^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 177, 1 (2021)	3-Sep-2021

2008Ba25: thermal neutron beam produced at ILL Grenoble reactor. Measured Eγ, Iγ using GAMS crystal spectrometer and conversion electrons using BILL spectrometer at Grenoble. This work is a continuation of the analysis reported in authors' previous publications 1998Ba85 and 1998Ba42 (for transitions up to 500 keV) and 1987CoZW (for transitions above 797 keV).

1998Ba85, 1998Ba42, 1987CoZW: measurements of primary γ rays from thermal neutron capture were performed at the SAPHIR reactor of PSI with a pair spectrometer (Eγ=4640-6100 keV). Measurement of secondary γ rays were performed at Grenoble with the gamma spectrometers GAMS1, 2 and 3 (Eγ=37-1530 keV). Conversion electrons were measured with Grenoble conversion electron spectrometer BILL. Measurements of delayed γ rays were performed at the Gatchina VVRM reactor with HPGe-GE(Li) and Si(Li) detectors. Measured Eγ, Iγ, $\gamma\gamma$ (prompt and delayed), E(ce), I(ce). Deduced levels, J, π, γ-ray conversion coefficients, multipolarities. Comparisons with IBFFM model calculations. 1998Ba85 report γ and ce data for transitions up to 500 keV. Detailed subshell ce data are reported in 1998Ba42. These data supersede the following previous reports and publications: 1997BaZS, 1995BaZW, 1994KoZQ, 1993Ko59, 1993KoZT, 1993BaZP, 1990BeZE, 1989KoZW, 1988Ba49, 1980SiZS, 1979SiZU and 1973PrZI. The γ-ray energies above 797 keV are available only from 1987CoZW.

1971Kr09: thermal neutrons were from the Munich research reactor (FRM). Measured Eγ, Iγ with a Ge(Li)-NaI(Tl) pair spectrometer. Report 106 primary γ rays between 4364 and 6066 keV; and 35 secondary γ rays in the range 84-610 keV.

Level scheme and band assignments are from 2008Ba25.

^{194}Ir Levels

A tentative level at 371.28 keV proposed earlier, decaying by 100.353γ and 222.392γ has been omitted by 2008Ba25.

A tentative level at 413.06 keV proposed earlier, decaying by 142.199γ has been omitted by 2008Ba25.

A tentative level at 524.22 keV proposed earlier, decaying by 111.168γ, 152.960γ (also placed from 337 level), 253.288γ and 411.90γ (now placed from 708.5 level) has been omitted by 2008Ba25.

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0[&c]	1^-		
43.119[&f] *1*	0^-		
82.334[&f] *1*	1^-		
84.284[&c] *1*	2^-		
112.230[&f] *1*	2^-		
138.687[&d] *1*	1^-		
143.595[&g] *1*	0^-		
147.073[&l] *2*	4^+	31.85 ms *24*	%IT=100 $T_{1/2}$: from the Adopted Levels.
148.934[&j] *1*	$(3)^-$		J$^\pi$: 3^- in 2008Ba25; 2^- favored in (pol d,α).
160.999[&e] *1*	1^-		
161.520 *3*	5^+		E(level),J$^\pi$: from 2008Ba25.
184.689[&c] *1*	3^-		
195.526[&g] *1*	2^-		
245.110[&f] *1*	$(3)^-$		J$^\pi$: 3^- in 2008Ba25.
245.492[bh] *2*	(0^-)		J$^\pi$: 0^- in 2008Ba25.
254.161[&d] *1*	2^-		
263.798[#] *3*	$(4)^+$		J$^\pi$: 4^+ in 2008Ba25.
270.918[&] *2*	$(3)^+$		J$^\pi$: 3^+ in 2008Ba25.
278.504[&] *1*	$(2)^-$		J$^\pi$: 2^- in 2008Ba25.
293.241[#] *3*	$(3,4,5)^+$		J$^\pi$: 4^+ in 2008Ba25.
296.630[ac] *2*	4^-		

Continued on next page (footnotes at end of table)

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

^{194}Ir Levels (continued)

E(level)[†]	Jπ[‡]	Comments
308.973[&g] 1	1−	
314.054[&e] 1	2−	
337.525[&h] 2	1−	
337.648[&h] 2	2−	
347.055[a] 3	3−	
361.382[#] 4	(3)+	Jπ: 4+ in 2008Ba25.
377.006[a] 2	(3)−	
390.964[ai] 2	(1,2)−	Jπ: 2− in 2008Ba25.
394.880[#j] 2	4−	
407.017[b] 2	3+	
416.589[#] 2	(4)−	Jπ: 4− in 2008Ba25.
419.611[ad] 2	(3)−	Jπ: 3− in 2008Ba25.
423.725[a] 2	(2)−	Jπ: 2− in 2008Ba25.
436.295[a] 2	2−	Jπ: 1−,2− in 2008Ba25.
467.207[a] 3	2−	Jπ: 4− in 2008Ba25.
486.064[#] 2	2−	
489.648[a] 2	2−	
500.218[#e] 3	(3)−	Jπ: 3− in 2008Ba25.
501.814[a] 3	(2)−	Jπ: 2− in 2008Ba25.
518.575[&k] 2	2+	
519.519[b] 3	(3)+	Jπ: 3+,4+ in 2008Ba25.
519.788[#] 2	3−	Jπ: 3−,4− in 2008Ba25.
542.588[a] 2	(2)+	Jπ: 1+,2+ in 2008Ba25.
544.676[#] 2	2−	
547.5[@] 12		
556.374[#] 3	(3)−	Jπ: 3− in 2008Ba25.
561.855[#l] 4	(5)+	Jπ: 5+ in 2008Ba25.
578.499[#i] 3	3−	
579.147[#] 2	(2)−	Jπ: 2− in 2008Ba25.
590.727[#] 7	(2,3)+	Jπ: (3+) in 2008Ba25.
599.405[#] 2	(2,3)−	Jπ: 2− in 2008Ba25.
605.532[#] 3	(3)−	Jπ: 3− in 2008Ba25.
613.087[#] 4	(2,3,4)−	Jπ: 3−,4− in 2008Ba25.
620.522[#] 6	(4)−	Jπ: 3− in 2008Ba25.
638.775[#] 3	2−,3−	Jπ: 3−,4− in 2008Ba25.
639.394[#] 3	(2)−	Jπ: 2− in 2008Ba25.
646.539[#] 6	(3,4)+	Jπ: 4+ in 2008Ba25.
654[@] 3		
661[@] 3		
669.369[#] 6	(3)−	Jπ: 4− in 2008Ba25.
670.121[#] 4	(2)−	Jπ: 3− in 2008Ba25.
680.8[@] 9		
690.0[@] 12		
698.7[@] 8		
708.546[#] 4	(2)−	Jπ: 2− in 2008Ba25.
722.760[#k] 4	3+	

Continued on next page (footnotes at end of table)

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

^{194}Ir Levels (continued)

E(level)[†]	Jπ[‡]	Comments
738.345[#] *4*	(3)+	Jπ: 4+ in 2008Ba25.
751.3[@] *7*		
758.4[@] *13*		
766.4[@] *11*		
775.5[@] *5*		
784.9[@] *7*		
801.9[@] *10*		
805.6[@] *9*		
820.1[@] *10*		
835.1[@] *6*		
861.8[@] *8*		
877.2[@] *10*		
881.8[@] *6*		
886.0[@] *6*		
897.7[@] *10*		
908.3[@] *6*		
926.6[@] *9*		
937.8[@] *8*		
950.5[@] *16*		
957.0[@] *6*		
969.2?[@] *16*		
976.1[@] *7*		
994.8[@] *5*		
1008.3[@] *7*		
1038.5[@] *5*		
1052.3[@] *9*		
1060.2[@] *7*		
1074.9[@] *11*		
1087.2[@] *8*		
1099.1[@] *7*		
1114.4[@] *8*		
1135.9[@] *9*		
1145.6[@] *7*		
1174.3[@] *10*		
1191.3[@] *12*		
1211.2[@] *6*		
1227.4[@] *5*		
1239.5[@] *7*		
1258.4[@] *7*		
1272.0[@] *7*		
1281.5[@] *9*		
1288.0?[@] *17*		
1311.9[@] *5*		
1323.8[@] *9*		
1332.2[@] *8*		

Continued on next page (footnotes at end of table)

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

^{194}Ir Levels (continued)

E(level)[†]	Jπ[‡]	Comments
1352.8[@] *6*		
1368.6[@] *15*		
1377?[@] *3*		
1389.1[@] *6*		
1400.9[@] *7*		
1423.3[@] *6*		
1440?[@] *4*		
1446?[@] *3*		
1454.2[@] *8*		
1466.9[@] *7*		
1482.1[@] *7*		
1489.4[@] *7*		
1506.9[@] *21*		
1520.7[@] *11*		
1542.3[@] *7*		
1561.4[@] *7*		
1571.9[@] *7*		
1579.3[@] *7*		
1594.2[@] *6*		
1604.9[@] *9*		
1612.1[@] *7*		
1624.3[@] *6*		
1631.7[@] *13*		
1641.8[@] *10*		
1654.1[@] *10*		
1665.2[@] *11*		
1672.1[@] *10*		
1684.8[@] *14*		
1695.4[@] *14*		
1702.5[@] *9*		
(6066.80 *10*)	$1^+,2^+$	Jπ: s-wave capture in ^{193}Ir (g.s. $J^\pi=3/2^+$). E(level): S(n)=6066.79 *11* (2021Wa16).

[†] From least-squares fit to Eγ values. From a total of about 365 secondary and about 100 primary γ rays the fit is remarkably good with reduced χ^2=3.0 and 12 γ rays deviating by more than three standard deviations, considering that the energy uncertainties are generally few eV, and several γ rays are doubly placed. By increasing the uncertainties of 12 γ rays to 0.01 to 0.03 keV, as indicated in comments, the fit is improved with reduced χ^2 of 1.8 as compared to critical χ^2 of 1.2, and with no γ rays outside three standard deviations.

[‡] From Adopted Levels, based on γ-ray multipolarities and decay patterns in 2008Ba25. Different assignments from 2008Ba25 are given in comments.

[#] Level and gamma placements from 2008Ba25.

[@] Level defined by primary gamma ray only.

[&] Level listed by 1998Ba85 under confidence category 'A', implying that the level is certain.

[a] Level listed by 1998Ba85 under confidence category 'B', implying that the level is less secure than those listed under category 'A'.

Continued on next page (footnotes at end of table)

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

^{194}Ir Levels (continued)

[b] Level defined mainly on the basis of $\gamma\gamma$ coin results, listed by 1998Ba85 under confidence category 'C', probably implying that the level is tentative.
[c] Band(A): $K^{\pi}=1^{-}$, g.s. band.
[d] Band(B): $K^{\pi}=1^{-}$, based on 138.7 level.
[e] Band(C): $K^{\pi}=1^{-}$, based on 161.0 level.
[f] Band(D): $K^{\pi}=0^{-}$, based on 43.1 level.
[g] Band(E): $K^{\pi}=0^{-}$, based on 143.6 level.
[h] Band(F): $K^{\pi}=0^{-}$, based on 245.5 level.
[i] Band(G): $K^{\pi}=2^{-}$, based on 391.0 level.
[j] Band(H): $K^{\pi}=3^{-}$, based on 148.9 level.
[k] Band(I): $K^{\pi}=2^{+}$, based on 518.6 level.
[l] Band(J): $K^{\pi}=4^{+}$, based on 147.1 level.

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$

Iγ normalization: For secondary transitions, multiply by 0.396 to get intensities per 100 neutron captures. This factor has been deduced from inter-comparison of relative intensities in Table 2 and intensities/1000 neutron captures in Table 7 of 1998Ba85. For primary transitions, corresponding multiplicative factor is 0.301 as deduced from relative intensities in Table 1 of 1998Ba42 and intensities per 1000 neutron captures in Table 3 of 1971Kr09.

ce data given under comments including E(ce), relative I(ce), conversion coefficients are from 1998Ba85 and 1998Ba42 for Eγ<500 keV and from 2008Ba25 for Eγ>500 keV.

E$_\gamma$ [†]	I$_\gamma$ [†e]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult. [‡]	δ [‡]	α [f]	Comments
22.264[&] *14*	1.00[&] *11*	160.999	1$^-$	138.687	1$^-$	M1		88.9 *13*	α(M1)exp=20 *4* α(L)=68.5 *10*; α(M)=15.82 *22* α(N)=3.89 *5*; α(O)=0.688 *10*; α(P)=0.0517 *7* E$_\gamma$: uncertainty increased to 0.042 keV from 0.014 in the fitting procedure. Ice(M1)=20 *3*. M1:M2:M3:N1=100 *3*:10.3 *6*:1.5 *2*:14.6 *4*. E$_\gamma$: level-energy difference=22.310.
26.434[&] *15*	0.65[&] *8*	138.687	1$^-$	112.230	2$^-$	M1		53.5 *8*	α(M1)exp=8.4 *14* α(L)=41.2 *6*; α(M)=9.51 *13* α(N)=2.337 *33*; α(O)=0.413 *6*; α(P)=0.0311 *4* Ice(M1)=5.5 *7*.
27.93[&] *3*	0.23[&] *5*	112.230	2$^-$	84.284	2$^-$	M1+E2	0.26 *1*	161 *9*	α(M1)exp=7.2 *17* α(L)=122 *7*; α(M)=30.3 *17* α(N)=7.3 *4*; α(O)=1.16 *6*; α(P)=0.0254 *4* L3:M1:M2:M3:N1:N2+N3=100 *4*:14.3 *7*:14.6 *8*:17.8 *10*:1.7 *3*:6.52 *10*. Ice(M1)=1.66 *18*.
29.890[&] *6*	1.75[&] *15*	112.230	2$^-$	82.334	1$^-$	M1+E2	0.070 *4*	43.5 *10*	α(L1)exp=13.1 *18* α(L)=33.4 *7*; α(M)=7.83 *18* α(N)=1.92 *4*; α(O)=0.331 *7*; α(P)=0.02153 *30* L3:M1:M2:M3:N1:N2+N3=38.9 *25*:100 *2*:16.1 *5*:10.2 *6*:18.8 *6*:4.5 *8*. Ice(L1)=23.0 *25*.
[x]34.368[&] *11*	1.01[&] *9*					M1		24.60 *35*	α(L1)exp=20.6 *28* α(L)=18.95 *27*; α(M)=4.37 *6* α(N)=1.074 *15*; α(O)=0.1901 *27*; α(P)=0.01429 *20* Ice(L1)=20.8 *21*. L1:L2:M1:M2:N1=100 *2*:7.2 *5*:30.0 *13*:3.2 *3*:3.9 *3*.
34.829 *10*	0.08	147.073	4$^+$	112.230	2$^-$	M2		1837 *26*	α(L)=1368 *19*; α(M)=362 *5* α(N)=90.6 *13*; α(O)=15.37 *22*; α(P)=0.871 *12* E$_\gamma$: from ce spectrum; not reported in γ-ray data. I$_\gamma$: from 2008Ba25. Ice(L1)=64 *5*. L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:5.9 *2*:58.2 *16*:31.1 *11*:2.41 *13*: 15.4 *4*:8.3 *2*:4.7 *2*.

$^{194}_{77}Ir_{117}$-6

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
35.72[&] *3*	0.45[&] *7*	184.689	3⁻	148.934	(3)⁻	M1+E2	0.16 *1*	35.3 *17*	α(L1)exp=13 *3* α(L)=26.9 *13*; α(M)=6.47 *34* α(N)=1.58 *8*; α(O)=0.262 *12*; α(P)=0.01252 *18* L1:L2:L3:M1:M2:M3:N1=100 *2*:39.7 *19*:28.9 *11*:23.9 *9*:13.4 *9*:7.3 *7*:4.2 *10*. Ice(L1)=5.8 *9*.
[x]36.21[&] *6*	0.20[&] *5*								
[x]37.23[&] *5*	0.20[&] *5*								
[x]37.378 *2*	1.7 *6*								
[x]37.410 *1*	3.8 *6*								
[x]37.451 *3*	1.5 *5*								
[x]37.684 *2*	2.6 *5*					E1		1.111 *16*	α(L1)exp=0.27 *12* α(L)=0.855 *12*; α(M)=0.2009 *28* α(N)=0.0476 *7*; α(O)=0.00734 *10*; α(P)=0.000257 *4* Ice(L1)=0.7 *3*.
39.217 *1*	7.5 *5*	82.334	1⁻	43.119	0⁻	M1		16.66 *23*	α(L1)exp=12.9 *12* α(L)=12.84 *18*; α(M)=2.96 *4* α(N)=0.727 *10*; α(O)=0.1287 *18*; α(P)=0.00968 *14* Mult.: M1+E2, δ=0.012 *2* from ce data; M1(+E2) in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π. L1:L2:L3:M1:M2:M3:N1=100 *2*:8.5 *3*:1.20 *4*:24.0 *13*:4.6 *5*:0.20 *4*:5.02 *14*. Ice(L1)=97 *7*.
[x]40.698 *2*	1.5 *3*					E1		0.900 *13*	α(L1)exp=0.25 *6* α(L)=0.693 *10*; α(M)=0.1625 *23* α(N)=0.0386 *5*; α(O)=0.00599 *8*; α(P)=0.0002174 *30* Ice(L1)=0.38 *4*.
41.166 *10*	0.20	84.284	2⁻	43.119	0⁻	E2		276 *4*	α(L)=208.2 *29*; α(M)=53.2 *7* α(N)=12.82 *18*; α(O)=1.939 *27*; α(P)=0.001714 *24* E_γ: from ce spectrum; not reported in γ-ray data. I_γ: from 2008Ba25. Ice(L3)=21.5 *17*. L1:L2:L3:M2:M3:N2+N3=1.15 *17*:66.4 *2*:100 *2*:20.9 *8*:25.8 *7*:14.4 *16* 15.4 *4*:8.3 *2*:4.7 *2*.
41.42[g&d] *5*	0.29[g&] *8*	436.295	2⁻	394.880	4⁻	[E2]		268 *4*	α(L)=202.0 *31*; α(M)=51.7 *8* α(N)=12.44 *19*; α(O)=1.881 *29*; α(P)=0.001667 *25*
41.42[g&d] *5*	0.29[g&] *8*	620.522	(4)⁻	579.147	(2)⁻	[E2]		268 *4*	α(L)=202.0 *31*; α(M)=51.7 *8* α(N)=12.44 *19*; α(O)=1.881 *29*; α(P)=0.001667 *25*
[x]42.20[&] *4*	1.1[&] *3*								
42.48[&] *3*	1.5[&] *3*	296.630	4⁻	254.161	2⁻	[E2]		236.7 *34*	α(L)=178.4 *26*; α(M)=45.6 *7* α(N)=11.00 *16*; α(O)=1.663 *24*; α(P)=0.001488 *21*
43.119 *1*	33.6 *23*	43.119	0⁻	0.0	1⁻	M1		12.59 *18*	α(L1)exp=9.6 *8*

$^{194}_{77}Ir_{117}$-7

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(L)=9.70 *14*; α(M)=2.236 *31* α(N)=0.550 *8*; α(O)=0.0973 *14*; α(P)=0.00732 *10* Mult.: M1+E2, δ=0.025 *2* from ce data; M1(+E2) in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π. L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:10.3 *3*:2.17 *10*:22.9 *7*:2.48 *7*: 0.27 *2*:5.54 *16*:0.68 *3*. Ice(L1)=321 20.
[x]43.546 *7*	0.6 *3*								
[x]46.223 *2*	1.4 *3*								
46.50[&] *5*	0.53[&] *14*	195.526	2^-	148.934	$(3)^-$	M1		10.08 *14*	α(L1)exp=10 *3* α(L)=7.77 *11*; α(M)=1.790 *26* α(N)=0.440 *6*; α(O)=0.0779 *11*; α(P)=0.00586 *8* Ice(L1)=5.3 *5*.
48.71[&] *3*	0.91[&] *20*	160.999	1^-	112.230	2^-	M1+E2	1.7 *5*	92 *17*	α(L1)exp=2.1 *5* α(L)=70 *13*; α(M)=17.8 *33* α(N)=4.3 *8*; α(O)=0.65 *12*; α(P)=0.0019 *7* Ice(L1)=1.90 *16*.
49.52[&] *7*	0.36[&] *15*	245.110	$(3)^-$	195.526	2^-	M1		8.38 *12*	α(M1)exp=2.2 *9* α(L)=6.46 *9*; α(M)=1.488 *22* α(N)=0.366 *5*; α(O)=0.0647 *9*; α(P)=0.00487 *7* Ice(M1)=0.78 *7*.
54.404[&] *1*	5.3[&] *5*	138.687	1^-	84.284	2^-	M1+E2	0.051 *4*	6.52 *10*	α(L1)exp=5.3 *6* α(L)=5.02 *7*; α(M)=1.161 *17* α(N)=0.285 *4*; α(O)=0.0503 *7*; α(P)=0.00369 *5* L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:20.5 *9*:7.2 *4*:25.0 *13*:2.5 *2*: 0.25 *5*:7.9 *7*:1.9 *3*. Ice(L1)=28.0 *20*.
[x]56.333 *5*	1.11 *25*								
56.355 *2*	2.11 *20*	138.687	1^-	82.334	1^-	M1+E2	0.61 *18*	20 *6*	α(L1)exp=3.0 *4* α(L)=15 *5*; α(M)=3.9 *12* α(N)=0.94 *29*; α(O)=0.15 *4*; α(P)=0.00256 *33* Ice(L1)=64 *5*.
56.844[&] *2*	2.9[&] *3*	195.526	2^-	138.687	1^-	M1+E2	0.071 *15*	5.85 *15*	α(L1)exp=5.8 *9* α(L)=4.50 *11*; α(M)=1.043 *28* α(N)=0.256 *7*; α(O)=0.0450 *10*; α(P)=0.00323 *5* L1:L2:M1:M2:N1::100 *2*:12.1 *5*:21.7 *12*:2.9 *4*:5.0 *4*. Ice(L1)=16.6 *17*.
58.04[d&] *9*	0.7[&] *4*	419.611	$(3)^-$	361.382	$(3)^+$	[E1]		0.341 *5*	α(L)=0.262 *4*; α(M)=0.0611 *9* α(N)=0.01461 *21*; α(O)=0.002336 *34*; α(P)=9.83×10^{-5} *14*
59.142 *10*	0.30	337.648	2^-	278.504	$(2)^-$	M1+E2		26 *21*	α(L)=20 *16*; α(M)=5 *4* α(N)=1.2 *10*; α(O)=0.19 *15*; α(P)=0.0016 *12*

$^{194}_{77}Ir_{117}$-8

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									E_γ: from ce spectrum; not reported in γ spectrum. I_γ: from 2008Ba25. Ice(L1)=1.08 *5*.
59.358[d] *9*	0.66 *25*	579.147	$(2)^-$	519.788	3^-	[E2]		46.3 *6*	α(L)=34.9 *5*; α(M)=8.95 *13* α(N)=2.160 *30*; α(O)=0.327 *5*; α(P)=0.000394 *6*
[x]59.665 *6*	1.3 *4*								
61.225 *3*	1.7 *3*	143.595	0^-	82.334	1^-	M1		4.50 *6*	α(L)=3.46 *5*; α(M)=0.798 *11* α(N)=0.1962 *27*; α(O)=0.0347 *5*; α(P)=0.00261 *4* E_γ: uncertainty increased to 0.030 keV from 0.003 in the fitting procedure. E_γ: poor fit; level-energy difference=61.256.
[x]61.380 *5*	1.1 *3*					M1		4.46 *6*	α(L)=3.44 *5*; α(M)=0.792 *11* α(N)=0.1948 *27*; α(O)=0.0345 *5*; α(P)=0.00259 *4*
62.793 *3*	1.42 *21*	147.073	4^+	84.284	2^-	M2		129.0 *18*	α(L1)exp=69 *10* α(L)=96.7 *14*; α(M)=24.94 *35* α(N)=6.22 *9*; α(O)=1.064 *15*; α(P)=0.0640 *9* L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:9.6 *3*:35.8 *12*:25.8 *8*:2.8 *3*:11.9 *3*:6.7 *3*:3.5 *4*. Ice(L1)=98 *5*.
64.647 *10*	7.5	148.934	$(3)^-$	84.284	2^-	M1		3.83 *5*	α(L)=2.95 *4*; α(M)=0.681 *10* α(N)=0.1674 *23*; α(O)=0.0296 *4*; α(P)=0.002229 *31* E_γ: from ce spectrum; not reported in γ-ray data. I_γ: from 2008Ba25. Ice(L1)=20.7 *21*. L1:L2:L3:M1:M2:N1=100 *5*:7.8 *12*:0.82 *12*:19.4 *14*:5.6 *6*:6.7 *4*.
[x]66.117 *9*	0.52 *24*								
[x]66.330 *9*	0.64 *24*								
[x]68.894 *11*	1.1 *4*								Ice(L1)=1.13 *12* for 68.894+69.009.
69.009 *24*	1.0 *4*	314.054	2^-	245.110	$(3)^-$	[M1+E2]		13 *10*	α(L)=10 *7*; α(M)=2.4 *19* α(N)=0.6 *5*; α(O)=0.09 *7*; α(P)=0.0010 *8*
69.460 *7*	1.06 *25*	254.161	2^-	184.689	3^-	M1+E2	1.5 *+5−3*	16.0 *20*	α(L1)exp=0.83 *20* α(L)=12.0 *15*; α(M)=3.1 *4* α(N)=0.74 *10*; α(O)=0.114 *14*; α(P)=0.00072 *17* Ice(L1)=0.88 *8*.
[x]69.855 *8*	0.97 *23*								
[x]74.812 *3*	2.03 *15*					M1		2.503 *35*	α(L1)exp=1.94 *20* α(L)=1.929 *27*; α(M)=0.444 *6* α(N)=0.1093 *15*; α(O)=0.01934 *27*; α(P)=0.001456 *20* Ice(L1)=3.9 *3*.
[x]76.735 *4*	4.1 *8*					M1+E2	1.8 *+4−3*	8 *6*	α(L1)exp=0.51 *10* Ice(L1)=2.09 *16*.
[x]76.980 *4*	3.0 *5*					M1+E2	3.0 *+8−5*	8 *6*	α(L1)exp=0.31 *5* Ice(L1)=0.92 *8*.
[x]77.787 *7*	1.1 *5*								Ice(L1)=0.61 *8* for 77.787+77.875.
[x]77.875 *4*	2.2 *5*								

$^{194}_{77}Ir_{117}$-9

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
78.666 *2*	2.5 *4*	160.999	1^-	82.334	1^-	M1		12.11 *17*	α(L1)exp=1.56 *26* α(K)=9.94 *14*; α(L)=1.666 *23*; α(M)=0.384 *5* α(N)=0.0944 *13*; α(O)=0.01671 *23*; α(P)=0.001258 *18* Ice(L1)=3.82 25.
[x]79.48[&] *4*	2.5[&] *3*					M1+E2	1.13 *+24−19*	12.00 *17*	α(L1)exp=0.73 *12* α(K)=4.7 *8*; α(L)=5.5 *6*; α(M)=1.40 *17* α(N)=0.34 *4*; α(O)=0.053 *6*; α(P)=0.00063 *10* Ice(L1)=1.84 *18*.
82.339 *2*	21.6 *4*	82.334	1^-	0.0	1^-	M1+E2	0.105 *10*	10.67 *15*	α(L1)exp=1.35 *9* α(K)=8.69 *12*; α(L)=1.522 *25*; α(M)=0.353 *6* α(N)=0.0867 *14*; α(O)=0.01522 *24*; α(P)=0.001091 *15* L1:L2:L3:M1:M2:N1=100 *2*:11.3 *5*:5.4 *7*:22.8 *10*:4.8 *4*:8.1 *5*. Ice(L1)=29.2 *18*.
[x]82.569 *4*	2.6 *5*					M1+E2	2.4 *+7−4*	10.36 *15*	α(L1)exp=0.31 *6* α(K)=2.0 *4*; α(L)=6.31 *32*; α(M)=1.62 *8* α(N)=0.391 *20*; α(O)=0.0597 *30*; α(P)=0.00029 *5* Ice(L1)=0.82 *16*.
83.291 *7*	1.7 *4*	195.526	2^-	112.230	2^-	M1		10.33 *14*	α(L1)exp=1.1 *3* α(K)=8.50 *12*; α(L)=1.411 *20*; α(M)=0.325 *5* α(N)=0.0799 *11*; α(O)=0.01415 *20*; α(P)=0.001065 *15* Ice(L1)=1.93 *12*.
83.42[&] *5*	2.2[&] *4*	337.648	2^-	254.161	2^-	[M1+E2]		10.08 *25*	α(K)=5 *4*; α(L)=4.1 *27*; α(M)=1.0 *7* α(N)=0.25 *17*; α(O)=0.039 *25*; α(P)=6.E−4 *5*
84.288 *2*	50 *3*	84.284	2^-	0.0	1^-	M1+E2	0.49 *2*	9.88 *14*	α(L1)exp=1.06 *9* α(K)=6.79 *13*; α(L)=2.36 *7*; α(M)=0.577 *19* α(N)=0.140 *5*; α(O)=0.0229 *7*; α(P)=0.000857 *17* Ice(L1)=53 *3*. L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:69 *3*:58 *3*:23.3 *10*:18.5 *8*: 16.3 *7*:6.0 *2*:9.9 *10*.
[x]84.789 *16*	2.2 *7*								Ice(L1)=0.4 *2* for 84.789+84.902.
[x]84.902 *12*	1.3 *4*								
[x]86.307 *11*	1.1 *4*								
[x]87.688 *6*	1.1 *3*					M1		8.92 *12*	α(K)=7.34 *10*; α(L)=1.215 *17*; α(M)=0.280 *4* α(N)=0.0689 *10*; α(O)=0.01219 *17*; α(P)=0.000917 *13* Ice(L1)=2.86 *17* for 87.688+87.704.
[x]87.704 *7*	1.5 *3*					M1		8.92 *12*	α(K)=7.34 *10*; α(L)=1.215 *17*; α(M)=0.280 *4* α(N)=0.0688 *10*; α(O)=0.01218 *17*; α(P)=0.000917 *13*
[x]89.108 *6*	1.6 *4*								
[x]89.448 *10*	1.0 *4*					M1		8.43 *12*	α(L1)exp=1.1 *4* α(K)=6.94 *10*; α(L)=1.147 *16*; α(M)=0.264 *4* α(N)=0.0650 *9*; α(O)=0.01151 *16*; α(P)=0.000866 *12* Ice(L1)=1.17 *13*.
90.187 *14*	2.3 *7*	467.207	2^-	377.006	$(3)^-$	[M1+E2]		7.7 *6*	α(K)=3.8 *30*; α(L)=2.9 *18*; α(M)=0.7 *5* α(N)=0.18 *11*; α(O)=0.028 *17*; α(P)=5.E−4 *4*

$^{194}_{77}Ir_{117}$-10

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]90.293 *14*	2.1 *7*								
90.460[d] *5*	2.7 *4*	361.382	$(3)^+$	270.918	$(3)^+$	M1		8.16 *11*	α(L1)exp=2.0 *6* α(K)=6.72 *9*; α(L)=1.111 *16*; α(M)=0.256 *4* α(N)=0.0629 *9*; α(O)=0.01114 *16*; α(P)=0.000838 *12* Ice(L1)=5.4 *12*.
90.963[d] *7*	1.2 *4*	670.121	$(2)^-$	579.147	$(2)^-$	[M1+E2]		7.4 *6*	α(K)=3.7 *29*; α(L)=2.8 *17*; α(M)=0.7 *5* α(N)=0.17 *11*; α(O)=0.027 *16*; α(P)=4.7×10^{-4} *35*
[x]91.093 *6*	2.2 *4*								
92.019 *15*	1.9 *6*	337.525	1^-	245.492	(0^-)	[M1]		7.77 *11*	α(K)=6.40 *9*; α(L)=1.057 *15*; α(M)=0.2435 *34* α(N)=0.0599 *8*; α(O)=0.01060 *15*; α(P)=0.000798 *11*
93.166 *2*	14.9 *4*	254.161	2^-	160.999	1^-	M1		7.50 *11*	α(K)exp=5.7 *14*; α(L1)exp=0.96 *8* α(K)=6.18 *9*; α(L)=1.020 *14*; α(M)=0.2349 *33* α(N)=0.0578 *8*; α(O)=0.01023 *14*; α(P)=0.000770 *11* Ice(L1)=14.3 *9*; L1 and M1 lines also observed.
93.562[d] *6*	1.8 *4*	613.087	$(2,3,4)^-$	519.519	$(3)^+$	E1		0.472 *7*	α(L1)exp=0.08 *3* α(K)=0.380 *5*; α(L)=0.0711 *10*; α(M)=0.01644 *23* α(N)=0.00396 *6*; α(O)=0.000653 *9*; α(P)=3.24×10^{-5} *5* Ice(L1)=0.14 *5*.
95.107[d] *18*	1.1 *4*	486.064	2^-	390.964	$(1,2)^-$	M1+E2	0.6 *+7−6*	6.7 *5*	α(L1)exp=0.68 *27* α(K)=4.5 *18*; α(L)=1.7 *10*; α(M)=0.41 *26* α(N)=0.10 *6*; α(O)=0.016 *9*; α(P)=5.6×10^{-4} *23* Mult.: M1 or M1+E2 (1998Ba85). Ice(L1)=0.73 *11*.
95.575 *3*	34.7 *16*	138.687	1^-	43.119	0^-	M1		6.97 *10*	α(K)exp=5.1 *3* α(K)=5.74 *8*; α(L)=0.947 *13*; α(M)=0.2182 *31* α(N)=0.0536 *8*; α(O)=0.00950 *13*; α(P)=0.000715 *10* Mult.: M1+E2, δ=0.18 *1* from ce data; M1(+E2) in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π. K:L1:L2:L3:M1:M2:M3:N1=100 *2*:21.3 *7*:2.88 *13*:0.64 *13*:5.0 *2*:0.93 *8*:0.75 *13*:1.26 *5*. Ice(K)=179 *5*.
[x]96.022 *7*	2.1 *5*					E1		0.442 *6*	α(K)exp<0.2 α(K)=0.357 *5*; α(L)=0.0662 *9*; α(M)=0.01532 *21* α(N)=0.00369 *5*; α(O)=0.000609 *9*; α(P)=3.05×10^{-5} *4* Ice(K)<0.4.
96.172 *4*	1.33 *21*	245.110	$(3)^-$	148.934	$(3)^-$	M1+E2	1.7 *+5−3*	5.79 *15*	α(K)exp=2.0 *4* α(K)=2.0 *4*; α(L)=2.83 *22*; α(M)=0.72 *6* α(N)=0.175 *14*; α(O)=0.0269 *21*; α(P)=0.00025 *5* Ice(K)=2.71 *14*.
98.698 *6*	1.16 *25*	489.648	2^-	390.964	$(1,2)^-$	M1+E2	0.7 *3*	5.87 *30*	α(K)exp=3.7 *8* α(K)=3.8 *9*; α(L)=1.6 *4*; α(M)=0.39 *11* α(N)=0.096 *27*; α(O)=0.015 *4*; α(P)=0.00047 *11* Ice(K)=4.32 *13*.

$^{194}_{77}Ir_{117}$-11

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]100.353[a] *17*	1.8 *7*					E1		0.396 *6*	α(K)exp<0.23 α(K)=0.319 *4*; α(L)=0.0587 *8*; α(M)=0.01358 *19* α(N)=0.00327 *5*; α(O)=0.000541 *8*; α(P)=2.74×10^{-5} *4* Earlier placement from a 371.28 level omitted by 2008Ba25. Ice(K)<0.4.
100.407 *2*	5.6 *4*	184.689	3$^-$	84.284	2$^-$	M1+E2	1.72 *+18−15*	4.92 *9*	α(K)exp=1.82 *15* α(K)=1.82 *15*; α(L)=2.34 *8*; α(M)=0.596 *21* α(N)=0.144 *5*; α(O)=0.0223 *7*; α(P)=0.000224 *19* Ice(K)=10.1 *5*.
102.267[d] *8*	1.0 *3*	263.798	(4)$^+$	161.520	5$^+$	M1+E2	0.6 *+4−5*	5.3 *4*	α(K)exp=3.7 *10* α(K)=3.7 *10*; α(L)=1.3 *5*; α(M)=0.31 *13* α(N)=0.075 *30*; α(O)=0.012 *4*; α(P)=4.6×10^{-4} *13* Ice(K)=3.69 *26*.
[x]104.464 *6*	1.09 *23*					E1		0.357 *5*	α(K)exp<0.37 α(K)=0.289 *4*; α(L)=0.0526 *7*; α(M)=0.01217 *17* α(N)=0.00294 *4*; α(O)=0.000486 *7*; α(P)=2.494×10^{-5} *35* Ice(K)<0.4.
105.814[d] *10*	0.5 *3*	467.207	2$^-$	361.382	(3)$^+$	[E1]		0.346 *5*	α(K)=0.280 *4*; α(L)=0.0508 *7*; α(M)=0.01175 *16* α(N)=0.00284 *4*; α(O)=0.000470 *7*; α(P)=2.419×10^{-5} *34*
[x]106.129 *10*	0.7 *3*								
109.058[d] *6*	1.17 *20*	486.064	2$^-$	377.006	(3)$^-$	M1		4.78 *7*	α(K)exp=4.6 *8* α(K)=3.94 *6*; α(L)=0.647 *9*; α(M)=0.1491 *21* α(N)=0.0366 *5*; α(O)=0.00649 *9*; α(P)=0.000488 *7* Ice(K)=5.4 *3*.
109.400[d] *3*	2.64 *14*	270.918	(3)$^+$	161.520	5$^+$	E2		3.21 *4*	α(K)exp=0.87 *6* α(K)=0.664 *9*; α(L)=1.914 *27*; α(M)=0.492 *7* α(N)=0.1190 *17*; α(O)=0.01817 *25*; α(P)=7.33×10^{-5} *10* K:L1:L2:L3:M1:M2:M3:N2+N3=64 *3*:11.0 *5*:100 *2*:97 *6*:10.4 *24*: 27 *3*:26.2 *19*:14 *3*. Ice(K)=2.29 *11*.
109.662 *23*	0.9 *5*	423.725	(2)$^-$	314.054	2$^-$	M1+E2	1.3 *+17−6*	3.7 *5*	α(K)exp=1.9 *9* α(K)=1.9 *10*; α(L)=1.4 *4*; α(M)=0.36 *10* α(N)=0.087 *24*; α(O)=0.0137 *35*; α(P)=2.2×10^{-4} *12* Ice(K)=1.70 *10*.
[x]110.396 *14*	1.1 *4*					M1+E2	0.9 *+6−4*	3.9 *4*	α(K)exp=2.4 *8* α(K)=2.4 *8*; α(L)=1.17 *30*; α(M)=0.29 *8* α(N)=0.071 *20*; α(O)=0.0113 *28*; α(P)=2.9×10^{-4} *10* Ice(K)=2.70 *22*.
[x]111.168 *9*	1.00 *16*					M1+E2	2.1 *+22−7*	3.29 *24*	α(K)exp=1.2 *4* α(K)=1.2 *5*; α(L)=1.56 *18*; α(M)=0.40 *5* α(N)=0.096 *12*; α(O)=0.0149 *17*; α(P)=1.4×10^{-4} *6* Ice(K)=1.2 4.
111.246 *4*	1.43 *17*	195.526	2$^-$	84.284	2$^-$	M1+E2	1.33 *+25−19*	3.55 *12*	α(K)exp=1.76 *23*

$^{194}_{77}Ir_{117}$-12

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=1.76 *23*; α(L)=1.35 *9*; α(M)=0.342 *24* α(N)=0.083 *6*; α(O)=0.0130 *8*; α(P)=0.000212 *30* Ice(K)=2.52 *18*.
111.938 *6*	1.18 *21*	296.630	4⁻	184.689	3⁻	M1		4.43 *6*	α(K)exp=4.0 *9* α(K)=3.65 *5*; α(L)=0.600 *8*; α(M)=0.1383 *19* α(N)=0.0340 *5*; α(O)=0.00602 *8*; α(P)=0.000453 *6* Ice(K)=4.7 *7*.
112.230 *1*	87.1 *15*	112.230	2⁻	0.0	1⁻	E2+M1	1.64 *10*	3.30 *6*	α(K)exp=1.30 *7* α(K)=1.45 *8*; α(L)=1.402 *34*; α(M)=0.356 *9* α(N)=0.0862 *22*; α(O)=0.01340 *32*; α(P)=0.000172 *10* K:L1:L2:L3:M1:M2:M3:N1:N2+N3=100 *2*:24.8 *8*:66.1 *19*:52.4 *17*:8.2 *4*: 17.9 *5*:14.8 *4*:1.42 *17*:8.23 *23*. Ice(K)=113 *6*.
112.500 *3*	1.58 *25*	519.519	(3)⁺	407.017	3⁺	M1		4.37 *6*	α(K)exp=4.2 *7* α(K)=3.60 *5*; α(L)=0.592 *8*; α(M)=0.1363 *19* α(N)=0.0335 *5*; α(O)=0.00593 *8*; α(P)=0.000447 *6* Ice(K)=6.7 *6*.
113.192 *4*	2.11 *14*	195.526	2⁻	82.334	1⁻	M1+E2	1.15 *+17−14*	3.44 *11*	α(K)exp=1.88 *19* α(K)=1.88 *19*; α(L)=1.18 *7*; α(M)=0.297 *19* α(N)=0.072 *5*; α(O)=0.0114 *7*; α(P)=0.000227 *25* Ice(K)=4.0 *3*.
113.447 *1*	4.01 *12*	308.973	1⁻	195.526	2⁻	M1		4.27 *6*	α(K)exp=3.50 *22* α(K)=3.52 *5*; α(L)=0.578 *8*; α(M)=0.1331 *19* α(N)=0.0327 *5*; α(O)=0.00579 *8*; α(P)=0.000436 *6* Ice(K)=14.0 *8*; L1 also observed.
[x]113.630 *18*	0.7 *3*								
[x]114.121 *11*	1.22 *24*					E1		0.285 *4*	α(K)exp<0.33 α(K)=0.2313 *32*; α(L)=0.0414 *6*; α(M)=0.00956 *13* α(N)=0.002311 *32*; α(O)=0.000384 *5*; α(P)=2.021×10^{-5} *28* Ice(K)<0.4.
[x]114.196 *5*	1.30 *22*					E1		0.285 *4*	α(K)exp<0.31 α(K)=0.2309 *32*; α(L)=0.0413 *6*; α(M)=0.00955 *13* α(N)=0.002306 *32*; α(O)=0.000384 *5*; α(P)=2.018×10^{-5} *28* Ice(K)<0.4.
115.473 *1*	20.2 *5*	254.161	2⁻	138.687	1⁻	M1+E2	0.12 *2*	4.03 *6*	α(K)exp=3.65 *21* α(K)=3.30 *5*; α(L)=0.562 *9*; α(M)=0.1301 *22* α(N)=0.0320 *5*; α(O)=0.00563 *9*; α(P)=0.000409 *6* Ice(K)=74 *4*. K:L1:L2:M1:N1=100 *5*:17.7 *10*:2.07 *9*:4.35 *12*:1.0 *4*.
116.726[d] *3*	4.39 *24*	263.798	(4)⁺	147.073	4⁺	M1+E2	0.38 *+18−26*	3.75 *17*	α(K)exp=2.9 *3* α(K)=2.91 *30*; α(L)=0.64 *10*; α(M)=0.153 *27* α(N)=0.037 *7*; α(O)=0.0064 *9*; α(P)=0.00036 *4*

$^{194}_{77}Ir_{117}$-13

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									Mult.: M1 or M1+E2 (1998Ba85).
									Ice(K)=12.6 *11*.
117.503 *4*	1.22 *12*	278.504	(2)$^-$	160.999	1$^-$	M1		3.86 *5*	α(K)exp=3.9 *5*
									α(K)=3.18 *4*; α(L)=0.522 *7*; α(M)=0.1203 *17*
									α(N)=0.0296 *4*; α(O)=0.00524 *7*; α(P)=0.000394 *6*
									Ice(K)=4.8 *5*.
117.880 *2*	18.6 *5*	160.999	1$^-$	43.119	0$^-$	M1		3.82 *5*	α(K)exp=3.49 *19*
									α(K)=3.15 *4*; α(L)=0.517 *7*; α(M)=0.1192 *17*
									α(N)=0.0293 *4*; α(O)=0.00519 *7*; α(P)=0.000391 *5*
									Mult.: M1+E2, δ=0.16 *2* from ce data; M1(+E2) in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π.
									Ice(K)=65 *3*; L1 also observed.
									K:L1:L2:M1:N1=100 *5*:20.0 *11*:2.5 *2*:4.0 *3*:1.43 *9*.
[x]118.002 *5*	1.03 *18*					E1		0.262 *4*	α(K)exp<0.39
									α(K)=0.2126 *30*; α(L)=0.0378 *5*; α(M)=0.00873 *12*
									α(N)=0.002111 *30*; α(O)=0.000352 *5*; α(P)=1.866×10^{-5} *26*
									Ice(K)<0.4.
[x]118.152 *8*	0.61 *23*								
[x]119.736 *12*	0.51 *18*								
119.958[d] *3*	1.32 *13*	416.589	(4)$^-$	296.630	4$^-$	M1+E2	1.3 *+4–3*	2.75 *18*	α(K)exp=1.5 *3*
									α(K)=1.47 *31*; α(L)=0.97 *10*; α(M)=0.244 *27*
									α(N)=0.059 *6*; α(O)=0.0093 *9*; α(P)=0.00017 *4*
									Ice(K)=2.0 *4*.
[x]121.389 *11*	0.81 *18*								
[x]122.601 *9*	1.73 *13*					E2		2.046 *29*	α(K)exp=0.64 *6*
									α(K)=0.539 *8*; α(L)=1.135 *16*; α(M)=0.291 *4*
									α(N)=0.0704 *10*; α(O)=0.01079 *15*; α(P)=5.57×10^{-5} *8*
									Ice(K)=1.11 *8*.
122.847 *8*	0.84 *16*	377.006	(3)$^-$	254.161	2$^-$	M1		3.40 *5*	α(K)exp=2.3 *5*
									α(K)=2.80 *4*; α(L)=0.460 *6*; α(M)=0.1059 *15*
									α(N)=0.0260 *4*; α(O)=0.00461 *6*; α(P)=0.000347 *5*
									Ice(K)=1.93 *10*.
[x]123.800 *18*	1.1 *7*					E1		0.2314 *32*	α(K)exp<0.38
									α(K)=0.1883 *26*; α(L)=0.0332 *5*; α(M)=0.00767 *11*
									α(N)=0.001854 *26*; α(O)=0.000310 *4*; α(P)=1.664×10^{-5} *23*
									Ice(K)<0.4.
123.845[a] *1*	43.5 *13*	270.918	(3)$^+$	147.073	4$^+$	M1+E2	0.12 *2*	3.30 *5*	α(K)exp=2.76 *16*
									α(K)=2.71 *4*; α(L)=0.458 *7*; α(M)=0.1059 *17*
									α(N)=0.0260 *4*; α(O)=0.00459 *7*; α(P)=0.000335 *5*
									K:L1:L2:M1:M2=100 *5*:18.0 *10*:2.01 *11*:4.08 *22*:0.70 *8*.
									Ice(K)=120 *6*.
124.320 *25*	0.7 *3*	308.973	1$^-$	184.689	3$^-$	E2		1.939 *27*	α(K)exp=0.9 *5*
									α(K)=0.524 *7*; α(L)=1.065 *15*; α(M)=0.273 *4*

$^{194}_{77}Ir_{117}$-14

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.0661 *9*; α(O)=0.01013 *14*; α(P)=5.39×10^{-5} *8* Ice(K)=0.67 *5*.
124.777 *7*	0.99 *14*	501.814	(2)$^-$	377.006	(3)$^-$	M1+E2	0.68 *+23−22*	2.83 *19*	α(K)exp=2.0 *3* α(K)=2.00 *31*; α(L)=0.63 *9*; α(M)=0.154 *24* α(N)=0.038 *6*; α(O)=0.0062 *8*; α(P)=0.00024 *4* E_γ: uncertainty increased to 0.028 keV from 0.007 in the fitting procedure. E_γ: poor fit; level-energy difference=124.811. Ice(K)=1.94 *10*.
125.085[d] *16*	0.75 *23*	544.676	2$^-$	419.611	(3)$^-$	[M1+E2]		2.6 *7*	α(K)=1.6 *11*; α(L)=0.74 *30*; α(M)=0.18 *8* α(N)=0.044 *20*; α(O)=0.0071 *27*; α(P)=1.9×10^{-4} *14*
125.221[d] *20*	0.86 *23*	738.345	(3)$^+$	613.087	(2,3,4)$^-$	[E1]		0.2247 *31*	α(K)=0.1829 *26*; α(L)=0.0322 *5*; α(M)=0.00744 *10* α(N)=0.001798 *25*; α(O)=0.000301 *4*; α(P)=1.620×10^{-5} *23*
[x]125.942 *9*	0.55 *23*								
[x]126.164 *8*	1.19 *19*					E1		0.2204 *31*	α(K)exp<0.34 α(K)=0.1795 *25*; α(L)=0.0316 *4*; α(M)=0.00729 *10* α(N)=0.001762 *25*; α(O)=0.000295 *4*; α(P)=1.591×10^{-5} *22* Ice(K)<0.4.
126.814[d] *15*	1.65 *23*	669.369	(3)$^-$	542.588	(2)$^+$	[E1]		0.2176 *30*	α(K)=0.1772 *25*; α(L)=0.0311 *4*; α(M)=0.00719 *10* α(N)=0.001738 *24*; α(O)=0.000291 *4*; α(P)=1.571×10^{-5} *22* Mult.: M1 listed in Table VI of 2008Ba25.
[x]126.966 *12*	0.6 *3*					M1		3.09 *4*	α(K)=2.55 *4*; α(L)=0.418 *6*; α(M)=0.0963 *13* α(N)=0.02368 *33*; α(O)=0.00419 *6*; α(P)=0.000316 *4*
[x]128.91 *3*	1.6 *5*					E1		0.2086 *29*	α(K)exp<0.26 α(K)=0.1700 *24*; α(L)=0.0298 *4*; α(M)=0.00688 *10* α(N)=0.001663 *23*; α(O)=0.000278 *4*; α(P)=1.511×10^{-5} *21* Ice(K)<0.4.
129.31[d] *4*	1.7 *6*	708.546	(2)$^-$	579.147	(2)$^-$	M1		2.94 *4*	α(K)exp=2.6 *10* α(K)=2.421 *34*; α(L)=0.397 *6*; α(M)=0.0914 *13* α(N)=0.02247 *32*; α(O)=0.00398 *6*; α(P)=0.000300 *4* Ice(K)=4.5 *3*.
129.368 *4*	1.31 *15*	314.054	2$^-$	184.689	3$^-$	M1		2.93 *4*	α(K)exp=2.6 *3* α(K)=2.418 *34*; α(L)=0.396 *6*; α(M)=0.0913 *13* α(N)=0.02244 *31*; α(O)=0.00397 *6*; α(P)=0.000299 *4* Ice(K)=3.42 *24*.
129.571[g] *5*	1.02[g] *12*	278.504	(2)$^-$	148.934	(3)$^-$	M1+E2	1.3 *+6−4*	2.12 *23*	α(K)exp=1.2 *3* α(K)=1.20 *35*; α(L)=0.70 *9*; α(M)=0.176 *25* α(N)=0.043 *6*; α(O)=0.0067 *8*; α(P)=1.4×10^{-4} *5* Ice(K)=1.24 *19*.

$^{194}_{77}Ir_{117}$-15

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
129.571[g] *5*	1.02[g] *12*	467.207	2^-	337.648	2^-	M1+E2		2.3 *6*	α(K)=1.4 *10*; α(L)=0.64 *24*; α(M)=0.16 *7* α(N)=0.039 *16*; α(O)=0.0062 *22*; α(P)=1.7×10^{-4} *12*
[x]131.577 *14*	0.81 *23*								
131.898 *3*	2.37 *15*	377.006	$(3)^-$	245.110	$(3)^-$	M1		2.77 *4*	α(K)exp=2.42 *22* α(K)=2.288 *32*; α(L)=0.375 *5*; α(M)=0.0864 *12* α(N)=0.02123 *30*; α(O)=0.00376 *5*; α(P)=0.000283 *4* E_γ: level-energy difference=131.888. Ice(K)=5.7 *4*.
132.007[d] *13*	0.56 *19*	722.760	3^+	590.727	$(2,3)^+$	M1		2.77 *4*	α(K)exp=2.3 *8* α(K)=2.283 *32*; α(L)=0.374 *5*; α(M)=0.0862 *12* α(N)=0.02118 *30*; α(O)=0.00375 *5*; α(P)=0.000282 *4* Ice(K)=1.29 *16*.
[x]132.384 *14*	0.75 *13*					M1+E2	1.6 *+9−5*	1.87 *21*	α(K)exp=0.96 *26* α(K)=0.97 *31*; α(L)=0.68 *7*; α(M)=0.172 *21* α(N)=0.042 *5*; α(O)=0.0065 *7*; α(P)=1.1×10^{-4} *4* Ice(K)=0.72 *15*.
132.883 *2*	7.56 *23*	245.110	$(3)^-$	112.230	2^-	E2+M1	2.8 *3*	1.64 *4*	α(K)exp=0.84 *6* α(K)=0.66 *5*; α(L)=0.740 *15*; α(M)=0.189 *4* α(N)=0.0457 *9*; α(O)=0.00707 *14*; α(P)=7.2×10^{-5} *6* K:L1:L2:L3:M2:M3:N2+N3=100 *6*:20.4 *13*:55 *4*:45 *3*:13.6 *10*:10.8 *14*:4.8 *7*. Ice(K)=6.4 *5*.
[x]133.626 *10*	0.72 *16*					M1		2.67 *4*	α(K)exp=1.8 *4* α(K)=2.205 *31*; α(L)=0.361 *5*; α(M)=0.0832 *12* α(N)=0.02046 *29*; α(O)=0.00362 *5*; α(P)=0.000273 *4* Ice(K)=1.31 *7*.
[x]135.999 *12*	1.08 *25*					M1		2.54 *4*	α(K)exp=2.8 *7* α(K)=2.098 *29*; α(L)=0.343 *5*; α(M)=0.0791 *11* α(N)=0.01945 *27*; α(O)=0.00344 *5*; α(P)=0.000259 *4* Ice(K)=3.1 *3*.
136.100 *2*	7.3 *4*	407.017	3^+	270.918	$(3)^+$	M1		2.54 *4*	α(K)exp=1.4 *7* α(K)=2.093 *29*; α(L)=0.343 *5*; α(M)=0.0790 *11* α(N)=0.01941 *27*; α(O)=0.00344 *5*; α(P)=0.000259 *4* Ice(K)=20.6 *19* for 136.100+136.146.
[x]136.146 *15*	1.5 *3*					M1		2.54 *4*	α(K)=2.091 *29*; α(L)=0.342 *5*; α(M)=0.0789 *11* α(N)=0.01939 *27*; α(O)=0.00343 *5*; α(P)=0.000259 *4* Ice(K)=20.6 19 for 136.146+136.100.
[x]136.203 *10*	1.14 *19*					M1+E2	1.1 *+5−3*	1.89 *20*	α(K)exp=1.2 *3* α(K)=1.18 *28*; α(L)=0.54 *6*; α(M)=0.135 *18* α(N)=0.033 *4*; α(O)=0.0052 *6*; α(P)=1.4×10^{-4} *4* Ice(K)=1.4 *3*.
136.803 *4*	1.13 *9*	390.964	$(1,2)^-$	254.161	2^-	M1+E2	0.72 *+21−19*	2.11 *14*	α(K)exp=1.5 *2* α(K)=1.50 *20*; α(L)=0.46 *4*; α(M)=0.112 *12*

$^{194}_{77}Ir_{117}$-16

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.0272 *29*; α(O)=0.0045 *4*; α(P)=0.000183 *26* Ice(K)=1.71 *20*.
137.645[d] *24*	0.65 *19*	544.676	2⁻	407.017	3⁺	[E1]		0.1764 *25*	α(K)=0.1440 *20*; α(L)=0.02498 *35*; α(M)=0.00576 *8* α(N)=0.001395 *20*; α(O)=0.0002340 *33*; α(P)=1.292×10^{-5} *18*
[x]138.246 *16*	1.5 *3*					M1		2.428 *34*	α(K)exp=2.2 *4* α(K)=2.002 *28*; α(L)=0.328 *5*; α(M)=0.0755 *11* α(N)=0.01856 *26*; α(O)=0.00329 *5*; α(P)=0.0002476 *35* Ice(K)=3.25 *23*.
[x]138.285 *8*	0.68 *16*					M1		2.426 *34*	α(K)exp=2.5 *8* α(K)=2.001 *28*; α(L)=0.328 *5*; α(M)=0.0755 *11* α(N)=0.01855 *26*; α(O)=0.00328 *5*; α(P)=0.0002474 *35* Ice(K)=1.7 *3*.
138.686 *1*	34.8 *7*	138.687	1⁻	0.0	1⁻	M1+E2	1.45 *10*	1.64 *4*	α(K)exp=1.07 *8* α(K)=0.92 *5*; α(L)=0.545 *13*; α(M)=0.1369 *35* α(N)=0.0332 *8*; α(O)=0.00525 *12*; α(P)=0.000107 *7* Ice(K)=37.2 *22*. K:L1:L2:L3:M1:M2:M3:N1:N2+N3::100 *6*:17.2 *11*:32.4 *20*:23.9 *15*:5.2 *4*: 9.1 *7*:5.7 *5*:1.4 *2*:3.9 *4*.
138.947[d] *4*	2.1 *3*	738.345	(3)⁺	599.405	(2,3)⁻	[E1]		0.1722 *24*	α(K)exp=1.12 *21* α(K)=0.1406 *20*; α(L)=0.02436 *34*; α(M)=0.00562 *8* α(N)=0.001360 *19*; α(O)=0.0002283 *32*; α(P)=1.263×10^{-5} *18* Ice(K)=2.3 *3*. Mult.: α(K)exp gives M1+E2, as listed in Table VI of 2008Ba25, but their ΔJ^π requires M2, which, in the opinion of evaluators is also unlikely. E1 implied by presently assigned ΔJ^π.
139.804 *6*	0.76 *12*	278.504	(2)⁻	138.687	1⁻	M1		2.352 *33*	α(K)exp=1.8 *3* α(K)=1.940 *27*; α(L)=0.317 *4*; α(M)=0.0731 *10* α(N)=0.01798 *25*; α(O)=0.00318 *4*; α(P)=0.0002398 *34* Ice(K)=1.34 *5*.
[x]141.448 *14*	1.04 *15*					E1		0.1645 *23*	α(K)exp<0.29 α(K)=0.1344 *19*; α(L)=0.02322 *33*; α(M)=0.00535 *7* α(N)=0.001296 *18*; α(O)=0.0002178 *30*; α(P)=1.210×10^{-5} *17* Ice(K)<0.3.
141.95 *3*	1.5 *4*	337.525	1⁻	195.526	2⁻	M1+E2	2.9 *+5–4*	1.29 *4*	α(K)exp=0.55 *4* α(K)=0.55 *5*; α(L)=0.556 *12*; α(M)=0.1414 *32* α(N)=0.0343 *8*; α(O)=0.00531 *11*; α(P)=5.9×10^{-5} *6* Mult.: E2 or M1+E2 (1998Ba85). Ice(K)=0.85 *10*.
[x]142.119 *2*	4.6 *4*					M1		2.244 *31*	α(K)exp=1.76 *23* α(K)=1.851 *26*; α(L)=0.303 *4*; α(M)=0.0698 *10* α(N)=0.01716 *24*; α(O)=0.00304 *4*; α(P)=0.0002289 *32* Ice(K)=8.1 *8*.
142.199[ad] *6*	2.79 *18*	578.499	3⁻	436.295	2⁻	M1		2.241 *31*	α(K)exp=1.90 *21*

$^{194}_{77}Ir_{117}$-17

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
									α(K)=1.848 *26*; α(L)=0.302 *4*; α(M)=0.0697 *10* α(N)=0.01713 *24*; α(O)=0.00303 *4*; α(P)=0.0002285 *32* Ice(K)=5.3 *5*.
142.778[d] *7*	0.70 *9*	519.788	3^-	377.006	$(3)^-$	M1		2.215 *31*	α(K)exp=1.9 *4* α(K)=1.827 *26*; α(L)=0.299 *4*; α(M)=0.0689 *10* α(N)=0.01693 *24*; α(O)=0.00300 *4*; α(P)=0.0002259 *32* Ice(K)=1.36 *20*.
143.213[d] *4*	0.99 *13*	407.017	3^+	263.798	$(4)^+$	M1		2.196 *31*	α(K)exp=2.7 *5* α(K)=1.811 *25*; α(L)=0.296 *4*; α(M)=0.0683 *10* α(N)=0.01679 *24*; α(O)=0.00297 *4*; α(P)=0.0002239 *31* Ice(K)=2.7 *4*.
143.594 *1*	27.7 *4*	143.595	0^-	0.0	1^-	M1		2.180 *31*	α(K)exp=1.86 *9* α(K)=1.798 *25*; α(L)=0.294 *4*; α(M)=0.0678 *9* α(N)=0.01666 *23*; α(O)=0.00295 *4*; α(P)=0.0002222 *31* Ice(K)=51 *3*; L1 also observed.
[x]144.196 *10*	0.70 *10*								
[x]144.866 *15*	0.82 *13*								
145.221 *2*	4.70 *18*	423.725	$(2)^-$	278.504	$(2)^-$	M1		2.111 *30*	α(K)exp=1.80 *19* α(K)=1.741 *24*; α(L)=0.285 *4*; α(M)=0.0656 *9* α(N)=0.01613 *23*; α(O)=0.00286 *4*; α(P)=0.0002152 *30* Ice(K)=8.5 *9*.
[x]145.746 *4*	1.64 *8*					M1		2.090 *29*	α(K)exp=2.4 *3* α(K)=1.724 *24*; α(L)=0.282 *4*; α(M)=0.0650 *9* α(N)=0.01597 *22*; α(O)=0.00283 *4*; α(P)=0.0002130 *30* Ice(K)=4.0 *4*.
146.169[d] *2*	3.85 *17*	293.241	$(3,4,5)^+$	147.073	4^+	M1		2.073 *29*	α(K)exp=2.5 *3* α(K)=1.710 *24*; α(L)=0.280 *4*; α(M)=0.0644 *9* α(N)=0.01584 *22*; α(O)=0.00280 *4*; α(P)=0.0002113 *30* Ice(K)=9.6 *8*.
[x]146.769 *23*	1.07 *11*					E1		0.1497 *21*	α(K)exp<0.28 α(K)=0.1224 *17*; α(L)=0.02104 *29*; α(M)=0.00485 *7* α(N)=0.001175 *16*; α(O)=0.0001976 *28*; α(P)=1.108×10^{-5} *16* Ice(K)<0.3.
[x]147.306 *10*	1.0 *5*					E1		0.1483 *21*	α(K)exp<0.29 α(K)=0.1213 *17*; α(L)=0.02084 *29*; α(M)=0.00480 *7* α(N)=0.001163 *16*; α(O)=0.0001957 *27*; α(P)=1.099×10^{-5} *15* Earlier placement from 518 to 371 level is invalid now, as 371 level is omitted in 2008Ba25. Ice(K)<0.3.
[x]147.522 *23*	0.54 *19*								
147.630[d] *9*	2.1 *4*	738.345	$(3)^+$	590.727	$(2,3)^+$	M1+E2	1.2 *+9−5*	1.42 *26*	α(K)exp=0.9 *3* α(K)=0.89 *34*; α(L)=0.40 *6*; α(M)=0.100 *17*

$^{194}_{77}Ir_{117}$-18

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	α [f]	Comments
								α(N)=0.024 *4*; α(O)=0.0039 *5*; α(P)=1.1×10^{-4} *4* Ice(K)=1.9 *5*.
147.979 *3*	1.96 *9*	308.973	1$^-$	160.999	1$^-$	M1	2.001 *28*	α(K)exp=1.54 *12* α(K)=1.651 *23*; α(L)=0.270 *4*; α(M)=0.0622 *9* α(N)=0.01529 *21*; α(O)=0.00271 *4*; α(P)=0.0002040 *29* Ice(K)=3.01 *21*.
[x]148.258 *12*	0.56 *13*							Earlier placement from 519 to 371 level is invalid now, as 371 level is omitted in 2008Ba25.
148.934 *1*	61.6 *15*	148.934	(3)$^-$	0.0	1$^-$	E2	0.980 *14*	α(K)exp=0.42 *3* α(K)=0.352 *5*; α(L)=0.473 *7*; α(M)=0.1209 *17* α(N)=0.0293 *4*; α(O)=0.00451 *6*; α(P)=3.50×10^{-5} *5* K:L1:L2:L3:M1:M2:M3:N2+N3=100 *7*:13.9 *12*:82 *6*:62 *5*:4.4 *5*:22.7 *16*:18.8 *14*:11.6 *15*. Ice(K)=25.7 *18*.
149.375[d] *7*	1.8 *4*	556.374	(3)$^-$	407.017	3$^+$	E1	0.1431 *20*	α(K)exp<0.17 α(K)=0.1171 *16*; α(L)=0.02007 *28*; α(M)=0.00463 *6* α(N)=0.001121 *16*; α(O)=0.0001887 *26*; α(P)=1.063×10^{-5} *15* Ice(K)<0.3.
149.588[d] *8*	0.77 *10*	669.369	(3)$^-$	519.788	3$^-$	M1	1.941 *27*	α(K)exp=1.8 *3* α(K)=1.601 *22*; α(L)=0.262 *4*; α(M)=0.0603 *8* α(N)=0.01483 *21*; α(O)=0.00263 *4*; α(P)=0.0001978 *28* Ice(K)=1.36 *18*.
149.777[g] *14*	0.61[g] *13*	394.880	4$^-$	245.110	(3)$^-$	[M1+E2]	1.4 *5*	α(K)=1.0 *6*; α(L)=0.36 *10*; α(M)=0.089 *29* α(N)=0.022 *7*; α(O)=0.0035 *9*; α(P)=1.2×10^{-4} *8* Triple placement in 2008Ba25.
149.777[gd] *14*	0.61[g] *13*	544.676	2$^-$	394.880	4$^-$	[E2]	0.960 *13*	α(K)=0.348 *5*; α(L)=0.461 *6*; α(M)=0.1179 *17* α(N)=0.0286 *4*; α(O)=0.00440 *6*; α(P)=3.45×10^{-5} *5*
149.777[gd] *14*	0.61[g] *13*	639.394	(2)$^-$	489.648	2$^-$	[M1+E2]	1.4 *5*	α(K)=1.0 *6*; α(L)=0.36 *10*; α(M)=0.089 *29* α(N)=0.022 *7*; α(O)=0.0035 *9*; α(P)=1.2×10^{-4} *8*
150.348[d] *7*	0.72 *10*	670.121	(2)$^-$	519.788	3$^-$	[M1,E2]	1.4 *5*	α(K)=1.0 *6*; α(L)=0.36 *10*; α(M)=0.088 *28* α(N)=0.021 *7*; α(O)=0.0035 *9*; α(P)=1.1×10^{-4} *8*
[x]150.729 *5*	1.23 *13*					M1	1.900 *27*	α(K)exp=1.51 *23* α(K)=1.567 *22*; α(L)=0.256 *4*; α(M)=0.0590 *8* α(N)=0.01451 *20*; α(O)=0.00257 *4*; α(P)=0.0001936 *27* Ice(K)=1.85 *22*.
[x]151.107 *9*	0.68 *21*					M1	1.886 *26*	α(K)exp=1.4 *4* α(K)=1.556 *22*; α(L)=0.254 *4*; α(M)=0.0586 *8* α(N)=0.01441 *20*; α(O)=0.00255 *4*; α(P)=0.0001922 *27* Ice(K)=0.98 *10*.
151.526 *9*	1.01 *9*	347.055	3$^-$	195.526	2$^-$	M1	1.872 *26*	α(K)exp=2.4 *3* α(K)=1.544 *22*; α(L)=0.2525 *35*; α(M)=0.0581 *8* α(N)=0.01430 *20*; α(O)=0.002532 *35*; α(P)=0.0001907 *27* Ice(K)=2.46 *22*.

$^{194}_{77}Ir_{117}$-19

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
152.016 *20*	0.6 *3*	489.648	2⁻	337.648	2⁻	M1		1.855 *26*	α(K)exp=1.6 *9* α(K)=1.530 *21*; α(L)=0.2502 *35*; α(M)=0.0576 *8* α(N)=0.01417 *20*; α(O)=0.002509 *35*; α(P)=0.0001890 *26* Ice(K)=1.03 *15*.
152.118 *14*	0.84 *24*	489.648	2⁻	337.525	1⁻	M1		1.851 *26*	α(K)exp=1.7 *5* α(K)=1.527 *21*; α(L)=0.2497 *35*; α(M)=0.0575 *8* α(N)=0.01414 *20*; α(O)=0.002504 *35*; α(P)=0.0001886 *26* Ice(K)=1.45 *15*.
152.405 *2*	15.8 *3*	195.526	2⁻	43.119	0⁻	E2		0.900 *13*	α(K)exp=0.42 *4* α(K)=0.334 *5*; α(L)=0.427 *6*; α(M)=0.1092 *15* α(N)=0.0264 *4*; α(O)=0.00408 *6*; α(P)=3.31×10^{-5} *5* K:L1:L2:L3:M1:M2:M3:N2+N3=100 *7*:26 *3*:82 *9*:58 *4*:12.8 *18*:21.7 *25*: 17 *3*:7.2 *14*. Ice(K)=6.7 *5*.
152.960 *7*	2.05 *22*	337.648	2⁻	184.689	3⁻	M1+E2	1.34 *+33−24*	1.22 *9*	α(K)exp=0.75 *11* α(K)=0.75 *11*; α(L)=0.358 *17*; α(M)=0.089 *5* α(N)=0.0217 *12*; α(O)=0.00346 *15*; α(P)=8.7×10^{-5} *15* Ice(K)=1.53 *15*.
153.054 *1*	21.4 *5*	314.054	2⁻	160.999	1⁻	M1		1.819 *25*	α(K)exp=1.55 *12* α(K)=1.501 *21*; α(L)=0.2454 *34*; α(M)=0.0565 *8* α(N)=0.01389 *19*; α(O)=0.002461 *34*; α(P)=0.0001854 *26* Ice(K)=33.0 *23*; L1 and M1 also observed.
[x]153.360 *9*	1.04 *19*					M1		1.809 *25*	α(K)exp=1.8 *4* α(K)=1.492 *21*; α(L)=0.2440 *34*; α(M)=0.0562 *8* α(N)=0.01382 *19*; α(O)=0.002447 *34*; α(P)=0.0001843 *26* Ice(K)=1.91 *19*.
[x]153.688 *11*	1.2 *4*								
153.75[d] *4*	0.64 *18*	544.676	2⁻	390.964	(1,2)⁻	[M1+E2]		1.3 *5*	α(K)=0.9 *6*; α(L)=0.33 *8*; α(M)=0.080 *25* α(N)=0.020 *6*; α(O)=0.0032 *7*; α(P)=1.1×10^{-4} *8*
154.853[d] *11*	0.55 *17*	561.855	(5)⁺	407.017	3⁺	[E2]		0.849 *12*	α(K)=0.321 *4*; α(L)=0.398 *6*; α(M)=0.1017 *14* α(N)=0.02463 *34*; α(O)=0.00380 *5*; α(P)=3.18×10^{-5} *4*
[x]155.141 *9*	0.34 *15*								
[x]155.662 *20*	0.64 *11*								
[x]156.83 *3*	1.6 *6*								
[x]157.023 *18*	0.67 *15*								
[x]157.336 *10*	0.56 *23*								
158.249 *12*	1.5 *6*	467.207	2⁻	308.973	1⁻	M1		1.656 *23*	α(K)exp=1.4 *6* α(K)=1.366 *19*; α(L)=0.2232 *31*; α(M)=0.0514 *7* α(N)=0.01264 *18*; α(O)=0.002238 *31*; α(P)=0.0001686 *24* Ice(K)=2.10 *21*.
158.411[d] *6*	2.0 *3*	519.788	3⁻	361.382	(3)⁺	E1		0.1232 *17*	α(K)exp<0.15

$^{194}_{77}Ir_{117}$-20

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.1009 *14*; α(L)=0.01717 *24*; α(M)=0.00395 *6* α(N)=0.000959 *13*; α(O)=0.0001618 *23*; α(P)=9.24×10^{-6} *13* Ice(K)<0.3.
[x]159.733 *9*	1.1 *3*					E2		0.759 *11*	α(K)exp=0.27 *10* α(K)=0.298 *4*; α(L)=0.347 *5*; α(M)=0.0887 *12* α(N)=0.02147 *30*; α(O)=0.00332 *5*; α(P)=2.96×10^{-5} *4* Ice(K)=0.30 *9*.
[x]160.398 *7*	1.13 *16*					M1		1.594 *22*	α(K)exp=1.4 *3* α(K)=1.315 *18*; α(L)=0.2148 *30*; α(M)=0.0495 *7* α(N)=0.01216 *17*; α(O)=0.002154 *30*; α(P)=0.0001623 *23* Ice(K)=1.4 *3*.
160.825 *2*	14.6 *4*	245.110	(3)$^-$	84.284	2$^-$	E2+M1	1.6 *3*	0.98 *8*	α(K)exp=0.66 *7* α(K)=0.58 *9*; α(L)=0.302 *12*; α(M)=0.0757 *35* α(N)=0.0184 *8*; α(O)=0.00292 *11*; α(P)=6.6×10^{-5} *12* K:L1:L2:L3:M2:M3:N2+N3=100 *9*:14.4 *16*:20.7 *21*:17.9 *21*:9.7 *12*:6.0 *11*: 1.8 *3*. Ice(K)=9.6 *10*.
160.996 *2*	18.1 *4*	160.999	1$^-$	0.0	1$^-$	M1+E2	0.50 *6*	1.41 *4*	α(K)exp=0.68 *10* α(K)=1.10 *4*; α(L)=0.237 *6*; α(M)=0.0563 *16* α(N)=0.0138 *4*; α(O)=0.00235 *5*; α(P)=0.000134 *5* K:L1:L2:L3:M1:M2:M3:N1=100 *15*:19 *3*:5.4 *10*:2.5 *5*:4.6 *8*:2.5 *6*:1.3 *3*: 1.25 *24*. Ice(K)=12.2 *18*.
[x]161.507 *10*	0.90 *17*					M1		1.563 *22*	α(K)exp=1.5 *3* α(K)=1.290 *18*; α(L)=0.2107 *29*; α(M)=0.0485 *7* α(N)=0.01193 *17*; α(O)=0.002113 *30*; α(P)=0.0001592 *22* Ice(K)=1.33 *13*.
162.366 *3*	2.16 *13*	347.055	3$^-$	184.689	3$^-$	M1+E2	1.25 *+28−21*	1.04 *8*	α(K)exp=0.67 *9* α(K)=0.67 *9*; α(L)=0.278 *11*; α(M)=0.0690 *33* α(N)=0.0168 *8*; α(O)=0.00270 *10*; α(P)=7.9×10^{-5} *12* Ice(K)=1.45 *17*.
[x]162.511 *14*	1.6 *4*					M1+E2	1.1 *+9−4*	1.09 *21*	α(K)exp=0.71 *23* α(K)=0.73 *25*; α(L)=0.270 *29*; α(M)=0.067 *9* α(N)=0.0162 *21*; α(O)=0.00262 *26*; α(P)=8.6×10^{-5} *32* Ice(K)=1.11 *24*.
162.774 *2*	10.3 *3*	245.110	(3)$^-$	82.334	1$^-$	E2		0.709 *10*	α(K)exp=0.30 *3* α(K)=0.285 *4*; α(L)=0.320 *4*; α(M)=0.0816 *11* α(N)=0.01977 *28*; α(O)=0.00306 *4*; α(P)=2.82×10^{-5} *4* I(ce(K))=3.1 *3*.
163.120[d] *4*	2.05 *14*	599.405	(2,3)$^-$	436.295	2$^-$	M1		1.520 *21*	α(K)exp=1.3 *2* α(K)=1.254 *18*; α(L)=0.2048 *29*; α(M)=0.0472 *7* α(N)=0.01160 *16*; α(O)=0.002054 *29*; α(P)=0.0001548 *22* Ice(K)=2.7 *5*.
[x]163.469 *19*	1.4 *5*					M1+E2	1.4 *+13−5*	0.97 *18*	α(K)exp=0.62 *22*

$^{194}_{77}Ir_{117}$-21

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.61 *21*; α(L)=0.277 *24*; α(M)=0.069 *7* α(N)=0.0167 *17*; α(O)=0.00268 *21*; α(P)=7.0×10^{-5} *27* Ice(K)=0.84 *5*.
[x]163.570 *12*	0.69 *15*								
163.896[d] *8*	0.86 *10*	708.546	(2)$^-$	544.676	2$^-$	M1		1.500 *21*	α(K)exp=1.7 *3* α(K)=1.237 *17*; α(L)=0.2021 *28*; α(M)=0.0465 *7* α(N)=0.01144 *16*; α(O)=0.002026 *28*; α(P)=0.0001527 *21* E_γ: uncertainty increased to 0.024 keV from 0.008 in the fitting procedure. Ice(K)=1.49 *22*.
[x]163.999 *25*	0.67 *20*								
[x]164.682 *9*	0.95 *14*					M1		1.480 *21*	α(K)exp=1.6 *3* α(K)=1.221 *17*; α(L)=0.1994 *28*; α(M)=0.0459 *6* α(N)=0.01129 *16*; α(O)=0.001999 *28*; α(P)=0.0001507 *21* Ice(K)=1.52 *20*.
165.374 *3*	11.6 *5*	308.973	1$^-$	143.595	0$^-$	M1		1.462 *20*	α(K)exp=1.20 *9* α(K)=1.207 *17*; α(L)=0.1970 *28*; α(M)=0.0454 *6* α(N)=0.01115 *16*; α(O)=0.001976 *28*; α(P)=0.0001489 *21* Ice(K)=13.9 *10*; L1 also observed.
165.448 *3*	15.2 *5*	419.611	(3)$^-$	254.161	2$^-$	M1		1.460 *20*	α(K)exp=1.27 *13* α(K)=1.205 *17*; α(L)=0.1968 *28*; α(M)=0.0453 *6* α(N)=0.01114 *16*; α(O)=0.001973 *28*; α(P)=0.0001487 *21* Ice(K)=19.2 *19*; L1 also observed.
[x]166.15 *3*	0.69 *18*					M1+E2	0.7 *7*	1.19 *26*	α(K)exp=0.9 *3* α(K)=0.89 *31*; α(L)=0.227 *33*; α(M)=0.055 *10* α(N)=0.0133 *24*; α(O)=0.00223 *28*; α(P)=1.1×10^{-4} *4* Ice(K)=0.63 *9*.
166.275 *3*	3.93 *12*	278.504	(2)$^-$	112.230	2$^-$	M1		1.440 *20*	α(K)exp=1.06 *10* α(K)=1.188 *17*; α(L)=0.1940 *27*; α(M)=0.0447 *6* α(N)=0.01098 *15*; α(O)=0.001945 *27*; α(P)=0.0001466 *21* Ice(K)=4.18 *12*.
[x]166.890 *16*	2.0 *7*					E1		0.1078 *15*	α(K)exp<0.12 α(K)=0.0885 *12*; α(L)=0.01495 *21*; α(M)=0.00344 *5* α(N)=0.000835 *12*; α(O)=0.0001412 *20*; α(P)=8.16×10^{-6} *11* Ice(K)<0.25.
[x]168.058 *3*	1.80 *8*					M1+E2	0.6 *3*	1.19 *14*	α(K)exp=0.94 *15* α(K)=0.92 *16*; α(L)=0.212 *17*; α(M)=0.051 *5* α(N)=0.0124 *12*; α(O)=0.00209 *14*; α(P)=0.000112 *21* Mult.: M1 or M1+E2 (1998Ba85). Ice(K)=1.69 *21*.
[x]168.15 *4*	1.4 *3*					M1+E2	1.5 *+8−4*	0.87 *11*	α(K)exp=0.53 *13* α(K)=0.54 *13*; α(L)=0.250 *14*; α(M)=0.062 *4* α(N)=0.0151 *10*; α(O)=0.00242 *12*; α(P)=6.2×10^{-5} *17* Ice(K)=0.72 *12*.

$^{194}_{77}Ir_{117}$-22

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]168.538 *14*	0.81 *14*					M1+E2	1.0 *+6−4*	1.01 *18*	α(K)exp=0.70 *18* α(K)=0.70 *21*; α(L)=0.231 *21*; α(M)=0.057 *6* α(N)=0.0138 *15*; α(O)=0.00225 *18*; α(P)=8.4×10^{-5} *27* Ice(K)=0.57 *11*.
169.214[d] *9*	0.67 *10*	605.532	(3)$^-$	436.295	2$^-$	[M1+E2]		1.0 *4*	α(K)=0.7 *4*; α(L)=0.23 *4*; α(M)=0.056 *13* α(N)=0.0136 *31*; α(O)=0.0022 *4*; α(P)=8.E−5 *6*
169.564 *2*	10.2 *3*	423.725	(2)$^-$	254.161	2$^-$	M1		1.363 *19*	α(K)exp=1.18 *9* α(K)=1.125 *16*; α(L)=0.1836 *26*; α(M)=0.0423 *6* α(N)=0.01039 *15*; α(O)=0.001841 *26*; α(P)=0.0001387 *19* Ice(K)=12.0 *8*.
169.874 *2*	6.5 *3*	254.161	2$^-$	84.284	2$^-$	M1		1.356 *19*	α(K)exp=1.16 *10* α(K)=1.119 *16*; α(L)=0.1826 *26*; α(M)=0.0421 *6* α(N)=0.01034 *14*; α(O)=0.001831 *26*; α(P)=0.0001380 *19* I(ce(K))=7.6 *5*.
[x]170.06 *4*	1.2 *3*					M1		1.352 *19*	α(K)exp=1.0 *4* α(K)=1.115 *16*; α(L)=0.1820 *26*; α(M)=0.0419 *6* α(N)=0.01031 *14*; α(O)=0.001825 *26*; α(P)=0.0001376 *19* Ice(K)=1.2 *4*.
170.314 *12*	1.0 *4*	308.973	1$^-$	138.687	1$^-$	M1+E2	>1.3	0.74 *14*	α(K)exp=0.41 *16* α(K)=0.41 *16*; α(L)=0.247 *16*; α(M)=0.062 *5* α(N)=0.0151 *11*; α(O)=0.00238 *13*; α(P)=4.6×10^{-5} *21* Mult.: E2 or M1+E2 (1998Ba85). Ice(K)=0.39 *6*.
170.588 *13*	0.92 *20*	467.207	2$^-$	296.630	4$^-$	(E2)		0.600 *8*	α(K)exp=0.38 *9* α(K)=0.254 *4*; α(L)=0.261 *4*; α(M)=0.0665 *9* α(N)=0.01610 *23*; α(O)=0.002494 *35*; α(P)=2.522×10^{-5} *35* Mult.: E2 or M1+E2 (1998Ba85). Ice(K)=0.35 *6*.
171.835 *4*	2.07 *9*	254.161	2$^-$	82.334	1$^-$	M1		1.313 *18*	α(K)exp=1.12 *15* α(K)=1.083 *15*; α(L)=0.1768 *25*; α(M)=0.0407 *6* α(N)=0.01001 *14*; α(O)=0.001773 *25*; α(P)=0.0001336 *19* Ice(K)=2.3 *3*.
172.016[d] *5*	0.99 *8*	486.064	2$^-$	314.054	2$^-$	M1		1.309 *18*	α(K)exp=1.11 *14* α(K)=1.080 *15*; α(L)=0.1763 *25*; α(M)=0.0406 *6* α(N)=0.00998 *14*; α(O)=0.001767 *25*; α(P)=0.0001332 *19* I(ce(K))=1.10 *11*.
172.759[d] *17*	0.63 *10*	519.788	3$^-$	347.055	3$^-$	[M1+E2]		0.9 *4*	α(K)=0.7 *4*; α(L)=0.21 *4*; α(M)=0.052 *11* α(N)=0.0125 *27*; α(O)=0.00205 *31*; α(P)=8.E−5 *5*
[x]175.03 *7*	1.6 *8*					M1+E2	0.2 *+12−2*	1.2 *4*	α(K)exp=1.0 *5* α(K)=1.0 *5*; α(L)=0.17 *4*; α(M)=0.039 *13* α(N)=0.0097 *31*; α(O)=0.00170 *34*; α(P)=1.2×10^{-4} *6* Mult.: M1 or M1+E2 (1998Ba85). Ice(K)=1.53 *15*.

$^{194}_{77}Ir_{117}$-23

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
175.608 *16*	0.89 *18*	489.648	2^-	314.054	2^-	[M1+E2]		0.89 *35*	α(K)=0.6 *4*; α(L)=0.198 *32*; α(M)=0.048 *10* α(N)=0.0118 *24*; α(O)=0.00193 *27*; α(P)=7.E−5 *5*
176.534 *4*	2.5 *2*	337.525	1^-	160.999	1^-	M1		1.217 *17*	α(K)exp=1.36 *22* α(K)=1.004 *14*; α(L)=0.1638 *23*; α(M)=0.0377 *5* α(N)=0.00927 *13*; α(O)=0.001643 *23*; α(P)=0.0001238 *17* Ice(K)=3.5 *5*.
176.654 *3*	6.6 *2*	337.648	2^-	160.999	1^-	M1		1.215 *17*	α(K)exp=1.13 *14* α(K)=1.002 *14*; α(L)=0.1635 *23*; α(M)=0.0377 *5* α(N)=0.00926 *13*; α(O)=0.001640 *23*; α(P)=0.0001236 *17* Ice(K)=7.5 *8*.
177.120[d] *11*	1.5 *5*	486.064	2^-	308.973	1^-	M1+E2	1.6 *+16−6*	0.72 *15*	α(K)exp=0.45 *15* α(K)=0.45 *17*; α(L)=0.205 *13*; α(M)=0.051 *4* α(N)=0.0124 *10*; α(O)=0.00198 *11*; α(P)=5.1×10^{-5} *22* Ice(K)=0.70 *11*.
[x]177.885 *16*	0.9 *4*								
[x]177.985 *11*	0.76 *11*								
[x]179.051 *9*	0.84 *10*					M1		1.169 *16*	α(K)exp=1.26 *20* α(K)=0.965 *14*; α(L)=0.1574 *22*; α(M)=0.0362 *5* α(N)=0.00891 *12*; α(O)=0.001578 *22*; α(P)=0.0001190 *17* Ice(K)=1.05 *10*.
[x]179.226 *3*	3.83 *15*					M1		1.166 *16*	α(K)exp=0.95 *8* α(K)=0.963 *13*; α(L)=0.1570 *22*; α(M)=0.0361 *5* α(N)=0.00889 *12*; α(O)=0.001574 *22*; α(P)=0.0001187 *17* Ice(K)=3.6 *3*.
180.680 *5*	2.15 *9*	489.648	2^-	308.973	1^-	M1		1.140 *16*	α(K)exp=1.09 *12* α(K)=0.941 *13*; α(L)=0.1534 *21*; α(M)=0.0353 *5* α(N)=0.00869 *12*; α(O)=0.001539 *22*; α(P)=0.0001160 *16* Ice(K)=2.35 24.
180.930 *5*	2.17 *12*	518.575	2^+	337.648	2^-	E1		0.0879 *12*	α(K)exp=0.10 *2* α(K)=0.0722 *10*; α(L)=0.01208 *17*; α(M)=0.00278 *4* α(N)=0.000675 *9*; α(O)=0.0001145 *16*; α(P)=6.73×10^{-6} *9* Ice(K)=0.22 *4*.
181.069 *5*	1.88 *16*	518.575	2^+	337.525	1^-	E1		0.0877 *12*	α(K)exp=0.14 *3* α(K)=0.0721 *10*; α(L)=0.01206 *17*; α(M)=0.00277 *4* α(N)=0.000674 *9*; α(O)=0.0001142 *16*; α(P)=6.72×10^{-6} *9* E_γ: uncertainty increased to 0.015 keV from 0.005 in the fitting procedure. E_γ: level-energy difference=181.053. Ice(K)=0.27 *5*.
181.799[d] *9*	0.76 *11*	605.532	$(3)^-$	423.725	$(2)^-$	M1		1.121 *16*	α(K)exp=1.13 *21* α(K)=0.925 *13*; α(L)=0.1508 *21*; α(M)=0.0347 *5* α(N)=0.00854 *12*; α(O)=0.001512 *21*; α(P)=0.0001140 *16* Ice(K)=0.86 *10*.
182.146 *5*	3.83 *12*	436.295	2^-	254.161	2^-	M1		1.115 *16*	α(K)exp=0.92 *10*

$^{194}_{77}Ir_{117}$-24

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.920 *13*; α(L)=0.1500 *21*; α(M)=0.0345 *5* α(N)=0.00849 *12*; α(O)=0.001504 *21*; α(P)=0.0001134 *16* Ice(K)=3.5 *4*.
184.407 *9*	1.22 *23*	296.630	4⁻	112.230	2⁻	E2		0.456 *6*	α(K)exp=0.31 *7* α(K)=0.2088 *29*; α(L)=0.1865 *26*; α(M)=0.0474 *7* α(N)=0.01150 *16*; α(O)=0.001787 *25*; α(P)=2.089×10^{-5} *29* Ice(K)=0.38 *6*.
184.687 *2*	39.6 *7*	184.689	3⁻	0.0	1⁻	E2		0.454 *6*	α(K)exp=0.19 *1* α(K)=0.2080 *29*; α(L)=0.1853 *26*; α(M)=0.0471 *7* α(N)=0.01142 *16*; α(O)=0.001776 *25*; α(P)=2.081×10^{-5} *29* K:L1:L2:L3:M1:M2:M3:N2+N3=100 *6*:20.0 *13*:77 *5*:51 *4*:5.1 *6*:17.6 *12*: 12 *3*:3.9 *9*. Ice(K)=7.4 *5*.
[x]185.080 *15*	0.53 *14*								
186.162[d] *3*	3.83 *10*	500.218	(3)⁻	314.054	2⁻	M1		1.049 *15*	α(K)exp=0.90 *7* α(K)=0.866 *12*; α(L)=0.1411 *20*; α(M)=0.0325 *5* α(N)=0.00799 *11*; α(O)=0.001414 *20*; α(P)=0.0001066 *15* Ice(K)=3.4 *3*.
[x]186.640 *5*	1.27 *11*								
[x]187.404 *11*	0.79 *23*								
187.530[d] *4*	2.12 *8*	578.499	3⁻	390.964	(1,2)⁻	M1		1.027 *14*	α(K)exp=1.0 *1* α(K)=0.848 *12*; α(L)=0.1382 *19*; α(M)=0.0318 *4* α(N)=0.00782 *11*; α(O)=0.001386 *19*; α(P)=0.0001045 *15* Ice(K)=2.14 *21*.
188.175[d] *16*	0.3 *3*	579.147	(2)⁻	390.964	(1,2)⁻	[M1+E2]		0.72 *30*	α(K)=0.52 *32*; α(L)=0.154 *17*; α(M)=0.038 *6* α(N)=0.0091 *14*; α(O)=0.00151 *14*; α(P)=6.E−5 *4*
188.63[g] *5*	0.32[g] *15*	337.525	1⁻	148.934	(3)⁻	[E2]		0.422 *6*	α(K)=0.1972 *28*; α(L)=0.1694 *24*; α(M)=0.0430 *6* α(N)=0.01043 *15*; α(O)=0.001624 *23*; α(P)=1.977×10^{-5} *28*
188.63[g] *5*	0.32[g] *15*	467.207	2⁻	278.504	(2)⁻	[M1+E2]		0.72 *29*	α(K)=0.52 *32*; α(L)=0.153 *17*; α(M)=0.037 *6* α(N)=0.0091 *14*; α(O)=0.00149 *13*; α(P)=6.E−5 *4*
188.721 *5*	2.43 *14*	337.648	2⁻	148.934	(3)⁻	M1+E2	0.5 *+4−5*	0.89 *15*	α(K)exp=0.71 *15* α(K)=0.71 *16*; α(L)=0.142 *8*; α(M)=0.0336 *29* α(N)=0.0082 *7*; α(O)=0.00141 *7*; α(P)=8.6×10^{-5} *21* Ice(K)=1.7 *3*.
[x]190.181 *15*	0.76 *5*					M1		0.988 *14*	α(K)exp=0.82 *14* α(K)=0.815 *11*; α(L)=0.1328 *19*; α(M)=0.0306 *4* α(N)=0.00752 *11*; α(O)=0.001332 *19*; α(P)=0.0001004 *14* Ice(K)=0.62 *10*.
190.789 *12*	0.67 *23*	436.295	2⁻	245.492	(0⁻)	(E2)		0.405 *6*	α(K)exp=0.37 *15* α(K)=0.1916 *27*; α(L)=0.1614 *23*; α(M)=0.0410 *6* α(N)=0.00994 *14*; α(O)=0.001547 *22*; α(P)=1.923×10^{-5} *27* Mult.: E2+M1 from ce data, and in 2008Ba25; M1 is

$^{194}_{77}Ir_{117}$-25

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									inconsistent with ΔJ^π. Ice(K)=0.25 *5*.
191.198 *7*	0.72 *9*	436.295	2^-	245.110	$(3)^-$	[M1+E2]		0.69 *29*	Mult.: E2 or M1+E2 (1998Ba85). α(K)=0.50 *31*; α(L)=0.145 *15*; α(M)=0.035 *5* α(N)=0.0086 *12*; α(O)=0.00142 *11*; α(P)=6.E−5 *4*
192.349 *23*	0.34 *11*	377.006	$(3)^-$	184.689	3^-	[M1+E2]		0.68 *28*	Mult.: M1,E2 in 2008Ba25, but no conversion data are available. α(K)=0.49 *30*; α(L)=0.142 *14*; α(M)=0.035 *5* α(N)=0.0084 *12*; α(O)=0.00139 *10*; α(P)=6.E−5 *4*
192.82 *3*	0.36 *11*	501.814	$(2)^-$	308.973	1^-	M1		0.950 *13*	α(K)exp=1.0 *4* α(K)=0.785 *11*; α(L)=0.1278 *18*; α(M)=0.0294 *4* α(N)=0.00723 *10*; α(O)=0.001281 *18*; α(P)=9.66×10^{-5} *14* Ice(K)=0.37 *8*.
193.69[d] *7*	0.50 *22*	738.345	$(3)^+$	544.676	2^-	[E1]		0.0740 *10*	α(K)exp=0.7 *4* α(K)=0.0609 *9*; α(L)=0.01011 *14*; α(M)=0.002325 *33* α(N)=0.000565 *8*; α(O)=9.60×10^{-5} *13*; α(P)=5.73×10^{-6} *8* Ice(K)=0.37 *9*. Mult.: α(K)exp gives M1, as listed in Table VI of 2008Ba25, but their ΔJ^π implies M2, which, in the opinion of evaluators is also unlikely. E1 implied by presently assigned ΔJ^π.
193.928 *3*	9.1 *3*	337.525	1^-	143.595	0^-	M1		0.935 *13*	α(K)exp=0.67 *6* α(K)=0.772 *11*; α(L)=0.1258 *18*; α(M)=0.0290 *4* α(N)=0.00712 *10*; α(O)=0.001261 *18*; α(P)=9.51×10^{-5} *13* Mult.: M1(+E2) from ce data and also in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π. Ice(K)=6.1 *5*.
194.217 *3*	1.95 *11*	278.504	$(2)^-$	84.284	2^-	M1+E2	0.39 *+22−39*	0.86 *8*	α(K)exp=0.69 *8* α(K)=0.69 *8*; α(L)=0.128 *4*; α(M)=0.0300 *13* α(N)=0.00737 *31*; α(O)=0.001279 *31*; α(P)=8.5×10^{-5} *11* Ice(K)=1.34 *13*.
195.519 *3*	8.99 *24*	195.526	2^-	0.0	1^-	E2		0.373 *5*	α(K)exp=0.18 *2* α(K)=0.1800 *25*; α(L)=0.1456 *20*; α(M)=0.0369 *5* α(N)=0.00896 *13*; α(O)=0.001396 *20*; α(P)=1.813×10^{-5} *25* K:L1:L2:L3:M2:M3:N2+N3::100 *10*:11 *3*:61 *7*:40 *5*:9.9 *21*:6.7 *11*:5.9 *13*. Ice(K)=1.62 16.
[x]195.885 *16*	0.73 *16*					M1		0.909 *13*	α(K)exp=0.71 *17* α(K)=0.751 *11*; α(L)=0.1223 *17*; α(M)=0.0281 *4* α(N)=0.00692 *10*; α(O)=0.001226 *17*; α(P)=9.25×10^{-5} *13* Ice(K)=0.52 *7*.
196.639 *23*	0.44 *11*	308.973	1^-	112.230	2^-	[M1+E2]		0.63 *27*	α(K)=0.46 *28*; α(L)=0.132 *11*; α(M)=0.032 *4* α(N)=0.0078 *10*; α(O)=0.00129 *8*; α(P)=5.E−5 *4* E_γ: uncertainty increased to 0.069 keV from 0.023 in the fitting procedure.
[x]196.753 *11*	0.73 *9*								

$^{194}_{77}Ir_{117}$-26

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]197.281 *24*	1.4 *9*					E2+M1	>1.2	0.47 *11*	α(K)exp=0.25 *17* α(K)=0.29 *11*; α(L)=0.136 *5*; α(M)=0.0339 *17* α(N)=0.0082 *4*; α(O)=0.001315 *35*; α(P)=3.3×10^{-5} *15* Ice(K)=0.34 *6*. Mult.: E2 or M1+E2 (1998Ba85).
[x]198.00 *3*	1.9 *9*					E1		0.0700 *10*	α(K)exp<0.1 α(K)=0.0576 *8*; α(L)=0.00955 *13*; α(M)=0.002195 *31* α(N)=0.000533 *7*; α(O)=9.07×10^{-5} *13*; α(P)=5.44×10^{-6} *8* Ice(K)<0.2.
198.101 *5*	2.41 *13*	347.055	3$^-$	148.934	(3)$^-$	M1+E2	0.55 *14*	0.76 *5*	α(K)exp=0.60 *5* α(K)=0.60 *5*; α(L)=0.1229 *24*; α(M)=0.0291 *8* α(N)=0.00712 *19*; α(O)=0.001219 *21*; α(P)=7.3×10^{-5} *7* E_γ: uncertainty increased to 0.020 keV from 0.005 in the fitting procedure. E_γ: level-energy difference=198.117. Ice(K)=1.46 *9*.
[x]198.457 *12*	1.02 *13*					M1		0.877 *12*	α(K)exp=0.90 *16* α(K)=0.724 *10*; α(L)=0.1179 *17*; α(M)=0.0271 *4* α(N)=0.00667 *9*; α(O)=0.001182 *17*; α(P)=8.91×10^{-5} *12* Ice(K)=0.91 *12*.
198.834 *3*	6.3 *16*	337.525	1$^-$	138.687	1$^-$	M1+E2	1.3 *+4−3*	0.55 *7*	α(K)exp=0.37 *6* α(K)=0.38 *7*; α(L)=0.1288 *30*; α(M)=0.0316 *10* α(N)=0.00771 *24*; α(O)=0.001254 *24*; α(P)=4.4×10^{-5} *9* Ice(K)=2.3 *4*.
[x]199.219 *9*	0.8 *3*								
201.506[d] *9*	0.63 *3*	578.499	3$^-$	377.006	(3)$^-$	[M1+E2]		0.59 *25*	α(K)=0.43 *26*; α(L)=0.121 *8*; α(M)=0.0293 *33* α(N)=0.0071 *8*; α(O)=0.00118 *5*; α(P)=5.1×10^{-5} *34*
[x]201.708 *22*	1.7 *3*					E2+M1	0.9 *+5−3*	0.61 *11*	α(K)exp=0.46 *11* α(K)=0.46 *11*; α(L)=0.119 *4*; α(M)=0.0288 *14* α(N)=0.00703 *33*; α(O)=0.001172 *26*; α(P)=5.5×10^{-5} *15* Ice(K)=0.91 *12*. Mult.: E2 or M1+E2 (1998Ba85).
[x]202.314 *11*	0.72 *5*								
[x]203.035 *19*	0.39 *13*					M1		0.823 *12*	α(K)exp=1.2 *5* α(K)=0.680 *10*; α(L)=0.1106 *15*; α(M)=0.0255 *4* α(N)=0.00626 *9*; α(O)=0.001109 *16*; α(P)=8.36×10^{-5} *12* Ice(K)=0.47 *8*.
203.241[d] *13*	0.81 *11*	722.760	3$^+$	519.519	(3)$^+$	M1		0.821 *11*	α(K)exp=0.83 *12* α(K)=0.678 *9*; α(L)=0.1103 *15*; α(M)=0.0254 *4* α(N)=0.00624 *9*; α(O)=0.001105 *15*; α(P)=8.34×10^{-5} *12* Ice(K)=0.67 *5*.
204.187[d] *3*	3.82 *12*	722.760	3$^+$	518.575	2$^+$	M1		0.810 *11*	α(K)exp=0.61 *5*

$^{194}_{77}Ir_{117}$-27

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.669 *9*; α(L)=0.1088 *15*; α(M)=0.02505 *35* α(N)=0.00616 *9*; α(O)=0.001091 *15*; α(P)=8.23×10^{-5} *12* Ice(K)=2.31 *18*.
205.065 *4*	2.43 *9*	542.588	(2)$^+$	337.525	1$^-$	E1		0.0641 *9*	α(K)exp<0.08 α(K)=0.0528 *7*; α(L)=0.00871 *12*; α(M)=0.002004 *28* α(N)=0.000487 *7*; α(O)=8.29×10^{-5} *12*; α(P)=5.00×10^{-6} *7* Ice(K)<0.20.
205.743[d] *18*	0.95 *21*	519.788	3$^-$	314.054	2$^-$	(M1+E2)	2.0 *+19−6*	0.41 *7*	α(K)exp=0.26 *7* α(K)=0.26 *7*; α(L)=0.1154 *22*; α(M)=0.0287 *8* α(N)=0.00698 *19*; α(O)=0.001116 *18*; α(P)=2.9×10^{-5} *9* Ice(K)=0.25 *4*. Mult.: E2 or M1+E2 (1998Ba85).
[x]206.229 *8*	0.97 *10*								
[x]206.425 *18*	0.9 *4*					E2+M1	>1.4	0.39 *8*	α(K)exp=0.23 *10* α(K)=0.24 *8*; α(L)=0.1142 *24*; α(M)=0.0285 *9* α(N)=0.00693 *22*; α(O)=0.001104 *18*; α(P)=2.7×10^{-5} *11* Ice(K)=0.20 *3*. Mult.: E2 or M1+E2 (1998Ba85).
207.123[d] *14*	1.31 *12*	544.676	2$^-$	337.525	1$^-$	M1+E2	1.28 *+34−24*	0.49 *5*	α(K)exp=0.34 *5* α(K)=0.34 *5*; α(L)=0.1106 *18*; α(M)=0.0271 *6* α(N)=0.00660 *15*; α(O)=0.001079 *16*; α(P)=4.0×10^{-5} *7* Ice(K)=0.44 *5*.
[x]207.403 *16*	1.7 *3*					E1		0.0623 *9*	α(K)exp<0.09 α(K)=0.0513 *7*; α(L)=0.00846 *12*; α(M)=0.001945 *27* α(N)=0.000473 *7*; α(O)=8.05×10^{-5} *11*; α(P)=4.87×10^{-6} *7* Ice(K)<0.15.
208.322[d] *4*	2.10 *12*	708.546	(2)$^-$	500.218	(3)$^-$	M1+E2	0.65 *+21−20*	0.63 *6*	α(K)exp=0.49 *6* α(K)=0.49 *6*; α(L)=0.1055 *19*; α(M)=0.0250 *7* α(N)=0.00613 *16*; α(O)=0.001044 *15*; α(P)=5.9×10^{-5} *8* Ice(K)=1.03 *11*.
208.443[d] *4*	1.87 *10*	599.405	(2,3)$^-$	390.964	(1,2)$^-$	M1		0.765 *11*	α(K)exp=0.65 *8* α(K)=0.632 *9*; α(L)=0.1027 *14*; α(M)=0.02365 *33* α(N)=0.00581 *8*; α(O)=0.001030 *14*; α(P)=7.77×10^{-5} *11* Ice(K)=1.22 *15*.
[x]209.056 *10*	0.99 *13*					M1		0.759 *11*	α(K)exp=0.60 *14* α(K)=0.626 *9*; α(L)=0.1019 *14*; α(M)=0.02345 *33* α(N)=0.00577 *8*; α(O)=0.001022 *14*; α(P)=7.71×10^{-5} *11* Ice(K)=0.59 *12*.
209.595 *6*	1.45 *12*	518.575	2$^+$	308.973	1$^-$	E1		0.0607 *8*	α(K)exp<0.1 α(K)=0.0500 *7*; α(L)=0.00824 *12*; α(M)=0.001893 *27* α(N)=0.000460 *6*; α(O)=7.84×10^{-5} *11*; α(P)=4.75×10^{-6} *7* Ice(K)<0.15.
[x]209.86 *3*	1.11 *25*					E1		0.0605 *8*	α(K)exp<0.13

$^{194}_{77}Ir_{117}$-28

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
									α(K)=0.0498 *7*; α(L)=0.00821 *11*; α(M)=0.001887 *26* α(N)=0.000459 *6*; α(O)=7.82×10^{-5} *11*; α(P)=4.74×10^{-6} *7* Ice(K)<0.15.
210.202 *7*	1.23 *11*	394.880	4$^-$	184.689	3$^-$	M1+E2	0.97 *+18−16*	0.53 *4*	α(K)exp=0.39 *4* α(K)=0.39 *4*; α(L)=0.1038 *16*; α(M)=0.0251 *5* α(N)=0.00613 *12*; α(O)=0.001019 *14*; α(P)=4.6×10^{-5} *5* Ice(K)=0.48 *4*.
211.133 *4*	2.51 *15*	489.648	2$^-$	278.504	(2)$^-$	M1+E2	0.5 *+3−5*	0.65 *9*	α(K)exp=0.53 *8* α(K)=0.52 *9*; α(L)=0.1004 *19*; α(M)=0.0236 *8* α(N)=0.00578 *19*; α(O)=0.000998 *15*; α(P)=6.3×10^{-5} *12* Ice(K)=1.32 17.
[x]212.241 *12*	1.01 *22*								
212.346 *2*	6.64 *16*	296.630	4$^-$	84.284	2$^-$	E2		0.282 *4*	α(K)exp=0.15 *2* α(K)=0.1457 *20*; α(L)=0.1031 *14*; α(M)=0.0261 *4* α(N)=0.00633 *9*; α(O)=0.000990 *14*; α(P)=1.484×10^{-5} *21* Ice(K)=1.00 *12*.
[x]212.978 *9*	0.83 *16*					M1		0.721 *10*	α(K)exp=0.87 *23* α(K)=0.595 *8*; α(L)=0.0967 *14*; α(M)=0.02227 *31* α(N)=0.00547 *8*; α(O)=0.000970 *14*; α(P)=7.32×10^{-5} *10* Ice(K)=0.73 *13*.
[x]213.188 *17*	0.9 *3*								
213.721[d] *18*	2.6 *7*	590.727	(2,3)$^+$	377.006	(3)$^-$	E1		0.0578 *8*	α(K)exp<0.06 α(K)=0.0476 *7*; α(L)=0.00783 *11*; α(M)=0.001800 *25* α(N)=0.000437 *6*; α(O)=7.46×10^{-5} *10*; α(P)=4.54×10^{-6} *6* Ice(K)<0.15.
214.327[d] *22*	0.52 *10*	361.382	(3)$^+$	147.073	4$^+$	M1		0.708 *10*	α(K)exp=0.73 *21* α(K)=0.585 *8*; α(L)=0.0950 *13*; α(M)=0.02188 *31* α(N)=0.00538 *8*; α(O)=0.000953 *13*; α(P)=7.19×10^{-5} *10* Ice(K)=0.38 *8*.
[x]215.25 *3*	0.62 *13*					M1		0.700 *10*	α(K)exp=0.89 *25* α(K)=0.578 *8*; α(L)=0.0939 *13*; α(M)=0.02162 *30* α(N)=0.00531 *7*; α(O)=0.000941 *13*; α(P)=7.10×10^{-5} *10* Ice(K)=0.55 *11*.
215.991 *11*	1.38 *8*	377.006	(3)$^-$	160.999	1$^-$	E2		0.267 *4*	α(K)exp=0.20 *4* α(K)=0.1394 *20*; α(L)=0.0961 *13*; α(M)=0.02430 *34* α(N)=0.00589 *8*; α(O)=0.000924 *13*; α(P)=1.423×10^{-5} *20* Ice(K)=0.28 *5*.
[x]216.903 *6*	1.81 *16*					M1		0.685 *10*	α(K)exp=0.57 *7* α(K)=0.566 *8*; α(L)=0.0919 *13*; α(M)=0.02116 *30* α(N)=0.00520 *7*; α(O)=0.000922 *13*; α(P)=6.96×10^{-5} *10* Ice(K)=1.03 *8*.
218.812[d] *9*	1.43 *14*	738.345	(3)$^+$	519.519	(3)$^+$	M1+E2	1.2 *+4−3*	0.42 *6*	α(K)exp=0.31 *5* α(K)=0.31 *6*; α(L)=0.0905 *13*; α(M)=0.0221 *5* α(N)=0.00538 *10*; α(O)=0.000885 *13*; α(P)=3.6×10^{-5} *8*

$^{194}_{77}$Ir$_{117}$-29

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
219.163[d] *2*	7.9 *4*	638.775	2^-,3^-	419.611	$(3)^-$	E2		0.254 *4*	Ice(K)=0.45 *6*. α(K)exp=0.12 *2*

$^{194}_{77}Ir_{117}$-30

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.1343 *19*; α(L)=0.0905 *13*; α(M)=0.02288 *32* α(N)=0.00555 *8*; α(O)=0.000870 *12*; α(P)=1.374×10^{-5} *19* Ice(K)=0.96 *10*.
[x]219.31 *3*	1.2 *3*					M1+E2	0.7 *+6−5*	0.53 *12*	α(K)exp=0.41 *12* α(K)=0.41 *12*; α(L)=0.0895 *13*; α(M)=0.0213 *7* α(N)=0.00521 *16*; α(O)=0.000885 *15*; α(P)=5.0×10^{-5} *16* Ice(K)=0.50 *7*.
[x]219.827 *15*	0.68 *9*					M1		0.660 *9*	α(K)exp=0.65 *12* α(K)=0.545 *8*; α(L)=0.0885 *12*; α(M)=0.02038 *29* α(N)=0.00501 *7*; α(O)=0.000888 *12*; α(P)=6.70×10^{-5} *9* Ice(K)=0.44 *7*.
222.392[d] *12*	0.92 *10*	599.405	(2,3)$^-$	377.006	(3)$^-$	[M1+E2]		0.44 *20*	α(K)=0.33 *20*; α(L)=0.0855 *12*; α(M)=0.0206 *9* α(N)=0.00504 *20*; α(O)=0.000840 *23*; α(P)=3.9×10^{-5} *26* Earlier placement from a 371.28 level omitted by 2008Ba25.
223.21[d] *4*	0.70 *24*	519.788	3$^-$	296.630	4$^-$	M1		0.633 *9*	α(K)exp=0.8 *3* α(K)=0.522 *7*; α(L)=0.0849 *12*; α(M)=0.01953 *27* α(N)=0.00480 *7*; α(O)=0.000851 *12*; α(P)=6.42×10^{-5} *9* Ice(K)=0.57 *11*.
[x]223.42 *3*	0.73 *24*					M1		0.631 *9*	α(K)exp=0.52 *18* α(K)=0.521 *7*; α(L)=0.0846 *12*; α(M)=0.01948 *27* α(N)=0.00479 *7*; α(O)=0.000849 *12*; α(P)=6.41×10^{-5} *9* Ice(K)=0.38 *4*.
224.085 *3*	7.71 *23*	419.611	(3)$^-$	195.526	2$^-$	M1		0.626 *9*	α(K)exp=0.51 *4* α(K)=0.517 *7*; α(L)=0.0839 *12*; α(M)=0.01932 *27* α(N)=0.00475 *7*; α(O)=0.000842 *12*; α(P)=6.35×10^{-5} *9* Ice(K)=3.9 *3*.
[x]224.345 *16*	1.1 *3*					M1		0.624 *9*	α(K)exp=0.49 *14* α(K)=0.515 *7*; α(L)=0.0837 *12*; α(M)=0.01926 *27* α(N)=0.00473 *7*; α(O)=0.000839 *12*; α(P)=6.33×10^{-5} *9* Ice(K)=0.52 *7*.
225.412 *5*	4.95 *12*	337.648	2$^-$	112.230	2$^-$	M1+E2	0.67 *+17−16*	0.50 *4*	α(K)exp=0.39 *4* α(K)=0.39 *4*; α(L)=0.0820 *12*; α(M)=0.01943 *31* α(N)=0.00476 *7*; α(O)=0.000812 *13*; α(P)=4.7×10^{-5} *5* Ice(K)=1.91 *19*.
226.299[d] *15*	1.63 *16*	519.519	(3)$^+$	293.241	(3,4,5)$^+$	M1		0.609 *9*	α(K)exp=0.66 *10* α(K)=0.503 *7*; α(L)=0.0817 *11*; α(M)=0.01880 *26* α(N)=0.00462 *6*; α(O)=0.000819 *11*; α(P)=6.18×10^{-5} *9* Ice(K)=1.08 *13*.
226.639 *2*	8.4 *23*	308.973	1$^-$	82.334	1$^-$	M1+E2	0.52 *13*	0.526 *33*	α(K)exp=0.42 *3* α(K)=0.421 *32*; α(L)=0.0808 *11*; α(M)=0.01898 *28* α(N)=0.00465 *7*; α(O)=0.000803 *12*; α(P)=5.1×10^{-5} *4* Ice(K)=3.57 *21*.

$^{194}_{77}Ir_{117}$-31

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
228.070 *4*	5.2 *3*	377.006	(3)$^-$	148.934	(3)$^-$	M1+E2	0.19 *+22−19*	0.58 *4*	α(K)exp=0.48 *4* α(K)=0.48 *4*; α(L)=0.0798 *12*; α(M)=0.01843 *28* α(N)=0.00453 *7*; α(O)=0.000799 *13*; α(P)=5.9×10^{-5} *5* Ice(K)=2.48 *20*. Mult.: M1 or M1+E2 (1998Ba85).
228.201 *4*	4.2 *2*	423.725	(2)$^-$	195.526	2$^-$	M1+E2	1.09 *+28−21*	0.39 *4*	α(K)exp=0.29 *4* α(K)=0.29 *4*; α(L)=0.0781 *11*; α(M)=0.01891 *29* α(N)=0.00461 *7*; α(O)=0.000766 *13*; α(P)=3.4×10^{-5} *5* Ice(K)=1.20 *12*.
228.52[d] *3*	0.99 *21*	605.532	(3)$^-$	377.006	(3)$^-$	M1		0.593 *8*	α(K)exp=0.72 *17* α(K)=0.490 *7*; α(L)=0.0795 *11*; α(M)=0.01829 *26* α(N)=0.00450 *6*; α(O)=0.000797 *11*; α(P)=6.02×10^{-5} *8* Ice(K)=0.72 *7*.
229.27[d] *5*	2.3 *8*	500.218	(3)$^-$	270.918	(3)$^+$	E1		0.0485 *7*	α(K)exp<0.07 α(K)=0.0401 *6*; α(L)=0.00654 *9*; α(M)=0.001502 *21* α(N)=0.000365 *5*; α(O)=6.24×10^{-5} *9*; α(P)=3.85×10^{-6} *5* Ice(K)<0.15.
[x]230.47 *5*	0.59 *25*								
[x]230.565 *18*	1.22 *22*								Ice(K)=0.47 *3* for 230.565+230.627.
230.627[d] *9*	1.12 *13*	544.676	2$^-$	314.054	2$^-$	[M1+E2]		0.40 *18*	α(K)=0.30 *18*; α(L)=0.0755 *22*; α(M)=0.0182 *4* α(N)=0.00444 *8*; α(O)=0.00074 *4*; α(P)=3.5×10^{-5} *23* Mult.: (M1) in 2008Ba25.
[x]230.88 *3*	0.66 *17*								
231.751 *23*	1.64 *25*	314.054	2$^-$	82.334	1$^-$	M1+E2	0.8 *+5−4*	0.43 *9*	α(K)exp=0.34 *8* α(K)=0.33 *9*; α(L)=0.0747 *15*; α(M)=0.01782 *29* α(N)=0.00436 *6*; α(O)=0.000738 *21*; α(P)=4.0×10^{-5} *12* Ice(K)=0.56 *11*.
231.901[gd] *3*	5.12[g] *15*	416.589	(4)$^-$	184.689	3$^-$	(M1)		0.569 *8*	α(K)exp=0.43 *3* α(K)=0.470 *7*; α(L)=0.0763 *11*; α(M)=0.01756 *25* α(N)=0.00432 *6*; α(O)=0.000765 *11*; α(P)=5.78×10^{-5} *8* Ice(K)=2.20 *17*.
231.901[gd] *3*	5.12[g] *15*	486.064	2$^-$	254.161	2$^-$	(M1)		0.569 *8*	α(K)=0.470 *7*; α(L)=0.0763 *11*; α(M)=0.01756 *25* α(N)=0.00432 *6*; α(O)=0.000765 *11*; α(P)=5.78×10^{-5} *8*
[x]232.22 *3*	0.72 *23*					M1		0.567 *8*	α(K)exp=0.40 *12* α(K)=0.468 *7*; α(L)=0.0760 *11*; α(M)=0.01749 *25* α(N)=0.00430 *6*; α(O)=0.000762 *11*; α(P)=5.75×10^{-5} *8* Ice(K)=0.29 *3*.
[x]233.709 *11*	1.51 *12*					M1		0.557 *8*	α(K)exp=0.48 *10* α(K)=0.460 *6*; α(L)=0.0747 *10*; α(M)=0.01719 *24* α(N)=0.00423 *6*; α(O)=0.000749 *10*; α(P)=5.65×10^{-5} *8* Ice(K)=0.73 *14*.
[x]233.928 *25*	2.4 *8*					E1		0.0462 *6*	α(K)exp<0.06

$^{194}_{77}Ir_{117}$-32

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.0381 *5*; α(L)=0.00621 *9*; α(M)=0.001427 *20* α(N)=0.000347 *5*; α(O)=5.94×10^{-5} *8*; α(P)=3.67×10^{-6} *5* Ice(K)<0.15.
[x]234.535 *4*	3.65 *19*					M1+E2	0.86 *+29−24*	0.40 *5*	α(K)exp=0.31 *5* α(K)=0.31 *5*; α(L)=0.0717 *13*; α(M)=0.01714 *24* α(N)=0.00419 *6*; α(O)=0.000707 *15*; α(P)=3.7×10^{-5} *7* Ice(K)=1.15 *17*.
234.817 *2*	19.1 *4*	347.055	3$^-$	112.230	2$^-$	M1+E2	0.76 *+15−14*	0.423 *31*	α(K)exp=0.33 *3* α(K)=0.329 *31*; α(L)=0.0717 *11*; α(M)=0.01706 *24* α(N)=0.00417 *6*; α(O)=0.000709 *12*; α(P)=4.0×10^{-5} *4* E_γ: uncertainty increased to 0.006 keV from 0.002 in the fitting procedure. Ice(K)=6.4 *4*.
235.493 *5*	3.44 *16*	489.648	2$^-$	254.161	2$^-$	M1		0.545 *8*	α(K)exp=0.41 *4* α(K)=0.451 *6*; α(L)=0.0731 *10*; α(M)=0.01683 *24* α(N)=0.00414 *6*; α(O)=0.000733 *10*; α(P)=5.53×10^{-5} *8* Ice(K)=1.39 12.
235.707[d] *4*	3.82 *18*	544.676	2$^-$	308.973	1$^-$	M1		0.544 *8*	α(K)exp=0.45 *5* α(K)=0.449 *6*; α(L)=0.0729 *10*; α(M)=0.01678 *23* α(N)=0.00413 *6*; α(O)=0.000731 *10*; α(P)=5.52×10^{-5} *8* Ice(K)=1.72 *18*.
236.78[d] *6*	0.29 *16*	722.760	3$^+$	486.064	2$^-$	[E1]		0.0448 *6*	α(K)=0.0370 *5*; α(L)=0.00602 *8*; α(M)=0.001383 *19* α(N)=0.000336 *5*; α(O)=5.76×10^{-5} *8*; α(P)=3.57×10^{-6} *5*
239.549[d] *15*	1.01 *19*	646.539	(3,4)$^+$	407.017	3$^+$	M1+E2	0.9 *+4−3*	0.37 *6*	α(K)exp=0.28 *6* α(K)=0.29 *6*; α(L)=0.0668 *15*; α(M)=0.01598 *23* α(N)=0.00391 *6*; α(O)=0.000658 *19*; α(P)=3.4×10^{-5} *8* Ice(K)=0.28 *3*.
240.774 *5*	2.84 *12*	436.295	2$^-$	195.526	2$^-$	M1+E2	0.91 *+19−16*	0.365 *31*	α(K)exp=0.28 *3* α(K)=0.280 *30*; α(L)=0.0656 *11*; α(M)=0.01570 *22* α(N)=0.00384 *5*; α(O)=0.000647 *13*; α(P)=3.3×10^{-5} *4* Ice(K)=0.78 *7*.
[x]241.759 *4*	3.30 *18*					M1+E2	0.95 *+20−17*	0.354 *31*	α(K)exp=0.27 *3* α(K)=0.270 *31*; α(L)=0.0646 *11*; α(M)=0.01548 *22* α(N)=0.00378 *5*; α(O)=0.000636 *13*; α(P)=3.2×10^{-5} *4* Ice(K)=0.89 *9*.
242.314[d] *3*	4.55 *15*	556.374	(3)$^-$	314.054	2$^-$	M1+E2	0.52 *10*	0.436 *22*	α(K)exp=0.35 *2* α(K)=0.350 *21*; α(L)=0.0660 *10*; α(M)=0.01546 *22* α(N)=0.00379 *5*; α(O)=0.000657 *11*; α(P)=4.25×10^{-5} *27* Ice(K)=1.60 *9*.
[x]242.571 *5*	2.17 *17*					M1+E2	0.8 *3*	0.38 *6*	α(K)exp=0.29 *5* α(K)=0.29 *6*; α(L)=0.0645 *17*; α(M)=0.01534 *23* α(N)=0.00375 *6*; α(O)=0.000637 *21*; α(P)=3.5×10^{-5} *8* Ice(K)=0.63 *10*.

$^{194}_{77}Ir_{117}$-33

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]243.647 *20*	0.89 *16*					M1+E2	1.1 *+8−4*	0.32 *7*	α(K)exp=0.24 *7* α(K)=0.24 *7*; α(L)=0.0624 *20*; α(M)=0.01505 *24* α(N)=0.00367 *6*; α(O)=0.000613 *25*; α(P)=2.9×10^{-5} *9* Ice(K)=0.21 *4*.
[x]243.89 *3*	1.22 *22*					E1		0.0417 *6*	α(K)exp<0.08 α(K)=0.0344 *5*; α(L)=0.00559 *8*; α(M)=0.001283 *18* α(N)=0.000312 *4*; α(O)=5.35×10^{-5} *7*; α(P)=3.33×10^{-6} *5* Ice(K)<0.10.
245.115 *3*	6.06 *24*	245.110	(3)$^-$	0.0	1$^-$	E2		0.1767 *25*	α(K)exp=0.14 *2* α(K)=0.1006 *14*; α(L)=0.0576 *8*; α(M)=0.01448 *20* α(N)=0.00351 *5*; α(O)=0.000554 *8*; α(P)=1.048×10^{-5} *15* Ice(K)=0.84 *9*.
245.491 *2*	13.1 *3*	245.492	(0$^-$)	0.0	1$^-$	(M1)		0.486 *7*	α(K)exp=0.30 *2* α(K)=0.402 *6*; α(L)=0.0651 *9*; α(M)=0.01499 *21* α(N)=0.00369 *5*; α(O)=0.000653 *9*; α(P)=4.93×10^{-5} *7* Mult.: M1(+E2) from α(K)exp, and also in Table VI of 2008Ba25; E2 is inconsistent with ΔJ^π. Ice(K)=3.98 *24*.
[x]245.734 *6*	3.05 *20*					M1+E2	1.1 *+4−3*	0.32 *5*	α(K)exp=0.23 *4* α(K)=0.24 *5*; α(L)=0.0606 *15*; α(M)=0.01461 *23* α(N)=0.00357 *6*; α(O)=0.000595 *18*; α(P)=2.8×10^{-5} *6* Ice(K)=0.70 *10*.
245.943 *4*	3.20 *18*	394.880	4$^-$	148.934	(3)$^-$	M1+E2	0.71 *+17−16*	0.380 *32*	α(K)exp=0.30 *3* α(K)=0.299 *31*; α(L)=0.0621 *12*; α(M)=0.01470 *22* α(N)=0.00360 *5*; α(O)=0.000615 *14*; α(P)=3.6×10^{-5} *4* Ice(K)=0.96 *9*.
246.051[d] *8*	1.70 *19*	500.218	(3)$^-$	254.161	2$^-$	M1		0.483 *7*	α(K)exp=0.44 *6* α(K)=0.399 *6*; α(L)=0.0647 *9*; α(M)=0.01490 *21* α(N)=0.00366 *5*; α(O)=0.000649 *9*; α(P)=4.90×10^{-5} *7* Ice(K)=0.75 *6*.
246.397[d] *13*	1.47 *23*	670.121	(2)$^-$	423.725	(2)$^-$	M1+E2	0.8 *3*	0.36 *6*	α(K)exp=0.29 *5* α(K)=0.28 *6*; α(L)=0.0613 *18*; α(M)=0.01458 *24* α(N)=0.00357 *6*; α(O)=0.000606 *21*; α(P)=3.4×10^{-5} *7* Ice(K)=0.43 *5*.
[x]247.041 *17*	0.69 *13*								
247.655[g] *4*	1.99[g] *14*	501.814	(2)$^-$	254.161	2$^-$	M1		0.475 *7*	α(K)exp=0.38 *4* α(K)=0.392 *5*; α(L)=0.0636 *9*; α(M)=0.01463 *20* α(N)=0.00360 *5*; α(O)=0.000637 *9*; α(P)=4.81×10^{-5} *7* Ice(K)=0.76 *6*.
247.655[g] *4*	1.99[g] *14*	518.575	2$^+$	270.918	(3)$^+$	M1		0.475 *7*	α(K)exp=0.392 *5*; α(L)=0.0636 *9*; α(M)=0.01463 *20* α(N)=0.00360 *5*; α(O)=0.000637 *9*; α(P)=4.81×10^{-5} *7* Ice(K)=0.76 *6*.

$^{194}_{77}Ir_{117}$-34

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]248.123 *17*	0.76 *8*								
248.599 *2*	10.29 *22*	519.519	$(3)^+$	270.918	$(3)^+$	M1		0.470 *7*	α(K)exp=0.35 *2* α(K)=0.388 *5*; α(L)=0.0629 *9*; α(M)=0.01448 *20* α(N)=0.00356 *5*; α(O)=0.000631 *9*; α(P)=4.76×10^{-5} *7* Ice(K)=3.63 22.
249.789[d] *22*	1.63 *25*	669.369	$(3)^-$	419.611	$(3)^-$	[M1+E2]		0.32 *15*	α(K)exp<0.06 α(K)=0.24 *14*; α(L)=0.058 *4*; α(M)=0.0139 *5* α(N)=0.00338 *14*; α(O)=0.00057 *5*; α(P)=2.9×10^{-5} *19* Ice(K)<0.10. Mult.: α(K)exp gives E1, as also listed in Table VI of 2008Ba25. But ΔJ^π requires M1+E2.
[x]250.17 *6*	1.2 *3*					E2		0.1657 *23*	α(K)exp=0.08 *3* α(K)=0.0955 *13*; α(L)=0.0531 *7*; α(M)=0.01334 *19* α(N)=0.00324 *5*; α(O)=0.000512 *7*; α(P)=9.97×10^{-6} *14* Ice(K)=0.10 *2*.
250.53[d] *3*	1.0 *2*	670.121	$(2)^-$	419.611	$(3)^-$	[M1+E2]		0.31 *15*	α(K)=0.24 *14*; α(L)=0.057 *4*; α(M)=0.0137 *5* α(N)=0.00335 *14*; α(O)=0.00056 *5*; α(P)=2.8×10^{-5} *18*
[x]250.686 *6*	2.10 *12*					M1+E2	1.3 *+4−3*	0.27 *4*	α(K)exp=0.20 *3* α(K)=0.20 *4*; α(L)=0.0559 *14*; α(M)=0.01357 *22* α(N)=0.00331 *6*; α(O)=0.000548 *16*; α(P)=2.4×10^{-5} *5* Ice(K)=0.43 *6*.
[x]251.031 *17*	0.51 *10*								
[x]251.311 *12*	0.87 *13*					M1+E2	0.7 *+4−3*	0.36 *6*	α(K)exp=0.28 *6* α(K)=0.28 *6*; α(L)=0.0581 *21*; α(M)=0.01374 *28* α(N)=0.00336 *8*; α(O)=0.000576 *25*; α(P)=3.4×10^{-5} *8* Ice(K)=0.24 *4*.
251.695[gd] *17*	2.0[g] *10*	613.087	$(2,3,4)^-$	361.382	$(3)^+$	E1		0.0386 *5*	α(K)exp<0.05 α(K)=0.0319 *4*; α(L)=0.00516 *7*; α(M)=0.001184 *17* α(N)=0.000288 *4*; α(O)=4.94×10^{-5} *7*; α(P)=3.10×10^{-6} *4* Ice(K)<0.10.
251.695[gd] *17*	2.0[g] *10*	646.539	$(3,4)^+$	394.880	4^-	E1		0.0386 *5*	α(K)=0.0319 *4*; α(L)=0.00516 *7*; α(M)=0.001184 *17* α(N)=0.000288 *4*; α(O)=4.94×10^{-5} *7*; α(P)=3.10×10^{-6} *4*
[x]251.866 *11*	1.02 *20*								
[x]252.044 *6*	2.23 *12*					M1		0.452 *6*	α(K)exp=0.38 *4* α(K)=0.374 *5*; α(L)=0.0606 *8*; α(M)=0.01394 *20* α(N)=0.00343 *5*; α(O)=0.000607 *8*; α(P)=4.59×10^{-5} *6* Ice(K)=0.85 *9*.
252.288 *4*	4.70 *15*	390.964	$(1,2)^-$	138.687	1^-	M1+E2	0.89 *+21−18*	0.323 *31*	α(K)exp=0.25 *3* α(K)=0.249 *30*; α(L)=0.0564 *13*; α(M)=0.01345 *22* α(N)=0.00329 *6*; α(O)=0.000557 *14*; α(P)=3.0×10^{-5} *4* E_γ: level-energy difference=252.276. Ice(K)=1.19 *12*.

$^{194}_{77}Ir_{117}$-35

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]253.288 *14*	1.51 *13*					M1+E2	2.0 *+19−6*	0.22 *4*	α(K)exp=0.15 *4* α(K)=0.15 *4*; α(L)=0.0524 *15*; α(M)=0.01290 *23* α(N)=0.00314 *6*; α(O)=0.000510 *17*; α(P)=1.7×10^{-5} *5* Ice(K)=0.23 6.
[x]254.868 *10*	1.33 *16*					M1		0.439 *6*	α(K)exp=0.34 *5* α(K)=0.363 *5*; α(L)=0.0587 *8*; α(M)=0.01351 *19* α(N)=0.00332 *5*; α(O)=0.000589 *8*; α(P)=4.45×10^{-5} *6* Ice(K)=0.45 *4*.
255.313 *4*	15.4 *6*	337.648	2$^-$	82.334	1$^-$	M1+E2	1.31 *+24−19*	0.259 *22*	α(K)exp=0.19 *2* α(K)=0.190 *21*; α(L)=0.0525 *10*; α(M)=0.01272 *20* α(N)=0.00310 *5*; α(O)=0.000514 *11*; α(P)=2.23×10^{-5} *26* Ice(K)=2.9 *3*.
255.743[d] *9*	1.60 *16*	519.519	(3)$^+$	263.798	(4)$^+$	M1+E2	1.7 *+7−4*	0.227 *32*	α(K)exp=0.16 *3* α(K)=0.159 *31*; α(L)=0.0511 *13*; α(M)=0.01251 *22* α(N)=0.00305 *6*; α(O)=0.000498 *15*; α(P)=1.8×10^{-5} *4* Ice(K)=0.25 *4*. Mult.: M1 in 2008Ba25.
[x]258.82 *5*	0.72 *15*								
[x]259.34 *3*	0.60 *13*					M1		0.418 *6*	α(K)exp=0.50 *12* α(K)=0.346 *5*; α(L)=0.0560 *8*; α(M)=0.01288 *18* α(N)=0.00317 *4*; α(O)=0.000561 *8*; α(P)=4.24×10^{-5} *6* Ice(K)=0.30 *4*.
259.949 *4*	2.70 *9*	407.017	3$^+$	147.073	4$^+$	M1		0.416 *6*	α(K)exp=0.34 *2* α(K)=0.343 *5*; α(L)=0.0556 *8*; α(M)=0.01280 *18* α(N)=0.00315 *4*; α(O)=0.000557 *8*; α(P)=4.21×10^{-5} *6* Ice(K)=0.91 *6*.
261.762[gd] *15*	0.94[g] *16*	599.405	(2,3)$^-$	337.648	2$^-$	M1		0.408 *6*	α(K)exp=0.31 *8* α(K)=0.337 *5*; α(L)=0.0546 *8*; α(M)=0.01255 *18* α(N)=0.00309 *4*; α(O)=0.000547 *8*; α(P)=4.13×10^{-5} *6* Ice(K)=0.30 *6*.
261.762[gd] *15*	0.94[g] *16*	638.775	2$^-$,3$^-$	377.006	(3)$^-$	M1		0.408 *6*	α(K)=0.337 *5*; α(L)=0.0546 *8*; α(M)=0.01255 *18* α(N)=0.00309 *4*; α(O)=0.000547 *8*; α(P)=4.13×10^{-5} *6*
[x]261.963 *15*	1.3 *3*					M1		0.407 *6*	α(K)exp=0.48 *12* α(K)=0.336 *5*; α(L)=0.0544 *8*; α(M)=0.01253 *18* α(N)=0.00308 *4*; α(O)=0.000546 *8*; α(P)=4.12×10^{-5} *6* Ice(K)=0.60 *5*.
262.739 *3*	5.82 *23*	423.725	(2)$^-$	160.999	1$^-$	M1+E2	1.27 *+25−19*	0.242 *21*	α(K)exp=0.18 *2* α(K)=0.180 *20*; α(L)=0.0477 *11*; α(M)=0.01153 *20* α(N)=0.00281 *5*; α(O)=0.000468 *12*; α(P)=2.11×10^{-5} *26* E_γ: uncertainty increased to 0.010 keV from 0.003 in the fitting procedure. E_γ: level-energy difference=262.729. Ice(K)=1.07 *9*.

$^{194}_{77}Ir_{117}$-36

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
263.06[gd] *7*	1.1[g] *4*	556.374	(3)$^-$	293.241	(3,4,5)$^+$	[E1]		0.0346 *5*	α(K)exp=0.29 *13* α(K)=0.0287 *4*; α(L)=0.00462 *6*; α(M)=0.001060 *15* α(N)=0.000258 *4*; α(O)=4.43×10^{-5} *6*; α(P)=2.80×10^{-6} *4* Mult.: ΔJ^π suggests E1, but α(K)exp gives M1+E2 for the doublet. Ice(K)=0.33 *9*. Mult.: M1 or M1+E2 (1998Ba85); (M1+E2) listed in Table VI of 2008Ba25.
263.06[gd] *7*	1.1[g] *4*	670.121	(2)$^-$	407.017	3$^+$	[E1]		0.0346 *5*	α(K)=0.0287 *4*; α(L)=0.00462 *6*; α(M)=0.001060 *15* α(N)=0.000258 *4*; α(O)=4.43×10^{-5} *6*; α(P)=2.80×10^{-6} *4* Mult.: M1 or M1+E2 (1998Ba85); M1+E2 listed in Table VI of 2008Ba25, but ΔJ^π requires E1.
[x]263.59 *7*	1.4 *4*					M1+E2	0.9 *+8−5*	0.28 *8*	α(K)exp=0.22 *7* α(K)=0.22 *8*; α(L)=0.0489 *33*; α(M)=0.0116 *5* α(N)=0.00285 *13*; α(O)=0.00048 *4*; α(P)=2.6×10^{-5} *10* Ice(K)=0.31 *6*.
[x]264.027 *7*	2.47 *16*					M1		0.398 *6*	α(K)exp=0.30 *4* α(K)=0.329 *5*; α(L)=0.0533 *7*; α(M)=0.01226 *17* α(N)=0.00301 *4*; α(O)=0.000534 *7*; α(P)=4.04×10^{-5} *6* Ice(K)=0.75 *9*.
264.744[hd] *3*	16.9[h] *4*	347.055	3$^-$	82.334	1$^-$	(E2)		0.1387 *19*	α(K)exp=0.22 *1* α(K)=0.0826 *12*; α(L)=0.0425 *6*; α(M)=0.01065 *15* α(N)=0.00259 *4*; α(O)=0.000410 *6*; α(P)=8.70×10^{-6} *12* E_γ: uncertainty increased to 0.020 keV from 0.003 in the fitting procedure. I_γ: total intensity=33.8 *8*. Intensity divided in two equal parts for two placements (2008Ba25). Basis of this division of intensity is not specified by the authors. Perhaps it is from γγ-coin data. Mult.: M1+E2 in Table VI of 2008Ba25, but M1 is inconsistent with ΔJ^π. Ice(K)=7.4 *4*.
264.744[h] *3*	33.8[h] *8*	377.006	(3)$^-$	112.230	2$^-$	M1+E2		0.27 *13*	α(K)=0.20 *12*; α(L)=0.048 *5*; α(M)=0.0114 *8* α(N)=0.00279 *21*; α(O)=0.00047 *6*; α(P)=2.4×10^{-5} *16* E_γ: uncertainty increased to 0.020 keV from 0.003 in the fitting procedure.
265.093[d] *23*	1.8 *4*	579.147	(2)$^-$	314.054	2$^-$	M1		0.394 *6*	α(K)exp=0.36 *9* α(K)=0.326 *5*; α(L)=0.0527 *7*; α(M)=0.01212 *17* α(N)=0.00298 *4*; α(O)=0.000528 *7*; α(P)=3.99×10^{-5} *6* Ice(K)=0.63 *11*.
265.38 *5*	1.1 *9*	519.519	(3)$^+$	254.161	2$^-$	[E1]		0.0339 *5*	α(K)=0.0281 *4*; α(L)=0.00452 *6*; α(M)=0.001037 *15* α(N)=0.0002523 *35*; α(O)=4.33×10^{-5} *6*; α(P)=2.74×10^{-6} *4*

$^{194}_{77}Ir_{117}$-37

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
265.63[d] *3*	1.8 *5*	519.788	3⁻	254.161	2⁻	(M1,E2)		0.26 *13*	α(K)exp<0.06 α(K)=0.20 *12*; α(L)=0.047 *5*; α(M)=0.0113 *8* α(N)=0.00276 *21*; α(O)=0.00046 *6*; α(P)=2.4×10^{-5} *16* Ice(K)<0.10. Mult.: α(K)exp gives (E1), as also in Table VI of 2008Ba25, but ΔJ^π requires M1+E2 or E2.
266.168[d] *8*	1.3 *2*	544.676	2⁻	278.504	(2)⁻	M1		0.390 *5*	α(K)exp=0.39 *6* α(K)=0.322 *5*; α(L)=0.0521 *7*; α(M)=0.01199 *17* α(N)=0.00295 *4*; α(O)=0.000522 *7*; α(P)=3.95×10^{-5} *6* Ice(K)=0.48 *5*.
[x]267.835 *2*	8.5 *3*					M1		0.383 *5*	α(K)exp=0.30 *2* α(K)=0.317 *4*; α(L)=0.0512 *7*; α(M)=0.01178 *16* α(N)=0.00290 *4*; α(O)=0.000513 *7*; α(P)=3.88×10^{-5} *5* Ice(K)=2.53 *10*.
[x]269.069 *7*	1.53 *10*					M1+E2	1.3 *+4−3*	0.223 *32*	α(K)exp=0.17 *3* α(K)=0.166 *30*; α(L)=0.0439 *15*; α(M)=0.01060 *26* α(N)=0.00259 *7*; α(O)=0.000430 *17*; α(P)=1.9×10^{-5} *4* Ice(K)=0.27 *4*.
[x]269.307 *10*	1.46 *10*					M1+E2	0.5 *+4−5*	0.33 *6*	α(K)exp=0.26 *5* α(K)=0.27 *6*; α(L)=0.0483 *27*; α(M)=0.0113 *4* α(N)=0.00277 *11*; α(O)=0.000481 *31*; α(P)=3.2×10^{-5} *7* Ice(K)=0.37 *7*.
269.518[d] *6*	1.94 *24*	416.589	(4)⁻	147.073	4⁺	E1		0.0327 *5*	α(K)exp<0.05 α(K)=0.0270 *4*; α(L)=0.00435 *6*; α(M)=0.000997 *14* α(N)=0.0002428 *34*; α(O)=4.17×10^{-5} *6*; α(P)=2.65×10^{-6} *4* Ice(K)<0.10.
270.152[d] *20*	0.95 *13*	579.147	(2)⁻	308.973	1⁻	M1+E2	1.1 *+7−4*	0.24 *5*	α(K)exp=0.18 *5* α(K)=0.18 *5*; α(L)=0.0441 *24*; α(M)=0.0106 *4* α(N)=0.00259 *10*; α(O)=0.000434 *27*; α(P)=2.2×10^{-5} *6* Ice(K)=0.17 *4*.
271.676[g] *3*	24.1[g] *4*	467.207	2⁻	195.526	2⁻	E2		0.1280 *18*	α(K)exp=0.077 *5* α(K)=0.0773 *11*; α(L)=0.0384 *5*; α(M)=0.00962 *13* α(N)=0.002336 *33*; α(O)=0.000371 *5*; α(P)=8.18×10^{-6} *11* Ice(K)=1.85 *12*.
271.676[ga] *3*	24.1[g] *4*	542.588	(2)⁺	270.918	(3)⁺	E2		0.1280 *18*	α(K)=0.0773 *11*; α(L)=0.0384 *5*; α(M)=0.00962 *13* α(N)=0.002336 *33*; α(O)=0.000371 *5*; α(P)=8.18×10^{-6} *11* Ice(K)=1.85 *12*.
[x]273.09 *4*	1.5 *3*					E1		0.0316 *4*	α(K)exp<0.06 α(K)=0.0262 *4*; α(L)=0.00421 *6*; α(M)=0.000965 *14* α(N)=0.0002349 *33*; α(O)=4.04×10^{-5} *6*; α(P)=2.57×10^{-6} *4* Ice(K)<0.10.
[x]273.228 *10*	1.68 *12*					M1		0.363 *5*	α(K)exp=0.29 *4*

$^{194}_{77}Ir_{117}$-38

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.300 *4*; α(L)=0.0485 *7*; α(M)=0.01115 *16* α(N)=0.00274 *4*; α(O)=0.000486 *7*; α(P)=3.67×10^{-5} *5* Ice(K)=0.48 *6*.
274.473[d] *9*	1.29 *13*	669.369	(3)$^-$	394.880	4$^-$	M1		0.358 *5*	α(K)exp=0.36 *7* α(K)=0.296 *4*; α(L)=0.0479 *7*; α(M)=0.01101 *15* α(N)=0.00271 *4*; α(O)=0.000480 *7*; α(P)=3.63×10^{-5} *5* Ice(K)=0.46 *7*.
[x]275.11 *4*	1.8 *5*					E1		0.0311 *4*	α(K)exp<0.05 α(K)=0.0257 *4*; α(L)=0.00413 *6*; α(M)=0.000947 *13* α(N)=0.0002307 *32*; α(O)=3.96×10^{-5} *6*; α(P)=2.526×10^{-6} *35* Ice(K)<0.10.
275.292 *2*	24.3 *4*	436.295	2$^-$	160.999	1$^-$	M1+E2	0.35 *+8−9*	0.330 *12*	α(K)exp=0.27 *1* α(K)=0.270 *11*; α(L)=0.0463 *8*; α(M)=0.01073 *17* α(N)=0.00263 *4*; α(O)=0.000462 *9*; α(P)=3.29×10^{-5} *14* E_γ: level-energy difference=275.298. Ice(K)=6.7 *3*. Mult.: M1 or M1+E2 (1998Ba85); M1 in 1998Ba42.
276.667[g] *24*	1.47[g] *24*	423.725	(2)$^-$	147.073	4$^+$	[M2]		1.433 *20*	α(K)=1.102 *15*; α(L)=0.2523 *35*; α(M)=0.0608 *9* α(N)=0.01504 *21*; α(O)=0.00263 *4*; α(P)=0.0001820 *25* Ice(K)=0.38 *7* for 276.667+276.742.
276.667[gd] *24*	1.47[g] *24*	590.727	(2,3)$^+$	314.054	2$^-$	[E1]		0.0307 *4*	α(K)=0.0254 *4*; α(L)=0.00407 *6*; α(M)=0.000934 *13* α(N)=0.0002274 *32*; α(O)=3.91×10^{-5} *5*; α(P)=2.493×10^{-6} *35* Ice(K)=0.38 *7* for 276.667+276.742.
[x]276.742 *13*	0.92 *14*								Ice(K)=0.38 *7* for 276.667+276.742.
[x]277.494 *6*	2.21 *9*					M1		0.348 *5*	α(K)exp=0.32 *5* α(K)=0.287 *4*; α(L)=0.0465 *7*; α(M)=0.01069 *15* α(N)=0.00263 *4*; α(O)=0.000466 *7*; α(P)=3.52×10^{-5} *5* Ice(K)=0.71 *10*.
278.502 *3*	76.2 *19*	278.504	(2)$^-$	0.0	1$^-$	M1+E2	0.36 *+16−22*	0.318 *23*	α(K)exp=0.26 *2* α(K)=0.260 *21*; α(L)=0.0447 *13*; α(M)=0.01037 *23* α(N)=0.00255 *6*; α(O)=0.000447 *14*; α(P)=3.17×10^{-5} *27* Mult.: M1 or M1+E2 (1998Ba85), M1+E2 (1998Ba42). Ice(K)=2.02 *9*.
280.956 *24*	0.86 *14*	419.611	(3)$^-$	138.687	1$^-$	[E2]		0.1155 *16*	α(K)=0.0709 *10*; α(L)=0.0338 *5*; α(M)=0.00844 *12* α(N)=0.002049 *29*; α(O)=0.000326 *5*; α(P)=7.55×10^{-6} *11*
[x]281.358 *12*	1.22 *14*								
[x]281.98 *3*	1.9 *4*					E1		0.0293 *4*	α(K)exp<0.05 α(K)=0.02425 *34*; α(L)=0.00388 *5*; α(M)=0.000891 *12* α(N)=0.0002169 *30*; α(O)=3.73×10^{-5} *5*; α(P)=2.387×10^{-6} *33* Ice(K)<0.10.

$^{194}_{77}Ir_{117}$-39

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
282.52 *3*	1.4 *3*	467.207	2^-	184.689	3^-	M1+E2	2.0 *+24−7*	0.16 *4*	α(K)exp=0.11 *3* α(K)=0.111 *35*; α(L)=0.0353 *20*; α(M)=0.00864 *35* α(N)=0.00210 *9*; α(O)=0.000344 *22*; α(P)=1.3×10^{-5} *4* Ice(K)=0.15 2.
282.646 *8*	1.85 *11*	394.880	4^-	112.230	2^-	[E2]		0.1134 *16*	α(K)exp<0.05 α(K)=0.0699 *10*; α(L)=0.0330 *5*; α(M)=0.00824 *12* α(N)=0.002002 *28*; α(O)=0.000319 *4*; α(P)=7.44×10^{-6} *10* Mult.: E1 from α(K)exp and (E1) quoted by 2008Ba25 inconsistent with E2 from ΔJ^π. Ice(K)<0.10.
[x]283.260 *12*	1.02 *14*					M1		0.329 *5*	α(K)exp=0.29 *6* α(K)=0.272 *4*; α(L)=0.0439 *6*; α(M)=0.01010 *14* α(N)=0.002483 *35*; α(O)=0.000440 *6*; α(P)=3.33×10^{-5} *5* Ice(K)=0.30 *4*.
[x]284.288 *15*	1.31 *13*					M1		0.325 *5*	α(K)exp=0.30 *4* α(K)=0.269 *4*; α(L)=0.0435 *6*; α(M)=0.01000 *14* α(N)=0.002458 *34*; α(O)=0.000436 *6*; α(P)=3.29×10^{-5} *5* Ice(K)=0.39 *5*.
285.146[d] *11*	2.5 *2*	646.539	$(3,4)^+$	361.382	$(3)^+$	M1+E2	1.2 *+8−4*	0.20 *4*	α(K)exp=0.15 *4* α(K)=0.15 *4*; α(L)=0.0365 *24*; α(M)=0.0088 *4* α(N)=0.00214 *11*; α(O)=0.000359 *26*; α(P)=1.8×10^{-5} *5* Ice(K)=0.36 *8*.
[x]285.82 *4*	1.24 *14*					E2		0.1097 *15*	α(K)exp=0.05 *1* α(K)=0.0679 *10*; α(L)=0.0316 *4*; α(M)=0.00789 *11* α(N)=0.001918 *27*; α(O)=0.000306 *4*; α(P)=7.24×10^{-6} *10* Ice(K)=0.06 *1*.
288.423 *8*	4.95 *25*	542.588	$(2)^+$	254.161	2^-	E1		0.0277 *4*	α(K)exp<0.02 α(K)=0.02298 *32*; α(L)=0.00367 *5*; α(M)=0.000842 *12* α(N)=0.0002052 *29*; α(O)=3.53×10^{-5} *5*; α(P)=2.268×10^{-6} *32* Ice(K)<0.10.
[x]289.98 *4*	0.97 *22*					M1+E2	0.6 *6*	0.25 *7*	α(K)exp=0.21 *6* α(K)=0.20 *6*; α(L)=0.038 *4*; α(M)=0.0089 *7* α(N)=0.00219 *17*; α(O)=0.00038 *4*; α(P)=2.5×10^{-5} *8* Ice(K)=0.20 *4*.
290.516[gd] *9*	2.18[g] *16*	486.064	2^-	195.526	2^-	M1		0.307 *4*	α(K)exp=0.28 *3* α(K)=0.254 *4*; α(L)=0.0410 *6*; α(M)=0.00942 *13* α(N)=0.002316 *32*; α(O)=0.000410 *6*; α(P)=3.10×10^{-5} *4* Ice(K)=0.62 *6*.
290.516[gd] *9*	2.18[g] *16*	544.676	2^-	254.161	2^-	M1		0.307 *4*	α(K)=0.254 *4*; α(L)=0.0410 *6*; α(M)=0.00942 *13* α(N)=0.002316 *32*; α(O)=0.000410 *6*; α(P)=3.10×10^{-5} *4*
290.913[d] *10*	1.79 *11*	561.855	$(5)^+$	270.918	$(3)^+$	(E2)		0.1040 *15*	α(K)exp=0.26 *3* α(K)=0.0649 *9*; α(L)=0.0296 *4*; α(M)=0.00737 *10*

$^{194}_{77}Ir_{117}$-40

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.001792 *25*; α(O)=0.000286 *4*; α(P)=6.94×10^{-6} *10* Ice(K)=0.46 *5*.
292.67[g] *6*	1.7[g] *5*	377.006	(3)$^-$	84.284	2$^-$	(M1+E2)	1.2 *+8−4*	0.18 *4*	Mult.: (M1) listed in Table VI of 2008Ba25. α(K)exp=0.14 *4* α(K)=0.14 *4*; α(L)=0.0335 *24*; α(M)=0.0080 *4* α(N)=0.00196 *11*; α(O)=0.000330 *26*; α(P)=1.7×10^{-5} *5* Mult.: α(K)exp also gives E1+M2 with δ=0.39 *8*, but ΔJ$^\pi$ requires M1+E2 for placement from 377 level and E2 for placement from 436 level.
292.67[g] *6*	1.7[g] *5*	436.295	2$^-$	143.595	0$^-$	(E2)		0.1021 *14*	Ice(K)=0.23 *2*. α(K)=0.0639 *9*; α(L)=0.0289 *4*; α(M)=0.00721 *10* α(N)=0.001751 *25*; α(O)=0.000280 *4*; α(P)=6.84×10^{-6} *10* Mult.: M1+E2 in Table VI of 2008Ba25; ΔJ$^\pi$ requires E2.
293.12[d] *3*	1.3 *5*	670.121	(2)$^-$	377.006	(3)$^-$	M1		0.299 *4*	Ice(K)=0.23 *2*. α(K)exp=0.33 *12* α(K)=0.2475 *35*; α(L)=0.0400 *6*; α(M)=0.00919 *13* α(N)=0.002260 *32*; α(O)=0.000401 *6*; α(P)=3.03×10^{-5} *4*
294.41 *3*	3.2 *13*	337.525	1$^-$	43.119	0$^-$	M1		0.296 *4*	Ice(K)=0.43 *4*. α(K)exp=0.28 *11* α(K)=0.2446 *34*; α(L)=0.0395 *6*; α(M)=0.00908 *13* α(N)=0.002233 *31*; α(O)=0.000396 *6*; α(P)=2.99×10^{-5} *4*
294.531 *6*	17.5 *7*	337.648	2$^-$	43.119	0$^-$	E2		0.1002 *14*	Ice(K)=0.90 *9*. α(K)exp=0.11 *1* α(K)=0.0629 *9*; α(L)=0.0282 *4*; α(M)=0.00703 *10* α(N)=0.001709 *24*; α(O)=0.000273 *4*; α(P)=6.74×10^{-6} *9* Mult.: E2+M1 from ce data; E2(+M1) in Table VI of 2008Ba25; M1 is inconsistent with ΔJ$^\pi$.
[x]295.20 *6*	1.2 *3*								Ice(K)=2.00 *17*. Ice(K)=0.18 *4* for 295.20+295.283.
[x]295.283 *20*	1.69 *18*								
297.597 *10*	1.76 *14*	436.295	2$^-$	138.687	1$^-$	M1+E2	0.3 *+5−3*	0.27 *6*	α(K)exp=0.22 *5* α(K)=0.22 *5*; α(L)=0.0374 *35*; α(M)=0.0086 *6* α(N)=0.00212 *16*; α(O)=0.00037 *4*; α(P)=2.7×10^{-5} *7* Ice(K)=0.38 *9*.
[x]297.839 *14*	1.65 *11*					M1+E2		0.19 *9*	α(K)exp=0.16 *11* α(K)=0.15 *9*; α(L)=0.033 *6*; α(M)=0.0078 *10* α(N)=0.00190 *26*; α(O)=0.00032 *6*; α(P)=1.8×10^{-5} *11* Ice(K)=0.26 *18*.
[x]298.56 *3*	0.96 *19*					M1		0.285 *4*	α(K)exp=0.20 *5* α(K)=0.2355 *33*; α(L)=0.0380 *5*; α(M)=0.00874 *12* α(N)=0.002149 *30*; α(O)=0.000381 *5*; α(P)=2.88×10^{-5} *4* Ice(K)=0.19 *3*.
[x]298.856 *10*	1.82 *15*					E1		0.0255 *4*	α(K)exp<0.04

$^{194}_{77}Ir_{117}$-41

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.02112 *30*; α(L)=0.00337 *5*; α(M)=0.000772 *11* α(N)=0.0001880 *26*; α(O)=3.24×10^{-5} *5*; α(P)=2.092×10^{-6} *29* Ice(K)<0.08.
299.567[d] *20*	1.91 *23*	544.676	2$^-$	245.110	(3)$^-$	M1+E2	1.2 *+6−4*	0.17 *4*	α(K)exp=0.13 *3* α(K)=0.131 *35*; α(L)=0.0311 *23*; α(M)=0.0074 *4* α(N)=0.00182 *11*; α(O)=0.000306 *25*; α(P)=1.6×10^{-5} *4* Ice(K)=0.25 *4*.
[x]299.77 *8*	1.9 *7*					E1		0.02530 *35*	α(K)exp<0.04 α(K)=0.02097 *29*; α(L)=0.00334 *5*; α(M)=0.000766 *11* α(N)=0.0001866 *26*; α(O)=3.21×10^{-5} *5*; α(P)=2.077×10^{-6} *29* Ice(K)<0.08.
301.356[d] *9*	1.37 *21*	486.064	2$^-$	184.689	3$^-$	M1		0.278 *4*	α(K)exp=0.22 *5* α(K)=0.2296 *32*; α(L)=0.0370 *5*; α(M)=0.00852 *12* α(N)=0.002095 *29*; α(O)=0.000371 *5*; α(P)=2.81×10^{-5} *4* Ice(K)=0.30 *5*.
301.800[d] *25*	0.98 *18*	639.394	(2)$^-$	337.648	2$^-$	[M1+E2]		0.18 *9*	α(K)=0.14 *8*; α(L)=0.031 *6*; α(M)=0.0074 *10* α(N)=0.00182 *27*; α(O)=0.00031 *6*; α(P)=1.7×10^{-5} *11* E_γ: 301.735 in Table VI of 2008Ba25. Ice(K)=0.34 *7* for 301.800+301.88.
301.88[d] *3*	1.9 *3*	639.394	(2)$^-$	337.525	1$^-$	[M1+E2]		0.18 *9*	α(K)=0.14 *8*; α(L)=0.031 *6*; α(M)=0.0074 *10* α(N)=0.00182 *27*; α(O)=0.00031 *6*; α(P)=1.7×10^{-5} *11*
[x]302.70 *4*	2.8 *7*					E1		0.02472 *35*	α(K)exp<0.03 α(K)=0.02050 *29*; α(L)=0.00326 *5*; α(M)=0.000748 *10* α(N)=0.0001822 *26*; α(O)=3.14×10^{-5} *4*; α(P)=2.032×10^{-6} *28* Ice(K)<0.08.
[x]303.09 *3*	1.32 *10*								
304.666[d] *4*	5.9 *2*	500.218	(3)$^-$	195.526	2$^-$	M1		0.270 *4*	α(K)exp=0.20 *2* α(K)=0.2229 *31*; α(L)=0.0360 *5*; α(M)=0.00827 *12* α(N)=0.002033 *28*; α(O)=0.000360 *5*; α(P)=2.73×10^{-5} *4* E_γ: uncertainty increased to 0.020 keV from 0.004 in the fitting procedure. Ice(K)=1.19 *10*.
304.982 *15*	1.61 *19*	489.648	2$^-$	184.689	3$^-$	M1		0.269 *4*	α(K)exp=0.20 *3* α(K)=0.2223 *31*; α(L)=0.0359 *5*; α(M)=0.00825 *12* α(N)=0.002027 *28*; α(O)=0.000359 *5*; α(P)=2.72×10^{-5} *4* Ice(K)=0.32 *4*.
305.687[d] *7*	2.33 *12*	467.207	2$^-$	161.520	5$^+$	[E3]		0.432 *6*	α(K)exp=0.18 *2* α(K)=0.1585 *22*; α(L)=0.2051 *29*; α(M)=0.0535 *7* α(N)=0.01305 *18*; α(O)=0.002041 *29*; α(P)=2.54×10^{-5} *4* Placement is questionable due to mult=E3 implied by ΔJ^π. Ice(K)=0.41 *4*. Mult.: α(K)exp gives M1+E2, but ΔJ^π requires E3.

$^{194}_{77}Ir_{117}$-42

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
306.24[g] *3*	1.52[g] *23*	467.207	2⁻	160.999	1⁻	M1		0.266 *4*	α(K)exp=0.22 *4* α(K)=0.2198 *31*; α(L)=0.0355 *5*; α(M)=0.00815 *11* α(N)=0.002005 *28*; α(O)=0.000355 *5*; α(P)=2.69×10^{-5} *4* Ice(K)=0.33 *4*.
306.24[g] *3*	1.52[g] *23*	501.814	(2)⁻	195.526	2⁻	M1		0.266 *4*	α(K)=0.2198 *31*; α(L)=0.0355 *5*; α(M)=0.00815 *11* α(N)=0.002005 *28*; α(O)=0.000355 *5*; α(P)=2.69×10^{-5} *4* Ice(K)=0.33 *4*.
[x]307.805 *24*	1.15 *5*					M1+E2	1.2 *+7−4*	0.159 *35*	α(K)exp=0.12 *3* α(K)=0.122 *32*; α(L)=0.0285 *22*; α(M)=0.0068 *4* α(N)=0.00166 *11*; α(O)=0.000280 *24*; α(P)=1.4×10^{-5} *4* Ice(K)=0.14 *2*.
308.975 *2*	24.5 *6*	308.973	1⁻	0.0	1⁻	M1+E2	0.72 *+11−10*	0.201 *12*	α(K)exp=0.16 *1* α(K)=0.160 *11*; α(L)=0.0308 *8*; α(M)=0.00724 *17* α(N)=0.00178 *4*; α(O)=0.000306 *9*; α(P)=1.93×10^{-5} *14* Ice(K)=3.92 *15*.
[x]309.509 *14*	1.82 *14*					M1+E2	1.2 *+4−3*	0.157 *25*	α(K)exp=0.12 *2* α(K)=0.120 *23*; α(L)=0.0280 *16*; α(M)=0.00669 *31* α(N)=0.00163 *8*; α(O)=0.000275 *17*; α(P)=1.42×10^{-5} *29* Ice(K)=0.21 *4*.
[x]309.95 *4*	1.2 *4*					E1		0.02337 *33*	α(K)exp=0.032 *12* α(K)=0.01938 *27*; α(L)=0.00308 *4*; α(M)=0.000706 *10* α(N)=0.0001719 *24*; α(O)=2.96×10^{-5} *4*; α(P)=1.927×10^{-6} *27* Ice(K)=0.038 *8*.
[x]310.20 *3*	1.5 *3*					M1+E2	0.9 *+5−3*	0.18 *4*	α(K)exp=0.14 *3* α(K)=0.142 *34*; α(L)=0.0293 *24*; α(M)=0.0069 *5* α(N)=0.00170 *12*; α(O)=0.000290 *26*; α(P)=1.7×10^{-5} *4* Ice(K)=0.21 *3*.
310.594 *2*	11.6 *3*	394.880	4⁻	84.284	2⁻	E2		0.0856 *12*	α(K)exp=0.067 *4* α(K)=0.0550 *8*; α(L)=0.02314 *32*; α(M)=0.00575 *8* α(N)=0.001398 *20*; α(O)=0.0002241 *31*; α(P)=5.94×10^{-6} *8* Mult.: E2+M1 from α(K)exp; E2(+M1) in Table VI of 2008Ba25; M1 is inconsistent with ΔJ^π. Ice(K)=0.77 *5*.
311.265[d] *16*	1.7 *3*	556.374	(3)⁻	245.110	(3)⁻	[M1+E2]		0.17 *8*	α(K)exp<0.04 α(K)=0.13 *8*; α(L)=0.028 *5*; α(M)=0.0068 *11* α(N)=0.00165 *27*; α(O)=0.00028 *6*; α(P)=1.6×10^{-5} *10* Mult.: ΔJ^π suggests E1, but α(K)exp gives E1. Ice(K)<0.07.
311.492 *4*	7.0 *2*	423.725	(2)⁻	112.230	2⁻	M1+E2	0.69 *+11−10*	0.199 *12*	α(K)exp=0.16 *1* α(K)=0.160 *11*; α(L)=0.0303 *9*; α(M)=0.00711 *17* α(N)=0.00174 *4*; α(O)=0.000301 *9*; α(P)=1.93×10^{-5} *14* Ice(K)=1.12 *6*.

$^{194}_{77}Ir_{117}$-43

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]311.73 *3*	0.8 *3*								
[x]312.851 *15*	1.01 *13*								
[x]313.13 *4*	1.6 *3*								Ice(K)=0.24 *3* for 313.13+313.191.
[x]313.191 *20*	1.4 *2*								
314.065 *6*	11.4 *8*	314.054	2^-	0.0	1^-	M1+E2	0.45 *+21−26*	0.220 *23*	α(K)exp=0.18 *2* α(K)=0.180 *21*; α(L)=0.0313 *15*; α(M)=0.00726 *30* α(N)=0.00178 *8*; α(O)=0.000312 *16*; α(P)=2.18×10^{-5} *26* Ice(K)=1.99 *6*.
[x]314.815 *15*	1.69 *17*					E1		0.02253 *32*	α(K)exp<0.04 α(K)=0.01869 *26*; α(L)=0.00296 *4*; α(M)=0.000679 *10* α(N)=0.0001655 *23*; α(O)=2.86×10^{-5} *4*; α(P)=1.860×10^{-6} *26* Ice(K)<0.07.
315.52[d] *6*	1.1 *3*	500.218	$(3)^-$	184.689	3^-	E2+M1	>1.5	0.107 *25*	α(K)exp=0.072 *25* α(K)=0.076 *23*; α(L)=0.0235 *17*; α(M)=0.00574 *33* α(N)=0.00140 *8*; α(O)=0.000229 *18*; α(P)=8.7×10^{-6} *29* Ice(K)=0.076 *15*. Mult.: E2 or M1+E2 (1998Ba85).
316.42[d] *4*	2.6 *3*	613.087	$(2,3,4)^-$	296.630	4^-	[M1+E2]		0.16 *8*	α(K)exp<0.03 α(K)=0.13 *7*; α(L)=0.027 *5*; α(M)=0.0064 *11* α(N)=0.00157 *27*; α(O)=0.00027 *6*; α(P)=1.5×10^{-5} *9* Ice(K)<0.07. Mult.: E1 listed in Table VI of 2008Ba25.
[x]317.117 *6*	3.41 *18*					E1		0.02214 *31*	α(K)exp=0.024 *8* α(K)=0.01837 *26*; α(L)=0.00291 *4*; α(M)=0.000667 *9* α(N)=0.0001626 *23*; α(O)=2.81×10^{-5} *4*; α(P)=1.830×10^{-6} *26* Ice(K)=0.08 *3*.
[x]319.39 *5*	2.2 *9*					E2+M1	>0.9	0.12 *4*	α(K)exp=0.09 *4* α(K)=0.09 *4*; α(L)=0.0238 *30*; α(M)=0.0058 *6* α(N)=0.00141 *15*; α(O)=0.000234 *32*; α(P)=1.1×10^{-5} *5* Ice(K)=0.19 *5*. Mult.: E2 or M1+E2 (1998Ba85).
319.850[d] *4*	3.80 *17*	613.087	$(2,3,4)^-$	293.241	$(3,4,5)^+$	E1		0.02170 *30*	α(K)exp<0.02 α(K)=0.01801 *25*; α(L)=0.00285 *4*; α(M)=0.000653 *9*

$^{194}_{77}Ir_{117}$-44

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.0001593 *22*; α(O)=2.75×10^{-5} *4*; α(P)=1.795×10^{-6} *25* Ice(K)<0.07.
[x]320.54 *5*	0.89 *19*								
320.84[d] *4*	1.52 *25*	599.405	(2,3)$^-$	278.504	(2)$^-$	M1+E2	1.0 *+6–4*	0.16 *4*	α(K)exp=0.12 *3* α(K)=0.122 *34*; α(L)=0.0259 *25*; α(M)=0.0061 *5* α(N)=0.00150 *13*; α(O)=0.000256 *27*; α(P)=1.5×10^{-5} *4* Ice(K)=0.18 *3*.
[x]321.543 *21*	1.32 *17*					M1+E2	1.4 *+6–4*	0.130 *25*	α(K)exp=0.10 *2* α(K)=0.099 *23*; α(L)=0.0240 *18*; α(M)=0.00576 *35* α(N)=0.00141 *9*; α(O)=0.000236 *19*; α(P)=1.16×10^{-5} *29* Ice(K)=0.13 *2*.
321.68[d] *3*	1.33 *17*	738.345	(3)$^+$	416.589	(4)$^-$	[E1]		0.02141 *30*	α(K)exp=0.08 *2* α(K)=0.01777 *25*; α(L)=0.00281 *4*; α(M)=0.000645 *9* α(N)=0.0001571 *22*; α(O)=2.71×10^{-5} *4*; α(P)=1.772×10^{-6} *25* Ice(K)=0.11 *3*. Mult.: α(K) exp gives M1+E2, as also listed in Table VI of 2008Ba25, but ΔJ^π requires E1.
322.61 *6*	0.60 *14*	407.017	3$^+$	84.284	2$^-$	[E1]		0.02127 *30*	α(K)=0.01765 *25*; α(L)=0.00279 *4*; α(M)=0.000640 *9* α(N)=0.0001560 *22*; α(O)=2.69×10^{-5} *4*; α(P)=1.761×10^{-6} *25*
323.04 *4*	1.04 *19*	518.575	2$^+$	195.526	2$^-$	[E1]		0.02120 *30*	α(K)=0.01760 *25*; α(L)=0.00278 *4*; α(M)=0.000638 *9* α(N)=0.0001555 *22*; α(O)=2.68×10^{-5} *4*; α(P)=1.756×10^{-6} *25*
323.86[g] *11*	1.4[g] *7*	436.295	2$^-$	112.230	2$^-$	[M1]		0.2284 *32*	α(K)=0.1890 *27*; α(L)=0.0304 *4*; α(M)=0.00700 *10* α(N)=0.001721 *24*; α(O)=0.000305 *4*; α(P)=2.308×10^{-5} *32* Mult.: M1 in 2008Ba25, but no conversion data are available.
323.86[g] *11*	1.4[g] *7*	467.207	2$^-$	143.595	0$^-$	[E2]		0.0757 *11*	α(K)=0.0496 *7*; α(L)=0.01984 *28*; α(M)=0.00492 *7* α(N)=0.001196 *17*; α(O)=0.0001923 *27*; α(P)=5.38×10^{-6} *8*
324.265[d] *3*	7.8 *3*	519.788	3$^-$	195.526	2$^-$	M1+E2	2.3 *+6–4*	0.100 *9*	α(K)exp=0.071 *7* α(K)=0.072 *8*; α(L)=0.0214 *7*; α(M)=0.00523 *14* α(N)=0.001274 *35*; α(O)=0.000209 *7*; α(P)=8.2×10^{-6} *10* Ice(K)=0.55 *5*.
324.988[d] *3*	12.7 *4*	579.147	(2)$^-$	254.161	2$^-$	M1		0.2263 *32*	α(K)exp=0.18 *1* α(K)=0.1872 *26*; α(L)=0.0301 *4*; α(M)=0.00693 *10* α(N)=0.001704 *24*; α(O)=0.000302 *4*; α(P)=2.287×10^{-5} *32* Ice(K)=0.224 *10*.
[x]325.513 *10*	1.50 *18*					M1		0.2253 *32*	α(K)exp=0.18 *4* α(K)=0.1864 *26*; α(L)=0.0300 *4*; α(M)=0.00690 *10* α(N)=0.001697 *24*; α(O)=0.000301 *4*; α(P)=2.277×10^{-5} *32* Ice(K)=0.27 *3*.
[x]329.318 *15*	1.90 *24*					M1+E2	1.8 *+14–5*	0.107 *22*	α(K)exp=0.08 *2* α(K)=0.079 *20*; α(L)=0.0211 *16*; α(M)=0.00511 *31* α(N)=0.00125 *8*; α(O)=0.000207 *16*; α(P)=9.2×10^{-6} *25* Ice(K)=0.15 *3*.

$^{194}_{77}$Ir$_{117}$-45

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]329.542 *17*	1.86 *25*					M1+E2	0.8 *+5−4*	0.16 *4*	α(K)exp=0.13 *3* α(K)=0.128 *34*; α(L)=0.0250 *26*; α(M)=0.0059 *5* α(N)=0.00144 *13*; α(O)=0.000248 *28*; α(P)=1.5×10^{-5} *4* Ice(K)=0.25 *4*.
[x]330.15 *4*	1.4 *3*					M1+E2	1.1 *+12−5*	0.14 *4*	α(K)exp=0.11 *4* α(K)=0.11 *4*; α(L)=0.0232 *31*; α(M)=0.0055 *6* α(N)=0.00135 *15*; α(O)=0.000229 *32*; α(P)=1.3×10^{-5} *5* Ice(K)=0.15 *4*.
330.418[d] *3*	7.27 *24*	639.394	(2)$^-$	308.973	1$^-$	M1		0.2164 *30*	α(K)exp=0.20 *2* α(K)=0.1790 *25*; α(L)=0.0288 *4*; α(M)=0.00663 *9* α(N)=0.001629 *23*; α(O)=0.000289 *4*; α(P)=2.186×10^{-5} *31* Ice(K)=1.42 *14*.
[x]331.099 *23*	1.36 *23*					M1+E2	1.2 *+10−5*	0.13 *4*	α(K)exp=0.10 *3* α(K)=0.101 *34*; α(L)=0.0226 *27*; α(M)=0.0054 *5* α(N)=0.00131 *14*; α(O)=0.000222 *29*; α(P)=1.2×10^{-5} *4* Ice(K)=0.14 *3*.
[x]333.44 *3*	2.2 *6*					E1		0.01969 *28*	α(K)exp=0.022 *9* α(K)=0.01635 *23*; α(L)=0.00258 *4*; α(M)=0.000591 *8* α(N)=0.0001441 *20*; α(O)=2.488×10^{-5} *35*; α(P)=1.636×10^{-6} *23* Ice(K)=0.050 *13*.
334.12 *8*	1.18 *23*	518.575	2$^+$	184.689	3$^-$	E1		0.01959 *27*	α(K)exp=0.017 *5* α(K)=0.01627 *23*; α(L)=0.00257 *4*; α(M)=0.000588 *8* α(N)=0.0001434 *20*; α(O)=2.476×10^{-5} *35*; α(P)=1.629×10^{-6} *23* Ice(K)=0.020 *5*.
335.095[d] *6*	4.30 *18*	519.788	3$^-$	184.689	3$^-$	M1+E2	1.6 *+12−5*	0.108 *24*	α(K)exp=0.08 *2* α(K)=0.081 *22*; α(L)=0.0204 *18*; α(M)=0.0049 *4* α(N)=0.00120 *9*; α(O)=0.000200 *19*; α(P)=9.5×10^{-6} *28* Ice(K)=0.35 *9*.
[x]336.37 *4*	1.2 *3*								
337.531 *4*	26.3 *6*	337.525	1$^-$	0.0	1$^-$	M1		0.2043 *29*	α(K)exp=0.15 *1* α(K)=0.1690 *24*; α(L)=0.0272 *4*; α(M)=0.00625 *9* α(N)=0.001537 *22*; α(O)=0.000273 *4*; α(P)=2.064×10^{-5} *29* Ice(K)=3.82 *25*.
[x]338.152 *15*	2.14 *25*					E1		0.01905 *27*	α(K)exp<0.028 α(K)=0.01582 *22*; α(L)=0.002494 *35*; α(M)=0.000571 *8* α(N)=0.0001393 *19*; α(O)=2.407×10^{-5} *34*; α(P)=1.586×10^{-6} *22* Ice(K)<0.06.
[x]338.57 *2*	1.2 *3*					M1		0.2026 *28*	α(K)exp=0.18 *5* α(K)=0.1676 *23*; α(L)=0.0270 *4*; α(M)=0.00620 *9* α(N)=0.001525 *21*; α(O)=0.000270 *4*; α(P)=2.046×10^{-5} *29* Ice(K)=0.21 *3*.
340.813 *4*	32.8 *5*	501.814	(2)$^-$	160.999	1$^-$	M1		0.1991 *28*	α(K)exp=0.6 *1*

$^{194}_{77}$Ir$_{117}$-46

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.1647 *23*; α(L)=0.0265 *4*; α(M)=0.00609 *9* α(N)=0.001497 *21*; α(O)=0.000265 *4*; α(P)=2.010×10^{-5} *28* Ice(K)=5.2 *3*.
341.73[d] *3*	2.5 *6*	605.532	(3)$^-$	263.798	(4)$^+$	[E1]		0.01859 *26*	α(K)=0.01544 *22*; α(L)=0.002432 *34*; α(M)=0.000557 *8* α(N)=0.0001358 *19*; α(O)=2.347×10^{-5} *33*; α(P)=1.549×10^{-6} *22* Ice(K)=0.38 *6* for 341.73+341.899.
[x]341.899 *14*	3.0 *3*								
342.162[gd] *8*	2.73[g] *16*	613.087	(2,3,4)$^-$	270.918	(3)$^+$	E1		0.01854 *26*	α(K)exp<0.022 α(K)=0.01540 *22*; α(L)=0.002425 *34*; α(M)=0.000555 *8* α(N)=0.0001354 *19*; α(O)=2.340×10^{-5} *33*; α(P)=1.545×10^{-6} *22* Ice(K)<0.06.
342.162[gd] *8*	2.73[g] *16*	638.775	2$^-$,3$^-$	296.630	4$^-$	[M1+E2]		0.13 *7*	α(K)=0.10 *6*; α(L)=0.021 *5*; α(M)=0.0050 *10* α(N)=0.00123 *25*; α(O)=0.00021 *5*; α(P)=1.2×10^{-5} *8* Mult.: E1 listed in Table VI of 2008Ba25.
342.472[d] *6*	4.21 *25*	486.064	2$^-$	143.595	0$^-$	E2		0.0645 *9*	α(K)exp=0.055 *8* α(K)=0.0432 *6*; α(L)=0.01621 *23*; α(M)=0.00401 *6* α(N)=0.000975 *14*; α(O)=0.0001574 *22*; α(P)=4.72×10^{-6} *7* Ice(K)=0.23 *3*.
[x]343.33 *6*	1.6 *7*								Ice(K)=0.28 *4* for 343.33+343.51.
343.51[d] *3*	1.20 *16*	738.345	(3)$^+$	394.880	4$^-$	[E1]		0.01837 *26*	α(K)=0.01526 *21*; α(L)=0.002402 *34*; α(M)=0.000550 *8* α(N)=0.0001341 *19*; α(O)=2.319×10^{-5} *32*; α(P)=1.531×10^{-6} *21*
[x]344.66 *7*	0.82 *20*					M1		0.1931 *27*	α(K)exp=0.19 *5* α(K)=0.1598 *22*; α(L)=0.0257 *4*; α(M)=0.00591 *8* α(N)=0.001452 *20*; α(O)=0.000257 *4*; α(P)=1.950×10^{-5} *27* Ice(K)=0.15 *2*.
345.237[d] *6*	3.36 *10*	599.405	(2,3)$^-$	254.161	2$^-$	M1		0.1923 *27*	α(K)exp=0.18 *2* α(K)=0.1591 *22*; α(L)=0.0256 *4*; α(M)=0.00588 *8* α(N)=0.001446 *20*; α(O)=0.000256 *4*; α(P)=1.941×10^{-5} *27* Ice(K)=0.59 *6*.
346.04 *5*	1.21 *24*	489.648	2$^-$	143.595	0$^-$	[E2]		0.0627 *9*	α(K)=0.0421 *6*; α(L)=0.01563 *22*; α(M)=0.00386 *5* α(N)=0.000939 *13*; α(O)=0.0001517 *21*; α(P)=4.61×10^{-6} *6*
[x]346.69 *4*	3.1 *8*					E2		0.0623 *9*	α(K)exp=0.044 *16* α(K)=0.0419 *6*; α(L)=0.01552 *22*; α(M)=0.00383 *5* α(N)=0.000933 *13*; α(O)=0.0001507 *21*; α(P)=4.59×10^{-6} *6* Ice(K)=0.14 *3*.
347.064 *5*	3.84 *20*	347.055	3$^-$	0.0	1$^-$	E2		0.0621 *9*	α(K)exp=0.035 *9* α(K)=0.0418 *6*; α(L)=0.01546 *22*; α(M)=0.00382 *5* α(N)=0.000929 *13*; α(O)=0.0001501 *21*; α(P)=4.57×10^{-6} *6* Ice(K)=0.14 *3*.
[x]347.234 *20*	2.41 *25*					M1+E2	0.8 *+4−3*	0.140 *26*	α(K)exp=0.11 *2*

$^{194}_{77}Ir_{117}$-47

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.112 *23*; α(L)=0.0214 *20*; α(M)=0.0050 *4* α(N)=0.00123 *10*; α(O)=0.000212 *21*; α(P)=1.34×10^{-5} *29* Ice(K)=0.26 *4*.
x348.27 *4*	1.31 *17*					E1		0.01780 *25*	α(K)exp=0.022 *5* α(K)=0.01478 *21*; α(L)=0.002324 *33*; α(M)=0.000532 *7* α(N)=0.0001298 *18*; α(O)=2.244×10^{-5} *31*; α(P)=1.486×10^{-6} *21* Ice(K)=0.029 *4*.
349.06[d] *7*	0.89 *25*	544.676	2$^-$	195.526	2$^-$	[M1+E2]		0.12 *6*	α(K)=0.10 *6*; α(L)=0.020 *5*; α(M)=0.0047 *10* α(N)=0.00116 *25*; α(O)=2.0×10^{-4} *5*; α(P)=1.2×10^{-5} *7*
349.58[d] *5*	1.6 *3*	620.522	(4)$^-$	270.918	(3)$^+$	[E1]		0.01764 *25*	α(K)=0.01466 *21*; α(L)=0.002304 *32*; α(M)=0.000528 *7* α(N)=0.0001286 *18*; α(O)=2.225×10^{-5} *31*; α(P)=1.473×10^{-6} *21*
x350.26 *7*	0.54 *20*								
x350.717 *19*	1.22 *13*								
350.91 *7*	0.91 *21*	489.648	2$^-$	138.687	1$^-$	[M1+E2]		0.12 *6*	α(K)=0.10 *6*; α(L)=0.020 *5*; α(M)=0.0046 *10* α(N)=0.00114 *25*; α(O)=1.9×10^{-4} *5*; α(P)=1.2×10^{-5} *7*
x351.11 *6*	1.12 *20*								
x352.361 *13*	1.57 *17*								
353.963 *2*	22.0 *7*	436.295	2$^-$	82.334	1$^-$	M1		0.1798 *25*	α(K)exp=0.16 *1* α(K)=0.1488 *21*; α(L)=0.02391 *33*; α(M)=0.00550 *8* α(N)=0.001351 *19*; α(O)=0.0002395 *34*; α(P)=1.815×10^{-5} *25* Ice(K)=3.45 *9*.
354.289[d] *21*	2.3 *4*	599.405	(2,3)$^-$	245.110	(3)$^-$	M1		0.1794 *25*	α(K)exp=0.17 *4* α(K)=0.1484 *21*; α(L)=0.02385 *33*; α(M)=0.00548 *8* α(N)=0.001348 *19*; α(O)=0.0002389 *33*; α(P)=1.810×10^{-5} *25* Ice(K)=0.38 *8*.
x356.430 *18*	1.57 *24*								
x357.768 *7*	2.4 *3*					E2+M1	15 *12*	0.058 *11*	α(K)exp=0.048 *9* α(K)=0.039 *10*; α(L)=0.0139 *9*; α(M)=0.00343 *19* α(N)=0.00084 *5*; α(O)=0.000135 *10*; α(P)=4.3×10^{-6} *13* Ice(K)=0.115 *17*. Mult.: E2 or M1+E2 (1998Ba85).
358.00[d] *4*	1.09 *25*	519.519	(3)$^+$	161.520	5$^+$	[E2]		0.0570 *8*	α(K)=0.0387 *5*; α(L)=0.01386 *19*; α(M)=0.00342 *5* α(N)=0.000831 *12*; α(O)=0.0001346 *19*; α(P)=4.26×10^{-6} *6*
358.20 *4*	1.2 *3*	501.814	(2)$^-$	143.595	0$^-$	[E2]		0.0569 *8*	α(K)=0.0387 *5*; α(L)=0.01383 *19*; α(M)=0.00341 *5* α(N)=0.000829 *12*; α(O)=0.0001343 *19*; α(P)=4.25×10^{-6} *6*
x359.248 *16*	1.6 *6*								
x359.739 *10*	2.91 *24*					M1		0.1722 *24*	α(K)exp=0.17 *3* α(K)=0.1425 *20*; α(L)=0.02288 *32*; α(M)=0.00526 *7* α(N)=0.001293 *18*; α(O)=0.0002292 *32*; α(P)=1.737×10^{-5} *24* Ice(K)=0.50 *6*.

$^{194}_{77}$Ir$_{117}$-48

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
360.423[d] *3*	12.1 *3*	605.532	(3)$^-$	245.110	(3)$^-$	M1+E2	1.69 *+30−22*	0.086 *7*	α(K)exp=0.065 *6* α(K)=0.065 *6*; α(L)=0.0159 *6*; α(M)=0.00383 *12* α(N)=0.000935 *30*; α(O)=0.000157 *6*; α(P)=7.6×10^{-6} *8* Ice(K)=0.79 *7*.
360.856[d] *7*	4.9 *4*	556.374	(3)$^-$	195.526	2$^-$	M1		0.1707 *24*	α(K)exp=0.13 *2* α(K)=0.1413 *20*; α(L)=0.02269 *32*; α(M)=0.00522 *7* α(N)=0.001282 *18*; α(O)=0.0002273 *32*; α(P)=1.723×10^{-5} *24* Ice(K)=0.65 *8*.
[x]361.44 *6*	2.5 *9*					E1		0.01634 *23*	α(K)exp<0.02 α(K)=0.01358 *19*; α(L)=0.002128 *30*; α(M)=0.000487 *7* α(N)=0.0001188 *17*; α(O)=2.057×10^{-5} *29*; α(P)=1.369×10^{-6} *19* Ice(K)<0.05.
[x]361.57 *10*	1.3 *3*								
[x]361.73 *7*	1.8 *5*					M1+E2	0.8 *+7−5*	0.125 *35*	α(K)exp=0.10 *3* α(K)=0.100 *32*; α(L)=0.0190 *28*; α(M)=0.0044 *6* α(N)=0.00109 *15*; α(O)=0.000188 *30*; α(P)=1.2×10^{-5} *4* Ice(K)=0.18 *3*.
363.142 *11*	1.79 *21*	501.814	(2)$^-$	138.687	1$^-$	M1		0.1679 *24*	α(K)exp=0.15 *3* α(K)=0.1389 *19*; α(L)=0.02231 *31*; α(M)=0.00513 *7* α(N)=0.001261 *18*; α(O)=0.0002235 *31*; α(P)=1.693×10^{-5} *24* Ice(K)=0.28 *4*.
[x]364.26 *8*	2.8 *6*					E1		0.01605 *22*	α(K)exp<0.018 α(K)=0.01334 *19*; α(L)=0.002090 *29*; α(M)=0.000478 *7* α(N)=0.0001167 *16*; α(O)=2.020×10^{-5} *28*; α(P)=1.346×10^{-6} *19* Ice(K)<0.05.
[x]364.522 *17*	2.2 *3*					M1+E2	0.6 *3*	0.137 *21*	α(K)exp=0.11 *2* α(K)=0.111 *18*; α(L)=0.0197 *17*; α(M)=0.00458 *35* α(N)=0.00112 *9*; α(O)=0.000196 *18*; α(P)=1.34×10^{-5} *23* Ice(K)=0.23 *3*.
[x]364.880 *5*	4.1 *3*					E1		0.01599 *22*	α(K)exp<0.015 α(K)=0.01329 *19*; α(L)=0.002081 *29*; α(M)=0.000476 *7* α(N)=0.0001162 *16*; α(O)=2.012×10^{-5} *28*; α(P)=1.341×10^{-6} *19* Ice(K)<0.06.
[x]367.22 *6*	3.0 *11*					E1		0.01575 *22*	α(K)exp=0.013 *6* α(K)=0.01310 *18*; α(L)=0.002050 *29*; α(M)=0.000469 *7* α(N)=0.0001145 *16*; α(O)=1.982×10^{-5} *28*; α(P)=1.322×10^{-6} *19* Ice(K)=0.04 *1*.
[x]370.517 *18*	2.8 *4*					M1+E2	0.5 *+6−5*	0.14 *4*	α(K)exp=0.11 *3* α(K)=0.112 *33*; α(L)=0.0194 *31*; α(M)=0.0045 *6* α(N)=0.00110 *16*; α(O)=0.000193 *32*; α(P)=1.4×10^{-5} *4* Ice(K)=0.29 *7*. Mult.: M1 or M1+E2 (1998Ba85).
370.87[gd] *3*	1.65[g] *18*	519.788	3$^-$	148.934	(3)$^-$	M1		0.1587 *22*	α(K)exp=0.17 *5*

$^{194}_{77}Ir_{117}$-49

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.1313 *18*; α(L)=0.02107 *30*; α(M)=0.00484 *7* α(N)=0.001191 *17*; α(O)=0.0002111 *30*; α(P)=1.600×10^{-5} *22* Ice(K)=0.29 *8*.
370.87[gd] *3*	1.65[g] *18*	708.546	(2)$^-$	337.648	2$^-$	M1		0.1587 *22*	α(K)=0.1313 *18*; α(L)=0.02107 *30*; α(M)=0.00484 *7* α(N)=0.001191 *17*; α(O)=0.0002111 *30*; α(P)=1.600×10^{-5} *22*
371.502 *2*	90.6 *24*	518.575	2$^+$	147.073	4$^+$	E2		0.0514 *7*	α(K)exp=0.033 *3* α(K)=0.0354 *5*; α(L)=0.01217 *17*; α(M)=0.00299 *4* α(N)=0.000729 *10*; α(O)=0.0001184 *17*; α(P)=3.90×10^{-6} *5* Ice(K)=3.06 *22*.
372.48 *3*	1.88 *20*	519.519	(3)$^+$	147.073	4$^+$	M1		0.1568 *22*	α(K)exp=0.14 *3* α(K)=0.1298 *18*; α(L)=0.02083 *29*; α(M)=0.00479 *7* α(N)=0.001177 *16*; α(O)=0.0002087 *29*; α(P)=1.582×10^{-5} *22* Ice(K)=0.27 6.
[x]372.97 *3*	1.28 *20*					M1		0.1563 *22*	α(K)exp=0.16 *4* α(K)=0.1293 *18*; α(L)=0.02076 *29*; α(M)=0.00477 *7* α(N)=0.001173 *16*; α(O)=0.0002079 *29*; α(P)=1.576×10^{-5} *22* Ice(K)=0.21 *4*.
373.845[d] *9*	2.94 *16*	486.064	2$^-$	112.230	2$^-$	M1+E2	0.7 *4*	0.121 *26*	α(K)exp=0.10 *2* α(K)=0.098 *23*; α(L)=0.0178 *22*; α(M)=0.0041 *5* α(N)=0.00102 *11*; α(O)=0.000177 *22*; α(P)=1.18×10^{-5} *29* Ice(K)=0.29 *6*.
[x]374.827 *25*	1.15 *13*					E1		0.01503 *21*	α(K)exp=0.017 *5* α(K)=0.01250 *18*; α(L)=0.001954 *27*; α(M)=0.000447 *6* α(N)=0.0001091 *15*; α(O)=1.889×10^{-5} *26*; α(P)=1.264×10^{-6} *18* Ice(K)=0.19 *6*.
377.35 *6*	2.1 *4*	489.648	2$^-$	112.230	2$^-$	[M1+E2]		0.10 *5*	α(K)=0.08 *5*; α(L)=0.016 *4*; α(M)=0.0037 *9* α(N)=0.00091 *22*; α(O)=1.6×10^{-4} *4*; α(P)=1.0×10^{-5} *6* Ice(K)=0.27 *3* for 377.35+377.463.
[x]377.463 *15*	1.9 *8*								
[x]378.182 *11*	2.0 *3*					M1		0.1506 *21*	α(K)exp=0.11 *2* α(K)=0.1246 *17*; α(L)=0.01999 *28*; α(M)=0.00460 *6* α(N)=0.001130 *16*; α(O)=0.0002003 *28*; α(P)=1.518×10^{-5} *21* Ice(K)=0.23 *3*.
[x]378.615 *9*	3.00 *14*					M1+E2	1.2 *+4−3*	0.090 *15*	α(K)exp=0.072 *12* α(K)=0.071 *13*; α(L)=0.0149 *12*; α(M)=0.00353 *26* α(N)=0.00086 *6*; α(O)=0.000147 *13*; α(P)=8.4×10^{-6} *16* Ice(K)=0.22 *3*. Quoted α(K)exp=0.72 seems a type error in 1998Ba85.
[x]380.31 *4*	3.0 *5*					(E2)		0.0482 *7*	α(K)exp=0.025 *7* α(K)=0.0334 *5*; α(L)=0.01123 *16*; α(M)=0.00276 *4* α(N)=0.000671 *9*; α(O)=0.0001092 *15*; α(P)=3.70×10^{-6} *5* Ice(K)=0.076 *19*.
[x]381.64 *3*	1.15 *22*					M1		0.1470 *21*	α(K)exp=0.17 *4*

$^{194}_{77}Ir_{117}$-50

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
									α(K)=0.1217 *17*; α(L)=0.01951 *27*; α(M)=0.00448 *6* α(N)=0.001102 *15*; α(O)=0.0001954 *27*; α(P)=1.482×10^{-5} *21* Ice(K)=0.19 *3*.
x381.97 *5*	1.6 *3*					M1		0.1466 *21*	α(K)exp=0.14 *3* α(K)=0.1214 *17*; α(L)=0.01946 *27*; α(M)=0.00447 *6* α(N)=0.001100 *15*; α(O)=0.0001950 *27*; α(P)=1.478×10^{-5} *21* Ice(K)=0.23 *4*.
382.91 *5*	3.7 *10*	467.207	2$^-$	84.284	2$^-$	[M1+E2]		0.10 *5*	α(K)=0.08 *4*; α(L)=0.015 *4*; α(M)=0.0036 *9* α(N)=8.7×10^{-4} *22*; α(O)=1.5×10^{-4} *4*; α(P)=9.E−6 *6* Ice(K)=0.48 *4* for 382.91+382.984.
x382.984 *6*	4.43 *25*								Ice(K)=0.48 *4* for 382.91+382.984.
382.984[d] *6*	4.43 *25*	578.499	3$^-$	195.526	2$^-$	(M1+E2)		0.10 *5*	α(K)=0.08 *4*; α(L)=0.015 *4*; α(M)=0.0036 *9* α(N)=8.7×10^{-4} *22*; α(O)=1.5×10^{-4} *4*; α(P)=9.E−6 *6* Ice(K)=0.48 *4* for 382.91+382.984.
x383.46 *5*	3.1 *8*					M1+E2	1.0 *+7−4*	0.096 *24*	α(K)exp=0.075 *21* α(K)=0.076 *21*; α(L)=0.0151 *20*; α(M)=0.0036 *4* α(N)=0.00087 *11*; α(O)=0.000150 *21*; α(P)=9.1×10^{-6} *27* Ice(K)=0.23 *3*.
383.676[d] *3*	15.3 *4*	544.676	2$^-$	160.999	1$^-$	M1		0.1449 *20*	α(K)exp=0.117 *7* α(K)=0.1199 *17*; α(L)=0.01923 *27*; α(M)=0.00442 *6* α(N)=0.001087 *15*; α(O)=0.0001926 *27*; α(P)=1.461×10^{-5} *20* Ice(K)=1.79 *7*.
385.16[d] *6*	2.1 *4*	722.760	3$^+$	337.648	2$^-$	[E1]		0.01413 *20*	α(K)=0.01176 *16*; α(L)=0.001833 *26*; α(M)=0.000419 *6* α(N)=0.0001023 *14*; α(O)=1.774×10^{-5} *25*; α(P)=1.192×10^{-6} *17* Ice(K)=0.28 *4* for 385.16+385.24.
385.24[d] *3*	2.7 *5*	639.394	(2)$^-$	254.161	2$^-$	[M1+E2]		0.09 *5*	α(K)=0.08 *4*; α(L)=0.015 *4*; α(M)=0.0035 *9* α(N)=8.6×10^{-4} *22*; α(O)=1.5×10^{-4} *4*; α(P)=9.E−6 *5*
x386.02 *6*	3.5 *9*					E2		0.0463 *6*	α(K)exp=0.044 *13* α(K)=0.0323 *5*; α(L)=0.01067 *15*; α(M)=0.00262 *4* α(N)=0.000638 *9*; α(O)=0.0001038 *15*; α(P)=3.57×10^{-6} *5* Ice(K)=0.155 *25*.
x386.71 *7*	4.5 *7*					E1		0.01401 *20*	α(K)exp<0.011 α(K)=0.01165 *16*; α(L)=0.001816 *25*; α(M)=0.000415 *6* α(N)=0.0001014 *14*; α(O)=1.757×10^{-5} *25*; α(P)=1.181×10^{-6} *17* Ice(K)<0.05.
x388.919 *12*	1.85 *19*								Ice(K)=0.26 *5* for 388.919+389.081.
x389.081 *24*	4.3 *3*								
x389.166 *7*	3.4 *2*					M1		0.1395 *20*	α(K)exp=0.13 *2* α(K)=0.1155 *16*; α(L)=0.01851 *26*; α(M)=0.00425 *6* α(N)=0.001046 *15*; α(O)=0.0001854 *26*; α(P)=1.406×10^{-5} *20* Ice(K)=0.45 *6*.
x389.28 *10*	3.1 *7*					E1		0.01380 *19*	α(K)exp<0.016

$^{194}_{77}Ir_{117}$-51

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.01148 *16*; α(L)=0.001788 *25*; α(M)=0.000409 *6* α(N)=9.98×10^{-5} *14*; α(O)=1.731×10^{-5} *24*; α(P)=1.164×10^{-6} *16* Ice(K)<0.05.
389.70 *8*	2.9 *7*	501.814	(2)$^-$	112.230	2$^-$	M1+E2	1.1 *+10−5*	0.088 *27*	α(K)exp=0.069 *22* α(K)=0.069 *24*; α(L)=0.0140 *23*; α(M)=0.0033 *5* α(N)=0.00081 *12*; α(O)=0.000139 *24*; α(P)=8.3×10^{-6} *30* Ice(K)=0.20 *4*.
[x]390.147 *18*	1.27 *14*					M1		0.1386 *19*	α(K)exp=0.16 *4* α(K)=0.1147 *16*; α(L)=0.01838 *26*; α(M)=0.00423 *6* α(N)=0.001039 *15*; α(O)=0.0001841 *26*; α(P)=1.396×10^{-5} *20* Ice(K)=0.20 *4*.
[x]390.777 *25*	2.4 *3*					E2		0.0448 *6*	α(K)exp=0.031 *7* α(K)=0.0313 *4*; α(L)=0.01023 *14*; α(M)=0.002509 *35* α(N)=0.000611 *9*; α(O)=9.96×10^{-5} *14*; α(P)=3.48×10^{-6} *5* Ice(K)=0.075 *15*.
390.961 *2*	24.8 *6*	390.964	(1,2)$^-$	0.0	1$^-$	M1		0.1378 *19*	α(K)exp=0.100 *5* α(K)=0.1141 *16*; α(L)=0.01828 *26*; α(M)=0.00420 *6* α(N)=0.001033 *14*; α(O)=0.0001831 *26*; α(P)=1.389×10^{-5} *19* Ice(K)=2.47 *10*.
391.50[d] *5*	3.3 *9*	670.121	(2)$^-$	278.504	(2)$^-$	[M1+E2]		0.09 *5*	α(K)exp<0.015 α(K)=0.07 *4*; α(L)=0.014 *4*; α(M)=0.0033 *8* α(N)=8.2×10^{-4} *21*; α(O)=1.4×10^{-4} *4*; α(P)=9.E−6 *5* Ice(K)<0.05. Mult.: E1 from α(K)exp as also listed in Table VI of 2008Ba25, but ΔJ^π requires M1+E2.
[x]392.002 *13*	2.13 *23*					M1		0.1368 *19*	α(K)exp=0.12 *2* α(K)=0.1133 *16*; α(L)=0.01815 *25*; α(M)=0.00417 *6* α(N)=0.001025 *14*; α(O)=0.0001818 *25*; α(P)=1.379×10^{-5} *19* Ice(K)=0.26 *4*.
[x]394.03 *3*	1.48 *20*					M1+E2	1.6 *+7−4*	0.069 *12*	α(K)exp=0.054 *10* α(K)=0.053 *10*; α(L)=0.0122 *10*; α(M)=0.00291 *22* α(N)=0.00071 *5*; α(O)=0.000120 *11*; α(P)=6.3×10^{-6} *13* Ice(K)=0.080 *9*.
394.33[d] *7*	2.1 *6*	639.394	(2)$^-$	245.110	(3)$^-$	[M1+E2]		0.09 *5*	α(K)=0.07 *4*; α(L)=0.014 *4*; α(M)=0.0033 *8* α(N)=8.0×10^{-4} *21*; α(O)=1.4×10^{-4} *4*; α(P)=8.E−6 *5*
394.516[gd] *25*	1.83[g] *20*	579.147	(2)$^-$	184.689	3$^-$	M1		0.1345 *19*	α(K)exp=0.090 *18* α(K)=0.1114 *16*; α(L)=0.01784 *25*; α(M)=0.00410 *6*

$^{194}_{77}Ir_{117}$-52

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.001008 *14*; α(O)=0.0001787 *25*; α(P)=1.355×10^{-5} *19* Ice(K)=0.17 *3*.
394.516[gd] *25*	1.83[g] *20*	708.546	(2)$^-$	314.054	2$^-$	M1		0.1345 *19*	α(K)exp=0.090 *18* α(K)=0.1114 *16*; α(L)=0.01784 *25*; α(M)=0.00410 *6* α(N)=0.001008 *14*; α(O)=0.0001787 *25*; α(P)=1.355×10^{-5} *19* Ice(K)=0.17 *3*.
[x]396.123 *11*	2.64 *17*					M1		0.1331 *19*	α(K)exp=0.095 *9* α(K)=0.1102 *15*; α(L)=0.01765 *25*; α(M)=0.00406 *6* α(N)=0.000997 *14*; α(O)=0.0001768 *25*; α(P)=1.341×10^{-5} *19* Ice(K)=0.250 *18*.
[x]396.32 *6*	2.8 *4*					E1		0.01325 *19*	α(K)exp<0.018 α(K)=0.01103 *15*; α(L)=0.001715 *24*; α(M)=0.000392 *5* α(N)=9.57×10^{-5} *13*; α(O)=1.661×10^{-5} *23*; α(P)=1.120×10^{-6} *16* Ice(K)<0.05.
[x]396.784 *6*	5.22 *16*					M1		0.1325 *19*	α(K)exp=0.105 *7* α(K)=0.1097 *15*; α(L)=0.01757 *25*; α(M)=0.00404 *6* α(N)=0.000992 *14*; α(O)=0.0001760 *25*; α(P)=1.335×10^{-5} *19* Ice(K)=0.55 *3*.
[x]398.87 *5*	3.1 *6*								Ice(K)=0.18 *2* for 398.87+398.95.
[x]398.95 *4*	1.43 *16*								
399.588[d] *9*	3.21 *22*	708.546	(2)$^-$	308.973	1$^-$	M1		0.1300 *18*	α(K)exp=0.112 *9* α(K)=0.1076 *15*; α(L)=0.01724 *24*; α(M)=0.00396 *6* α(N)=0.000974 *14*; α(O)=0.0001727 *24*; α(P)=1.310×10^{-5} *18* Ice(K)=0.36 *2*.
400.32[d] *3*	1.47 *21*	561.855	(5)$^+$	161.520	5$^+$	[M1+E2]		0.09 *4*	α(K)=0.07 *4*; α(L)=0.013 *4*; α(M)=0.0031 *8* α(N)=7.7×10^{-4} *20*; α(O)=1.3×10^{-4} *4*; α(P)=8.E−6 *5*
[x]400.627 *23*	1.8 *5*								
401.782[d] *6*	5.05 *18*	486.064	2$^-$	84.284	2$^-$	M1+E2	0.66 *+17−16*	0.102 *9*	α(K)exp=0.083 *8* α(K)=0.083 *8*; α(L)=0.0147 *8*; α(M)=0.00341 *18* α(N)=0.00084 *4*; α(O)=0.000146 *9*; α(P)=1.00×10^{-5} *10* Ice(K)=0.42 *3*.
[x]402.580 *21*	1.46 *17*					M1		0.1274 *18*	α(K)exp=0.11 *3* α(K)=0.1055 *15*; α(L)=0.01690 *24*; α(M)=0.00388 *5* α(N)=0.000955 *13*; α(O)=0.0001692 *24*; α(P)=1.284×10^{-5} *18* Ice(K)=0.16 *3*.
405.351 *6*	4.77 *20*	489.648	2$^-$	84.284	2$^-$	M1		0.1251 *18*	α(K)exp=0.103 *8*

$^{194}_{77}Ir_{117}$-53

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.1036 *15*; α(L)=0.01659 *23*; α(M)=0.00381 *5* α(N)=0.000937 *13*; α(O)=0.0001661 *23*; α(P)=1.261×10^{-5} *18* Ice(K)=0.49 *4*.
405.60[d] *7*	4.4 *6*	669.369	(3)$^-$	263.798	(4)$^+$	[E1]		0.01258 *18*	α(K)exp=0.029 *7* α(K)=0.01047 *15*; α(L)=0.001626 *23*; α(M)=0.000372 *5* α(N)=9.07×10^{-5} *13*; α(O)=1.575×10^{-5} *22*; α(P)=1.066×10^{-6} *15* Ice(K)=0.13 *3*. Mult.: E2 listed in Table VI of 2008Ba25. [E1] from ΔJ^π, but α(K)exp gives E2.
407.325 *8*	5.5 *6*	489.648	2$^-$	82.334	1$^-$	M1		0.1235 *17*	α(K)exp=0.121 *15* α(K)=0.1023 *14*; α(L)=0.01637 *23*; α(M)=0.00376 *5* α(N)=0.000925 *13*; α(O)=0.0001640 *23*; α(P)=1.244×10^{-5} *17* Ice(K)=0.67 *4*.
407.540[d] *17*	3.2 *5*	519.788	3$^-$	112.230	2$^-$	M1		0.1234 *17*	α(K)exp=0.112 *15* α(K)=0.1022 *14*; α(L)=0.01635 *23*; α(M)=0.00376 *5* α(N)=0.000924 *13*; α(O)=0.0001638 *23*; α(P)=1.242×10^{-5} *17* Ice(K)=0.36 *4*.
[x]409.544 *24*	1.81 *16*								
[x]410.582 *13*	2.64 *15*					M1+E2	2.0 *+6−4*	0.056 *7*	α(K)exp=0.042 *5* α(K)=0.042 *6*; α(L)=0.0101 *6*; α(M)=0.00243 *13* α(N)=0.000594 *33*; α(O)=0.000100 *6*; α(P)=4.9×10^{-6} *7* Ice(K)=0.110 *12*.
411.90[d] *4*	5.4 *7*	708.546	(2)$^-$	296.630	4$^-$	[E2]		0.0389 *5*	α(K)exp<0.011 α(K)=0.0276 *4*; α(L)=0.00858 *12*; α(M)=0.002096 *29* α(N)=0.000511 *7*; α(O)=8.36×10^{-5} *12*; α(P)=3.08×10^{-6} *4* Ice(K)<0.06. Mult.: E1 from α(K)exp as also listed in Table VI of 2008Ba25, but ΔJ^π requires E2.
[x]412.49 *7*	3.2 *5*					E1		0.01212 *17*	α(K)exp<0.015 α(K)=0.01009 *14*; α(L)=0.001564 *22*; α(M)=0.000358 *5* α(N)=8.73×10^{-5} *12*; α(O)=1.515×10^{-5} *21*; α(P)=1.028×10^{-6} *14* Ice(K)<0.05.
[x]413.526 *8*	3.58 *18*					M1		0.1187 *17*	α(K)exp=0.120 *11* α(K)=0.0983 *14*; α(L)=0.01572 *22*; α(M)=0.00361 *5* α(N)=0.000888 *12*; α(O)=0.0001575 *22*; α(P)=1.195×10^{-5} *17* Ice(K)=0.43 *3*.
[x]413.81 *6*	1.4 *7*					M1+E2	>0.6	0.068 *29*	α(K)exp=0.05 *3* α(K)=0.053 *26*; α(L)=0.0111 *27*; α(M)=0.0026 *6* α(N)=0.00064 *14*; α(O)=1.10×10^{-4} *28*; α(P)=6.3×10^{-6} *33* Ice(K)=0.076 *11*.
[x]414.47 *3*	1.8 *3*					M1+E2	0.5 *5*	0.102 *24*	α(K)exp=0.085 *20*

$^{194}_{77}Ir_{117}$-54

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[f]	Comments
								α(K)=0.084 *21*; α(L)=0.0142 *22*; α(M)=0.0033 *5* α(N)=0.00081 *12*; α(O)=0.000142 *22*; α(P)=1.01×10^{-5} *27* Ice(K)=0.151 *24*. Mult.: M1 or M1+E2 (1998Ba85).
414.783[d] *3*	26.4 *6*	561.855	(5)$^+$	147.073	4$^+$	M1	0.1177 *16*	α(K)exp=0.095 *5* α(K)=0.0975 *14*; α(L)=0.01560 *22*; α(M)=0.00358 *5* α(N)=0.000881 *12*; α(O)=0.0001562 *22*; α(P)=1.185×10^{-5} *17* Ice(K)=2.50 *11*.
[x]415.43 *3*	1.5 *3*					M1	0.1172 *16*	α(K)exp=0.117 *23* α(K)=0.0971 *14*; α(L)=0.01553 *22*; α(M)=0.00357 *5* α(N)=0.000877 *12*; α(O)=0.0001555 *22*; α(P)=1.180×10^{-5} *17* Ice(K)=0.175 *17*.
417.53 *6*	1.1 *3*	501.814	(2)$^-$	84.284	2$^-$	M1	0.1157 *16*	α(K)exp=0.15 *5* α(K)=0.0958 *13*; α(L)=0.01532 *21*; α(M)=0.00352 *5* α(N)=0.000865 *12*; α(O)=0.0001535 *21*; α(P)=1.165×10^{-5} *16* Ice(K)=0.17 *3*.
418.144[d] *3*	26.1 *7*	579.147	(2)$^-$	160.999	1$^-$	M1	0.1152 *16*	α(K)exp=0.100 *5* α(K)=0.0954 *13*; α(L)=0.01526 *21*; α(M)=0.00351 *5* α(N)=0.000862 *12*; α(O)=0.0001529 *21*; α(P)=1.160×10^{-5} *16* Ice(K)=2.61 *8*.
[x]419.536 *19*	1.90 *19*							
420.846[d] *5*	5.74 *17*	605.532	(3)$^-$	184.689	3$^-$	M1	0.1133 *16*	α(K)exp=0.094 *5* α(K)=0.0938 *13*; α(L)=0.01500 *21*; α(M)=0.00345 *5* α(N)=0.000847 *12*; α(O)=0.0001502 *21*; α(P)=1.140×10^{-5} *16* Ice(K)=0.540 *25*.
[x]422.53 *3*	1.4 *3*							Ice(K)=0.15 *4* for 422.53+422.79.
[x]422.79 *3*	1.26 *18*							
423.74 *4*	0.99 *21*	423.725	(2)$^-$	0.0	1$^-$	M1	0.1112 *16*	α(K)exp=0.096 *25* α(K)=0.0921 *13*; α(L)=0.01473 *21*; α(M)=0.00338 *5* α(N)=0.000832 *12*; α(O)=0.0001475 *21*; α(P)=1.120×10^{-5} *16* Ice(K)=0.095 *15*.
[x]424.04 *4*	0.99 *22*					E2	0.0361 *5*	α(K)exp=0.024 *8* α(K)=0.0258 *4*; α(L)=0.00779 *11*; α(M)=0.001901 *27* α(N)=0.000463 *6*; α(O)=7.60×10^{-5} *11*; α(P)=2.88×10^{-6} *4* Ice(K)=0.024 *8*.
424.21 *7*	2.7 *3*	467.207	2$^-$	43.119	0$^-$	E2	0.0360 *5*	α(K)exp=0.030 *6* α(K)=0.0258 *4*; α(L)=0.00778 *11*; α(M)=0.001898 *27* α(N)=0.000462 *6*; α(O)=7.59×10^{-5} *11*; α(P)=2.88×10^{-6} *4* Ice(K)=0.080 *12*.
424.32[gd] *5*	1.05[g] *22*	669.369	(3)$^-$	245.110	(3)$^-$	[M1+E2]	0.07 *4*	α(K)=0.059 *33*; α(L)=0.0112 *35*; α(M)=0.0026 *7* α(N)=6.5×10^{-4} *18*; α(O)=1.1×10^{-4} *4*; α(P)=7.E−6 *4*
424.32[gd] *5*	1.05[g] *22*	738.345	(3)$^+$	314.054	2$^-$	[E1]	0.01138 *16*	α(K)=0.00948 *13*; α(L)=0.001466 *21*; α(M)=0.000335 *5* α(N)=8.18×10^{-5} *11*; α(O)=1.421×10^{-5} *20*; α(P)=9.68×10^{-7} *14*

$^{194}_{77}Ir_{117}$-55

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]425.27 *7*	2.8 *4*					E1		0.01132 *16*	α(K)exp=0.011 *4* α(K)=0.00943 *13*; α(L)=0.001459 *20*; α(M)=0.000333 *5* α(N)=8.14×10^{-5} *11*; α(O)=1.414×10^{-5} *20*; α(P)=9.63×10^{-7} *13* Ice(K)=0.030 *11*.
[x]425.444 *12*	2.19 *25*					M1+E2	0.76 *+22−19*	0.083 *9*	α(K)exp=0.067 *8* α(K)=0.067 *8*; α(L)=0.0121 *9*; α(M)=0.00281 *19* α(N)=0.00069 *5*; α(O)=0.000120 *9*; α(P)=8.1×10^{-6} *10* Ice(K)=0.148 *9*.
[x]426.66 *12*	1.3 *3*					M1+E2	1.2 *+7−4*	0.066 *15*	α(K)exp=0.051 *12* α(K)=0.052 *13*; α(L)=0.0104 *14*; α(M)=0.00246 *29* α(N)=0.00060 *7*; α(O)=0.000103 *14*; α(P)=6.2×10^{-6} *16* Ice(K)=0.066 *6*.
430.05[d] *3*	1.95 *20*	708.546	(2)$^-$	278.504	(2)$^-$	M1+E2	0.82 *+27−23*	0.078 *10*	α(K)exp=0.063 *9* α(K)=0.063 *9*; α(L)=0.0115 *10*; α(M)=0.00267 *21* α(N)=0.00066 *5*; α(O)=0.000114 *10*; α(P)=7.6×10^{-6} *12* Ice(K)=0.124 *13*.
430.40 *8*	1.4 *10*	542.588	(2)$^+$	112.230	2$^-$	[E1]		0.01102 *15*	α(K)=0.00919 *13*; α(L)=0.001419 *20*; α(M)=0.000324 *5* α(N)=7.92×10^{-5} *11*; α(O)=1.376×10^{-5} *19*; α(P)=9.39×10^{-7} *13*
[x]431.05 *7*	1.6 *8*								
[x]431.32 *3*	1.4 *3*								
431.53[d] *7*	4.1 *9*	578.499	3$^-$	147.073	4$^+$	E1		0.01096 *15*	α(K)exp<0.01 α(K)=0.00913 *13*; α(L)=0.001411 *20*; α(M)=0.000322 *5* α(N)=7.87×10^{-5} *11*; α(O)=1.368×10^{-5} *19*; α(P)=9.34×10^{-7} *13* Ice(K)<0.04.
432.45[d] *3*	1.87 *23*	544.676	2$^-$	112.230	2$^-$	M1+E2	0.8 *3*	0.078 *14*	α(K)exp=0.062 *10* α(K)=0.063 *12*; α(L)=0.0114 *13*; α(M)=0.00265 *27* α(N)=0.00065 *7*; α(O)=0.000113 *13*; α(P)=7.5×10^{-6} *15* Ice(K)=0.116 *14*.
[x]432.74 *5*	2.5 *5*								Ice(K)=0.14 *4* for 432.74+432.848.
[x]432.848 *15*	4.7 *7*								
[x]432.94 *4*	3.6 *6*					E1		0.01088 *15*	α(K)exp<0.011 α(K)=0.00907 *13*; α(L)=0.001400 *20*; α(M)=0.000320 *4* α(N)=7.81×10^{-5} *11*; α(O)=1.358×10^{-5} *19*; α(P)=9.27×10^{-7} *13* Ice(K)<0.04.
[x]433.374 *14*	2.2 *3*					M1		0.1048 *15*	α(K)exp=0.089 *15* α(K)=0.0868 *12*; α(L)=0.01387 *19*; α(M)=0.00319 *4* α(N)=0.000783 *11*; α(O)=0.0001389 *19*; α(P)=1.055×10^{-5} *15* Ice(K)=0.198 *18*.
[x]434.897 *19*	1.9 *3*								
435.840[d] *9*	3.9 *3*	620.522	(4)$^-$	184.689	3$^-$	M1+E2	2.6 *+32−8*	0.043 *7*	α(K)exp=0.032 *6* α(K)=0.032 *7*; α(L)=0.0080 *7*; α(M)=0.00192 *15* α(N)=0.00047 *4*; α(O)=7.8×10^{-5} *7*; α(P)=3.7×10^{-6} *8* Ice(K)=0.126 *22*.

$^{194}_{77}Ir_{117}$-56

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
436.281[g] *16*	2.6[g] *3*	436.295	2^-	0.0	1^-	(M1+E2)		0.068 *35*	α(K)exp=0.092 *12* α(K)=0.055 *31*; α(L)=0.0104 *33*; α(M)=0.0024 *7* α(N)=6.0×10^{-4} *17*; α(O)=1.03×10^{-4} *34*; α(P)=7.E−6 *4* Mult.: α(K)exp gives M1 with α=0.107; ΔJ^π requires M1+E2 for placement from 436 level and E1 for placement from 518.6 level. M1 given in 2008Ba25. Ice(K)=0.243 *16*.
436.281[g] *16*	2.6[g] *3*	518.575	2^+	82.334	1^-	[E1]		0.01070 *15*	α(K)=0.00892 *12*; α(L)=0.001376 *19*; α(M)=0.000314 *4* α(N)=7.68×10^{-5} *11*; α(O)=1.335×10^{-5} *19*; α(P)=9.12×10^{-7} *13* Ice(K)=0.243 *16*. M1 listed in Table VI of 2008Ba25.
[x]436.538 *20*	2.33 *22*								
[x]437.19 *6*	2.3 *5*								Ice(K)=0.146 *15* for 437.19+437.32.
[x]437.32 *10*	2.4 *7*								
438.34[d] *4*	1.3 *4*	599.405	$(2,3)^-$	160.999	1^-	[M1+E2]		0.067 *34*	α(K)=0.054 *30*; α(L)=0.0102 *32*; α(M)=0.0024 *7* α(N)=5.9×10^{-4} *17*; α(O)=1.01×10^{-4} *33*; α(P)=6.E−6 *4*
[x]440.458 *10*	9.5 *3*					M1		0.1004 *14*	α(K)exp=0.083 *5* α(K)=0.0832 *12*; α(L)=0.01328 *19*; α(M)=0.00305 *4* α(N)=0.000750 *11*; α(O)=0.0001330 *19*; α(P)=1.010×10^{-5} *14* Ice(K)=0.79 *4*.
440.458[d] *10*	9.5 *3*	579.147	$(2)^-$	138.687	1^-	M1		0.1004 *14*	α(K)exp=0.083 *5* α(K)=0.0832 *12*; α(L)=0.01328 *19*; α(M)=0.00305 *4* α(N)=0.000750 *11*; α(O)=0.0001330 *19*; α(P)=1.010×10^{-5} *14* Ice(K)=0.79 *4*.
[x]440.932 *24*	1.90 *25*					M1		0.1001 *14*	α(K)exp=0.087 *17* α(K)=0.0829 *12*; α(L)=0.01324 *19*; α(M)=0.00304 *4* α(N)=0.000748 *10*; α(O)=0.0001326 *19*; α(P)=1.007×10^{-5} *14* Ice(K)=0.166 *24*.
[x]441.21 *12*	3.1 *7*								Ice(K)=0.135 *25* for 441.21+441.349.
[x]441.349 *19*	2.0 *4*								
443.21[d] *7*	1.7 *6*	638.775	$2^-,3^-$	195.526	2^-	M1+E2	0.8 *+11−8*	0.073 *26*	α(K)exp=0.060 *24* α(K)=0.059 *23*; α(L)=0.0106 *25*; α(M)=0.0025 *5* α(N)=0.00061 *13*; α(O)=0.000105 *26*; α(P)=7.1×10^{-6} *29* Ice(K)=0.102 *19*.
444.04[d] *3*	2.8 *4*	605.532	$(3)^-$	161.520	5^+	[M2]		0.313 *4*	α(K)=0.2478 *35*; α(L)=0.0497 *7*; α(M)=0.01178 *16* α(N)=0.00291 *4*; α(O)=0.000511 *7*; α(P)=3.65×10^{-5} *5* Ice(K)=0.164 *16* for 444.04+444.25.
444.25[gd] *11*	2.4[g] *6*	556.374	$(3)^-$	112.230	2^-	[M1+E2]		0.065 *33*	α(K)=0.052 *29*; α(L)=0.0098 *31*; α(M)=0.0023 *7* α(N)=5.7×10^{-4} *17*; α(O)=9.8×10^{-5} *32*; α(P)=6.E−6 *4*
444.25[gd] *11*	2.4[g] *6*	722.760	3^+	278.504	$(2)^-$	[E1]		0.01028 *14*	α(K)=0.00857 *12*; α(L)=0.001321 *19*; α(M)=0.000302 *4* α(N)=7.37×10^{-5} *10*; α(O)=1.281×10^{-5} *18*; α(P)=8.78×10^{-7} *12*

$^{194}_{77}Ir_{117}$-57

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
444.70[d] *10*	1.2 *9*	605.532	(3)$^-$	160.999	1$^-$	[E2]		0.0319 *4*	α(K)=0.02311 *32*; α(L)=0.00667 *9*; α(M)=0.001623 *23* α(N)=0.000396 *6*; α(O)=6.52×10^{-5} *9*; α(P)=2.59×10^{-6} *4*
[x]445.76 *7*	3.8 *13*					E1		0.01021 *14*	α(K)exp<0.01 α(K)=0.00851 *12*; α(L)=0.001311 *18*; α(M)=0.000299 *4* α(N)=7.31×10^{-5} *10*; α(O)=1.272×10^{-5} *18*; α(P)=8.72×10^{-7} *12* Ice(K)<0.04.
[x]445.92 *4*	1.5 *3*								
[x]446.07 *4*	2.5 *6*					M1+E2	1.1 *+8−4*	0.061 *15*	α(K)exp=0.048 *13* α(K)=0.049 *14*; α(L)=0.0094 *15*; α(M)=0.00221 *32* α(N)=0.00054 *8*; α(O)=9.4×10^{-5} *15*; α(P)=5.8×10^{-6} *17* Ice(K)=0.121 *20*.
[x]446.69 *3*	1.9 *3*					M1+E2	0.9 *+8−5*	0.068 *20*	α(K)exp=0.054 *16* α(K)=0.055 *18*; α(L)=0.0100 *19*; α(M)=0.0023 *4* α(N)=0.00057 *10*; α(O)=0.000100 *20*; α(P)=6.5×10^{-6} *22* Ice(K)=0.10 *3*.
[x]447.19 *3*	1.71 *25*					M1		0.0965 *14*	α(K)exp=0.088 *22* α(K)=0.0799 *11*; α(L)=0.01276 *18*; α(M)=0.00293 *4* α(N)=0.000720 *10*; α(O)=0.0001277 *18*; α(P)=9.70×10^{-6} *14* Ice(K)=0.15 *3*.
[x]447.31 *4*	2.7 *8*					E2		0.0314 *4*	α(K)exp=0.026 *9* α(K)=0.02280 *32*; α(L)=0.00655 *9*; α(M)=0.001593 *22* α(N)=0.000388 *5*; α(O)=6.40×10^{-5} *9*; α(P)=2.56×10^{-6} *4* Ice(K)≈0.07.
[x]447.467 *16*	3.09 *24*					M1		0.0963 *13*	α(K)exp=0.089 *11* α(K)=0.0798 *11*; α(L)=0.01273 *18*; α(M)=0.00293 *4* α(N)=0.000719 *10*; α(O)=0.0001275 *18*; α(P)=9.68×10^{-6} *14* Ice(K)=0.28 3.
[x]447.68 *6*	2.5 *3*					M1+E2	1.0 *+7−4*	0.064 *16*	α(K)exp=0.052 *14* α(K)=0.051 *14*; α(L)=0.0096 *15*; α(M)=0.00225 *33* α(N)=0.00055 *8*; α(O)=9.6×10^{-5} *15*; α(P)=6.1×10^{-6} *17* Ice(K)=0.13 *3*.
[x]450.71 *8*	2.7 *7*								Ice(K)=0.130 *24* for 450.71+450.89.
[x]450.89 *3*	3.17 *24*								
451.83[d] *3*	2.24 *21*	722.760	3$^+$	270.918	(3)$^+$	M1+E2	1.3 *+6−4*	0.054 *11*	α(K)exp=0.042 *8* α(K)=0.043 *10*; α(L)=0.0086 *11*; α(M)=0.00203 *24* α(N)=0.00050 *6*; α(O)=8.5×10^{-5} *11*; α(P)=5.1×10^{-6} *13* Ice(K)=0.093 *16*.
[x]452.16 *5*	3.3 *5*					E1		0.00989 *14*	α(K)exp<0.012 α(K)=0.00825 *12*; α(L)=0.001269 *18*; α(M)=0.000290 *4* α(N)=7.08×10^{-5} *10*; α(O)=1.232×10^{-5} *17*; α(P)=8.46×10^{-7} *12* Ice(K)<0.04.
[x]452.35 *3*	3.26 *20*					E2		0.0305 *4*	α(K)exp=0.021 *5* α(K)=0.02222 *31*; α(L)=0.00632 *9*; α(M)=0.001535 *21*

$^{194}_{77}Ir_{117}$-58

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.000374 *5*; α(O)=6.17×10^{-5} *9*; α(P)=2.495×10^{-6} *35* Ice(K)=0.070 *17*.
454.090[d] *20*	3.8 *5*	638.775	2$^-$,3$^-$	184.689	3$^-$	M1+E2	1.6 *+10−5*	0.048 *11*	α(K)exp=0.037 *8* α(K)=0.037 *9*; α(L)=0.0079 *10*; α(M)=0.00188 *22* α(N)=0.00046 *6*; α(O)=7.8×10^{-5} *11*; α(P)=4.4×10^{-6} *12* Ice(K)=0.14 *3*.
[x]455.895 *11*	3.82 *24*					M1+E2	0.86 *+30−24*	0.065 *9*	α(K)exp=0.053 *8* α(K)=0.053 *8*; α(L)=0.0096 *9*; α(M)=0.00224 *19* α(N)=0.00055 *5*; α(O)=9.5×10^{-5} *9*; α(P)=6.3×10^{-6} *10* Ice(K)=0.20 *3*.
[x]458.06 *3*	6.8 *12*					E1		0.00962 *13*	α(K)exp=0.0010 *3* α(K)=0.00802 *11*; α(L)=0.001233 *17*; α(M)=0.000282 *4* α(N)=6.88×10^{-5} *10*; α(O)=1.197×10^{-5} *17*; α(P)=8.23×10^{-7} *12* Ice(K)≈0.07.
458.294 *5*	17.6 *4*	542.588	(2)$^+$	84.284	2$^-$	E1		0.00961 *13*	α(K)exp=0.011 *2* α(K)=0.00801 *11*; α(L)=0.001231 *17*; α(M)=0.000281 *4* α(N)=6.87×10^{-5} *10*; α(O)=1.195×10^{-5} *17*; α(P)=8.22×10^{-7} *12* Ice(K)=0.20 *3*.
[x]458.84 *4*	2.5 *4*					M1		0.0901 *13*	α(K)exp=0.065 *17* α(K)=0.0747 *10*; α(L)=0.01191 *17*; α(M)=0.00274 *4* α(N)=0.000672 *9*; α(O)=0.0001193 *17*; α(P)=9.06×10^{-6} *13* Ice(K)=0.16 *4*.
[x]459.768 *8*	7.3 *3*					M1		0.0896 *13*	α(K)exp=0.075 *7* α(K)=0.0743 *10*; α(L)=0.01185 *17*; α(M)=0.00272 *4* α(N)=0.000669 *9*; α(O)=0.0001186 *17*; α(P)=9.01×10^{-6} *13* Ice(K)=0.55 *5*.
460.250 *4*	33.6 *8*	542.588	(2)$^+$	82.334	1$^-$	E1		0.00952 *13*	α(K)exp=0.0090 *8* α(K)=0.00794 *11*; α(L)=0.001220 *17*; α(M)=0.000279 *4* α(N)=6.80×10^{-5} *10*; α(O)=1.184×10^{-5} *17*; α(P)=8.15×10^{-7} *11* Ice(K)=0.301 *24*.
[x]461.77 *3*	1.94 *20*					M1+E2	1.2 *+6−4*	0.053 *12*	α(K)exp=0.042 *9* α(K)=0.043 *10*; α(L)=0.0083 *12*; α(M)=0.00195 *25* α(N)=0.00048 *6*; α(O)=8.2×10^{-5} *12*; α(P)=5.1×10^{-6} *13* Ice(K)=0.082 *16*.
[x]462.22 *4*	3.2 *9*					E2		0.0289 *4*	α(K)exp=0.022 *7* α(K)=0.02114 *30*; α(L)=0.00590 *8*; α(M)=0.001432 *20* α(N)=0.000349 *5*; α(O)=5.77×10^{-5} *8*; α(P)=2.377×10^{-6} *33* Ice(K)=0.070 *12*.
463.462[d] *22*	2.0 *3*	708.546	(2)$^-$	245.110	(3)$^-$	M1+E2	0.7 *+4−3*	0.068 *13*	α(K)exp=0.056 *11* α(K)=0.056 *11*; α(L)=0.0097 *13*; α(M)=0.00225 *27* α(N)=0.00055 *7*; α(O)=9.7×10^{-5} *13*; α(P)=6.7×10^{-6} *14* Ice(K)=0.113 *16*.
[x]464.465 *8*	6.0 *4*					M1		0.0873 *12*	α(K)exp=0.071 *6*

$^{194}_{77}Ir_{117}$-59

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.0723 *10*; α(L)=0.01153 *16*; α(M)=0.00265 *4* α(N)=0.000651 *9*; α(O)=0.0001154 *16*; α(P)=8.77×10^{-6} *12* Ice(K)=0.426 *23*.
[x]465.370 *11*	5.14 *23*					M1		0.0868 *12*	α(K)exp=0.078 *6* α(K)=0.0720 *10*; α(L)=0.01147 *16*; α(M)=0.00263 *4* α(N)=0.000648 *9*; α(O)=0.0001148 *16*; α(P)=8.73×10^{-6} *12* Ice(K)=0.402 *20*.
[x]465.61 *15*	2.6 *7*								
[x]466.398 *8*	6.6 *3*					M1		0.0863 *12*	α(K)exp=0.070 *7* α(K)=0.0715 *10*; α(L)=0.01140 *16*; α(M)=0.00262 *4* α(N)=0.000644 *9*; α(O)=0.0001142 *16*; α(P)=8.68×10^{-6} *12* Ice(K)=0.46 *4*.
466.60[d] *12*	5.9 *11*	605.532	(3)$^-$	138.687	1$^-$	(E2)		0.0282 *4*	α(K)exp=0.040 *11* α(K)=0.02069 *29*; α(L)=0.00573 *8*; α(M)=0.001389 *19* α(N)=0.000339 *5*; α(O)=5.60×10^{-5} *8*; α(P)=2.328×10^{-6} *33* Ice(K)=0.24 *5*. Mult.: M1 listed in Table VI of 2008Ba25, but ΔJ^π requires E2.
467.413[d] *6*	10.4 *4*	738.345	(3)$^+$	270.918	(3)$^+$	M1		0.0858 *12*	α(K)exp=0.077 *4* α(K)=0.0711 *10*; α(L)=0.01134 *16*; α(M)=0.00260 *4* α(N)=0.000640 *9*; α(O)=0.0001135 *16*; α(P)=8.63×10^{-6} *12* Ice(K)=0.80 *3*.
[x]468.11 *4*	1.6 *3*								
[x]468.26 *13*	4.3 *13*					E1		0.00917 *13*	α(K)exp<0.009 α(K)=0.00765 *11*; α(L)=0.001173 *16*; α(M)=0.000268 *4* α(N)=6.54×10^{-5} *9*; α(O)=1.139×10^{-5} *16*; α(P)=7.86×10^{-7} *11* Ice(K)<0.04.
[x]468.99 *3*	3.8 *7*					M1+E2	0.7 *4*	0.066 *14*	α(K)exp=0.054 *11* α(K)=0.054 *12*; α(L)=0.0094 *14*; α(M)=0.00218 *30* α(N)=0.00054 *7*; α(O)=9.4×10^{-5} *14*; α(P)=6.5×10^{-6} *15* Ice(K)=0.208 *21*.
[x]470.355 *22*	3.6 *5*					M1+E2	1.1 *+5−3*	0.053 *10*	α(K)exp=0.042 *8* α(K)=0.043 *9*; α(L)=0.0081 *10*; α(M)=0.00190 *21* α(N)=0.00047 *5*; α(O)=8.0×10^{-5} *10*; α(P)=5.1×10^{-6} *11* Ice(K)=0.150 *23*.
471.581[d] *8*	8.7 *5*	620.522	(4)$^-$	148.934	(3)$^-$	M1		0.0838 *12*	α(K)exp=0.069 *5* α(K)=0.0695 *10*; α(L)=0.01107 *16*; α(M)=0.00254 *4* α(N)=0.000625 *9*; α(O)=0.0001109 *16*; α(P)=8.43×10^{-6} *12* Ice(K)=0.60 *3*.
472.102[d] *10*	9.1 *4*	556.374	(3)$^-$	84.284	2$^-$	M1		0.0836 *12*	α(K)exp=0.074 *4* α(K)=0.0693 *10*; α(L)=0.01104 *15*; α(M)=0.002536 *35* α(N)=0.000623 *9*; α(O)=0.0001105 *15*; α(P)=8.40×10^{-6} *12* Ice(K)=0.67 *3*.

$^{194}_{77}Ir_{117}$-60

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
473.76[d] *6*	1.5 *6*	669.369	(3)$^-$	195.526	2$^-$	[M1+E2]		0.055 *28*	α(K)=0.044 *24*; α(L)=0.0082 *27*; α(M)=0.0019 *6* α(N)=4.7×10^{-4} *15*; α(O)=8.1×10^{-5} *28*; α(P)=5.3×10^{-6} *30*
[x]474.36 *4*	2.22 *20*					M1+E2	2.2 *+16−6*	0.037 *6*	α(K)exp=0.028 *5* α(K)=0.028 *5*; α(L)=0.0064 *6*; α(M)=0.00152 *13* α(N)=0.000372 *33*; α(O)=6.3×10^{-5} *6*; α(P)=3.3×10^{-6} *7* Ice(K)=0.061 *9*.
[x]477.707 *10*	5.8 *4*					M1+E2	0.7 *3*	0.063 *10*	α(K)exp=0.051 *8* α(K)=0.052 *9*; α(L)=0.0089 *10*; α(M)=0.00207 *23* α(N)=0.00051 *6*; α(O)=8.9×10^{-5} *11*; α(P)=6.2×10^{-6} *11* Ice(K)=0.30 *4*.
478.388[d] *11*	5.4 *4*	639.394	(2)$^-$	160.999	1$^-$	M1		0.0807 *11*	α(K)exp=0.071 *7* α(K)=0.0669 *9*; α(L)=0.01066 *15*; α(M)=0.002448 *34* α(N)=0.000602 *8*; α(O)=0.0001067 *15*; α(P)=8.11×10^{-6} *11* Ice(K)=0.38 *3*.
[x]478.71 *10*	3.5 *5*					M1+E2	0.5 *+4−5*	0.070 *13*	α(K)exp=0.057 *12* α(K)=0.057 *12*; α(L)=0.0096 *13*; α(M)=0.00221 *29* α(N)=0.00054 *7*; α(O)=9.6×10^{-5} *14*; α(P)=6.9×10^{-6} *15* Ice(K)=0.20 *3*.
[x]479.66 *7*	1.2 *9*					M1,E2		0.053 *27*	α(K)exp=0.07 *6* α(K)=0.043 *24*; α(L)=0.0079 *27*; α(M)=0.0019 *6* α(N)=4.5×10^{-4} *14*; α(O)=7.9×10^{-5} *27*; α(P)=5.1×10^{-6} *29* Ice(K)=0.090 *20*.
[x]479.95 *6*	3.3 *4*								Ice(K)=0.190 *13* for 479.95+480.08.
[x]480.08 *4*	3.23 *24*								
[x]480.97 *3*	1.9 *5*					M1		0.0796 *11*	α(K)exp=0.085 *25* α(K)=0.0660 *9*; α(L)=0.01051 *15*; α(M)=0.002413 *34* α(N)=0.000593 *8*; α(O)=0.0001052 *15*; α(P)=8.00×10^{-6} *11* Ice(K)=0.164 *16*.
[x]482.00 *3*	1.9 *5*								
[x]482.11 *9*	3.3 *7*					M1+E2	0.4 *+5−4*	0.072 *16*	α(K)exp=0.058 *15* α(K)=0.059 *14*; α(L)=0.0097 *16*; α(M)=0.0022 *4* α(N)=0.00055 *9*; α(O)=9.7×10^{-5} *17*; α(P)=7.1×10^{-6} *18* Ice(K)=0.19 *3*.
[x]482.47 *10*	3.7 *6*					E1		0.00859 *12*	α(K)exp<0.01 α(K)=0.00717 *10*; α(L)=0.001098 *15*; α(M)=0.0002507 *35* α(N)=6.12×10^{-5} *9*; α(O)=1.067×10^{-5} *15*; α(P)=7.39×10^{-7} *10* Ice(K)<0.035.
[x]482.846 *18*	3.6 *4*					E1		0.00858 *12*	α(K)exp<0.01 α(K)=0.00716 *10*; α(L)=0.001096 *15*; α(M)=0.0002502 *35* α(N)=6.11×10^{-5} *9*; α(O)=1.065×10^{-5} *15*; α(P)=7.37×10^{-7} *10* Ice(K)<0.035.
[x]483.01 *8*	2.9 *7*					M1		0.0787 *11*	α(K)exp=0.063 *19* α(K)=0.0653 *9*; α(L)=0.01039 *15*; α(M)=0.002386 *33*

$^{194}_{77}Ir_{117}$-61

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
									α(N)=0.000587 *8*; α(O)=0.0001040 *15*; α(P)=7.91×10^{-6} *11* Ice(K)=0.180 *16*.
[x]484.04 *3*	2.0 *3*					M1		0.0783 *11*	α(K)exp=0.079 *14* α(K)=0.0649 *9*; α(L)=0.01033 *14*; α(M)=0.002373 *33* α(N)=0.000583 *8*; α(O)=0.0001034 *14*; α(P)=7.86×10^{-6} *11* Ice(K)=0.160 *18*.
487.176[d] *6*	23.9 *6*	599.405	(2,3)$^-$	112.230	2$^-$	M1		0.0770 *11*	α(K)exp=0.066 *4* α(K)=0.0638 *9*; α(L)=0.01016 *14*; α(M)=0.002332 *33* α(N)=0.000573 *8*; α(O)=0.0001017 *14*; α(P)=7.73×10^{-6} *11* Ice(K)=1.57 *8*.
[x]488.41 *6*	2.1 *3*								Ice(K)=0.125 *20* for 488.41+488.79.
[x]488.79 *4*	1.9 *4*								
490.44[d] *3*	2.1 *4*	639.394	(2)$^-$	148.934	(3)$^-$	[M1+E2]		0.050 *25*	α(K)=0.041 *22*; α(L)=0.0074 *25*; α(M)=0.0017 *6* α(N)=4.3×10^{-4} *14*; α(O)=7.4×10^{-5} *26*; α(P)=4.8×10^{-6} *28* Ice(K)=0.066 *16* for 490.44+490.74.
[x]490.74 *3*	1.98 *16*								
[x]492.74 *8*	3.8 *8*					E1		0.00821 *12*	α(K)exp<0.009 α(K)=0.00686 *10*; α(L)=0.001048 *15*; α(M)=0.0002392 *34* α(N)=5.84×10^{-5} *8*; α(O)=1.018×10^{-5} *14*; α(P)=7.07×10^{-7} *10* Ice(K)<0.035.
[x]496.07 *6*	1.7 *3*					M1		0.0734 *10*	α(K)exp=0.057 *20* α(K)=0.0608 *9*; α(L)=0.00968 *14*; α(M)=0.002223 *31* α(N)=0.000546 *8*; α(O)=9.69×10^{-5} *14*; α(P)=7.37×10^{-6} *10* Ice(K)=0.10 *3*.
496.82[d] *4*	1.9 *3*	579.147	(2)$^-$	82.334	1$^-$	E2		0.02412 *34*	α(K)exp=0.020 *4* α(K)=0.01794 *25*; α(L)=0.00471 *7*; α(M)=0.001139 *16* α(N)=0.000278 *4*; α(O)=4.61×10^{-5} *6*; α(P)=2.027×10^{-6} *28* Ice(K)=0.039 *6*.
[x]498.09 *5*	2.78 *25*					M1+E2	0.91 *+30−24*	0.051 *7*	α(K)exp=0.041 *6* α(K)=0.041 *6*; α(L)=0.0074 *7*; α(M)=0.00171 *16* α(N)=0.00042 *4*; α(O)=7.3×10^{-5} *7*; α(P)=4.9×10^{-6} *8* Ice(K)=0.115 *11*.
499.456[d] *8*	25.8 *11*	646.539	(3,4)$^+$	147.073	4$^+$	M1+E2	1.76 *+26−20*	0.0356 *23*	α(K)exp=0.028 *2* α(K)=0.0280 *20*; α(L)=0.00583 *24*; α(M)=0.00138 *5* α(N)=0.000338 *13*; α(O)=5.75×10^{-5} *25*; α(P)=3.28×10^{-6} *25* Ice(K)=0.73 *4*.
500.66[d] *3*	3.4 *9*	639.394	(2)$^-$	138.687	1$^-$	M1+E2	0.6 *+7−6*	0.059 *17*	α(K)exp=0.048 *15* α(K)=0.048 *15*; α(L)=0.0082 *18*; α(M)=0.0019 *4* α(N)=0.00046 *10*; α(O)=8.1×10^{-5} *18*; α(P)=5.8×10^{-6} *19* E_γ: 500.694 *22* (from ce data).

$^{194}_{77}Ir_{117}$-62

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									I_γ: other: 3.4 *9* (Table IV of 2008Ba25). Ice(K)=0.162 *23*.
[x]501.041 *16*	5.0 *5*					M1+E2	0.5 *+3–4*	0.062 *9*	α(K)exp=0.052 *7* α(K)=0.051 *8*; α(L)=0.0085 *9*; α(M)=0.00195 *20* α(N)=0.00048 *5*; α(O)=8.4×10^{-5} *9*; α(P)=6.1×10^{-6} *10* E_γ: 501.053 *17* (from ce data). Ice(K)=0.259 *21*.
[x]503.33 *11*	1.6 *4*					M1,E2		0.047 *24*	α(K)exp=0.05 *2* α(K)=0.038 *21*; α(L)=0.0069 *24*; α(M)=0.0016 *5* α(N)=4.0×10^{-4} *13*; α(O)=6.9×10^{-5} *24*; α(P)=4.5×10^{-6} *26* E_γ: 503.172 *19* (from ce data). Ice(K)=0.080 *8*, contribution from other lines subtracted.
[x]505.16 *5*	2.3 *3*								
[x]505.69 *3*	2.5 *5*					M1		0.0698 *10*	α(K)exp=0.07 *2* α(K)=0.0579 *8*; α(L)=0.00920 *13*; α(M)=0.002113 *30* α(N)=0.000519 *7*; α(O)=9.21×10^{-5} *13*; α(P)=7.01×10^{-6} *10* E_γ: 505.72 *3* (from ce data). Ice(K)=0.17 *3*.
[x]506.54 *5*	2.6 *4*					M1		0.0695 *10*	α(K)exp=0.060 *12* α(K)=0.0576 *8*; α(L)=0.00916 *13*; α(M)=0.002103 *29* α(N)=0.000517 *7*; α(O)=9.17×10^{-5} *13*; α(P)=6.98×10^{-6} *10* E_γ: 506.549 *25* (from ce data). Ice(K)=0.154 *23*.
[x]509.93 *3*	7.8 *9*					M1+E2	0.61 *24*	0.056 *7*	α(K)exp=0.046 *6* α(K)=0.046 *6*; α(L)=0.0077 *7*; α(M)=0.00179 *16* α(N)=0.00044 *4*; α(O)=7.7×10^{-5} *7*; α(P)=5.5×10^{-6} *7* E_γ: 509.981 *17* (from ce data). Ice(K)=0.36 *3*.
[x]510.40[c] *10*	12.3 *20*								
[x]510.67[c] *14*	20 *4*								
[x]511.24[c] *7*	12.9 *20*								
[x]511.69[c] *7*	13.5 *20*								
[x]511.98[c] *9*	11.1 *16*								
513.017[d] *14*	6.8 *5*	708.546	(2)$^-$	195.526	2$^-$	M1+E2	0.57 *25*	0.056 *7*	α(K)exp=0.046 *6* α(K)=0.046 *6*; α(L)=0.0077 *7*; α(M)=0.00179 *16* α(N)=0.00044 *4*; α(O)=7.7×10^{-5} *7*; α(P)=5.6×10^{-6} *8* E_γ: 513.050 *19* (from ce data). Ice(K)=0.32 *3*.
[x]518.056 *12*	5.7 *3*					M1		0.0655 *9*	α(K)exp=0.054 *5* α(K)=0.0543 *8*; α(L)=0.00863 *12*; α(M)=0.001982 *28* α(N)=0.000487 *7*; α(O)=8.64×10^{-5} *12*; α(P)=6.57×10^{-6} *9* E_γ: 518.100 *16* (from ce data). Ice(K)=0.308 *22*.

$^{194}_{77}Ir_{117}$-63

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
520.35[d] *7*	2.0 *6*	669.369	(3)$^-$	148.934	(3)$^-$	M1+E2	0.3 *+8−3*	0.061 *20*	α(K)exp=0.051 *18* α(K)=0.051 *17*; α(L)=0.0082 *21*; α(M)=0.0019 *5* α(N)=0.00046 *11*; α(O)=8.2×10^{-5} *21*; α(P)=6.1×10^{-6} *22* E_γ: 520.16 *3* (from ce data), 2008Ba25, in their Table VI, quote 520.567 with Iγ=2.88 (or renormalized value of 7.2 *5*) from the 669.4 level, while in their Table IV, quote two gamma rays of Eγ=520.35 *7* with Iγ=2.0 *6* and 520.57 *6* with Iγ=7.2 *5* between the same levels at 669.4 and 148.9 keV. Level-energy difference of 520.44 *1* favors placement of 520.35 gamma from this level. Ice(K)=0.103 *20*.
[x]520.57 *6*	7.2 *5*					E1		0.00731 *10*	α(K)exp≤0.008 α(K)=0.00611 *9*; α(L)=0.000929 *13*; α(M)=0.0002120 *30* α(N)=5.18×10^{-5} *7*; α(O)=9.04×10^{-6} *13*; α(P)=6.32×10^{-7} *9* Ice(K)≤0.06. E_γ: placement is shown from 669.4 to 148.9 in Tables IV and VI of 2008Ba25, but in Table IV, another γ ray of energy 520.35 keV is placed from 669.4-keV level, which fits somewhat better than the 520.57-keV γ ray.
[x]520.892 *21*	7.3 *6*					M1+E2	1.4 *+4−3*	0.036 *5*	α(K)exp=0.029 *4* α(K)=0.029 *4*; α(L)=0.0056 *5*; α(M)=0.00131 *11* α(N)=0.000321 *28*; α(O)=5.5×10^{-5} *5*; α(P)=3.4×10^{-6} *5* E_γ: 520.879 *20* (from ce data). Ice(K)=0.212 *23*, contribution from other lines subtracted.
521.191[d] *7*	7.3 *8*	670.121	(2)$^-$	148.934	(3)$^-$	E2		0.02146 *30*	α(K)exp=0.014 *4* α(K)=0.01612 *23*; α(L)=0.00408 *6*; α(M)=0.000982 *14* α(N)=0.0002396 *34*; α(O)=3.99×10^{-5} *6*; α(P)=1.825×10^{-6} *26* E_γ: 521.18 *3* (from ce data). Ice(K)=0.102 *22*.
[x]522.61 *5*	1.7 *3*					M1		0.0640 *9*	α(K)exp=0.056 *14* α(K)=0.0531 *7*; α(L)=0.00843 *12*; α(M)=0.001936 *27* α(N)=0.000476 *7*; α(O)=8.44×10^{-5} *12*; α(P)=6.42×10^{-6} *9* E_γ: 522.458 *25* (from ce data). Ice(K)=0.096 *20*, contribution from other lines subtracted.
[x]525.55 *4*	2.3 *3*								
[x]525.98 *3*	1.7 *3*								
527.18[gd] *5*	2.0[g] *3*	639.394	(2)$^-$	112.230	2$^-$	M1		0.0626 *9*	α(K)=0.0519 *7*; α(L)=0.00824 *12*; α(M)=0.001892 *26* α(N)=0.000465 *7*; α(O)=8.25×10^{-5} *12*; α(P)=6.28×10^{-6} *9*
527.18[gd] *5*	2.0[g] *3*	722.760	3$^+$	195.526	2$^-$	[E1]		0.00712 *10*	α(K)exp=0.059 *13* α(K)=0.00595 *8*; α(L)=0.000904 *13*; α(M)=0.0002062 *29* α(N)=5.04×10^{-5} *7*; α(O)=8.79×10^{-6} *12*; α(P)=6.16×10^{-7} *9* Mult.: α(K)exp gives M1 for the doublet, as also listed in Tables IV

$^{194}_{77}Ir_{117}$-64

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[f]	Comments
								and VI of 2008Ba25, but ΔJ^π requires [E1]. E_γ: 527.182 *22* (from ce data). Ice(K)=0.115 *21*, contribution from other lines subtracted.
[x]528.34 *6*	1.6 *3*					M1,E2	0.042 *21*	α(K)exp=0.030 *16* α(K)=0.034 *18*; α(L)=0.0061 *21*; α(M)=0.0014 *5* α(N)=3.5×10^{-4} *12*; α(O)=6.0×10^{-5} *22*; α(P)=4.0×10^{-6} *22* E_γ: 528.35 *8* (from ce data). Ice(K)=0.05 *3*.
[x]530.26 *6*	2.6 *4*							
[x]530.772 *13*	6.1 *3*					M1	0.0615 *9*	α(K)exp=0.055 *5* α(K)=0.0510 *7*; α(L)=0.00810 *11*; α(M)=0.001859 *26* α(N)=0.000457 *6*; α(O)=8.10×10^{-5} *11*; α(P)=6.17×10^{-6} *9* E_γ: 530.75 *4* (from ce data); 530.77 *5* in 2008Ba25. Ice(K)=0.335 *23*.
531.388[d] *17*	4.41 *21*	670.121	(2)$^-$	138.687	1$^-$	M1	0.0613 *9*	α(K)exp=0.052 *5* α(K)=0.0508 *7*; α(L)=0.00807 *11*; α(M)=0.001853 *26* α(N)=0.000455 *6*; α(O)=8.08×10^{-5} *11*; α(P)=6.15×10^{-6} *9* E_γ: 531.38 *4* (from ce data). Ice(K)=0.229 *18*. Mult.: M1 from α(K)exp as also listed in Tables IV and VI of 2008Ba25, but ΔJ^π in 2008Ba25 requires E2.
[x]533.27 *5*	1.5 *3*							
[x]534.10 *5*	2.04 *25*							
[x]534.89 *3*	2.0 *4*					E2,E2+M1		α(K)exp=0.023 *5* E_γ: 534.84 *4* (from ce data). Ice(K)=0.047 *7*, contribution from other lines subtracted.
[x]535.94 *3*	2.4 *8*							
[x]536.339 *13*	6.2 *4*					M1	0.0598 *8*	α(K)exp=0.051 *6* α(K)=0.0496 *7*; α(L)=0.00788 *11*; α(M)=0.001808 *25* α(N)=0.000444 *6*; α(O)=7.88×10^{-5} *11*; α(P)=6.00×10^{-6} *8* E_γ: 536.35 *4* (from ce data). Ice(K)=0.316 *25*.
538.03[d] *3*	2.2 *6*	722.760	3$^+$	184.689	3$^-$	[E1]	0.00682 *10*	α(K)=0.00570 *8*; α(L)=0.000865 *12*; α(M)=0.0001973 *28* α(N)=4.82×10^{-5} *7*; α(O)=8.42×10^{-6} *12*; α(P)=5.91×10^{-7} *8*
[x]541.60 *6*	0.98 *24*					M1	0.0583 *8*	α(K)exp=0.09 *4* α(K)=0.0484 *7*; α(L)=0.00768 *11*; α(M)=0.001762 *25* α(N)=0.000433 *6*; α(O)=7.68×10^{-5} *11*; α(P)=5.85×10^{-6} *8* E_γ: 541.63 *5* (from ce data). Ice(K)=0.09 *3*.
[x]542.12 *7*	1.1 *3*					M1	0.0582 *8*	α(K)exp=0.09 *3* α(K)=0.0483 *7*; α(L)=0.00766 *11*; α(M)=0.001758 *25* α(N)=0.000432 *6*; α(O)=7.66×10^{-5} *11*; α(P)=5.83×10^{-6} *8* E_γ: 542.10 *5* (from ce data). Ice(K)=0.100 *25*.

$^{194}_{77}Ir_{117}$-65

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[f]	Comments
x544.34 *11*	1.4 *3*					M1	0.0576 *8*	α(K)exp=0.096 *25* α(K)=0.0478 *7*; α(L)=0.00758 *11*; α(M)=0.001739 *24* α(N)=0.000427 *6*; α(O)=7.58×10^{-5} *11*; α(P)=5.77×10^{-6} *8* E_γ: 544.47 *4* (from ce data). Ice(K)=0.134 *23*.
x546.23 *5*	2.8 *5*					M1,M1+E2		α(K)exp=0.039 *12* E_γ: 546.35 *5* (from ce data). Ice(K)=0.11 *3*.
x546.902 *15*	9.6 *5*					M1	0.0569 *8*	α(K)exp=0.051 *4* α(K)=0.0472 *7*; α(L)=0.00748 *10*; α(M)=0.001717 *24* α(N)=0.000422 *6*; α(O)=7.49×10^{-5} *10*; α(P)=5.70×10^{-6} *8* E_γ: 546.95 *4* (from ce data). Ice(K)=0.49 *3*.
547.558[d] *12*	12.4 *5*	708.546	(2)$^-$	160.999	1$^-$	M1	0.0567 *8*	α(K)exp=0.048 *3* α(K)=0.0470 *7*; α(L)=0.00746 *10*; α(M)=0.001712 *24* α(N)=0.000421 *6*; α(O)=7.46×10^{-5} *10*; α(P)=5.68×10^{-6} *8* E_γ: 547.57 *3* (from ce data). Ice(K)=0.59 *4*.
x548.67 *10*	1.1 *5*					M1	0.0564 *8*	α(K)exp=0.10 *5* α(K)=0.0468 *7*; α(L)=0.00742 *10*; α(M)=0.001703 *24* α(N)=0.000419 *6*; α(O)=7.42×10^{-5} *10*; α(P)=5.65×10^{-6} *8* E_γ: 548.63 *4* (from ce data). Ice(K)=0.114 *24*.
x548.998 *22*	4.4 *3*					E2	0.01896 *27*	α(K)exp=0.024 *10* α(K)=0.01438 *20*; α(L)=0.00350 *5*; α(M)=0.000839 *12* α(N)=0.0002049 *29*; α(O)=3.43×10^{-5} *5*; α(P)=1.631×10^{-6} *23* E_γ: 549.12 *6* (from ce data). Ice(K)=0.11 *4*.
x551.04 *4*	2.4 *4*					M1	0.0558 *8*	α(K)exp=0.065 *14* α(K)=0.0463 *6*; α(L)=0.00734 *10*; α(M)=0.001684 *24* α(N)=0.000414 *6*; α(O)=7.34×10^{-5} *10*; α(P)=5.59×10^{-6} *8* E_γ: 551.11 *4* (from ce data). Ice(K)=0.154 *18*.
x552.080 *17*	6.4 *6*					M1	0.0555 *8*	α(K)exp=0.052 *7* α(K)=0.0460 *6*; α(L)=0.00730 *10*; α(M)=0.001675 *23* α(N)=0.000412 *6*; α(O)=7.30×10^{-5} *10*; α(P)=5.56×10^{-6} *8* E_γ: 552.09 *3* (from ce data). Ice(K)=0.33 *3*.
553.77[d] *5*	1.9 *4*	738.345	(3)$^+$	184.689	3$^-$	[E1]	0.00642 *9*	α(K)=0.00537 *8*; α(L)=0.000813 *11*; α(M)=0.0001853 *26* α(N)=4.53×10^{-5} *6*; α(O)=7.91×10^{-6} *11*; α(P)=5.57×10^{-7} *8*
x554.392 *24*	3.9 *8*					M1,M1+E2		α(K)exp=0.035 *9* E_γ: 554.43 *4* (from ce data). Ice(K)=0.137 *18*.

$^{194}_{77}Ir_{117}$-66

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
[x]556.76 *7*	3.4 *5*					M1,M1+E2			α(K)exp=0.036 *9* E_γ: 556.71 *4* (from ce data). Ice(K)=0.12 *3*.
557.10[gd] *3*	6.5[g] *6*	639.394	(2)$^-$	82.334	1$^-$	(M1+E2)		0.036 *18*	α(K)=0.029 *16*; α(L)=0.0052 *19*; α(M)=0.0012 *4* α(N)=3.0×10^{-4} *10*; α(O)=5.2×10^{-5} *19*; α(P)=3.5×10^{-6} *19*
557.10[gd] *3*	6.5[g] *6*	669.369	(3)$^-$	112.230	2$^-$	M1+E2	0.5 *+4–5*	0.047 *9*	α(K)exp=0.038 *7* α(K)=0.039 *8*; α(L)=0.0064 *9*; α(M)=0.00147 *21* α(N)=0.00036 *5*; α(O)=6.4×10^{-5} *10*; α(P)=4.7×10^{-6} *10* Mult.: M1+E2 listed in Tables IV and VI of 2008Ba25, their ΔJ^π implies E2. E_γ: 557.04 *4* (from ce data). Ice(K)=0.25 *4*.
[x]557.73 *3*	4.6 *7*					M1+E2	1.1 *+6–4*	0.034 *8*	α(K)exp=0.028 *6* α(K)=0.028 *7*; α(L)=0.0050 *8*; α(M)=0.00118 *18* α(N)=0.00029 *5*; α(O)=5.0×10^{-5} *8*; α(P)=3.3×10^{-6} *8* E_γ: 557.84 *4* (from ce data). Ice(K)=0.127 *18*.
558.07[d] *19*	2.0 *5*	670.121	(2)$^-$	112.230	2$^-$	[M1+E2]		0.036 *18*	α(K)=0.029 *15*; α(L)=0.0052 *19*; α(M)=0.0012 *4* α(N)=3.0×10^{-4} *10*; α(O)=5.2×10^{-5} *19*; α(P)=3.5×10^{-6} *19*
[x]558.54 *3*	4.7 *9*					M1		0.0538 *8*	α(K)exp=0.056 *14* α(K)=0.0447 *6*; α(L)=0.00708 *10*; α(M)=0.001625 *23* α(N)=0.000399 *6*; α(O)=7.08×10^{-5} *10*; α(P)=5.40×10^{-6} *8* E_γ: 558.49 *3* (from ce data). Ice(K)=0.27 *5*.
[x]560.99 *3*	≤1.0					E0,M2			α(K)exp≥0.31 E_γ: γ from ce data in 2008Ba25. Ice(K)=0.31 *3*.
565.02[d] *4*	1.76 *23*	708.546	(2)$^-$	143.595	0$^-$	[E2]		0.01771 *25*	α(K)exp=0.072 *16* α(K)=0.01351 *19*; α(L)=0.00322 *5*; α(M)=0.000771 *11* α(N)=0.0001881 *26*; α(O)=3.15×10^{-5} *4*; α(P)=1.533×10^{-6} *21* E_γ: 565.034 *18* (from ce data). Ice(K)=0.127 *23*. Mult.: M1 from α(K)exp as listed in Tables IV and VI of 2008Ba25, but ΔJ^π requires E2.
[x]566.36 *3*	3.0 *5*					M1		0.0519 *7*	α(K)exp=0.055 *11* α(K)=0.0431 *6*; α(L)=0.00683 *10*; α(M)=0.001566 *22* α(N)=0.000385 *5*; α(O)=6.83×10^{-5} *10*; α(P)=5.20×10^{-6} *7* E_γ: 566.39 *4* (from ce data). Ice(K)=0.164 *23*.
[x]567.42 *4*	1.94 *23*					M1		0.0517 *7*	α(K)exp=0.091 *19* α(K)=0.0429 *6*; α(L)=0.00679 *10*; α(M)=0.001559 *22*

$^{194}_{77}Ir_{117}$-67

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(N)=0.000383 *5*; α(O)=6.80×10^{-5} *10*; α(P)=5.18×10^{-6} *7* E_γ: 567.43 *4* (from ce data). Ice(K)=0.18 *3*.
x568.444 *16*	5.5 *4*					M1		0.0514 *7*	α(K)exp=0.048 *5* α(K)=0.0427 *6*; α(L)=0.00676 *9*; α(M)=0.001551 *22* α(N)=0.000381 *5*; α(O)=6.76×10^{-5} *9*; α(P)=5.15×10^{-6} *7* E_γ: 568.43 *3* (from ce data). Ice(K)=0.265 *19*, contribution from other lines subtracted.
x569.779 *13*	6.4 *3*					M1		0.0511 *7*	α(K)exp=0.049 *9* α(K)=0.0424 *6*; α(L)=0.00672 *9*; α(M)=0.001542 *22* α(N)=0.000379 *5*; α(O)=6.72×10^{-5} *9*; α(P)=5.12×10^{-6} *7* E_γ: 569.76 *4* (from ce data). Ice(K)=0.31 *5*.
x570.69 *4*	2.9 *3*					M1		0.0509 *7*	α(K)exp=0.065 *10* α(K)=0.0422 *6*; α(L)=0.00669 *9*; α(M)=0.001535 *21* α(N)=0.000377 *5*; α(O)=6.69×10^{-5} *9*; α(P)=5.10×10^{-6} *7* E_γ: 570.69 *3* (from ce data). Ice(K)=0.185 *22*, contribution from other lines subtracted.
x574.84 *4*	4.1 *5*					M1		0.0500 *7*	α(K)exp=0.050 *9* α(K)=0.0414 *6*; α(L)=0.00656 *9*; α(M)=0.001506 *21* α(N)=0.000370 *5*; α(O)=6.57×10^{-5} *9*; α(P)=5.00×10^{-6} *7* E_γ: 574.80 *4* (from ce data). Ice(K)=0.21 *3*, contribution from other lines subtracted.
575.691[d] *10*	11.8 *7*	722.760	3$^+$	147.073	4$^+$	M1		0.0498 *7*	α(K)exp=0.052 *3* α(K)=0.0413 *6*; α(L)=0.00654 *9*; α(M)=0.001500 *21* α(N)=0.000369 *5*; α(O)=6.54×10^{-5} *9*; α(P)=4.99×10^{-6} *7* E_γ: 575.70 *3* (from ce data). Ice(K)=0.614 *18*.
576.819[d] *18*	4.6 *6*	738.345	(3)$^+$	161.520	5$^+$	[E2]		0.01688 *24*	α(K)exp=0.083 *13* α(K)=0.01291 *18*; α(L)=0.00303 *4*; α(M)=0.000725 *10* α(N)=0.0001771 *25*; α(O)=2.97×10^{-5} *4*; α(P)=1.467×10^{-6} *21* E_γ: 576.77 *3* (from ce data). Ice(K)=0.38 *3*. Mult.: α(K)exp is too high for either M1 or E2, almost agrees with pure M2.
x578.959 *25*	3.7 *5*					M1,M1+E2			α(K)exp=0.035 *8* E_γ: 578.85 *9* (from ce data). Ice(K)=0.13 *3*.
x579.62 *4*	2.5 *3*					M1		0.0489 *7*	α(K)exp=0.063 *14* α(K)=0.0406 *6*; α(L)=0.00642 *9*; α(M)=0.001474 *21* α(N)=0.000362 *5*; α(O)=6.43×10^{-5} *9*; α(P)=4.90×10^{-6} *7* E_γ: 579.66 *6* (from ce data). Ice(K)=0.16 *3*.
x580.909 *21*	4.19 *23*					M1+E2	0.6 *3*	0.040 *6*	α(K)exp=0.033 *5*

$^{194}_{77}Ir_{117}$-68

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.033 *5*; α(L)=0.0055 *6*; α(M)=0.00127 *14* α(N)=0.000311 *34*; α(O)=5.5×10^{-5} *6*; α(P)=4.0×10^{-6} *6* E_γ: 581.05 *4* (from ce data). Ice(K)=0.138 *20*, questionable line.
[x]582.71 *13*	2.1 *3*					M1,M1+E2			α(K)exp=0.044 *15* E_γ: 582.80 *5* (from ce data). Ice(K)=0.09 *3*.
[x]584.81 *3*	2.8 *3*					M1		0.0478 *7*	α(K)exp=0.044 *9* α(K)=0.0396 *6*; α(L)=0.00627 *9*; α(M)=0.001440 *20* α(N)=0.000354 *5*; α(O)=6.28×10^{-5} *9*; α(P)=4.78×10^{-6} *7* E_γ: 584.73 *4* (from ce data). Ice(K)=0.121 *20*.
[x]588.40 *5*	3.7 *7*								
[x]593.13 *6*	1.8 *3*								E_γ: see comments for 593.66γ.
[x]593.66 *9*	1.4 *3*								E_γ: 593.56 *5* (from ce data: composite of 593.13γ+593.66γ). Ice(K)=0.112 *20* for 593.13+593.66 γ rays.
596.28[gd] *8*	2.1[g] *3*	639.394	(2)$^-$	43.119	0$^-$	(E2)		0.01563 *22*	α(K)=0.01203 *17*; α(L)=0.00276 *4*; α(M)=0.000659 *9* α(N)=0.0001609 *23*; α(O)=2.71×10^{-5} *4*; α(P)=1.367×10^{-6} *19* Mult.: M1+E2 from α(K)exp as listed in Tables IV and VI of 2008Ba25, but E2 required from ΔJ^π.
596.28[gd] *8*	2.1[g] *3*	708.546	(2)$^-$	112.230	2$^-$	M1+E2	1.3 *+38−7*	0.031 *15*	α(K)exp=0.022 *9* α(K)=0.025 *13*; α(L)=0.0044 *16*; α(M)=1.01×10^{-3} *35* α(N)=2.5×10^{-4} *9*; α(O)=4.3×10^{-5} *16*; α(P)=3.0×10^{-6} *16* E_γ: 596.00 *7* (from ce data). Ice(K)=0.046 *17*. Mult.: from α(K)exp for a doublet, as also listed in Tables IV and VI of 2008Ba25.
[x]597.13 *4*	3.2 *3*					M1+E2,E2			α(K)exp=0.026 *6* E_γ: 597.05 *6* (from ce data). Ice(K)=0.082 *18*.
[x]598.08 *16*	4.9 *7*					E2		0.01552 *22*	α(K)exp=0.014 *4* α(K)=0.01195 *17*; α(L)=0.00273 *4*; α(M)=0.000653 *9* α(N)=0.0001595 *22*; α(O)=2.68×10^{-5} *4*; α(P)=1.359×10^{-6} *19* E_γ: 597.69 *6* (from ce data). Ice(K)=0.069 *17*.
[x]599.65 *3*	6.4 *6*					M1		0.0448 *6*	α(K)exp=0.033 *7* α(K)=0.0372 *5*; α(L)=0.00588 *8*; α(M)=0.001348 *19* α(N)=0.000331 *5*; α(O)=5.88×10^{-5} *8*; α(P)=4.48×10^{-6} *6* E_γ: 599.77 *6* (from ce data). Ice(K)=0.21 *4*.
[x]600.470 *8*	18.6 *6*					M1		0.0446 *6*	α(K)exp=0.035 *7* α(K)=0.0370 *5*; α(L)=0.00585 *8*; α(M)=0.001343 *19*

$^{194}_{77}Ir_{117}$-69

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	α [f]	Comments
								α(N)=0.000330 *5*; α(O)=5.86×10^{-5} *8*; α(P)=4.47×10^{-6} *6* E_γ: 601.90 *6* (from ce data). Ice(K)=0.132 *22*.
[x]601.871 *23*	3.8 *5*					M1	0.0443 *6*	α(K)exp=0.035 *7* α(K)=0.0368 *5*; α(L)=0.00582 *8*; α(M)=0.001335 *19* α(N)=0.000328 *5*; α(O)=5.82×10^{-5} *8*; α(P)=4.44×10^{-6} *6* E_γ: 601.90 *6* (from ce data). Ice(K)=0.132 *22*.
[x]603.04 *10*	11.1 *7*					E1	0.00538 *8*	α(K)exp=0.0077 *16* α(K)=0.00451 *6*; α(L)=0.000678 *9*; α(M)=0.0001545 *22* α(N)=3.78×10^{-5} *5*; α(O)=6.61×10^{-6} *9*; α(P)=4.70×10^{-7} *7* E_γ: 602.99 *6* (from ce data). Ice(K)=0.086 *17*.
[x]603.95 *5*	2.1 *3*					E2,E1		α(K)exp≤0.022 Ice(K)≤0.045.
[x]605.39 *4*	2.9 *5*					M1	0.0437 *6*	α(K)exp=0.041 *9* α(K)=0.0363 *5*; α(L)=0.00573 *8*; α(M)=0.001315 *18* α(N)=0.000323 *5*; α(O)=5.73×10^{-5} *8*; α(P)=4.37×10^{-6} *6* E_γ: 605.29 *6* (from ce data). Ice(K)=0.119 *18*.
605.76[d] *9*	2.25 *22*	605.532	(3)$^-$	0.0	1$^-$	[E2]	0.01508 *21*	α(K)exp=0.047 *9* α(K)=0.01163 *16*; α(L)=0.00264 *4*; α(M)=0.000630 *9* α(N)=0.0001538 *22*; α(O)=2.59×10^{-5} *4*; α(P)=1.322×10^{-6} *19* Mult.: M1 listed in Tables IV and VI of 2008Ba25, but E2 required by ΔJ^π. E_γ: 605.66 *6* (from ce data). Ice(K)=0.106 *17*.
[x]606.880 *23*	5.4 *3*					M1	0.0434 *6*	α(K)exp=0.034 *4* α(K)=0.0360 *5*; α(L)=0.00569 *8*; α(M)=0.001306 *18* α(N)=0.000321 *4*; α(O)=5.70×10^{-5} *8*; α(P)=4.34×10^{-6} *6* E_γ: 606.90 *6* (from ce data). Ice(K)=0.185 *19*.
[x]607.57 *16*	2.4 *8*					M1	0.0433 *6*	α(K)exp=0.045 *16* α(K)=0.0359 *5*; α(L)=0.00568 *8*; α(M)=0.001303 *18* α(N)=0.000320 *4*; α(O)=5.68×10^{-5} *8*; α(P)=4.33×10^{-6} *6* E_γ: 607.329 *6* (from ce data). Ice(K)=0.109 *17*.
[x]608.69 *3*	4.8 *3*					M1	0.0431 *6*	α(K)exp=0.037 *5* α(K)=0.0357 *5*; α(L)=0.00565 *8*; α(M)=0.001296 *18* α(N)=0.000319 *4*; α(O)=5.65×10^{-5} *8*; α(P)=4.31×10^{-6} *6* E_γ: 608.64 *6* (from ce data). Ice(K)=0.177 *20*.
[x]609.76 *9*	13.4 *7*					E1	0.00526 *7*	α(K)exp=0.0035 *9* α(K)=0.00441 *6*; α(L)=0.000662 *9*; α(M)=0.0001509 *21* α(N)=3.69×10^{-5} *5*; α(O)=6.46×10^{-6} *9*; α(P)=4.60×10^{-7} *6*

$^{194}_{77}Ir_{117}$-70

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	Mult.[‡]	δ[‡]	α[f]	Comments
						E_γ: 609.67 *6* (from ce data). Ice(K)=0.047 *12*, contribution from other lines subtracted.
[x]610.15 *4*	3.6 *5*		M1		0.0428 *6*	α(K)exp=0.038 *8* α(K)=0.0355 *5*; α(L)=0.00561 *8*; α(M)=0.001288 *18* α(N)=0.000317 *4*; α(O)=5.62×10^{-5} *8*; α(P)=4.28×10^{-6} *6* E_γ: 610.22 *6* (from ce data). Ice(K)=0.138 *20*, contribution from other lines subtracted.
[x]610.762 *8*	14.6 *8*		M1		0.0427 *6*	α(K)exp=0.037 *3* α(K)=0.0354 *5*; α(L)=0.00560 *8*; α(M)=0.001285 *18* α(N)=0.000316 *4*; α(O)=5.60×10^{-5} *8*; α(P)=4.27×10^{-6} *6* E_γ: 610.76 *6* (from ce data). Ice(K)=0.54 *3*.
[x]611.27 *9*	2.2 *5*		M1		0.0426 *6*	α(K)exp=0.062 *16* α(K)=0.0354 *5*; α(L)=0.00559 *8*; α(M)=0.001282 *18* α(N)=0.000315 *4*; α(O)=5.59×10^{-5} *8*; α(P)=4.26×10^{-6} *6* E_γ: 611.26 *6* (from ce data). Ice(K)=0.139 *17*.
[x]612.76 *7*	9.7 *6*		E1		0.00521 *7*	α(K)exp≤0.005 α(K)=0.00436 *6*; α(L)=0.000656 *9*; α(M)=0.0001494 *21* α(N)=3.65×10^{-5} *5*; α(O)=6.39×10^{-6} *9*; α(P)=4.55×10^{-7} *6* Ice(K)≤0.05.
[x]613.48 *8*	2.9 *5*		M1+E2	0.8 *+7−5*	0.031 *8*	α(K)exp=0.026 *7* α(K)=0.026 *7*; α(L)=0.0044 *9*; α(M)=0.00101 *20* α(N)=0.00025 *5*; α(O)=4.4×10^{-5} *9*; α(P)=3.1×10^{-6} *9* E_γ: 613.66 *10* (from ce data). Ice(K)=0.074 *17*.
[x]614.58 *8*	2.9 *6*		M1+E2	0.7 *+9−7*	0.033 *11*	α(K)exp=0.027 *9* α(K)=0.027 *9*; α(L)=0.0045 *12*; α(M)=0.00105 *26* α(N)=0.00026 *6*; α(O)=4.5×10^{-5} *12*; α(P)=3.2×10^{-6} *11* E_γ: 614.55 *7* (from ce data). Ice(K)=0.077 *22*.
[x]615.25 *13*	3.7 *8*		M1+E2	0.8 *+7−5*	0.031 *8*	α(K)exp=0.025 *7* α(K)=0.026 *7*; α(L)=0.0043 *9*; α(M)=0.00100 *20* α(N)=0.00025 *5*; α(O)=4.3×10^{-5} *9*; α(P)=3.1×10^{-6} *9* E_γ: 615.36 *7* (from ce data). Ice(K)=0.094 *20*.
[x]615.73 *11*	6.0 *5*		E2		0.01453 *20*	α(K)exp=0.019 *6* α(K)=0.01123 *16*; α(L)=0.002521 *35*; α(M)=0.000601 *8* α(N)=0.0001469 *21*; α(O)=2.477×10^{-5} *35*; α(P)=1.278×10^{-6} *18* E_γ: 615.76 *8* (from ce data). Ice(K)=0.11 *3*.
[x]616.40 *9*	4.6 *4*		E2		0.01449 *20*	α(K)exp=0.015 *5*

$^{194}_{77}Ir_{117}$-71

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[f]	Comments
									α(K)=0.01120 *16*; α(L)=0.002514 *35*; α(M)=0.000599 *8* α(N)=0.0001464 *21*; α(O)=2.469×10^{-5} *35*; α(P)=1.275×10^{-6} *18* E_γ: 616.30 *7* (from ce data). Ice(K)=0.068 *22*.
[x]617.10 *3*	5.9 *6*					M1+E2	0.6 *3*	0.034 *5*	α(K)exp=0.028 *4* α(K)=0.028 *4*; α(L)=0.0047 *5*; α(M)=0.00108 *12* α(N)=0.000265 *30*; α(O)=4.7×10^{-5} *6*; α(P)=3.4×10^{-6} *5* E_γ: 617.12 *7* (from ce data). Ice(K)=0.164 *16*.
[x]618.07 *18*	2.2 *4*								
[x]618.46 *7*	1.7 *3*								
[x]619.28 *7*	2.1 *5*								
[x]622.67 *5*	4.4 *11*					M1,M1+E2			α(K)exp=0.034 *10* E_γ: 622.67 *8* (from ce data). Ice(K)=0.150 *24*.
[x]623.25 *3*	4.9 *12*					M1,M1+E2			α(K)exp=0.034 *10* E_γ: 623.23 *7* (from ce data). Ice(K)=0.17 *3*.
[x]623.80 *7*	5.1 *7*					M1		0.0404 *6*	α(K)exp=0.042 *10* α(K)=0.0336 *5*; α(L)=0.00530 *7*; α(M)=0.001216 *17* α(N)=0.000299 *4*; α(O)=5.30×10^{-5} *7*; α(P)=4.04×10^{-6} *6* E_γ: 623.77 *8* (from ce data). Ice(K)=0.21 *4*.
[x]624.72 *12*	6.2 *8*					E2		0.01406 *20*	α(K)exp=0.014 *5* α(K)=0.01089 *15*; α(L)=0.002422 *34*; α(M)=0.000577 *8* α(N)=0.0001410 *20*; α(O)=2.380×10^{-5} *33*; α(P)=1.239×10^{-6} *17* E_γ: 625.01 *8* (from ce data). Ice(K)=0.09 *3*.
626.211[gd] *21*	4.9[g] *5*	669.369	(3)$^-$	43.119	0$^-$	[M3]		0.259 *4*	α(K)=0.1981 *28*; α(L)=0.0464 *6*; α(M)=0.01125 *16* α(N)=0.00278 *4*; α(O)=0.000484 *7*; α(P)=3.21×10^{-5} *4* Mult.: M1 listed in Table VI of 2008Ba25, but E3 from (3)$^-$ to 0$^-$ transition.
626.211[gd] *21*	4.9[g] *5*	708.546	(2)$^-$	82.334	1$^-$	M1		0.0400 *6*	α(K)exp=0.037 *6* α(K)=0.0332 *5*; α(L)=0.00525 *7*; α(M)=0.001203 *17* α(N)=0.000296 *4*; α(O)=5.25×10^{-5} *7*; α(P)=4.00×10^{-6} *6* Ice(K)=0.182 *22* for a doublet.
[x]629.06 *12*	1.8 *3*					M1		0.0396 *6*	α(K)exp=0.060 *15* α(K)=0.0328 *5*; α(L)=0.00518 *7*; α(M)=0.001189 *17* α(N)=0.000292 *4*; α(O)=5.19×10^{-5} *7*; α(P)=3.96×10^{-6} *6* E_γ: 629.10 *8* (from ce data). Ice(K)=0.108 *20*.
[x]630.37 *8*	1.89 *25*					M1		0.0393 *6*	α(K)exp=0.032 *9* α(K)=0.0327 *5*; α(L)=0.00516 *7*; α(M)=0.001183 *17* α(N)=0.000291 *4*; α(O)=5.16×10^{-5} *7*; α(P)=3.94×10^{-6} *6*

$^{194}_{77}Ir_{117}$-72

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	Mult.[‡]	δ[‡]	α[f]	Comments
						E_γ: 630.52 *9* (from ce data). Ice(K)=0.060 *18*.
[x]631.48 *7*	1.9 *3*		M1		0.0392 *5*	α(K)exp=0.039 *11* α(K)=0.0325 *5*; α(L)=0.00513 *7*; α(M)=0.001177 *16* α(N)=0.000289 *4*; α(O)=5.13×10^{-5} *7*; α(P)=3.92×10^{-6} *5* E_γ: 631.16 *8* (from ce data). Ice(K)=0.075 *17*, contribution from other lines subtracted.
[x]635.33 *10*	7.6 *5*		E1		0.00484 *7*	α(K)exp≤0.006 α(K)=0.00406 *6*; α(L)=0.000608 *9*; α(M)=0.0001385 *19* α(N)=3.39×10^{-5} *5*; α(O)=5.93×10^{-6} *8*; α(P)=4.24×10^{-7} *6* Ice(K)≤0.05.
[x]635.90 *11*	2.1 *4*					
[x]637.12 *8*	4.2 *9*		E2		0.01345 *19*	α(K)exp=0.011 *5* α(K)=0.01045 *15*; α(L)=0.002295 *32*; α(M)=0.000546 *8* α(N)=0.0001334 *19*; α(O)=2.256×10^{-5} *32*; α(P)=1.189×10^{-6} *17* E_γ: 637.19 *11* (from ce data). Ice(K)=0.046 *20*.
[x]639.91 *4*	6.1 *6*		M1		0.0378 *5*	α(K)exp=0.031 *5* α(K)=0.0314 *4*; α(L)=0.00496 *7*; α(M)=0.001137 *16* α(N)=0.000280 *4*; α(O)=4.96×10^{-5} *7*; α(P)=3.79×10^{-6} *5* E_γ: 640.04 *9* (from ce data). Ice(K)=0.190 *20*.
[x]642.046 *21*	7.5 *6*		M1		0.0375 *5*	α(K)exp=0.032 *4* α(K)=0.0312 *4*; α(L)=0.00492 *7*; α(M)=0.001127 *16* α(N)=0.000277 *4*; α(O)=4.92×10^{-5} *7*; α(P)=3.75×10^{-6} *5* E_γ: 642.05 *9* (from ce data). Ice(K)=0.24 *3*.
[x]643.80 *3*	4.8 *6*		M1		0.0373 *5*	α(K)exp=0.041 *7* α(K)=0.0309 *4*; α(L)=0.00488 *7*; α(M)=0.001119 *16* α(N)=0.000275 *4*; α(O)=4.88×10^{-5} *7*; α(P)=3.73×10^{-6} *5* E_γ: 643.79 *9* (from ce data). Ice(K)=0.196 *22*.
[x]646.96 *6*	2.5 *3*		M1		0.0368 *5*	α(K)exp=0.034 *11* α(K)=0.0305 *4*; α(L)=0.00482 *7*; α(M)=0.001105 *15* α(N)=0.000272 *4*; α(O)=4.82×10^{-5} *7*; α(P)=3.68×10^{-6} *5* E_γ: 646.96 *10* (from ce data). Ice(K)=0.09 *3*.
[x]648.65 *3*	6.4 *6*		M1		0.0365 *5*	α(K)exp=0.033 *4* α(K)=0.0303 *4*; α(L)=0.00479 *7*; α(M)=0.001098 *15* α(N)=0.000270 *4*; α(O)=4.79×10^{-5} *7*; α(P)=3.65×10^{-6} *5* E_γ: 648.59 *9* (from ce data). Ice(K)=0.211 *20*.
[x]649.21 *7*	3.2 *5*		M1+E2	1.1 *+13−5*	0.024 *7*	α(K)exp=0.019 *6*

$^{194}_{77}Ir_{117}$-73

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ [†]	I_γ [†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [f]	Comments
									α(K)=0.019 *6*; α(L)=0.0034 *8*; α(M)=0.00078 *18* α(N)=0.00019 *4*; α(O)=3.3×10^{-5} *8*; α(P)=2.3×10^{-6} *8* E_γ: 649.03 *10* (from ce data). Ice(K)=0.062 *17*.
[x]651.172 *16*	6.2 *9*					M1		0.0362 *5*	α(K)exp=0.029 *5* α(K)=0.0300 *4*; α(L)=0.00474 *7*; α(M)=0.001087 *15* α(N)=0.000267 *4*; α(O)=4.74×10^{-5} *7*; α(P)=3.62×10^{-6} *5* E_γ: 651.23 *10* (from ce data). Ice(K)=0.180 *18*.
[x]652.99 *7*	2.6 *3*					M1		0.0359 *5*	α(K)exp=0.037 *9* α(K)=0.0298 *4*; α(L)=0.00470 *7*; α(M)=0.001079 *15* α(N)=0.000265 *4*; α(O)=4.71×10^{-5} *7*; α(P)=3.59×10^{-6} *5* E_γ: 653.16 *10* (from ce data). Ice(K)=0.096 *20*.
653.93[d] *10*	1.7 *4*	738.345	(3)$^+$	84.284	2$^-$	[E1]		0.00457 *6*	α(K)=0.00383 *5*; α(L)=0.000573 *8*; α(M)=0.0001304 *18* α(N)=3.19×10^{-5} *4*; α(O)=5.59×10^{-6} *8*; α(P)=4.01×10^{-7} *6* E_γ: 653.16 *10* (from ce data).
[x]656.82 *7*	4.0 *5*					M1		0.0354 *5*	α(K)exp=0.035 *8* α(K)=0.0294 *4*; α(L)=0.00463 *6*; α(M)=0.001062 *15* α(N)=0.000261 *4*; α(O)=4.63×10^{-5} *6*; α(P)=3.54×10^{-6} *5* E_γ: 656.69 *11* (from ce data). Ice(K)=0.14 *3*.
[x]659.14 *3*	4.6 *6*					M1		0.0351 *5*	α(K)exp=0.030 *7* α(K)=0.0291 *4*; α(L)=0.00459 *6*; α(M)=0.001053 *15* α(N)=0.000259 *4*; α(O)=4.59×10^{-5} *6*; α(P)=3.51×10^{-6} *5* E_γ: 659.09 *11* (from ce data). Ice(K)=0.14 *3*.
[x]662.51 *11*	2.0 *4*					M1		0.0346 *5*	α(K)exp=0.059 *17* α(K)=0.0287 *4*; α(L)=0.00453 *6*; α(M)=0.001039 *15* α(N)=0.000255 *4*; α(O)=4.53×10^{-5} *6*; α(P)=3.46×10^{-6} *5* E_γ: 662.30 *11* (from ce data). Ice(K)=0.12 *3*.
[x]663.27 *8*	2.0 *3*					M1		0.0345 *5*	α(K)exp=0.036 *8* α(K)=0.0287 *4*; α(L)=0.00452 *6*; α(M)=0.001036 *15* α(N)=0.000255 *4*; α(O)=4.52×10^{-5} *6*; α(P)=3.45×10^{-6} *5* E_γ: 663.11 *11* (from ce data). Ice(K)=0.071 *10*, contribution from other lines subtracted.
[x]665.91 *4*	4.7 *3*					M1+E2	0.6 *5*	0.028 *6*	α(K)exp=0.023 *5* α(K)=0.023 *5*; α(L)=0.0038 *7*; α(M)=0.00088 *15* α(N)=0.00022 *4*; α(O)=3.8×10^{-5} *7*; α(P)=2.8×10^{-6} *7* E_γ: 666.01 *11* (from ce data). Ice(K)=0.109 *23*.
[x]675.08 *6*	2.3 *14*					M1		0.0330 *5*	α(K)exp=0.025 *17*

$^{194}_{77}Ir_{117}$-74

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ[†]	I_γ[†e]	E_i(level)	Mult.[‡]	δ[‡]	α[f]	Comments
						α(K)=0.0274 *4*; α(L)=0.00431 *6*; α(M)=0.000989 *14* α(N)=0.0002431 *34*; α(O)=4.31×10^{-5} *6*; α(P)=3.30×10^{-6} *5* E_γ: 675.12 *13* (from ce data). Ice(K)=0.057 *17*.
[x]676.66 *14*	1.6 *4*					
[x]677.02 *12*	2.4 *6*		M1		0.0327 *5*	α(K)exp=0.034 *11* α(K)=0.0272 *4*; α(L)=0.00428 *6*; α(M)=0.000982 *14* α(N)=0.0002413 *34*; α(O)=4.28×10^{-5} *6*; α(P)=3.27×10^{-6} *5* E_γ: 677.00 *13* (from ce data). Ice(K)=0.082 *19*.
[x]677.42 *16*	1.6 *5*					
[x]677.99 *7*	5.2 *4*		M1		0.0326 *5*	α(K)exp=0.027 *4* α(K)=0.0271 *4*; α(L)=0.00427 *6*; α(M)=0.000978 *14* α(N)=0.0002404 *34*; α(O)=4.27×10^{-5} *6*; α(P)=3.26×10^{-6} *5* E_γ: 678.01 *12* (from ce data). Ice(K)=0.140 *17*.
[x]679.20 *20*	0.9 *6*					
[x]679.90 *8*	3.1 *3*		M1+E2	1.0 *+13−6*	0.022 *8*	α(K)exp=0.018 *6* α(K)=0.018 *6*; α(L)=0.0031 *8*; α(M)=7.1×10^{-4} *19* α(N)=1.8×10^{-4} *5*; α(O)=3.1×10^{-5} *8*; α(P)=2.1×10^{-6} *8* E_γ: 680.07 *13* (from ce data). Ice(K)=0.056 *18*.
[x]680.84 *5*	4.6 *4*		E2,M1+E2			α(K)exp=0.014 *4* E_γ: 680.73 *13* (from ce data). Ice(K)=0.065 *16*.
[x]684.8 *3*	5.4 *15*		E1		0.00417 *6*	α(K)exp≤0.009 α(K)=0.00350 *5*; α(L)=0.000521 *7*; α(M)=0.0001186 *17* α(N)=2.90×10^{-5} *4*; α(O)=5.09×10^{-6} *7*; α(P)=3.67×10^{-7} *5* Ice(K)≤0.05.
[x]685.79 *7*	3.3 *7*		M1		0.0317 *4*	α(K)exp=0.029 *8* α(K)=0.0263 *4*; α(L)=0.00414 *6*; α(M)=0.000950 *13* α(N)=0.0002334 *33*; α(O)=4.14×10^{-5} *6*; α(P)=3.16×10^{-6} *4* E_γ: 685.79 *16* (from ce data). Ice(K)=0.096 *16*.
[x]687.10 *4*	3.4 *10*		M1		0.0315 *4*	α(K)exp=0.028 *10* α(K)=0.0262 *4*; α(L)=0.00412 *6*; α(M)=0.000945 *13* α(N)=0.0002322 *33*; α(O)=4.12×10^{-5} *6*; α(P)=3.15×10^{-6} *4* E_γ: 687.05 *13* (from ce data). Ice(K)=0.096 *20*.
[x]688.97 *6*	4.9 *4*		M1		0.0313 *4*	α(K)exp=0.021 *6* α(K)=0.0260 *4*; α(L)=0.00409 *6*; α(M)=0.000938 *13* α(N)=0.0002306 *32*; α(O)=4.09×10^{-5} *6*; α(P)=3.13×10^{-6} *4* E_γ: 688.93 *14* (from ce data). Ice(K)=0.10 *3*.

$^{194}_{77}Ir_{117}$-75

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

γ(^{194}Ir) (continued)

E_γ[†]	I_γ[†e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[f]	Comments
[x]689.63 *15*	2.4 *6*							
[x]690.76 *9*	3.6 *8*							
[x]691.11 *9*	4.8 *8*							
[x]692.02 *6*	7.2 *9*							
[x]698.623 *15*	11.3 *8*							
[x]700.11 *13*	2.7 *12*							
[x]700.59 *14*	4.6 *4*							
[x]701.45 *10*	3.1 *5*							
[x]704.47 *12*	3.2 *6*							
[x]706.54 *4*	9.1 *5*							
708.547[d] *17*	23.4 *9*	708.546	$(2)^-$	0.0	1^-	[M1+E2]	0.020 *9*	α(K)=0.016 *8*; α(L)=0.0028 *10*; α(M)=6.4×10^{-4} *23* α(N)=1.6×10^{-4} *6*; α(O)=2.8×10^{-5} *11*; α(P)=1.9×10^{-6} *10*
[x]709.47 *4*	6.6 *6*							
[x]710.92 *7*	3.6 *8*							E_γ: from 1987CoZW only, but 2008Ba25 list Eγ=710.20.
[x]713.23 *13*	3.6 *12*							
[x]713.77 *5*	6.1 *6*							
[x]716.15 *11*	3.0 *7*							
[x]717.21 *6*	7.7 *10*							
[x]719.33 *8*	3.3 *8*							
[x]720.96 *13*	2.1 *6*							
[x]722.29 *9*	6.2 *5*							
[x]722.93 *10*	3.8 *6*							
[x]724.09 *15*	1.9 *5*							
[x]725.39 *8*	4.1 *9*							
[x]727.67 *5*	3.8 *15*							
[x]731.97 *13*	1.7 *4*							
[x]735.59 *15*	2.4 *5*							
[x]738.25 *10*	3.6 *7*							
[x]740.66 *7*	5.0 *6*							
[x]743.87 *4*	5.5 *12*							
[x]745.33 *6*	5.8 *9*							
[x]747.47 *3*	11.2 *16*							
[x]748.57 *4*	7 *3*							
[x]749.93 *3*	8.4 *15*							
[x]751.83 *10*	4.3 *6*							
[x]753.14 *9*	3.8 *7*							
[x]755.82 *8*	3.3 *6*							
[x]757.49 *4*	7.0 *7*							
[x]759.70 *8*	3.4 *7*							
[x]761.33 *3*	9.6 *8*							
[x]762.23 *13*	4.6 *5*							
[x]763.37 *9*	2.8 *9*							
[x]768.39 *8*	3.2 *5*							
[x]769.82 *12*	3.2 *4*							

$^{194}_{77}Ir_{117}$-76

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ †	I_γ †e	E_i(level)	E_γ †	I_γ †e	E_i(level)	J_i^π	E_f
x771.72 9	4.1 5		x891.39c 15	5.1 8			
x773.92 10	4.1 6		x892.57c 10	11.2 24			
x776.19 7	3.6 5		x893.26c 7	19.5 17			
x781.49 10	3.3 11		x895.07c 20	3.6 8			
x783.87 19	2.9 6		x899.61c 13	5.6 8			
x785.51 3	12.8 5		x909.18c 14	8.2 17			
x787.07 10	6.4 11		x911.13c 4	20.2 14			
x787.72 6	4.2 12		x912.51c 8	9.2 17			
x788.46 20	5.6 8		x915.5c 4	2.2 8			
x788.98 5	7.5 15		x921.73c 17	5.2 6			
x789.86 17	3.9 6		x923.6c 3	5.2 20			
x795.08 11	4.1 6		x924.24c 9	8.6 10			
x797.03 5	8.5 11		x925.90c 13	5.0 9			
x801.61c 11	5.3 8		x938.78c 3	29.6 14			
x803.73c 12	5.3 11		x941.3c 3	5.1 10			
x804.24c 9	6.2 15		x945.70c 18	4.5 8			
x804.76c 10	9.0 10		x951.58c 18	8.4 21			
x807.80c 4	17.8 10		x954.05c 17	9.3 21			
x809.86c 16	3.9 6		x956.34c 18	5.7 10			
x812.25c 16	5.0 7		x956.98c 20	5.4 21			
x814.64c 17	3.8 14		x960.21c 10	7.6 18			
x822.58c 16	3.5 8		x961.30c 13	12.9 19			
x823.53c 25	2.8 6		x962.05c 20	5.1 9			
x825.94c 5	8.1 7		x964.59c 6	13.2 14			
x829.23c 4	11.5 12		x966.61c 16	5.7 11			
x830.99c 14	3.3 6		x974.99c 15	9.6 13			
x832.31c 11	4.6 6		x985.76c 10	8.9 8			
x833.95c 14	3.8 6		x988.99c 13	7.4 9			
x842.48c 11	5.5 7		x1006.4c 3	3.3 8			
x844.78c 3	14.3 7		x1010.75c 17	11.0 14			
x846.60c 22	3.9 7		x1014.6c 3	5.8 13			
x851.26c 14	5.7 8		x1023.45c 14	9.8 11			
x853.78c 6	10.0 15		x1233.8c 4	6.8 17			
x856.03c 9	7.0 8		x1454.8c 7	6.9 16			
x863.4c 4	3.2 8		x1465.8c 5	7.0 16			
x865.00c 16	7.2 11		x1476.5c 7	4.2 19			
x866.63c 15	5.8 9		x1479.8c 8	5.5 16			
x876.46c 9	8.0 9		x1527.3c 10	5.2 18			
x882.66c 23	3.1 6		4364.3@b 9	0.40b 19	(6066.80)	$1^+,2^+$	1702.5
x889.73c 8	6.2 17		4371.4@b 14	0.40b 17	(6066.80)	$1^+,2^+$	1695.4
x890.89c 11	11.1 20		4382.0b 14	0.10b 7	(6066.80)	$1^+,2^+$	1684.8

$^{194}_{77}Ir_{117}$-77

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ †	I_γ †e	E_i(level)	J_i^π	E_f	E_γ †	I_γ †e	E_i(level)	J_i^π	E_f	J_f^π
4394.7@b 10	0.23b 17	(6066.80)	1+,2+	1672.1	4855.5 6	1.33 23	(6066.80)	1+,2+	1211.2	
4401.6@b 11	0.33b 17	(6066.80)	1+,2+	1665.2	4875.4 12	0.47 20	(6066.80)	1+,2+	1191.3	
4412.6b 10	0.17b 7	(6066.80)	1+,2+	1654.1	4892.4 10	0.5 3	(6066.80)	1+,2+	1174.3	
4424.9b 10	0.20b 7	(6066.80)	1+,2+	1641.8	4921.1b 7	0.40b 7	(6066.80)	1+,2+	1145.6	
4435.0@b 13	0.20b 10	(6066.80)	1+,2+	1631.7	4930.8 9	0.88 24	(6066.80)	1+,2+	1135.9	
4442.4@b 6	0.40b 7	(6066.80)	1+,2+	1624.3	4952.3b 8	0.26b 10	(6066.80)	1+,2+	1114.4	
4454.6@b 7	0.40b 10	(6066.80)	1+,2+	1612.1	4967.6 7	0.7 3	(6066.80)	1+,2+	1099.1	
4461.8@b 9	0.27b 10	(6066.80)	1+,2+	1604.9	4979.5 8	0.79 16	(6066.80)	1+,2+	1087.2	
4472.5b 6	0.50b 7	(6066.80)	1+,2+	1594.2	4991.8 11	0.49 14	(6066.80)	1+,2+	1074.9	
4487.4@b 7	0.33b 10	(6066.80)	1+,2+	1579.3	5006.5@b 7	0.53b 10	(6066.80)	1+,2+	1060.2	
4494.8@b 7	0.73b 13	(6066.80)	1+,2+	1571.9	5014.4 9	1.2 4	(6066.80)	1+,2+	1052.3	
4505.3b 7	0.20b 7	(6066.80)	1+,2+	1561.4	5028.2 5	1.8 4	(6066.80)	1+,2+	1038.5	
4524.4#b 7	0.30b 7	(6066.80)	1+,2+	1542.3	5058.4b 7	0.20b 7	(6066.80)	1+,2+	1008.3	
4546.0#b 11	0.30b 10	(6066.80)	1+,2+	1520.7	5071.9 5	1.44 20	(6066.80)	1+,2+	994.8	
4559.8b 21	0.17b 7	(6066.80)	1+,2+	1506.9	5090.6 7	0.91 11	(6066.80)	1+,2+	976.1	
4577.3@b 7	0.90b 20	(6066.80)	1+,2+	1489.4	5097.5@bi 16	<0.26b	(6066.80)	1+,2+	969.2?	
4584.6@b 7	0.63b 20	(6066.80)	1+,2+	1482.1	5109.7 6	0.7 3	(6066.80)	1+,2+	957.0	
4599.8b 7	0.73b 17	(6066.80)	1+,2+	1466.9	5116.2@bi 16	<0.23b	(6066.80)	1+,2+	950.5	
4612.5b 8	0.80b 17	(6066.80)	1+,2+	1454.2	5128.9 8	0.66 11	(6066.80)	1+,2+	937.8	
4621bi 3	<0.53b	(6066.80)	1+,2+	1446?	5140.1 9	0.52 10	(6066.80)	1+,2+	926.6	
4627bi 4	<0.36b	(6066.80)	1+,2+	1440?	5158.4 6	0.7 3	(6066.80)	1+,2+	908.3	
4643.4 6	1.21 21	(6066.80)	1+,2+	1423.3	5169.0b 10	0.20b 7	(6066.80)	1+,2+	897.7	
4665.8b 7	0.17b 3	(6066.80)	1+,2+	1400.9	5180.7 6	1.2 3	(6066.80)	1+,2+	886.0	
4677.6b 6	0.43b 7	(6066.80)	1+,2+	1389.1	5184.9@b 6	0.66b 13	(6066.80)	1+,2+	881.8	
4690bi 3	<0.10b	(6066.80)	1+,2+	1377?	5189.5 10	0.55 22	(6066.80)	1+,2+	877.2	
4698.1b 15	0.07b 7	(6066.80)	1+,2+	1368.6	5204.9b 8	0.17b 7	(6066.80)	1+,2+	861.8	
4713.9b 6	0.17b 7	(6066.80)	1+,2+	1352.8	5231.6 6	0.36 15	(6066.80)	1+,2+	835.1	
4734.5@b 8	0.23b 7	(6066.80)	1+,2+	1332.2	5246.6 10	0.5 3	(6066.80)	1+,2+	820.1	
4742.9@b 9	0.23b 7	(6066.80)	1+,2+	1323.8	5261.1 9	0.70 20	(6066.80)	1+,2+	805.6	
4754.8 4	1.6 3	(6066.80)	1+,2+	1311.9	5264.8 10	0.7 4	(6066.80)	1+,2+	801.9	
4778.7bi 17	<0.17b	(6066.80)	1+,2+	1288.0?	5281.8 7	0.64 11	(6066.80)	1+,2+	784.9	
4785.2b 9	0.23b 7	(6066.80)	1+,2+	1281.5	5291.2 5	0.64 17	(6066.80)	1+,2+	775.5	
4794.7#b 7	0.30b 7	(6066.80)	1+,2+	1272.0	5300.3 11	0.66 20	(6066.80)	1+,2+	766.4	
4808.3 7	0.69 14	(6066.80)	1+,2+	1258.4	5308.3@b 13	0.13b 7	(6066.80)	1+,2+	758.4	
4827.2 7	0.88 21	(6066.80)	1+,2+	1239.5	5315.4 7	1.10 24	(6066.80)	1+,2+	751.3	
4839.3 5	1.23 22	(6066.80)	1+,2+	1227.4	5345.0b 6	0.56b 10	(6066.80)	1+,2+	722.760	3+

$^{194}_{77}Ir_{117}$-78

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)

$\gamma(^{194}Ir)$ (continued)

E_γ †	I_γ †e	E_i(level)	J_i^π	E_f	J_f^π	E_γ †	I_γ †e	E_i(level)	J_i^π	E_f	J_f^π
5357.9 *5*	1.8 *3*	(6066.80)	$1^+,2^+$	708.546	$(2)^-$	5678.0 *14*	0.22 *15*	(6066.80)	$1^+,2^+$	390.964	$(1,2)^-$
5368.0 *8*	0.27 *13*	(6066.80)	$1^+,2^+$	698.7		5728.7 *3*	3.8 *4*	(6066.80)	$1^+,2^+$	337.648	2^-
5376.7@b *12*	0.23b *10*	(6066.80)	$1^+,2^+$	690.0		5750.1 *17*	0.21 *15*	(6066.80)	$1^+,2^+$	314.054	2^-
5385.9 *9*	0.48 *18*	(6066.80)	$1^+,2^+$	680.8		5757.5 *17*	0.22 *15*	(6066.80)	$1^+,2^+$	308.973	1^-
≈5398#b	0.17b *13*	(6066.80)	$1^+,2^+$	669.369	$(3)^-$	5787.4 *5*	1.9 *4*	(6066.80)	$1^+,2^+$	278.504	$(2)^-$
≈5406#b	0.17b *13*	(6066.80)	$1^+,2^+$	661		5814.0 *8*	0.50 *17*	(6066.80)	$1^+,2^+$	254.161	2^-
≈5413#b	0.07b *7*	(6066.80)	$1^+,2^+$	654		5821.5 *4*	2.22 *20*	(6066.80)	$1^+,2^+$	245.110	$(3)^-$
5426.5b *7*	0.30b *10*	(6066.80)	$1^+,2^+$	639.394	$(2)^-$	5871.5b *7*	0.17b *3*	(6066.80)	$1^+,2^+$	195.526	2^-
5466.7 *5*	2.3 *6*	(6066.80)	$1^+,2^+$	599.405	$(2,3)^-$	5882.5 *6*	0.68 *16*	(6066.80)	$1^+,2^+$	184.689	3^-
5475.4@b *10*	0.30b *17*	(6066.80)	$1^+,2^+$	590.727	$(2,3)^+$	5905.0 *7*	0.72 *16*	(6066.80)	$1^+,2^+$	160.999	1^-
5487.6 *5*	1.42 *13*	(6066.80)	$1^+,2^+$	579.147	$(2)^-$	5918.2 *4*	1.22 *16*	(6066.80)	$1^+,2^+$	148.934	$(3)^-$
5519.2 *12*	0.9 *3*	(6066.80)	$1^+,2^+$	547.5		5928.2 *4*	1.00 *22*	(6066.80)	$1^+,2^+$	138.687	1^-
5563.5 *6*	1.07 *15*	(6066.80)	$1^+,2^+$	501.814	$(2)^-$	5954.7 *4*	2.8 *4*	(6066.80)	$1^+,2^+$	112.230	2^-
5577.1 *4*	0.66 *19*	(6066.80)	$1^+,2^+$	489.648	2^-	5984.2 *5*	1.14 *20*	(6066.80)	$1^+,2^+$	82.334	1^-
5630.7 *4*	1.50 *16*	(6066.80)	$1^+,2^+$	436.295	2^-	6023.9 *15*	0.33 *14*	(6066.80)	$1^+,2^+$	43.119	0^-
5643.5 *4*	1.36 *15*	(6066.80)	$1^+,2^+$	423.725	$(2)^-$	6067.0 *4*	1.22 *11*	(6066.80)	$1^+,2^+$	0.0	1^-

† From 1998Ba42 and 1971Kr09 for primary γ rays; from 1998Ba85 and 1987CoZW for secondary γ rays. The intensities are relative. Note that in 2008Ba25, the intensities are from their earlier work 1998Ba85 (also 1987CoZW), converted to per 100 neutron captures by a multiplicative factor of ≈0.4 (close to 0.396 given as γ-normalization factor by the evaluators). Measurements were done with a curved-crystal spectrometer at Grenoble. Energies are relative to 64.896 keV for Ir Kα_1 x ray. Uncertainties do not include that in the calibration standard. The intensities of primary γ rays given by 1971Kr09 are per 1000 neutron captures.

‡ From ce data including subshell ratios reported in 1998Ba85 and 1998Ba42, unless otherwise noted. Where there are no subshell ratios, the mixing ratio is not given in 1998Ba85 and 1998Ba42, and the quoted value is deduced by the evaluators from all other available ce data as given in the comments using the BrIccMixing program.

Unresolved overlapping peaks (1971Kr09).

@ Part of an overlapping peak, numerically resolved by 1971Kr09.

& From Si(Li) detector spectrum (1998Ba85,1998Ba42).

a Seen in delayed coin with Ir x rays (1998Ba85).

b Primary γ from 1971Kr09, not reported by 1998Ba42. The intensity quoted by 1971Kr09 has been multiplied by a factor of 0.332 (average factor obtained from intercomparison of intensities of 10 most intense primary γ rays in 1971Kr09 and 1998Ba42).

c This γ is not listed by 2008Ba25.

d Gamma placement from 2008Ba25.

e For intensity per 100 neutron captures, multiply by 0.396.

f 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.

g Multiply placed with undivided intensity.

$^{194}_{77}Ir_{117}$-79

γ(^{194}Ir) (continued)

[h] Multiply placed with intensity suitably divided.
[i] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme

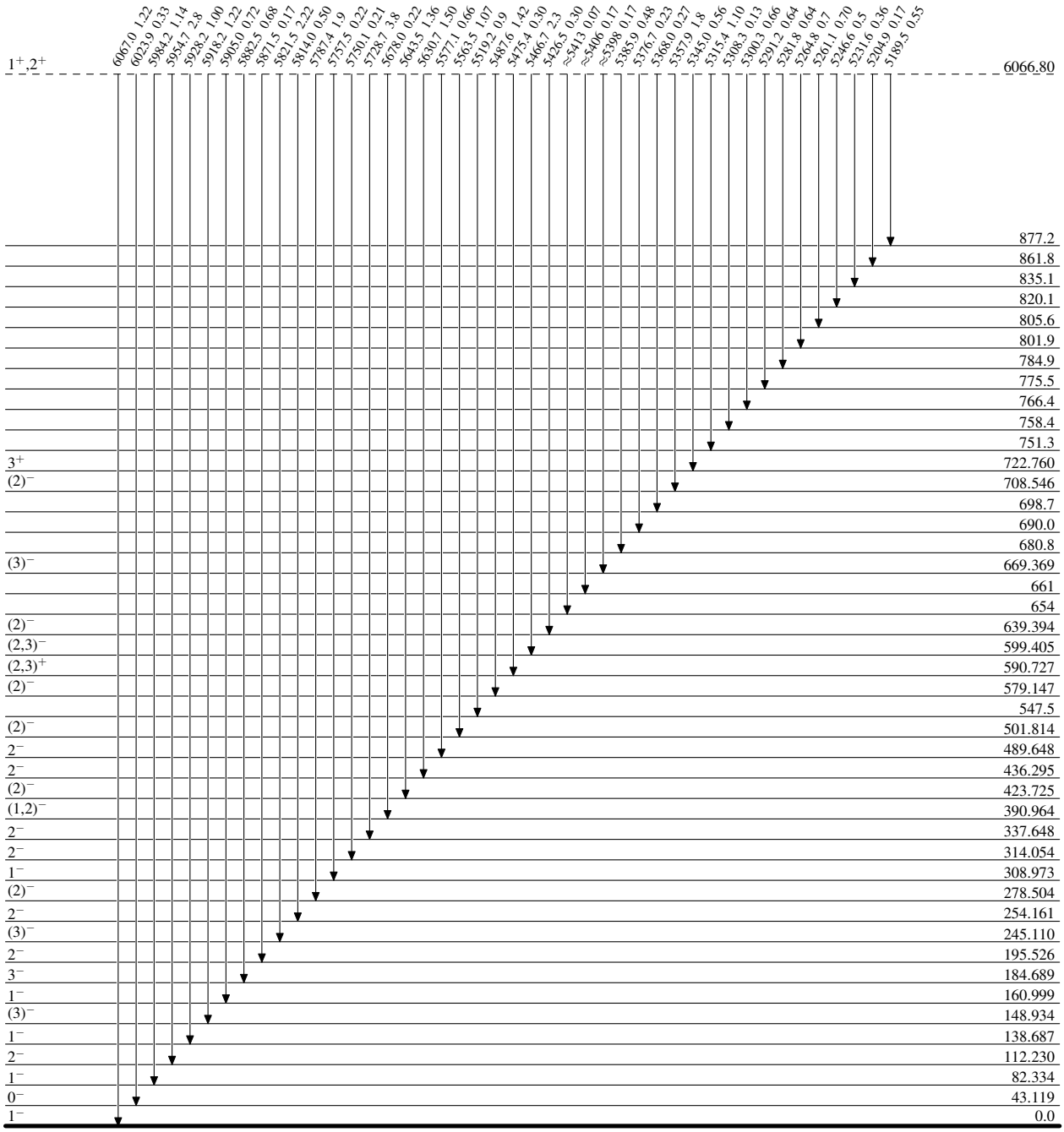
Intensities: Relative I_γ

Legend

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

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

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



$^{194}_{77}Ir_{117}$

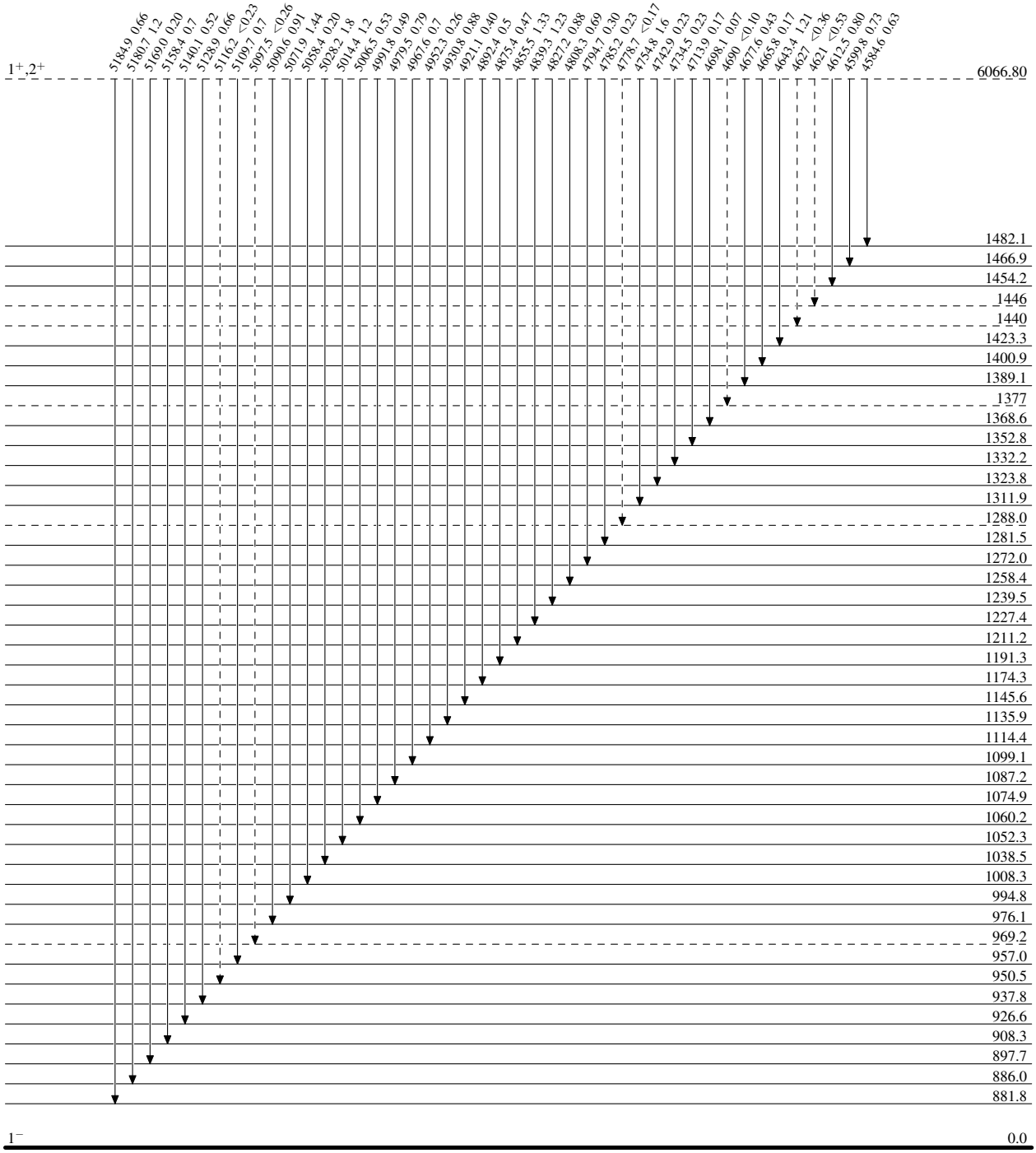
^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)

Level Scheme (continued)

Intensities: Relative I_γ



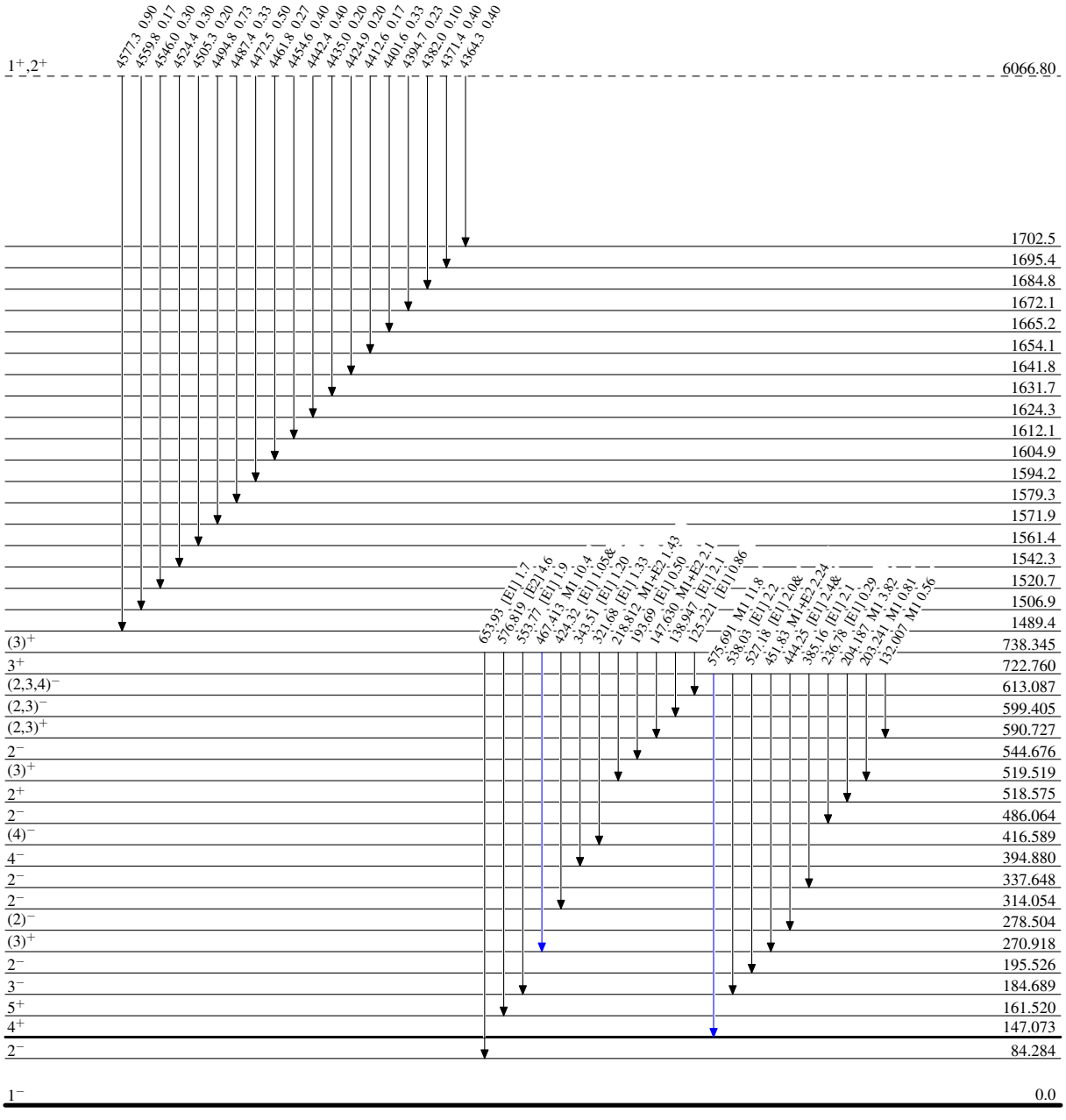
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



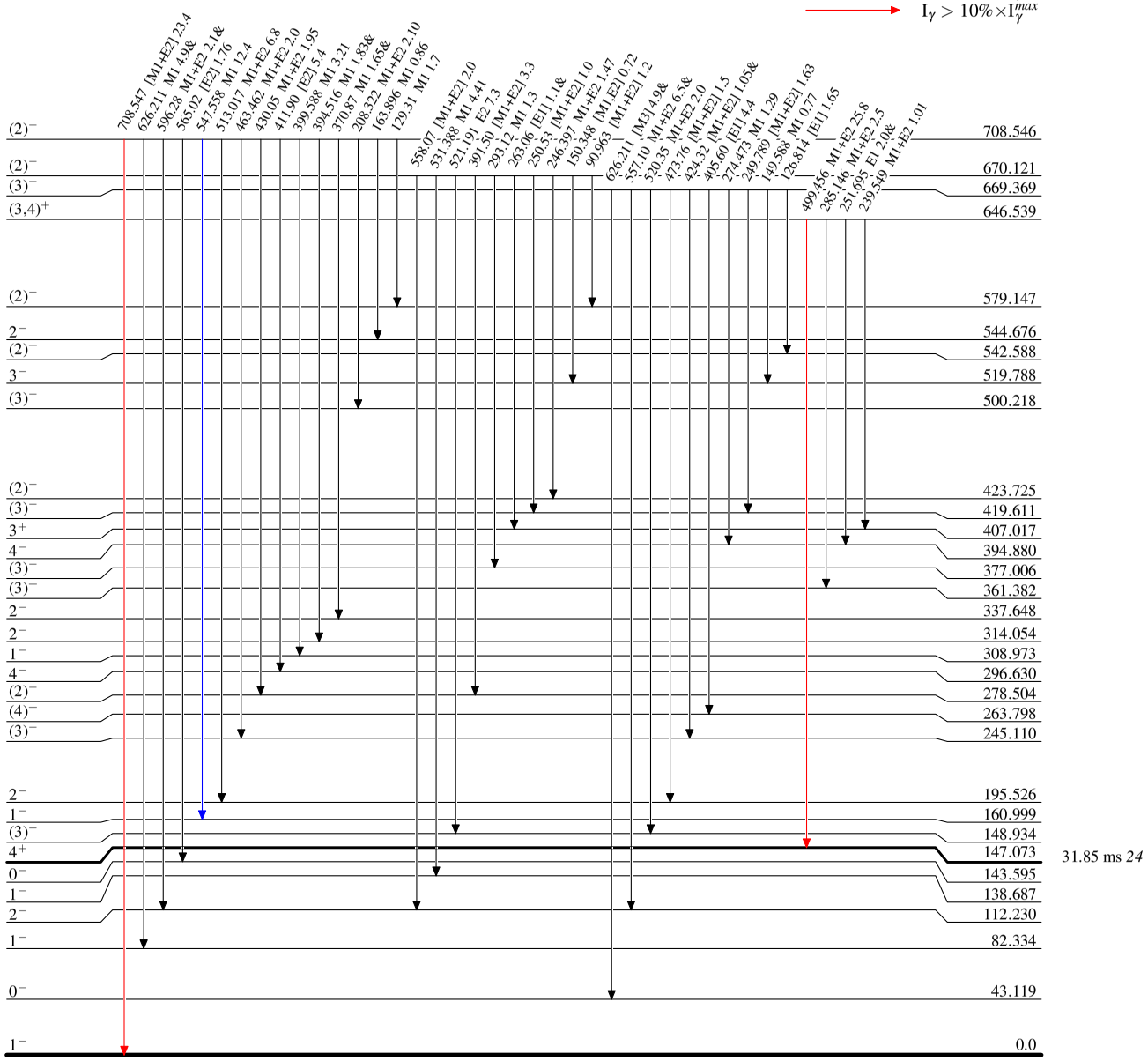
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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

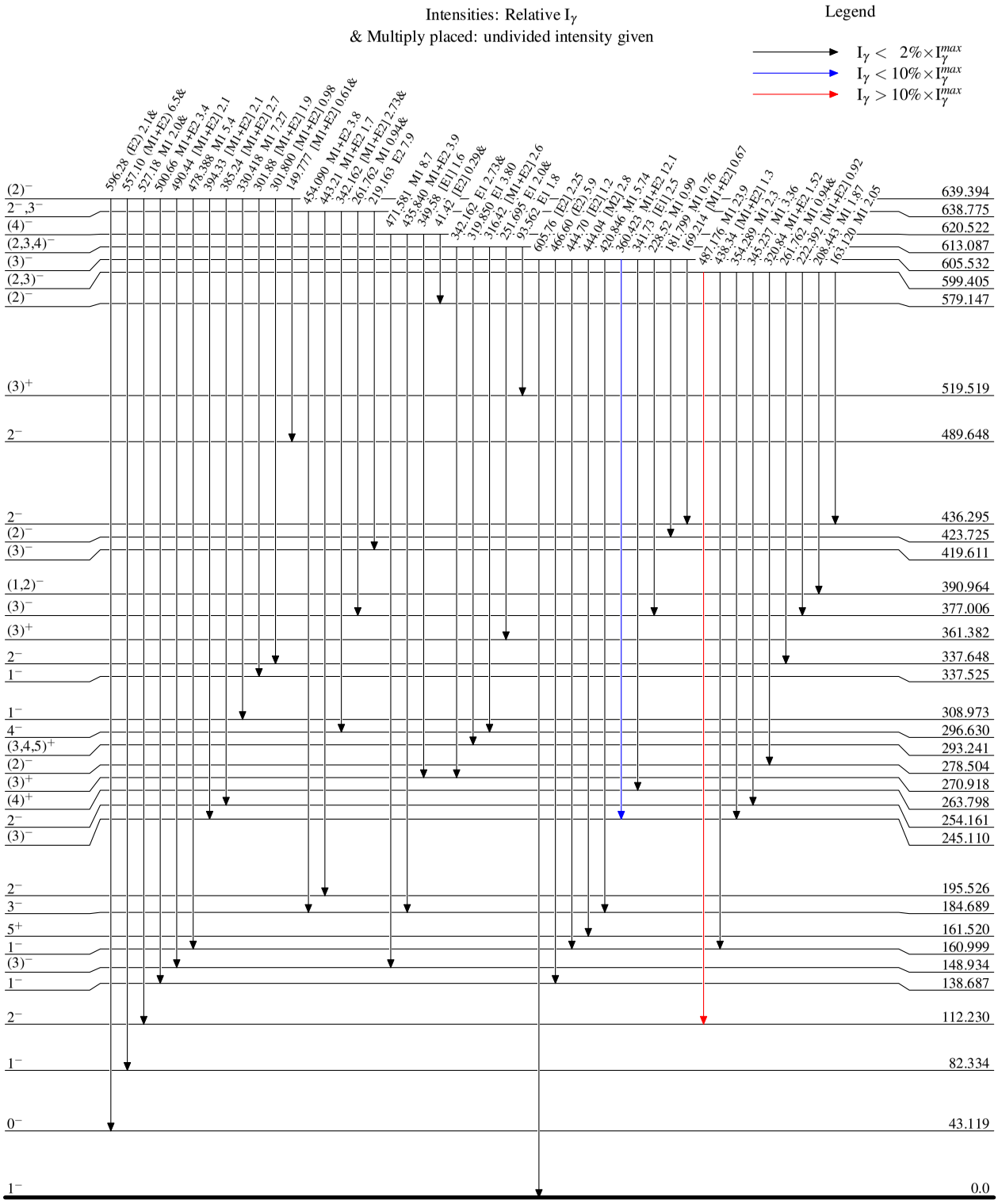


$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given



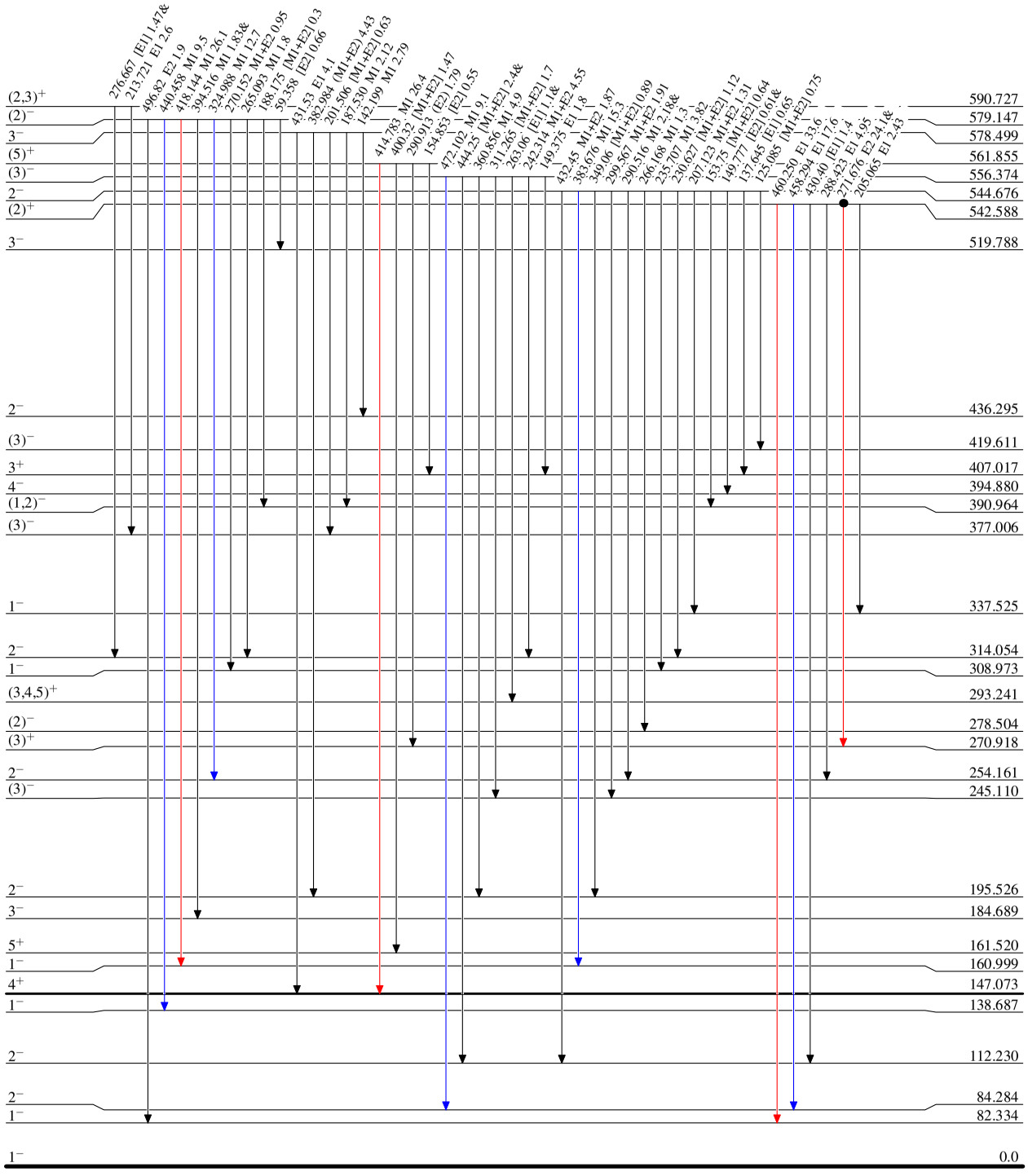
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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

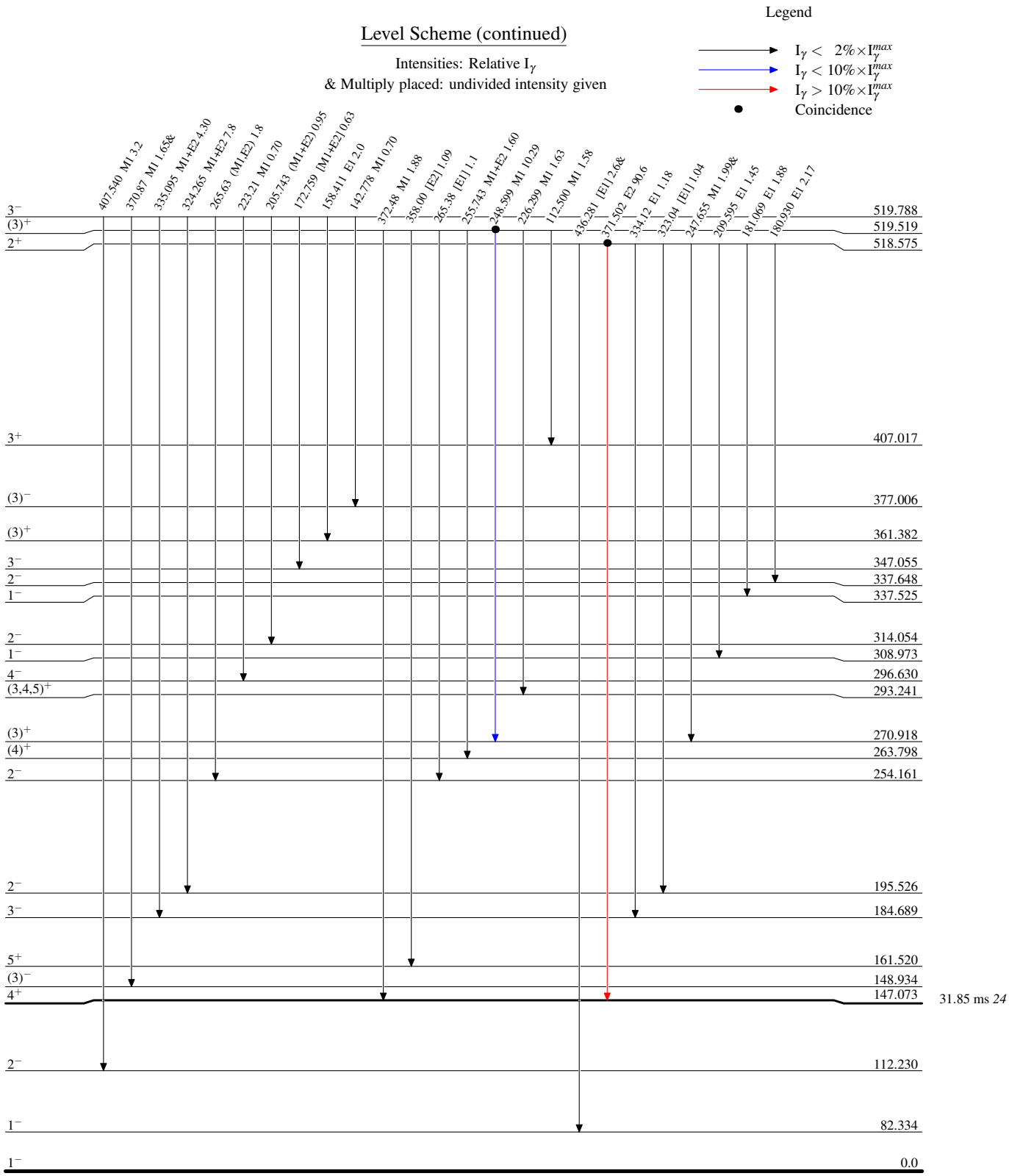


$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

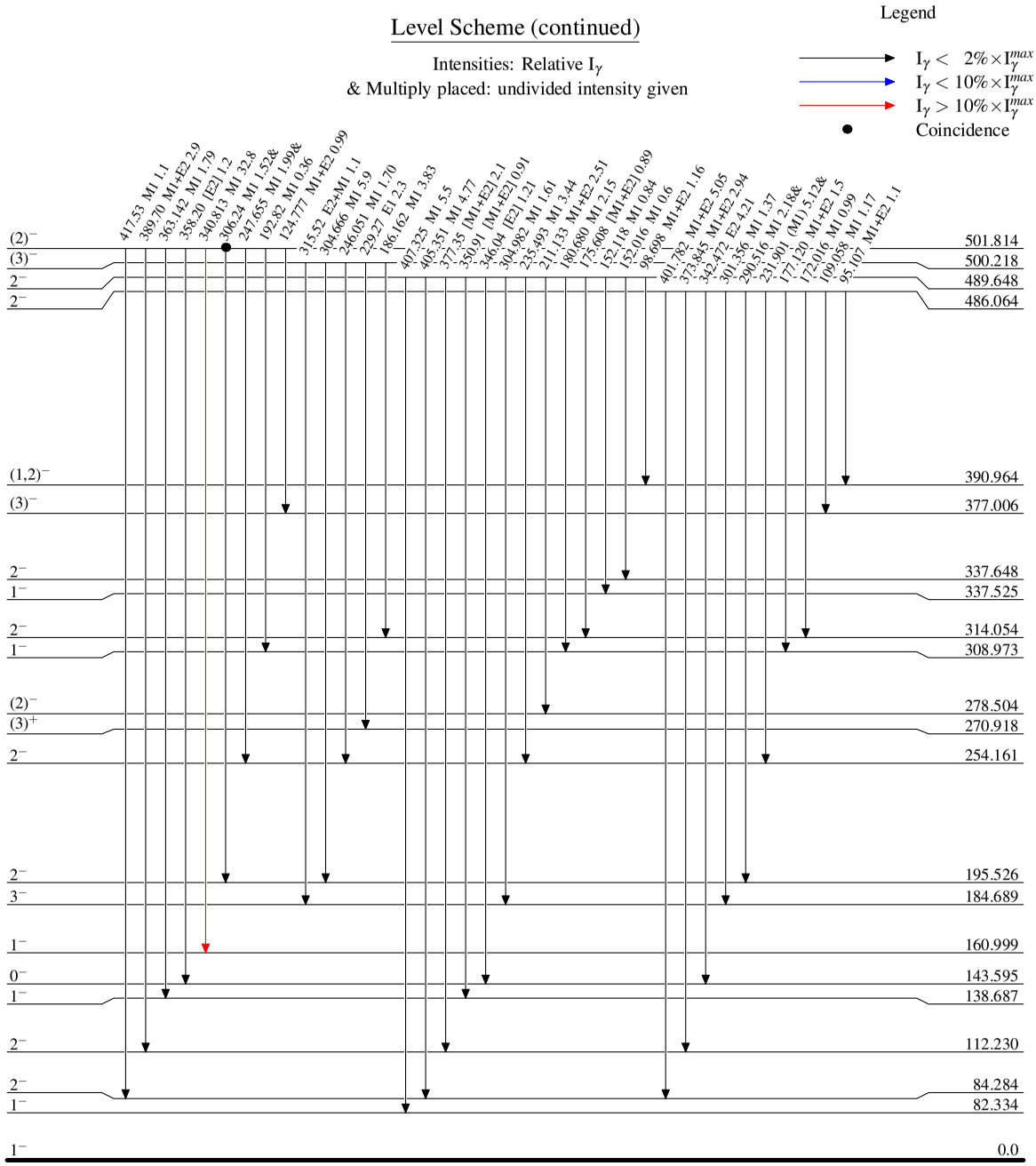


$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given



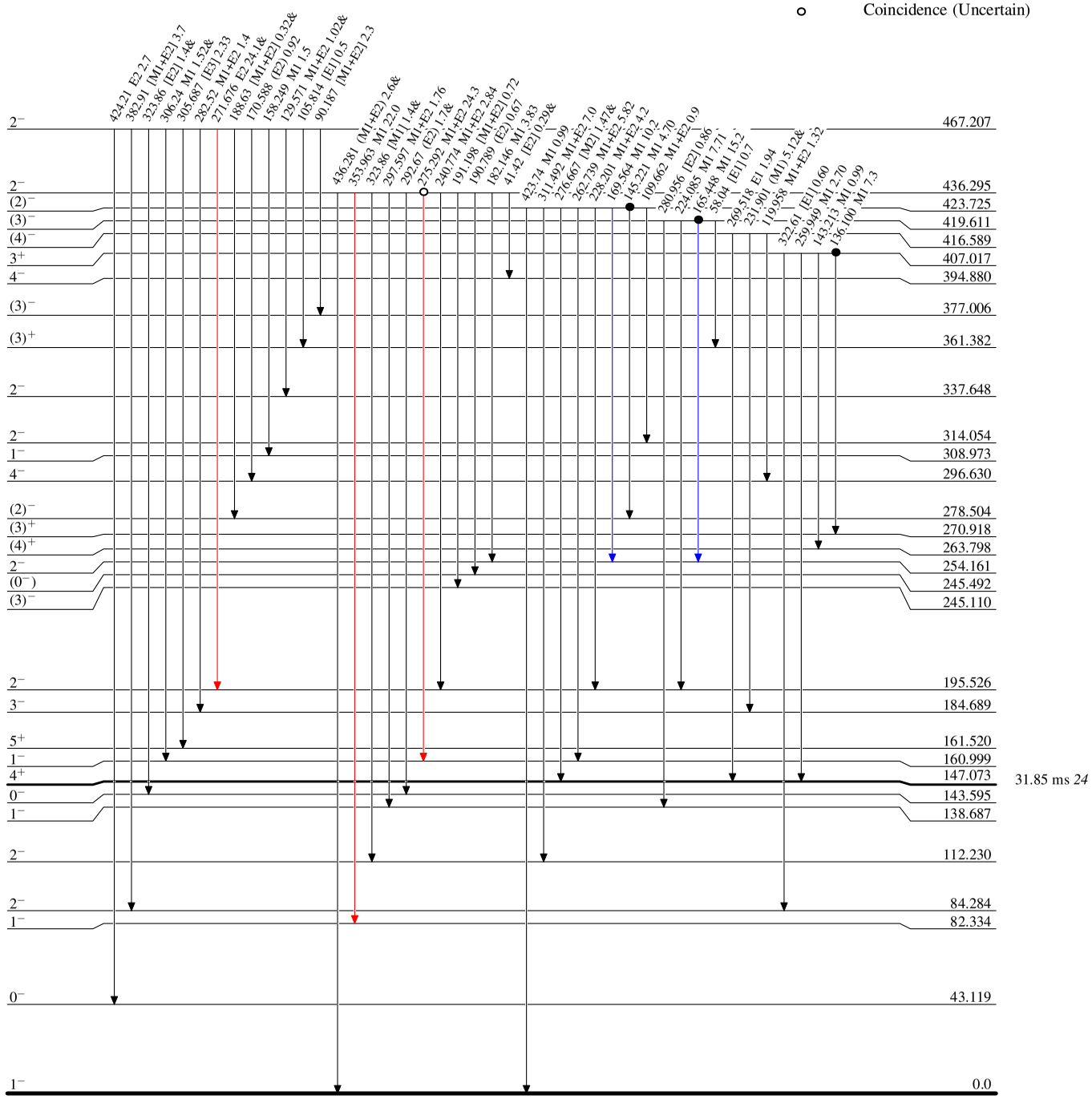
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
Coincidence
Coincidence (Uncertain)

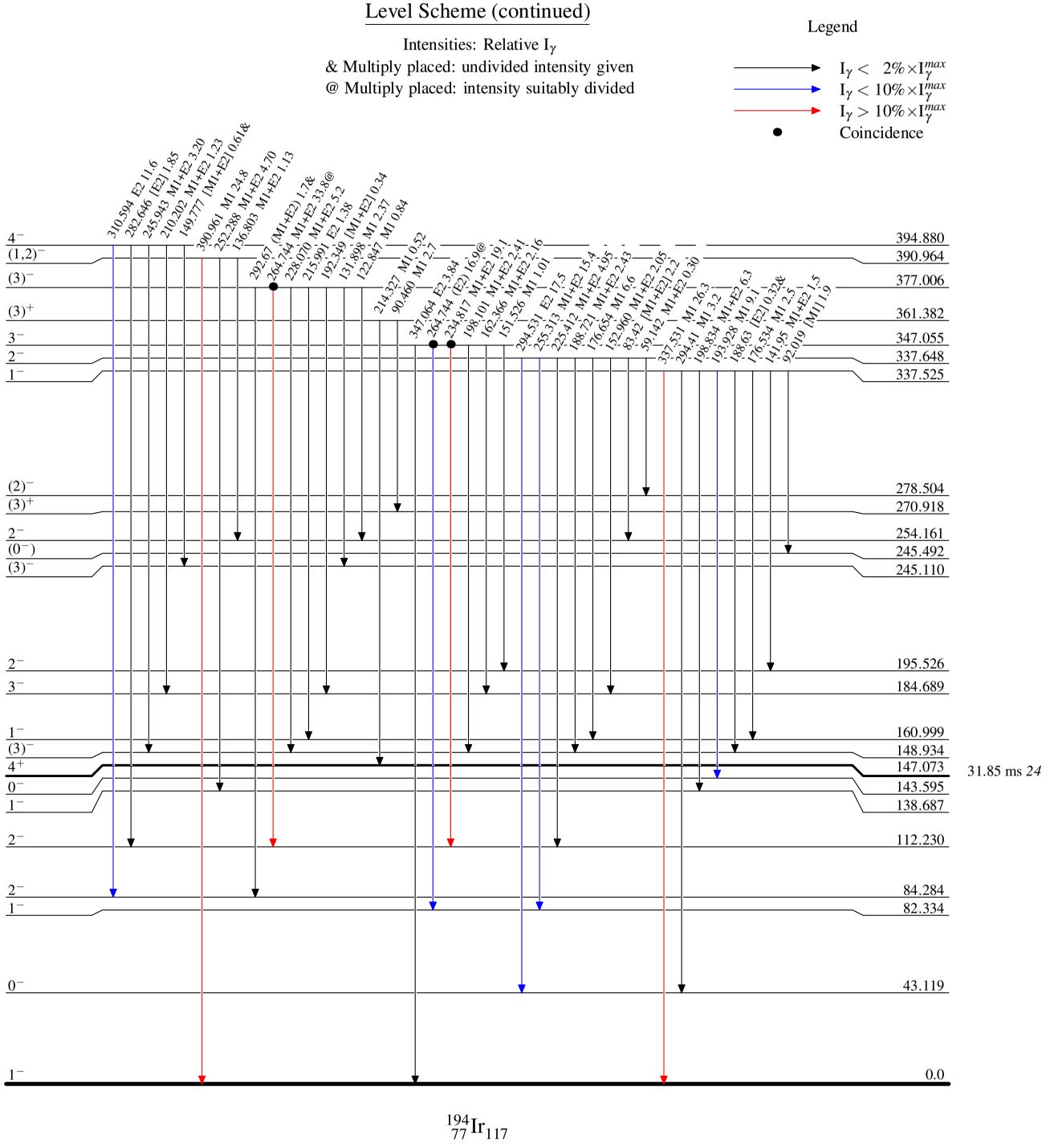


$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

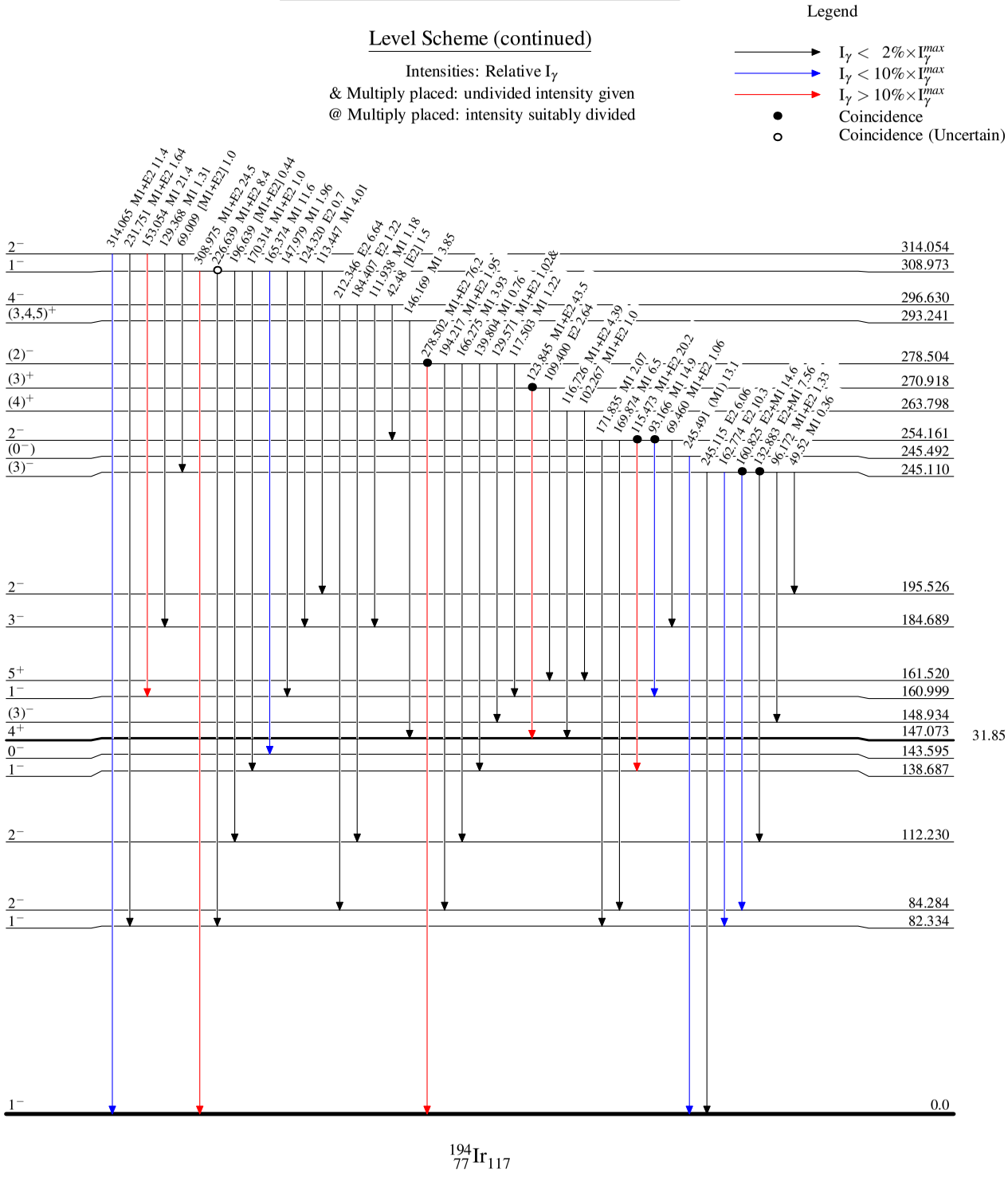


$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



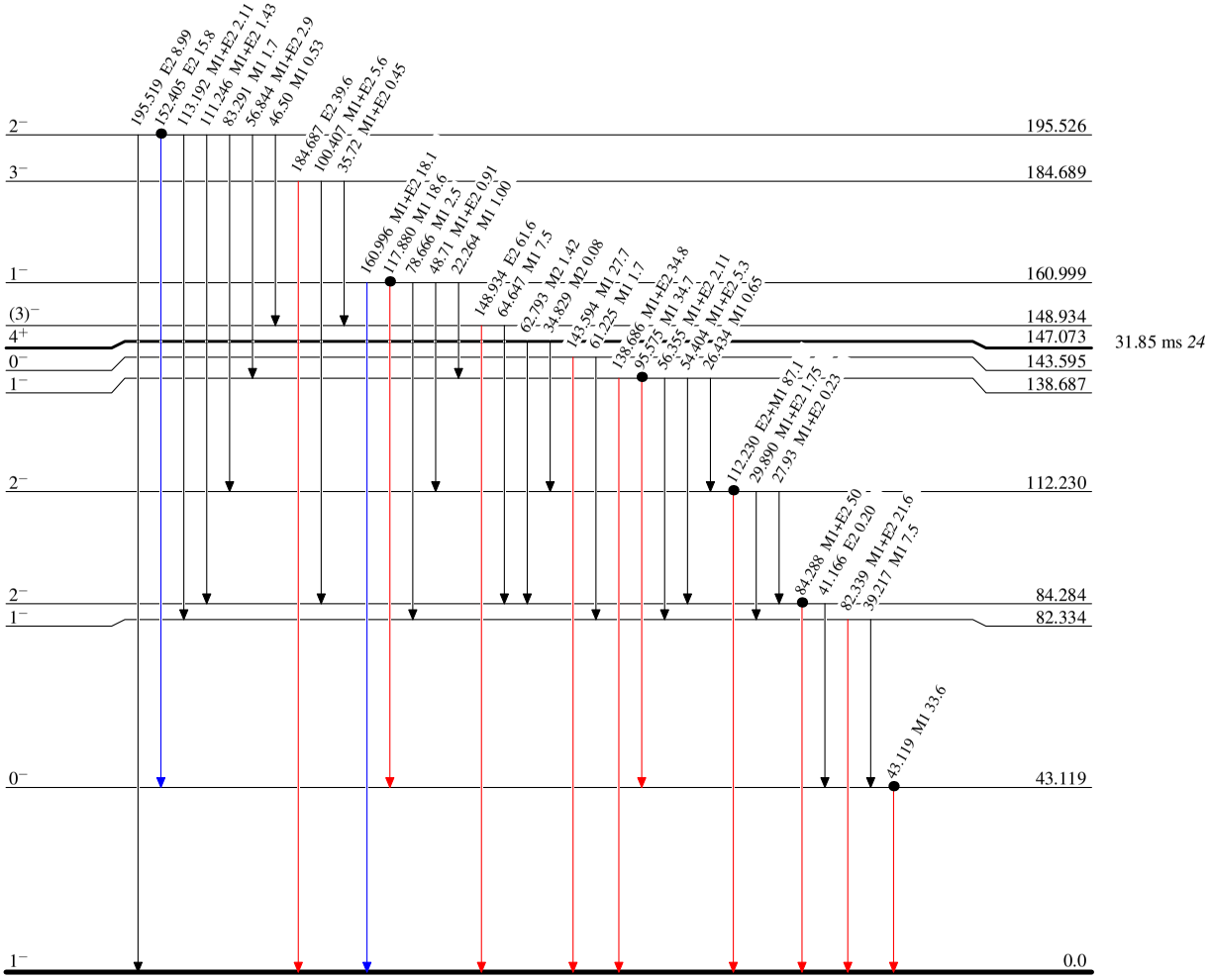
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42

Level Scheme (continued)

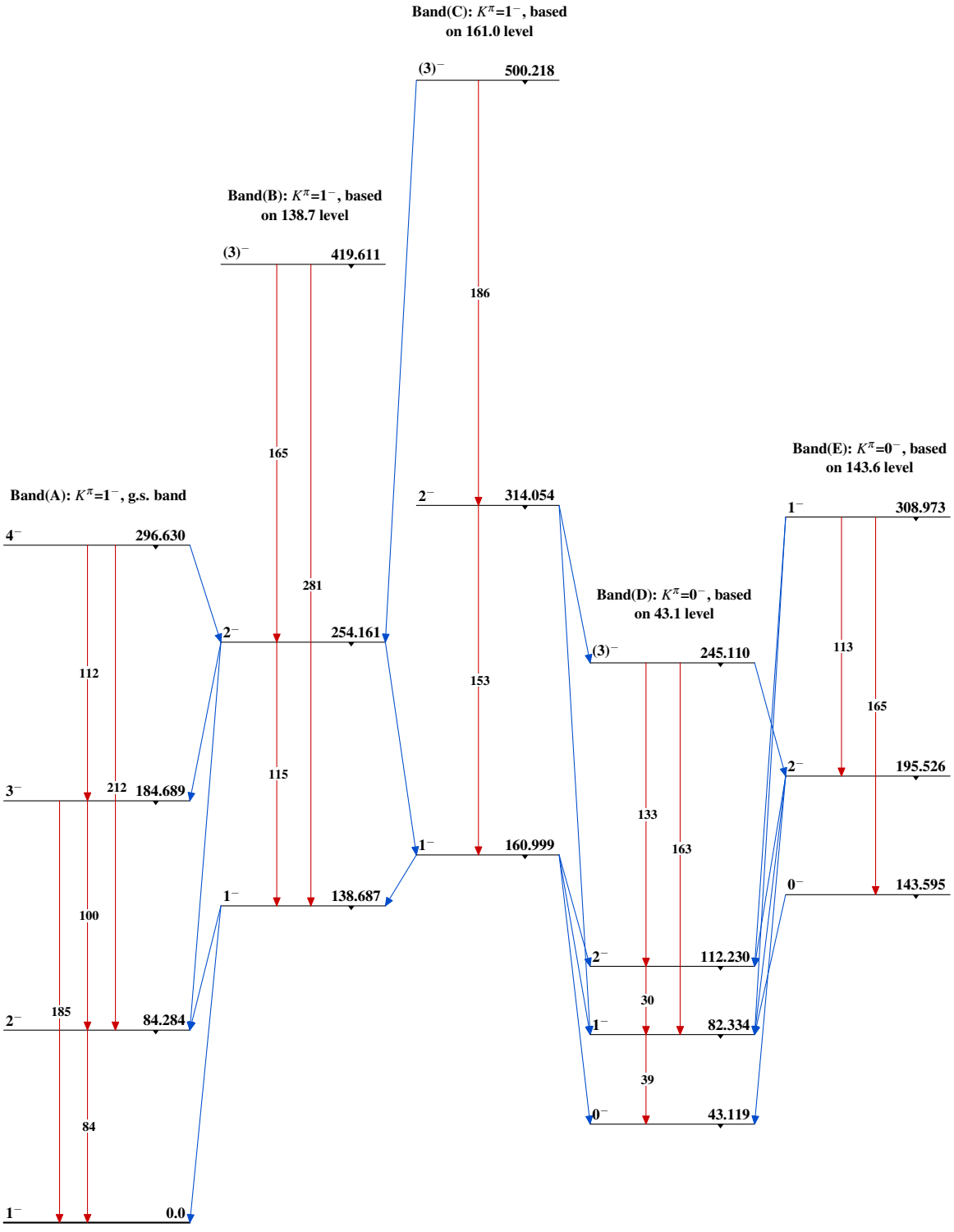
Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



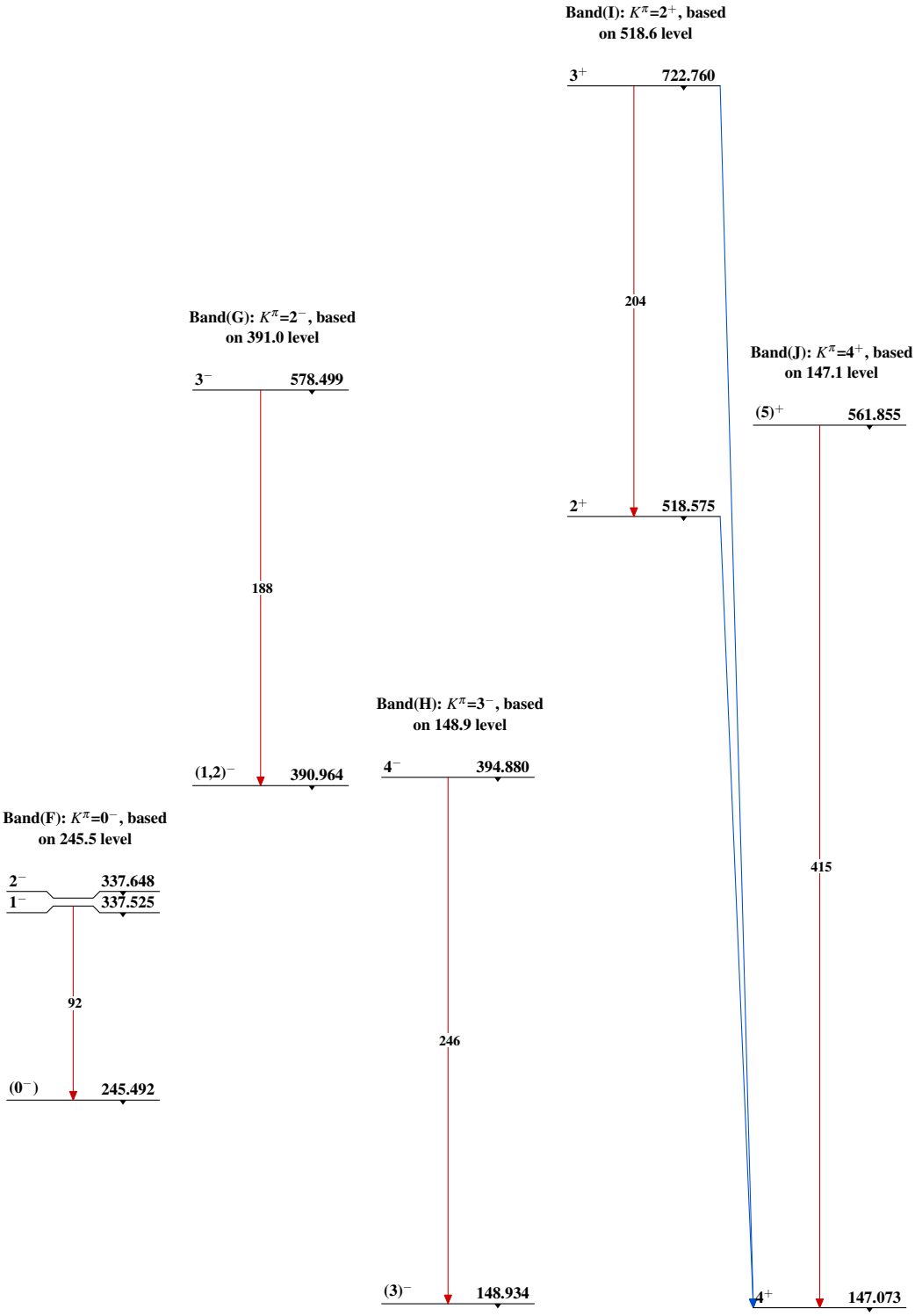
$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42



$^{194}_{77}Ir_{117}$

^{193}Ir(n,γ) E=th 2008Ba25,1998Ba85,1998Ba42 (continued)



$^{194}_{77}Ir_{117}$