 *15*; α(L)=0.001627 *23*; α(M)=0.000371 *6*; α(N+..)=0.0001075 *15*

$^{184}_{76}Os_{108}$-13

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									α(N)=9.06×10^{-5} *13*; α(O)=1.569×10^{-5} *22*; α(P)=1.191×10^{-6} *17* α(K)exp=0.012 *5* (1989Po09)
961.26 *15*	159 *4*	1081.01	3$^+$	119.80	2$^+$	E2+M1	+9.3 *+20−14*	0.00545 *9*	α(K)=0.00444 *7*; α(L)=0.000780 *12*; α(M)=0.000181 *3*; α(N+..)=5.19×10^{-5} *8* α(N)=4.40×10^{-5} *7*; α(O)=7.42×10^{-6} *11*; α(P)=4.77×10^{-7} *8* α(K)exp=0.004 *1* (1989Po09) I_γ: weighted average of 183 *13* (1973Ho09), 210 *53* (1989Po09) and 158 *3* (1994Ki01). the unweighted average is 184 *15*. δ: from A_2=−0.11 *3*, A_4=−0.12 *4* (1994Ki01).
[x]966.1[b] *3*	2.0[b] *4*								
970.6 *4*	4.3 *4*	2399.05	(5)$^+$	1428.25	5$^+$				E_γ: weighted average of 970.1 *4* (1973Ho09) and 970.9 *3* (1989Po09). other Eγ (Iγ): 996.8 *3* (2.4 *6*) (1989Po09).
[x]997.1 *4*	2.9 *3*								
1001.63 *24*	3.1 *3*	2719.87	(5,6$^+$)	1718.17	5$^-$				E_γ: average from 1973Ho09 and 1989Po09.
[x]1006.5[f] *3*	2.9[e] *7*								
[x]1008.9[b] *3*	1.00[b] *25*								
1017.3[f] *3*	1.5[e] *4*	2463.7	(4$^+$,5,6$^+$)	1445.71	(3,4)$^+$				
[x]1032.3[b] *3*	2.4[b] *6*								
[x]1034.2[b] *3*	1.00[b] *25*								
[x]1040.5[b] *3*	2.4[b] *6*								
1044.55 *14*	85.4 *19*	1428.25	5$^+$	383.77	4$^+$	E2+M1	+24 *8*	0.00456	α(K)=0.00373 *6*; α(L)=0.000640 *9*; α(M)=0.0001479 *21*; α(N+..)=4.25×10^{-5} *6* α(N)=3.60×10^{-5} *5*; α(O)=6.09×10^{-6} *9*; α(P)=4.00×10^{-7} *6* α(K)exp=0.0037 *11* (1989Po09) I_γ: weighted average of 79 *6* (1973Ho09), 94 *24* (1989Po09) and 86 *2* (1994Ki01). δ: from A_2=−0.10 *4*, A_4=−0.06 *4* (1994Ki01).
1058.69 *26*	1.7 *4*	1832.78	6$^-$	774.17	6$^+$				E_γ: weighted average of data from 1973Ho09 and 1989Po09. I_γ: unweighted average of 1.0 *5* (1973Ho09), 2.4 *6* (1989Po09) and 1.6 *5* (1994Ki01). weighted average is 1.6 *4*.
1062.2[jf] *3*	18[je] *5*	1445.71	(3,4)$^+$	383.77	4$^+$				Mult.: α(K)exp=0.0036 *14* for 1062.2γ+1062.2γ doublet (1989Po09).
1062.2[jf] *3*	28[je] *7*	1836.29	5$^-$	774.17	6$^+$				I(1062γ from 1836):I(1062γ from 1446)=6.4 *13*:37 *4* In 1973Ho09 cf. 17:11 In 1989Po09. Mult.: α(K)exp=0.0036 *14* for 1062.2γ+1062.2γ doublet (1989Po09).

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡ g]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	α [h]	Comments
1066.1 [f] *3*	13 [e] *3*	1840.39	$(6)^-$	774.17	6^+	D		E=1066.21 *14*, Iγ=22.5 *16* for doublet In 1973Ho09. Mult.: from Adopted Gammas; α(K)exp=0.0027 *11* for 1066.1γ+1066.5γ doublet (1989Po09).
1066.5 [f] *3*	13 [e] *3*	1840.7	$(4,5,6)^+$	774.17	6^+			E=1066.21 *14*, Iγ=22.5 *16* for doublet In 1973Ho09. Mult.: α(K)exp=0.0027 *11* for 1066.1γ+1066.5γ doublet (1989Po09).
1072.6 *3*	3.0 *3*	2518.3		1445.71	$(3,4)^+$			
1085.8 *4*	3.2 *10*	1205.1	2^+	119.80	2^+			I_γ: unweighted average of 2.2 *3* (1973Ho09) and 4.2 *6* (1994Ki01). The weighted average is 2.6 *3*.
[x]1096.1 *5*	1.5 *3*							
1103.5 *3*	13.9 *18*	1877.61	6^+	774.17	6^+	E2+M1+E0		α(K)exp=0.0085 *35* (1989Po09) Mult.,δ: A_2=−0.09 *14*, A_4=+0.13 *20* (1994Ki01); δ(M1,E2)=−7 *3*. I_γ: weighted average of 13.4 *20* (1973Ho09) and 16 *4* (1989Po09). q^2(E0/E2)=1.5 *11*; X(E0/E2)=0.08 *6* (1994Ki01).
1105.28 [j f] *20*	89 [j] *4*	1225.04	4^+	119.80	2^+	E2	0.00408	α(K)=0.00335 *5*; α(L)=0.000564 *8*; α(M)=0.0001301 *19*; α(N+..)=3.76×10^{-5} *6* α(N)=3.16×10^{-5} *5*; α(O)=5.37×10^{-6} *8*; α(P)=3.58×10^{-7} *5*; α(IPF)=2.31×10^{-7} *4* I_γ: weighted average of 78 *8* (1973Ho09), 95 *24* (1989Po09) and 91 *4* (1994Ki01). Mult.: α(K)exp=0.0035 *14* (1989Po09) for doublet dominated by this transition. A_2=+0.09 *5*, A_4=+0.03 *6* (1994Ki01).
1105.28 [j] *20*	5.0 [j e] *13*	2330.4		1225.04	4^+			Mult.: see comment on 1105γ from 1225 level.
[x]1114.6 [b] *3*	2.9 [b] *7*							
1116.91 *14*	14.2 *12*	1500.63	4^+	383.77	4^+	E2+M1+E0	0.0089	α=0.0089; α(K)=0.00738 *23*; α(L)=0.00114 *4* α(K)exp=0.0076 *23* (1989Po09) δ(M1,E2)=−21 *8* from A_2=−0.10 *7*, A_4=+0.14 *8* (1994Ki01). I_γ: weighted average of 13.0 *10* (1973Ho09), 20 *5* (1989Po09) and 15.9 *13* (1994Ki01). q^2(E0/E2)=1.3 *7*; X(E0/E2)=0.07 *4* (1994Ki01).
1121.1 [f] *3*	4.1 [e] *10*	2549.3	$(5,6)^-$	1428.25	5^+			
[x]1125.3 [b] *3*	2.0 [b] *5*							
[x]1133.7 *4*	1.9 *3*							other Eγ (Iγ): 1133.0 *3* (1.8 *5*) (1989Po09).
[x]1134.9 [b] *3*	1.5 [b] *4*							
[x]1138.21 *24*	1.7 *5*							E_γ,I_γ: weighted average of data from 1973Ho09 and 1989Po09.
1142.25 *17*	10.6 *8*	1916.5	(6^-)	774.17	6^+	(E1)	1.54×10^{-3}	α(K)=0.001292 *18*; α(L)=0.000185 *3*; α(M)=4.18×10^{-5} *6*;

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									α(N+..)=1.656×10^{-5} *24* α(N)=1.018×10^{-5} *15*; α(O)=1.753×10^{-6} *25*; α(P)=1.304×10^{-7} *19*; α(IPF)=4.50×10^{-6} *7* α(K)exp≤0.003 (1989Po09) Mult.: α(K)exp consistent with E1 or E2; level scheme requires Δπ=yes.
1154.31 *17*	10.7 *7*	1928.5	(4$^+$,5,6$^+$)	774.17	6$^+$	E2,E1		0.0026 *12*	α=0.0026 *12*; α(K)=0.0022 *10*; α(L)=0.00035 *17* α(K)exp≤0.003 (1989Po09)
1160.29 *17*	2.7 *7*	1543.94	(3)$^-$	383.77	4$^+$	E1+M2	+0.08 *5*	0.00161 *18*	α(K)=0.00135 *15*; α(L)=0.000195 *25*; α(M)=4.4×10^{-5} *6*; α(N+..)=2.02×10^{-5} *16* α(N)=1.07×10^{-5} *14*; α(O)=1.85×10^{-6} *24*; α(P)=1.38×10^{-7} *18*; α(IPF)=7.46×10^{-6} *14* α(K)exp≤0.003 (1989Po09) I_γ: from 1994Ki01. however, far larger values are reported by 1973Ho09 (12.0 *8*) and 1989Po09 (16 *4*); the source of this discrepancy is not known. Mult.,δ: D+Q from A_2=−0.18 *7*, A_4=−0.06 *9* (1994Ki01); E2,E1 from α(K)exp≤0.003.
x1185.3[b] *3*	2.4[b] *6*								
x1197.6 *3*	2.6 *3*								other Eγ (Iγ): 1198.0 *3* (2.0 *5*) (1989Po09).
1204.9[ck]	3.3[c] *6*	1205.1	2$^+$	0.0	0$^+$				possibly part of Eγ=1205.8 *3*, Iγ=3.0 *3* doublet reported by 1973Ho09; absent In 1989Po09, so shown As doubtful here.
1217.2 *3*	4.0 *4*	1991.5	6$^+$	774.17	6$^+$	M1(+E2+E0)			α(K)exp=0.014 *7* (1989Po09)
x1225.3 *3*	3.5 *4*								
1229.40 *12*	17.5 *21*	1613.18	6$^+$	383.77	4$^+$	E2		0.00333	α(K)=0.00274 *4*; α(L)=0.000448 *7*; α(M)=0.0001031 *15*; α(N+..)=3.70×10^{-5} *6* α(N)=2.51×10^{-5} *4*; α(O)=4.27×10^{-6} *6*; α(P)=2.93×10^{-7} *4*; α(IPF)=7.40×10^{-6} *11* α(K)exp=0.002 *1* (1989Po09) I_γ: unweighted average of 17.9 *13* (1973Ho09), 21 *5* (1989Po09) and 13.7 *13* (1994Ki01). the weighted average is 16.0 *16*. A_2=+0.11 *7*, A_4=−0.02 *8* (1994Ki01).
1236.93 *12*	32.2 *15*	1620.72	4$^-$	383.77	4$^+$	E1+M2	+0.15 *2*	0.00168 *10*	α(K)=0.00139 *8*; α(L)=0.000204 *13*; α(M)=4.6×10^{-5} *3*; α(N+..)=4.45×10^{-5} *9* α(N)=1.13×10^{-5} *7*; α(O)=1.95×10^{-6} *13*; α(P)=1.45×10^{-7} *9*; α(IPF)=3.11×10^{-5} *5* α(K)exp=0.0011 *6* (1989Po09) I_γ: weighted average of 30.9 *22* (1973Ho09), 36 *9* (1989Po09) and 33 *2* (1994Ki01). δ: from A_2=+0.14 *5*, A_4=−0.01 *7* (1994Ki01).
1247.81 *12*	39.2 *27*	1631.55	(4,5)$^+$	383.77	4$^+$	M1,E2		0.0049 *17*	α(K)=0.0040 *14*; α(L)=0.00063 *20*; α(M)=0.00014 *5*;

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ[†]	I_γ[‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[@]	α[h]	Comments
									α(N+..)=5.3×10^{-5} *16* α(N)=3.5×10^{-5} *11*; α(O)=6.0×10^{-6} *19*; α(P)=4.5×10^{-7} *16*; α(IPF)=1.19×10^{-5} *23* α(K)exp=0.0025 *10* (1989Po09) other Iγ: 47 *12* (1989Po09); however, γ not reported by 1994Ki01.
[x]1276.0 *4*	1.9 *2*								
[x]1281.4 *5*	1.6 *2*								
[x]1290.9[f] *3*	2.0[e] *5*								Eγ=1291.8 *3*, Iγ=2.7 *2* (1973Ho09), probably for doublet.
1292.7[f] *3*	3.4[e] *9*	2719.87	(5,6$^+$)	1428.25	5$^+$				Eγ=1291.8 *3*, Iγ=2.7 *2* (1973Ho09) is probably for 1293γ+1291γ doublet.
1301.53 *25*	3.6 *4*	2076.1		774.17	6$^+$				
1311.65 *25*	4.9 *7*	2086.3	(4$^+$,5,6$^-$)	774.17	6$^+$				E_γ: weighted average from 1973Ho09 and 1989Po09.
1314.4[f] *3*	3.5 *7*	1697.98	(3$^+$,4$^+$)	383.77	4$^+$	M1+E2(+E0)			α(K)exp=0.035 *15* (1989Po09) α(K)exp implies mult=M1+E2+E0 or anomalous M1+E2.
1323.77 *25*	10.4 *10*	1707.57	(4)$^-$	383.77	4$^+$				Mult.: α(K)exp≤0.0025 for 1324γ+1326γ doublet (1989Po09).
1325.73 *25*	12.5 *11*	1445.71	(3,4)$^+$	119.80	2$^+$				Mult.: α(K)exp≤0.0025 for 1324γ+1326γ doublet (1989Po09). other Iγ: 16 *4* In 1989Po09. Absent In 1994Ki01.
1334.30 *12*	35.3 *21*	1718.17	5$^-$	383.77	4$^+$	E1+M2	+0.12 *+6–5*	0.00141 *21*	α(K)=0.00112 *17*; α(L)=0.00016 *3*; α(M)=3.7×10^{-5} *7*; α(N+..)=8.57×10^{-5} *14* α(N)=9.0×10^{-6} *16*; α(O)=1.6×10^{-6} *3*; α(P)=1.16×10^{-7} *21*; α(IPF)=7.50×10^{-5} *16* α(K)exp≤0.0015 (1989Po09) I_γ: weighted average of 34.3 *24* (1973Ho09), 41 *10* (1989Po09) and 36 *3* (1994Ki01). δ: from A_2=0.00 *6*, A_4=+0.02 *7* (1994Ki01). other Iγ: 41 *10* (1989Po09).
1361.7 *21*	5.6 *6*	2136.0		774.17	6$^+$				E_γ: weighted average from 1973Ho09 and 1989Po09.
[x]1371.2[f] *3*	6.0[e] *15*								Eγ does not fit the placement from 1501 level indicated In table 1 of 1989Po09.
[x]1378.7 *5*	3.3 *7*								
1380.9[f] *3*	8.3 *16*	1500.63	4$^+$	119.80	2$^+$				A_2=+0.06 *11* (1994Ki01). I_γ: weighted average of 5.0 *10* (1973Ho09), 11 *3* (1989Po09) and 9.0 *5* (1994Ki01).
[x]1387.6[b] *3*	2.0[b] *5*								
[x]1396.8 *4*	1.8 *3*								other Eγ (Iγ): 1396.7 *3* (3.4 *5*) (1989Po09).
[x]1402.1 *4*	1.1 *3*								

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
1412.7 *3*	3.4 *5*	2493.7		1081.01	3^+			I_γ: weighted average of 3.3 *4* (1973Ho09) and 5.0 *13* (1989Po09).
1424.1 *3*	3.3 *3*	1543.94	$(3)^-$	119.80	2^+			I_γ: weighted average of 3.3 *3* (1973Ho09), 5.0 *13* (1989Po09) and 3.0 *6* (1994Ki01).
1436.72 *24*	2.0 *3*	2518.3		1081.01	3^+			E_γ: average from 1973Ho09 and 1989Po09.
1452.50 *15*	12.0 *8*	1836.29	5^-	383.77	4^+	E1		α(K)exp≤0.002 (1989Po09) Mult.: from Adopted Gammas; E1,E2 from α(K)exp.
1456.9[f] *3*	5.0[e] *13*	1840.7	$(4,5,6)^+$	383.77	4^+			Mult.: α(K)exp≤0.0013 for 1456.9γ+1458.1γ doublet (1989Po09). E=1457.89 *15*, Iγ=20.3 *14* for doublet In 1973Ho09.
1457.89 *15*	20.3 *14*	1841.9		383.77	4^+			Mult.: α(K)exp≤0.0013 for 1456.9γ+1458.1γ doublet (1989Po09). γ not reported by 1994Ki01.
[x]1469.8 *4*	2.5 *3*							
1493.89 *19*	7.6 *4*	1877.61	6^+	383.77	4^+			A_2=+0.13 *10* (1994Ki01). E_γ: weighted average from 1973Ho09 and 1989Po09. I_γ: weighted average of 7.7 *6* (1973Ho09), 9.9 *25* (1989Po09) and 7.4 *6* (1994Ki01).
1504.72 *25*	5.4 *5*	2278.9	$(5,6)^+$	774.17	6^+			
1514.93 *20*	10.0 *8*	1898.8		383.77	4^+	E2,E1		α(K)exp≤0.002 (1989Po09)
[x]1524.0 *5*	1.0 *2*							
[x]1532.0 *5*	1.2 *2*							
1544.6 *3*	6.8 *5*	1928.5	$(4^+,5,6^+)$	383.77	4^+			
1550.66 *25*	9.4 *7*	1934.6		383.77	4^+	E2,E1		α(K)exp≤0.002 (1989Po09)
[x]1570.2[a] *5*	2.3 *3*							
1578.17 *25*	7.3 *6*	1697.98	$(3^+,4^+)$	119.80	2^+	(E2)	0.00217	α(K)=0.001725 *25*; α(L)=0.000268 *4*; α(M)=6.13×10^{-5} *9*; α(N+..)=0.0001115 *16* α(N)=1.493×10^{-5} *21*; α(O)=2.56×10^{-6} *4*; α(P)=1.84×10^{-7} *3*; α(IPF)=9.39×10^{-5} *14* α(K)exp≤0.002 (1989Po09) Mult.: E1,E2 from α(K)exp; Δπ=No from level scheme.
1607.70 *25*	7.5 *6*	1991.5	6^+	383.77	4^+	E2,E1		α(K)exp≤0.002 (1989Po09)
1625.95 *20*	12.8 *9*	2400.3	$5^+,6^+$	774.17	6^+	M1,E2	0.0028 *8*	α(K)=0.0022 *6*; α(L)=0.00034 *9*; α(M)=7.7×10^{-5} *20*; α(N+..)=0.00016 *3* α(N)=1.9×10^{-5} *5*; α(O)=3.3×10^{-6} *9*; α(P)=2.4×10^{-7} *7*; α(IPF)=0.00014 *3* α(K)exp=0.0033 *15* (1989Po09) other Iγ: 18 *5* (1989Po09).
[x]1635.5 *3*	4.7 *6*							
1672.4 *3*	55 *4*	2446.65	$(4,5)^+$	774.17	6^+	M1,E2	0.0027 *7*	α(K)=0.0021 *6*; α(L)=0.00032 *8*; α(M)=7.2×10^{-5} *18*; α(N+..)=0.00018 *4* α(N)=1.8×10^{-5} *5*; α(O)=3.1×10^{-6} *8*; α(P)=2.3×10^{-7} *7*; α(IPF)=0.00016 *3* α(K)exp=0.0029 *12* (1989Po09) other Iγ: 67 *17* (1989Po09).
[x]1684.7[f] *3*	5.0[e] *13*							
1689.5[f] *3*	5.0[e] *13*	2463.7	$(4^+,5,6^+)$	774.17	6^+			
1697.8 *3*	6.0 *5*	1697.98	$(3^+,4^+)$	0.0	0^+			
1698.4[f] *3*	5.5[e] *14*	2472.4	$(4^+,5,6^+)$	774.17	6^+			

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡§g]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[h]	Comments
[x]1717.8	1.4 *2*							E_γ: weighted average from 1973Ho09 and 1989Po09.
1744.1[f] *3*	3.4[e] *9*	2128.2	$(4,5)^-$	383.77	4^+			
[x]1746.6[a] *3*	2.9 *7*							E_γ,I_γ: weighted average from 1973Ho09 and 1989Po09.
[x]1774.5 *7*	1.3 *3*							
[x]1793.7[f] *3*	4.1[e] *10*							
[x]1818.0 *5*	3.5 *6*							
[x]1849.7 *5*	5.1 *5*							
[x]1861.2[a] *6*	1.4 *3*							
1895.3[f] *3*	3.5 *3*	2278.9	$(5,6)^+$	383.77	4^+			other Iγ: 5.0 *13* (1989Po09).
[x]1899.8[a] *6*	2.2 *3*							
[x]1913.7[f] *3*	6.0[e] *15*							Eγ=1914.6 *6*, Iγ=2.7 *3* (1973Ho09) for doublet.
[x]1930.4 *5*	1.3 *2*							
[x]1940.5[d] *6*	1.9 *2*							
1945.4[f] *3*	3.6 *3*	2719.87	$(5,6^+)$	774.17	6^+			
[x]1961.5[f] *3*	2.0 *2*							other Iγ: 4.6 *12* (1989Po09).
[x]1968.1[f] *3*	2.4[e] *6*							
[x]1992.7 *6*	1.6 *2*							
[x]2005.3 *7*	2.2 *3*							
2014.8 *6*	2.5 *3*	2399.05	$(5)^+$	383.77	4^+			
[x]2028.5 *7*	2.1 *2*							
2063.0[f] *3*	67 *5*	2446.65	$(4,5)^+$	383.77	4^+	M1,E2	0.0019 *4*	α(K)=0.0013 *3*; α(L)=0.00020 *4*; α(M)=4.5×10^{-5} *9*; α(N+..)=0.00038 *7* α(N)=1.10×10^{-5} *22*; α(O)=1.9×10^{-6} *4*; α(P)=1.4×10^{-7} *4*; α(IPF)=0.00037 *7* α(K)exp=0.0014 *7* (1989Po09) other Iγ: 93 *23* (1989Po09).
2080.4[f] *3*	3.3 *4*	2463.7	$(4^+,5,6^+)$	383.77	4^+			
2088.4[f] *3*	7.0[e] *18*	2472.4	$(4^+,5,6^+)$	383.77	4^+			
2109.8[f] *3*	5.0[e] *13*	2493.7		383.77	4^+			
2134.4[f] *3*	8.8 *7*	2518.3		383.77	4^+			other Iγ: 12 *3* (1989Po09).
[x]2167.2[f] *3*	4.2 *4*							other Iγ: 12 *3* (1989Po09).
[x]2243.0 *6*	14.0 *11*							absent In 1989Po09; probably does not belong to ^{184}Ir decay.
[x]2257.1 *6*	3.1 *3*							other Iγ: 5.0 *13* (1989Po09).
2336.1[f] *3*	1.3 *2*	2719.87	$(5,6^+)$	383.77	4^+			other Iγ: 2.4 *6* (1989Po09).
[x]2373.5 *6*	2.2 *3*							
[x]2399.4 *7*	3.3 *4*							
[x]2469.8 *6*	2.2 *2*							
[x]2478.7 *6*	2.4 *2*							
[x]2665.3 *5*	3.5 *3*							
[x]2811.2[f] *3*	8.5[e] *21*							

$^{184}_{76}Os_{108}$-19

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09 (continued)

γ(^{184}Os) (continued)

E_γ [†]	I_γ [‡] [g]	E_i(level)
[x]2871.8 [f] 3	2.0 [e] 5	
[x]3178.7 [f] 3	2.3 3	

[†] From 1973Ho09, except As noted.
[‡] Photon intensity relative to I(264γ)=1000; from 1973Ho09, except As noted.
[#] From conversion electron data of 1989Po09, except as noted. Relative γ and ce intensities were normalized so that α(K)exp(264γ)=α(K)(E2)=0.082, unless noted to the contrary.
[@] From γ(θ) (1994Ki01).
[&] α(K)exp(943+944)=0.0034 9 is consistent with E2(943γ) and E1(944γ) expected from the decay scheme.
[a] Composite peak In 1973Ho09.
[b] Reported by 1989Po09 only; transition cannot Be unambiguously attributed to ^{184}Ir ε decay.
[c] From 1994Ki01. Uncertainty In Eγ unstated by authors, but Eγ differs from value In 1989Po09 by≤0.2 keV In most cases, and never by more than 0.6 keV.
[d] Assigned As deexciting a 2425 level In 1973Ho09, but 1989Po09 do not confirm existence of that level; transition cannot Be definitely assigned to ^{184}Ir ε decay.
[e] From 1989Po09. authors state that uncertainty varies from 5% to 25% depending on Iγ; the evaluator assigns 5% if Iγ≥300, 25% if Iγ<300.
[f] From 1989Po09.
[g] For absolute intensity per 100 decays, multiply by 0.0644 17.
[h] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[i] Multiply placed with undivided intensity.
[j] Multiply placed with intensity suitably divided.
[k] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

$^{184}_{76}Os_{108}$-20

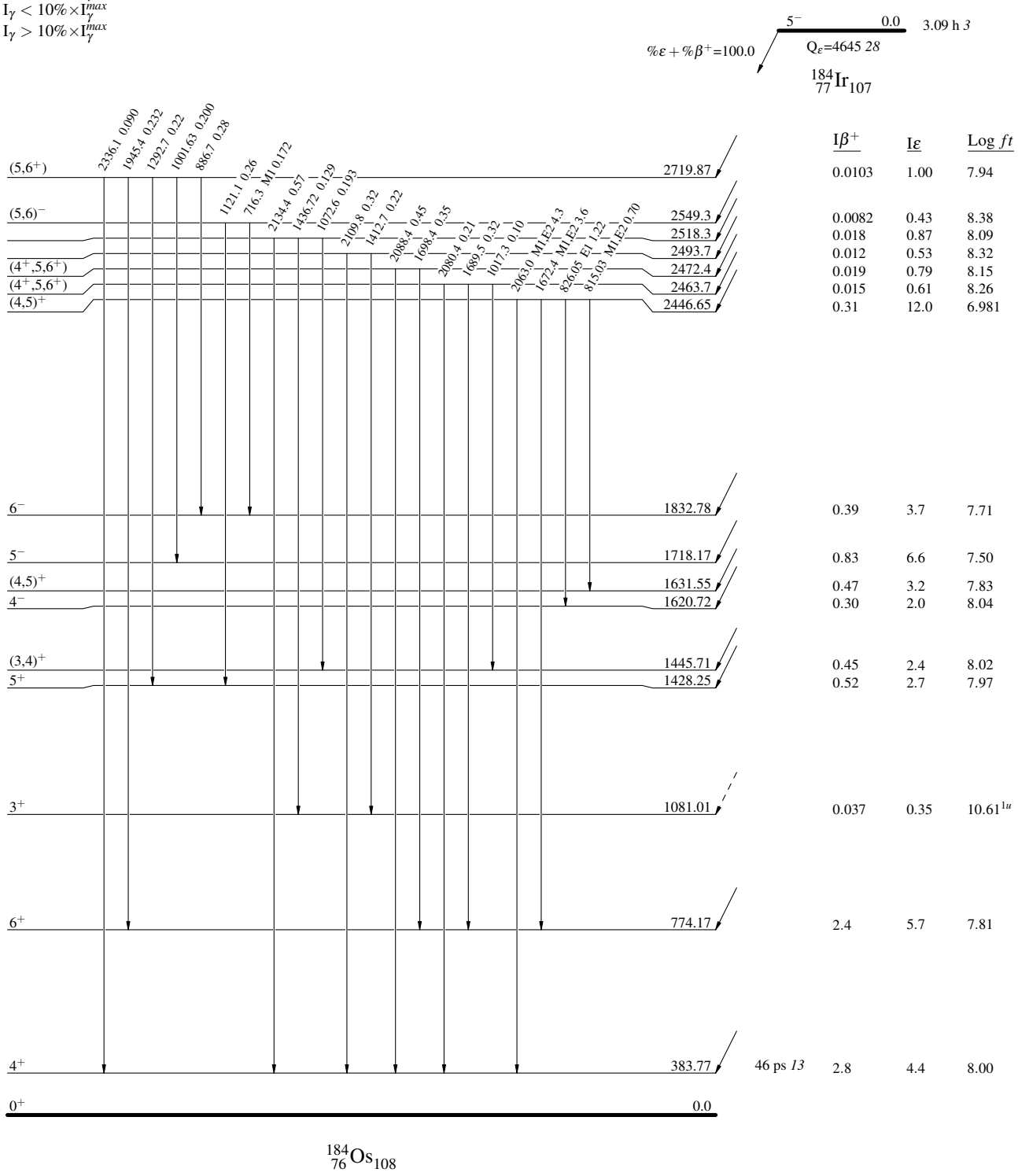
^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme

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

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



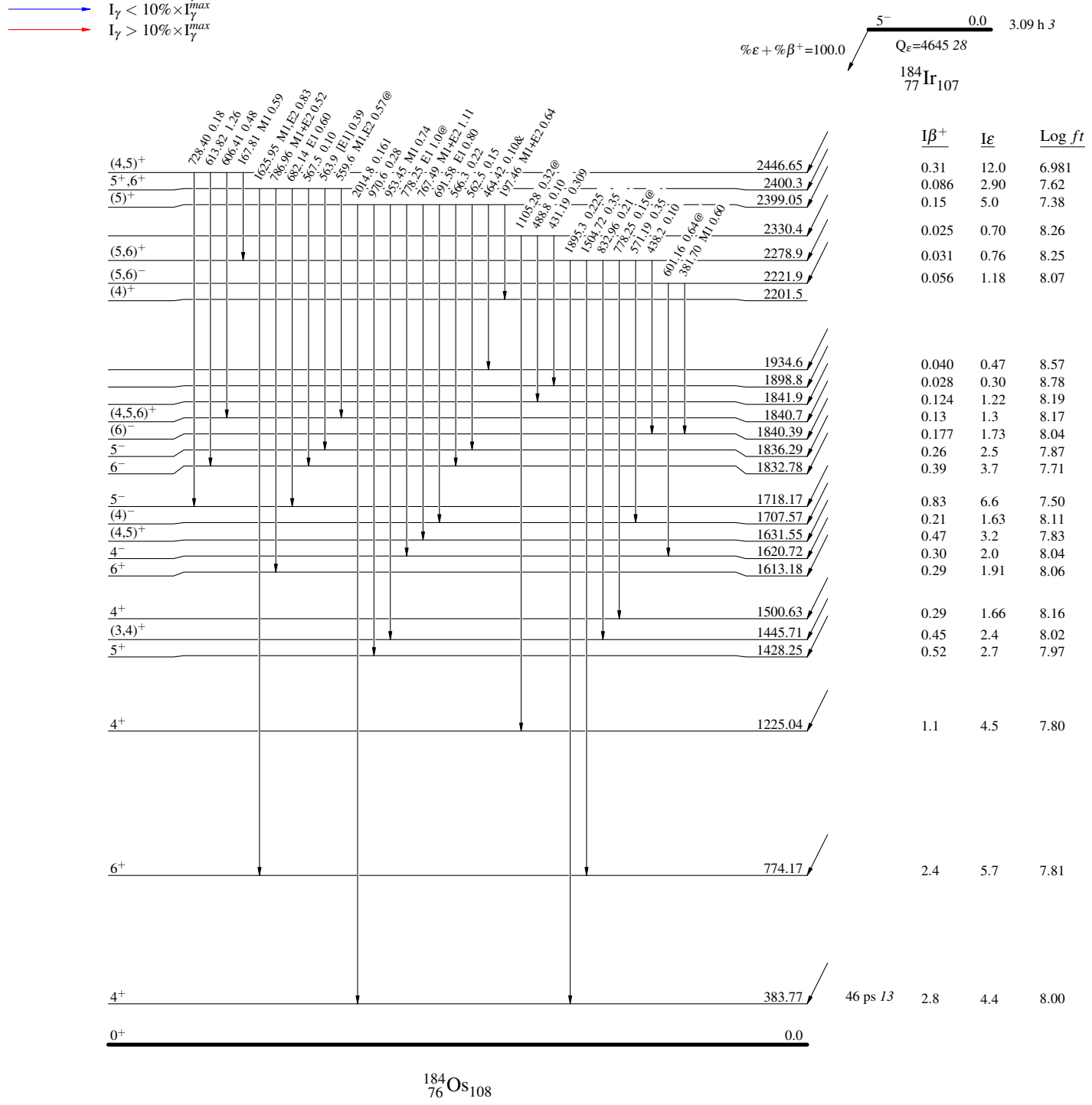
	Iβ⁺	Iε	Log *ft*
(5,6⁺) 2719.87	0.0103	1.00	7.94
(5,6)⁻ 2549.3	0.0082	0.43	8.38
2518.3	0.018	0.87	8.09
2493.7	0.012	0.53	8.32
(4⁺,5,6⁺) 2472.4	0.019	0.79	8.15
(4⁺,5,6⁺) 2463.7	0.015	0.61	8.26
(4,5)⁺ 2446.65	0.31	12.0	6.981
6⁻ 1832.78	0.39	3.7	7.71
5⁻ 1718.17	0.83	6.6	7.50
(4,5)⁺ 1631.55	0.47	3.2	7.83
4⁻ 1620.72	0.30	2.0	8.04
(3,4)⁺ 1445.71	0.45	2.4	8.02
5⁺ 1428.25	0.52	2.7	7.97
3⁺ 1081.01	0.037	0.35	10.61[1u]
6⁺ 774.17	2.4	5.7	7.81
4⁺ 383.77	2.8	4.4	8.00

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



	Iβ+	Iε	Log *ft*
2446.65	0.31	12.0	6.981
2400.3	0.086	2.90	7.62
2399.05	0.15	5.0	7.38
2330.4	0.025	0.70	8.26
2278.9	0.031	0.76	8.25
2221.9	0.056	1.18	8.07
1934.6	0.040	0.47	8.57
1898.8	0.028	0.30	8.78
1841.9	0.124	1.22	8.19
1840.7	0.13	1.3	8.17
1840.39	0.177	1.73	8.04
1836.29	0.26	2.5	7.87
1832.78	0.39	3.7	7.71
1718.17	0.83	6.6	7.50
1707.57	0.21	1.63	8.11
1631.55	0.47	3.2	7.83
1620.72	0.30	2.0	8.04
1613.18	0.29	1.91	8.06
1500.63	0.29	1.66	8.16
1445.71	0.45	2.4	8.02
1428.25	0.52	2.7	7.97
1225.04	1.1	4.5	7.80
774.17	2.4	5.7	7.81
383.77	2.8	4.4	8.00

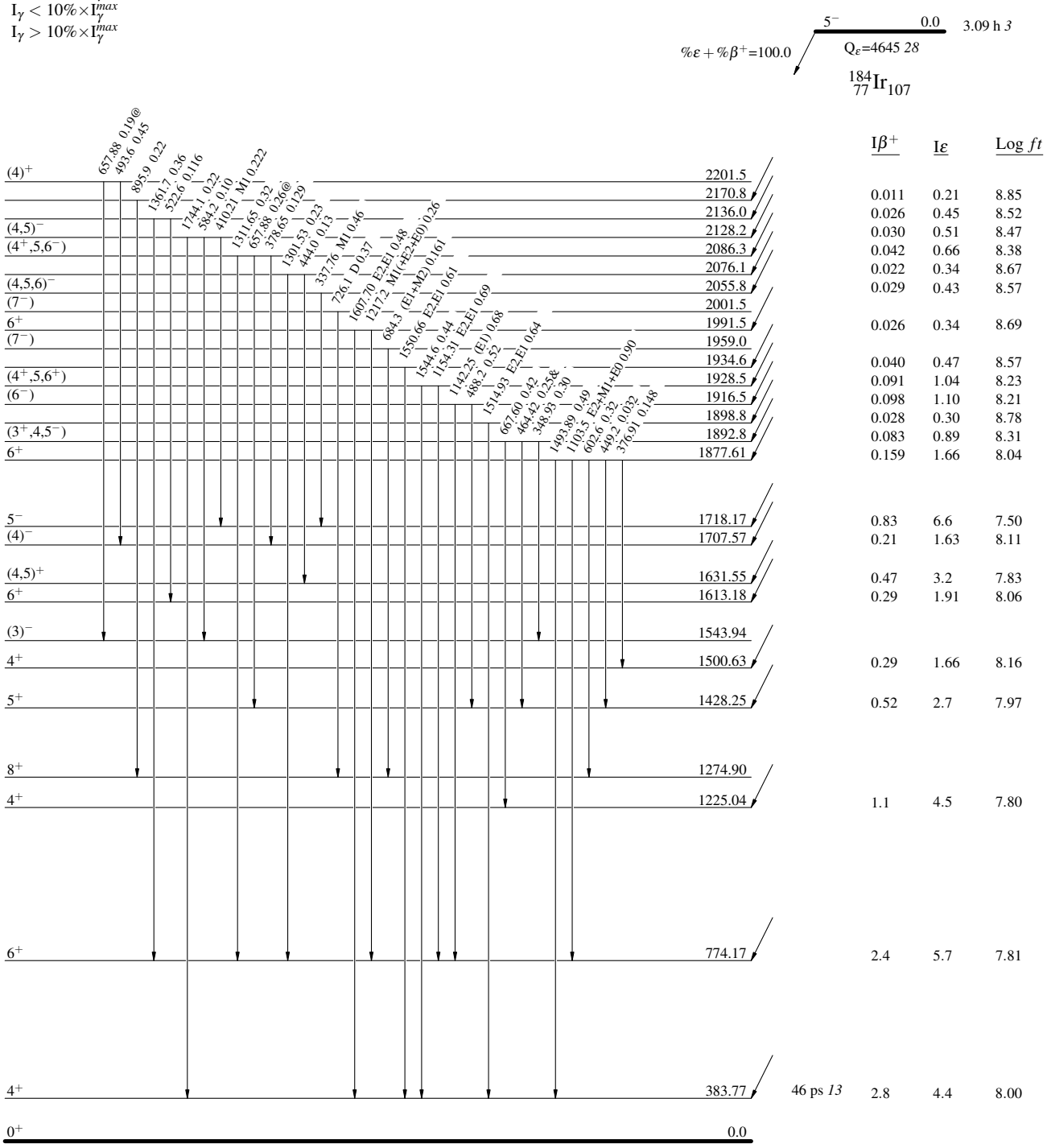
$^{184}_{76}Os_{108}$

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



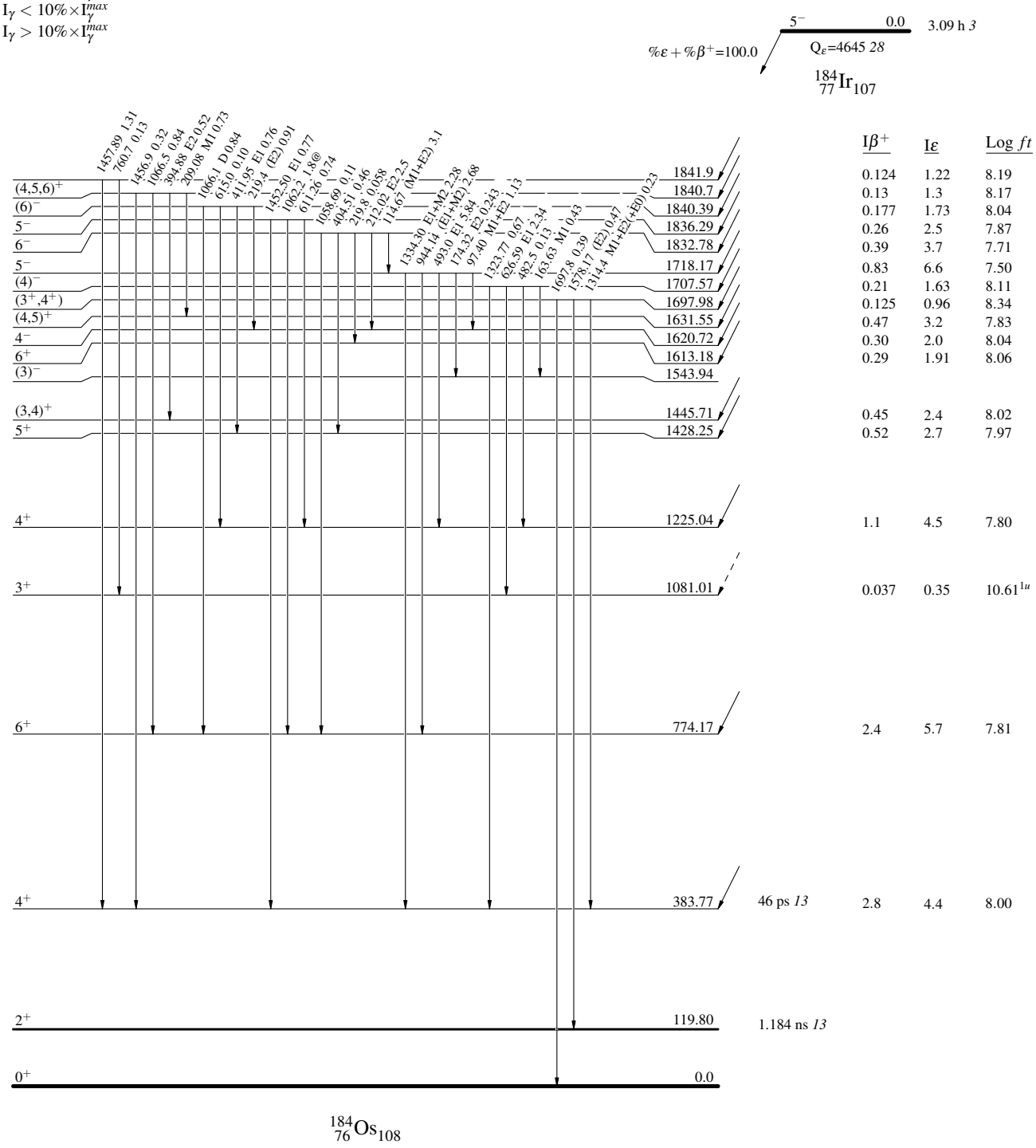
$^{184}_{76}Os_{108}$

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



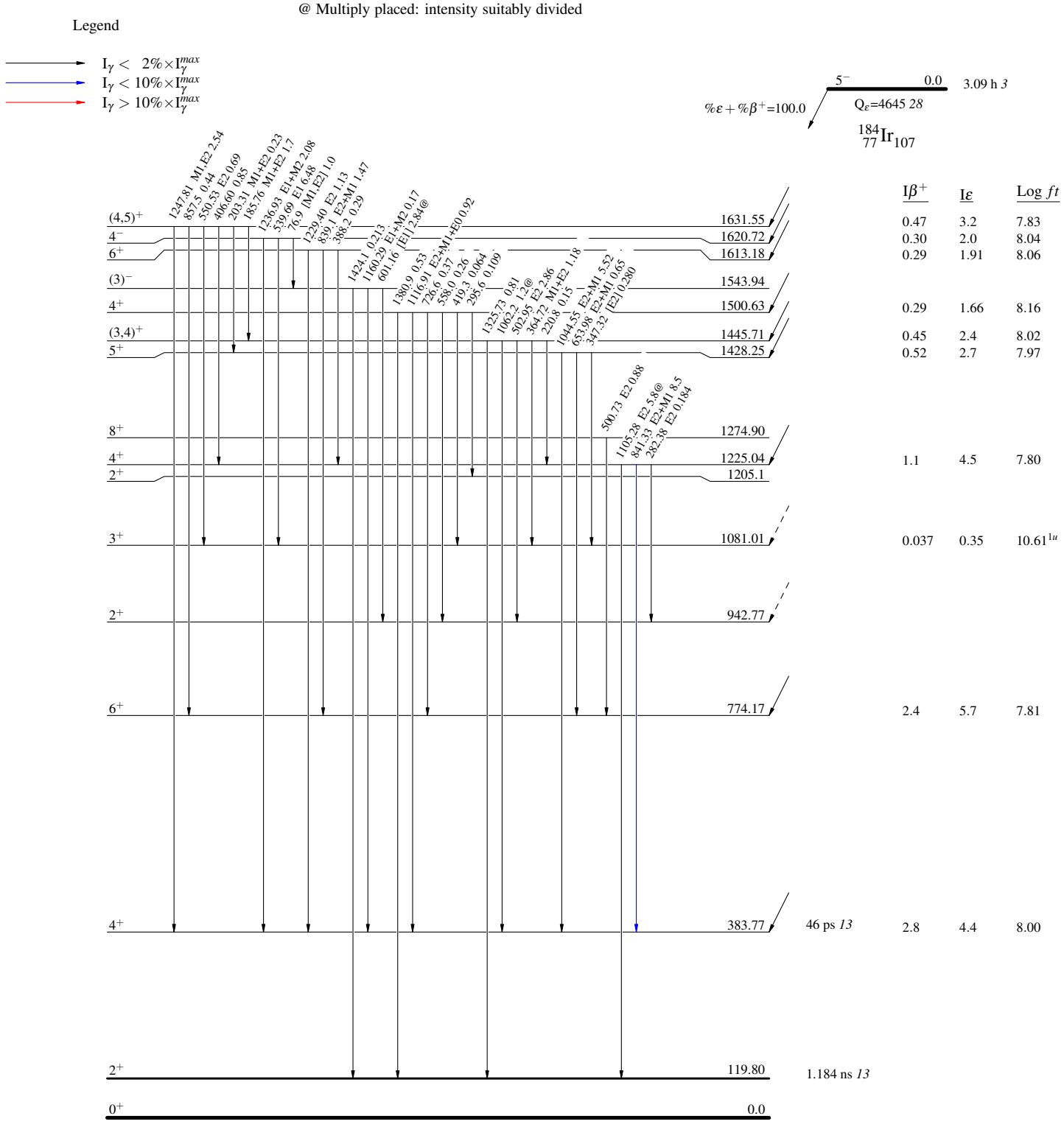
	Iβ⁺	Iε	Log *ft*
1841.9	0.124	1.22	8.19
1840.7	0.13	1.3	8.17
1840.39	0.177	1.73	8.04
1836.29	0.26	2.5	7.87
1832.78	0.39	3.7	7.71
1718.17	0.83	6.6	7.50
1707.57	0.21	1.63	8.11
1697.98	0.125	0.96	8.34
1631.55	0.47	3.2	7.83
1620.72	0.30	2.0	8.04
1613.18	0.29	1.91	8.06
1445.71	0.45	2.4	8.02
1428.25	0.52	2.7	7.97
1225.04	1.1	4.5	7.80
1081.01	0.037	0.35	10.61[1u]
774.17	2.4	5.7	7.81
383.77	2.8	4.4	8.00

$^{184}_{76}Os_{108}$

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

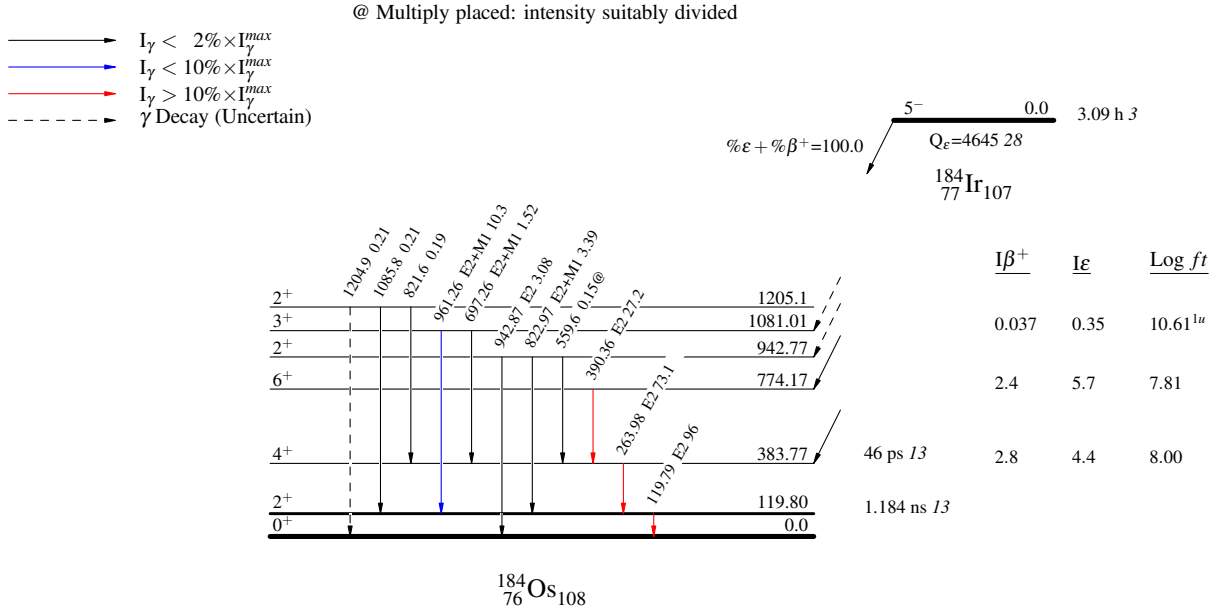


$^{184}_{76}Os_{108}$

^{184}Ir ε decay 1994Ki01,1989Po09,1973Ho09

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



	Iβ+	Iε	Log ft
1081.01	0.037	0.35	10.61 1u
774.17	2.4	5.7	7.81
383.77	2.8	4.4	8.00