^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW

History

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

Parent: ^{194}Ir: E=0.0; J$^\pi$=1$^-$; $T_{1/2}$=19.18 h *3*; Q(β^-)=2228.3 *13*; %β^- decay=100.0

^{194}Ir-J$^\pi$,$T_{1/2}$: From ^{194}Ir Adopted Levels.

^{194}Ir-Q(β^-): From 2021Wa16.

2016Kr06: ^{194}Ir sources produced by neutron irradiation of natural Ir metal, natural $IrCl_3$ and 98% enriched ^{193}Ir at Oregon State University TRIGA reactor. Measured Eγ, Iγ, half-life of ^{194}Ir activity. A total of 15 gamma spectra were collected using HPGe detectors. The samples were recounted for 5-7 days at distances of 20-28 cm in the beginning and 5-10 cm at the end. Comparison with previous experimental results.

1976Cl03 (also 1976ClZT): ^{194}Ir sources were produced by thermal neutron irradiation of isotopically enriched (98.7%) ^{193}Ir in the Georgia Tech Research Reactor. γ rays were detected with Ge(Li) detectors and conversion electrons were detected with a Si(Li) detector. Measured Eγ, Iγ, E(ce), I(ce), $\gamma\gamma$-coin, $\gamma\gamma(\theta)$. Deduced levels, J, π, decay branching ratios, log *ft*, B(E2). Systematics of neighboring Pt isotopes. Comparisons with theoretical calculations. Authors mention that the conversion intensities and coefficients determined from their study are in good agreement with the data of ^{194}Au ε decay in 1960Ba17, 1964Be23, 1970Be30 and 1971Vi15, but no data are given in 1976Cl03.

1974HeYW: measured Eγ, Iγ with a 55 cm^3 coaxial Ge(Li) detector. Deduced levels.

Other measurements:

1983Ri14: measured $\gamma(\theta)$ and γ(lin pol), 0$^+$ spins for 1267, 1479 and 1547 levels, and mixing ratios of 889, 1184 and 1294 transitions.

1976Ra33: measured β spectra using a magnetic spectrometer, energies and shape factor of 1$^-$ to 0$^+$ and 1$^-$ to 2$^+$ β transition.

1975Ka42: measured $\gamma\gamma(\theta$,H,t), g factors of the first and second 2$^+$ states, IPAC method.

1975Pr11: measured $\beta\gamma(\theta)$ for 1$^-$ to 2$^+$ to 0$^+$ $\beta\gamma$-cascade.

1974BeYP: measured $\gamma\gamma(\theta)$.

1973Si22: measured $\gamma\gamma(\theta)$ for several cascades using Ge(Li)-NaI(Tl), deduced spins of levels, and multipole mixing ratios of several transitions.

1972Be53: measured (ce)γ(t), lifetimes of the first and second 2$^+$ states.

1972Ro30: measured ce, (ce)x- and (ce)γ-coin.

1971Ba79: measured ce, K-conversion coefficient for 293γ, deduced mixing ratio.

1970Si17: measured $\gamma(\theta)$ of 329 and 646 transitions from polarized nuclei.

1970Ke14: measured $\gamma\gamma(\theta$,H), g factors of 329 and 622 levels.

1970Br09, 1970BrZW: measured $\beta(\theta$,Temp).

1969Re06: measured Eγ for 37 γ rays, $\gamma(\theta$,Temp), mixing ratios.

1968Bu15: measured Eγ, Iγ of 28 γ rays.

1967Pa02: measured Eγ, Iγ for 32 γ rays.

1967Al09: measured (ce)$\gamma(\theta)$.

1966Wi06: measured absolute Iγ for three transitions.

1966Ag02: measured $\gamma\gamma(\theta$,H), g factors of 329 and 622 levels.

1965Ma10: measured $\beta\gamma$-, (ce)γ-, (ce)β- and $\gamma\gamma$-coin, Eβ, Iβ, $\gamma\gamma(\theta)$ using a magnetic spectrometer and NaI(Tl) detector.

1965Ke11: measured $\gamma\gamma(\theta$,H), g factors.

1963Ma08: measured Eγ for two γ rays using a curved-crystal spectrometer.

1962Bu03: measured $\gamma\gamma(\theta)$ for five $\gamma\gamma$-cascades.

1960Ma19: measured $\gamma\gamma(\theta)$ for two cascades, two 0$^+$ excited states.

1959Jo35: measured $\gamma\gamma(\theta)$ for 937-329 and 643-620 $\gamma\gamma$ cascades.

1959Be54: measured Eγ of 293γ and 328γ using a curbed-crystal spectrometer.

1955Ry53: measured Eγ of 328γ using a curbed-crystal spectrometer.

1955Ma34: measured Eγ, Iγ for 11 γ rays, and $\gamma\gamma(\theta)$ for one cascade.

1954Bu02: measured Eγ, Iγ of five γ rays. Also measured Eγ of two γ rays from ^{194m}Ir decay.

1953Kr07: measured $\gamma\gamma(\theta)$ for one $\gamma\gamma$-cascade.

1951Co33, 1951Co01: measured ce.

1950Wi01: measured Eγ of two γ rays.

1948Ma14: measured Eγ, $\beta\gamma$-coin.

^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW (continued)

Additional information 1.

ce data using external conversion: 1963Vi01, 1962Vi05, 1960Ke09, 1954Jo20.

β^-, $\beta\gamma$: 1966Wi06, 1954Jo20, 1941Wi07, 1936Al01.

The total radiation energy released by ^{194}Ir is 2228 keV *37* (calculated by evaluators using the program RADLST). This value agrees with 2228.3 keV *13* (2021Wa16), which constitutes a test for the self-consistency of the decay scheme.

^{194}Pt Levels

E(level)†	J$^\pi$‡	$T_{1/2}$‡	Comments
0.0	0$^+$		
328.475 *7*	2$^+$	41.7 ps *17*	$T_{1/2}$: other: $\gamma\gamma$(t) gives $T_{1/2}$=35.0 ps *35* (1972Be53). g-factor=+0.35 *3* (1975Ka42, using $T_{1/2}$=35 ps *3*), +0.28 *3* (1970Ke14, using $T_{1/2}$=37 ps *4*), +0.24 *3* (1966Ag02, using $T_{1/2}$=45 ps *5*), +0.21 *3* (1965Ke11, using $T_{1/2}$=45 ps *5*), with all measured using the integral perturbed angular correlation (IPAC). See Adopted Levels for μ values deduced from these g-factors with adjustments for adopted $T_{1/2}$. Additional information 2.
622.023 *7*	2$^+$	35 ps *4*	$T_{1/2}$: adopted value from (ce)γ(t) (1972Be53). g-factor from IPAC: 0.32 *3* (1975Ka42, using $T_{1/2}$=38 ps *4*), 0.22 *4* (1970Ke14, using $T_{1/2}$=44 ps *6*), 0.15 *5* (1966Ag02, using $T_{1/2}$=62 ps *14*), 0.13 *3* (1965Ke11, using $T_{1/2}$=62 ps *14*). See Adopted Levels for μ values deduced from these g-factors with adjustments for adopted $T_{1/2}$. Additional information 3.
811.297 *12*	4$^+$		
922.773 *9*	3$^+$		J$^\pi$: (301γ)(294γ)(θ) and (301γ)(328γ)(θ) in 1973Si22 give J=3.
1229.515 *17*	4$^+$		
1267.203 *9*	0$^+$		J$^\pi$: (939γ)(328γ)(θ) gives J=0 (1973Si22, 1962Bu03, 1960Ma19, 1959Jo35).
1432.559 *9*	3$^-$		
1479.265 *11*	0$^+$		J$^\pi$: $\gamma(\theta)$ (1983Ri14) and (1151γ)(328γ)(θ) (1962Bu03,1960Ma19) gives J=0.
1512.004 *9*	2$^+$		J$^\pi$: (1184γ)(328γ)(θ) (1973Si22) gives J=2.
1547.293 *11*	0$^+$		J$^\pi$: (1219γ)(328γ)(θ) (1976Cl03) gives J=0.
1622.197 *9*	2$^+$		J$^\pi$: (1294γ)(328γ)(θ) (1973Si22) gives J=2.
1670.685 *9*	2$^+$		J$^\pi$: (1342γ)(328γ)(θ) (1973Si22) gives J=2.
1778.602 *15*	2$^+$		
1797.402 *8*	1$^-$		
1893.597 *16*	0$^+$		J$^\pi$: $\gamma\gamma(\theta)$ of 1565γ-328γ cascade in 1976Cl03 gives J=0.
1924.305 *19*	1$^+$		
1930.410 *17*	2$^+$		
2003.630 *25*	(2$^+$)		Population of this level in ^{194}Ir decay proposed by 2016Kr06, based on studies in ^{194}Au ε decay to ^{194}Pt.
2043.736 *14*	1$^+$		
2053.006 *24*	(2)$^+$		
2063.759 *16*	2$^+$		
2085.472 *16*	0$^+$		
2109.079 *13*	(2)$^+$		
2114.096 *15*	1$^+$		J$^\pi$: (1786γ)(328γ)(θ) in 1965Ma10 consistent with J=2.
2134.211 *16*	1$^+$,2$^+$		
2140.679 *22*	(1$^+$,2$^+$)		
2158.01 *4*	(2)$^+$		

† From a least-squares fit to Eγ values. The uncertainties of the following γ rays were increased to 0.05 keV to obtain the least-squares fit within a reduced χ^2=1.6, a value for critical χ^2 at 95% confidence level: 699.331γ, 1186.408γ and 1512.072γ doublet. Without these adjustments, reduced χ^2=2.9. Level energies given here are very close (within 10 eV or so) to those given in Table 2 of 2016Kr06.

‡ From Adopted Levels. Supporting arguments or values from this study are given under comments.

^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW (continued)

β^- radiations

E(decay)†	E(level)	Iβ^-‡#	Log ft	Comments
(70.3 *13*)	2158.01	0.0022 *3*	7.8 *1*	av Eβ=18.10 *35*
(87.6 *13*)	2140.679	0.0024 *4*	8.0 *1*	av Eβ=22.73 *35*
(94.1 *13*)	2134.211	0.045 *7*	6.9 *1*	av Eβ=24.47 *36*
(114.2 *13*)	2114.096	0.0087 *12*	7.8 *1*	av Eβ=29.95 *36*
(119.2 *13*)	2109.079	0.031 *4*	7.3 *1*	av Eβ=31.33 *36*
(142.8 *13*)	2085.472	0.0067 *9*	8.3 *1*	av Eβ=37.89 *37*
(164.5 *13*)	2063.759	0.0046 *6*	8.6 *1*	av Eβ=44.02 *37*
(175.3 *13*)	2053.006	0.0021 *4*	9.0 *1*	av Eβ=47.09 *38*
(184.6 *13*)	2043.736	0.0091 *12*	8.5 *1*	av Eβ=49.75 *38*
(224.7 *13*)	2003.630	0.00104 *14*	9.7 *1*	av Eβ=61.46 *39*
(297.9 *13*)	1930.410	0.0040 *6*	9.5 *1*	av Eβ=83.56 *40*
(304.0 *13*)	1924.305	0.0038 *5*	9.5 *1*	av Eβ=85.45 *41*
(334.7 *13*)	1893.597	0.021 *3*	8.9 *1*	av Eβ=95.02 *41*
(430.9 *13*)	1797.402	0.33 *5*	8.1 *1*	av Eβ=125.92 *43*
(449.7 *13*)	1778.602	0.0056 *8*	9.9 *1*	av Eβ=132.12 *43*
(557.6 *13*)	1670.685	0.075 *10*	9.1 *1*	av Eβ=168.61 *45*
(606.1 *13*)	1622.197	0.160 *21*	8.9 *1*	av Eβ=185.45 *46*
(681.0 *13*)	1547.293	0.072 *10*	9.4 *1*	av Eβ=212.01 *47*
(716.3 *13*)	1512.004	0.55 *8*	8.6 *1*	av Eβ=224.72 *47*
(749.0 *13*)	1479.265	0.63 *9*	8.6 *1*	av Eβ=236.63 *48*
(795.7@ *13*)	1432.559	0.0020 *15*	11.2 *4*	av Eβ=253.79 *48*
(961.1 *13*)	1267.203	1.78 *24*	8.5 *1*	av Eβ=315.99 *50* Iβ^-: from βγ and βce, Iβ=1.96 *20* (1965Ma10).
(1305.5 *13*)	922.773	0.31 *4*	10.5[1u] *1*	av Eβ=445.33 *50*
(1606.3 *13*)	622.023	1.26 *17*	9.5 *1*	av Eβ=574.56 *54* Iβ^-: from βγ and β(ce), Iβ=1.24 *15* (1965Ma10).
(1899.8 *13*)	328.475	9.3 *13*	8.9 *1*	av Eβ=697.65 *55* E(decay): 1921 *2* from β spectrum using a magnetic spectrometer (1976Ra33). Other: 1920 *10* (1965Ma10). Iβ^-: from βγ and β(ce)-coin, Iβ=5.1 *6* (1965Ma10). Other: 1954Jo20. β(θ,T) (1970Si17,1970Br09,1970BrZW) give L=1 as the main component for 1920β to the 328 level. The contribution from L=2 is <8% (1970Si17), <4% (1970Br09).
(2228.3 *13*)	0.0	85.4 *19*	8.22 *1*	av Eβ=837.77 *56* E(decay): 2251 *2* from β spectrum using a magnetic spectrometer (1976Ra33). Other: 2236 *10* (1954Jo20). Iβ^-: 89 from β^- spectra (1965Ma10). Other: 1954Jo20. β(θ,T) measurements (1970Br09,1970BrZW).

† From βγ-coin or β(ce) data of 1965Ma10, unless stated otherwise.
‡ Deduced by evaluators from intensity balance considerations.
# Absolute intensity per 100 decays.
@ Existence of this branch is questionable.

$\gamma(^{194}Pt)$

Iγ normalization: From Iγ(328γ+294γ+301γ)/Iβ(total)=0.160 *20* (1966Wi06).
A γ ray of Eγ=2207 *1*, Iγ=0.010 *3* is not reported in 2016Kr06 1976Cl03. 2016Kr06 set an upper limit with Iγ<0.0003.

E_γ[†]	I_γ[†@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[a]	Comments
111.4 *4*	0.013 *4*	922.773	3$^+$	811.297	4$^+$	[M1,E2]		4.0 *9*	α(K)=2.3 *17*; α(L)=1.3 *7*; α(M)=0.32 *17* α(N)=0.08 *4*; α(O)=0.013 *6*; α(P)=0.00026 *20* Eγ=111.4 *4*, Iγ=0.013 *4* from $\gamma\gamma$-coin (1976Cl03). This γ is not reported in 2016Kr06, but placed accepted in the decay scheme.
203.056 *21*	0.0398 *19*	1432.559	3$^-$	1229.515	4$^+$	E1		0.0675	α(K)=0.0555 *8*; α(L)=0.00929 *13*; α(M)=0.00214 *3* α(N)=0.000525 *8*; α(O)=9.07$\times10^{-5}$ *13*; α(P)=4.84$\times10^{-6}$ *7* Iγ from 2016Kr06. Eγ=203.059 *21*, Iγ=0.0398 *19* (2016Kr06). Eγ=202.91 *15*, Iγ=0.023 *5* from $\gamma\gamma$-coin (1976Cl03).
244.769 *19*	0.0660 *35*	1512.004	2$^+$	1267.203	0$^+$	(E2)		0.184	α(K)=0.1019 *15*; α(L)=0.0623 *9*; α(M)=0.01576 *22* α(N)=0.00386 *6*; α(O)=0.000620 *9*; α(P)=9.98$\times10^{-6}$ *14* Eγ=244.763 *16*, Iγ=0.0678 *20* (2016Kr06). Eγ=244.83 *5*, Iγ=0.059 *4* (1976Cl03).
293.544 *10*	19.1 *2*	622.023	2$^+$	328.475	2$^+$	E2+M1+E0	+15 *2*	0.1060 *16*	α(K)exp=0.069 *6* (1971Ba79) α(K)=0.0654 *10*; α(L)=0.0308 *5*; α(M)=0.00771 *11* α(N)=0.00189 *3*; α(O)=0.000307 *5*; α(P)=6.58$\times10^{-6}$ *10* E_γ: NRM weighted average. Eγ=293.541 *12*, Iγ=19.1 *2* (2016Kr06). Eγ=293.541 *14*, Iγ=19.5 *8* (1976Cl03). Eγ=293.435 *40*, Iγ=18.1 *15* (1974HeYW). δ: δ(E2/M1): from $\gamma\gamma(\theta)$ in ^{194}Au ε decay. (294γ)(328γ)(θ): A_2=−0.115 *8*, A_4=+0.06 *2* (1974BeYP). Other: A_2=−0.071 *42*, A_4=+0.31 *7* (1962Bu03). From A_2=−0.13 *2* and A_4=0.00 *2* for (301γ)(ce(K) 328)(θ) and (301γ)(ce(K) 294)(θ) (1967Al09), δ(294)=+8 *2* and E0/E2=0.01-0.13; (645γ)(293γ)(θ) in 1975Ka42 gives δ=+27 *5*. α(K)exp gives δ=6.2 *6*.
300.751 *10*	2.66 *3*	922.773	3$^+$	622.023	2$^+$	E2(+M1)	>5	0.102 *5*	α(K)=0.064 *4*; α(L)=0.0283 *5*; α(M)=0.00706 *11* α(N)=0.00173 *3*; α(O)=0.000283 *5*; α(P)=6.5$\times10^{-6}$ *5* Eγ=300.756 *10*, Iγ=2.66 *3* (2016Kr06). Eγ=300.741 *14*, Iγ=2.66 *11* (1976Cl03). ((301γ)(294γ)+(301γ)(294γ)(328γ))(θ): A_2=+0.02 *5*, A_4=−0.02 *8* (1973Si22). Consistent with M1 or E2 for 301γ.
328.467 *10*	100 *1*	328.475	2$^+$	0.0	0$^+$	E2		0.0755	α(K)=0.0488 *7*; α(L)=0.0202 *3*; α(M)=0.00504 *7* α(N)=0.001236 *18*; α(O)=0.000203 *3*; α(P)=4.97$\times10^{-6}$ *7*

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

E_γ[†]	I_γ[†@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[a]	Comments
									Eγ=328.473 *10*, Iγ=100 *1* (2016Kr06). Eγ=328.448 *14*, Iγ=100.0 *31* (1976Cl03). Eγ=328.501 *30*, Iγ=100 *5* (1974HeYW). γ(θ) (1970Si17) shows L=1 for 1920β to 328 level.
364.852 *10*	0.333 *4*	1797.402	1^-	1432.559	3^-	E2		0.0562	α(K)=0.0378 *6*; α(L)=0.01389 *20*; α(M)=0.00344 *5* α(N)=0.000844 *12*; α(O)=0.0001394 *20*; α(P)=3.90×10^{-6} *6* Eγ=364.845 *10*, Iγ=0.335 *3* (2016Kr06). Eγ=364.867 *15*, Iγ=0.314 *10* (1976Cl03). Eγ=364.90 *8*, Iγ=0.32 *9* (1974HeYW).
418.27[‡] *7*	0.0060 *8*	1229.515	4^+	811.297	4^+	(E2(+M1))	>3	0.043 *5*	α(K)=0.031 *4*; α(L)=0.0091 *5*; α(M)=0.00223 *9* α(N)=0.000547 *23*; α(O)=9.2×10^{-5} *5*; α(P)=3.3×10^{-6} *5*
482.823 *13*	0.351 *3*	811.297	4^+	328.475	2^+	E2		0.0270	α(K)=0.0197 *3*; α(L)=0.00550 *8*; α(M)=0.001340 *19* α(N)=0.000329 *5*; α(O)=5.55×10^{-5} *8*; α(P)=2.08×10^{-6} *3* Eγ=482.818 *10*, Iγ=0.351 *3* (2016Kr06). Eγ=482.857 *26*, Iγ=0.348 *14* (1976Cl03).
530.184 *14*	0.130 *1*	1797.402	1^-	1267.203	0^+	E1		0.00730	α(K)=0.00609 *9*; α(L)=0.000935 *13*; α(M)=0.000214 *3* α(N)=5.26×10^{-5} *8*; α(O)=9.33×10^{-6} *13*; α(P)=5.82×10^{-7} *9* Eγ=530.186 *14*, Iγ=0.130 *1* (2016Kr06). Eγ=530.173 *30*, Iγ=0.121 *5* (1976Cl03). Eγ=530.23 *10*, Iγ=0.15 *5* (1974HeYW).
589.202 *19*	1.024 *12*	1512.004	2^+	922.773	3^+	E2+M1	2.2 *+6−4*	0.0226 *23*	α(K)=0.0178 *19*; α(L)=0.00368 *25*; α(M)=0.00087 *6* α(N)=0.000215 *14*; α(O)=3.7×10^{-5} *3*; α(P)=1.93×10^{-6} *22* Eγ=589.217 *14*, Iγ=1.02 *1* (2016Kr06). Eγ=589.179 *17*, Iγ=1.066 *34* (1976Cl03).
594.288 *10*	0.502 *8*	922.773	3^+	328.475	2^+	E2(+M1)	>10	0.0166 *3*	α(K)=0.01270 *23*; α(L)=0.00299 *5*; α(M)=0.000718 *11* α(N)=0.000177 *3*; α(O)=3.02×10^{-5} *5*; α(P)=1.345×10^{-6} *25* Eγ=594.287 *10*, Iγ=0.505 *5* (2016Kr06). Eγ=594.291 *19*, Iγ=0.477 *15* (1976Cl03). (594γ)(328γ)(θ): A_2=−0.23 *3*, A_4=−0.16 *6* (1973Si22). δ(594γ)>+50 or <−10.
607.502 *24*	0.037 *7*	1229.515	4^+	622.023	2^+	E2		0.01565	α(K)=0.01199 *17*; α(L)=0.00279 *4*; α(M)=0.000670 *10* α(N)=0.0001649 *23*; α(O)=2.83×10^{-5} *4*; α(P)=1.269×10^{-6} *18* I_γ: unweighted average. Eγ=607.497 *18*, Iγ=0.0435 *10* (2016Kr06). Eγ=607.61 *8*, Iγ=0.030 *3* (1976Cl03).
621.295 *36*	0.083 *9*	1432.559	3^-	811.297	4^+	E1		0.00527	α(K)=0.00441 *7*; α(L)=0.000668 *10*; α(M)=0.0001527 *22* α(N)=3.76×10^{-5} *6*; α(O)=6.68×10^{-6} *10*; α(P)=4.25×10^{-7} *6* Eγ=621.295 *36*, Iγ=0.091 *9* (2016Kr06). Eγ=621.29 *15*, Iγ=0.073 *10* from γγ-coin (1976Cl03).
622.003 *20*	2.56 *3*	622.023	2^+	0.0	0^+	E2		0.01484	α(K)=0.01141 *16*; α(L)=0.00262 *4*; α(M)=0.000627 *9* α(N)=0.0001543 *22*; α(O)=2.65×10^{-5} *4*; α(P)=1.208×10^{-6} *17* E_γ: LWM weighted average. Eγ=622.030 *10*, Iγ=2.56 *3* (2016Kr06).

From ENSDF

$^{194}_{78}$Pt$_{116}$-5

γ(^{194}Pt) (continued)

E_γ[†]	I_γ[†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[a]	Comments
									Eγ=621.971 *19*, Iγ=2.56 *10* (1976Cl03). Eγ=621.990 *35*, Iγ=2.52 *18* (1974HeYW).
645.169 *10*	9.01 *9*	1267.203	0^+	622.023	2^+	E2		0.01367	α(K)=0.01057 *15*; α(L)=0.00237 *4*; α(M)=0.000566 *8* α(N)=0.0001393 *20*; α(O)=2.39×10^{-5} *4*; α(P)=1.119×10^{-6} *16* Eγ=645.175 *10*, Iγ=9.02 *9* (2016Kr06). Eγ=645.146 *20*, Iγ=8.94 *26* (1976Cl03). Eγ=645.162 *30*, Iγ=9.14 *60* (1974HeYW). (645γ)(328γ+293γ)(θ): A_2=−0.107 *56*, A_4=+0.32 *7* (1962Bu03); A_2=+0.10 *3*, A_4=+0.71 *4* (1959Jo35). γ(θ) (1970Si17,1983Ri14) shows no anisotropy. (645γ)(293γ)(θ): A_2=−0.049 *5*, A_4=+0.340 *8* (1975Ka42).
699.332 *29*	0.0361 *12*	1622.197	2^+	922.773	3^+	[M1,E2]		0.022 *11*	α(K)=0.018 *9*; α(L)=0.0031 *12*; α(M)=0.0007 *3* α(N)=0.00018 *7*; α(O)=3.2×10^{-5} *13*; α(P)=2.0×10^{-6} *11* Uncertainty for Eγ was doubled in the least-squares fit procedure. Eγ=699.331 *29*, Iγ=0.0362 *7* (2016Kr06). Eγ=699.49 *36*, Iγ=0.019 *10* from γγ-coin (1976Cl03).
700.687 *20*	0.199 *2*	1512.004	2^+	811.297	4^+	E2		0.01140	α(K)=0.00892 *13*; α(L)=0.00190 *3*; α(M)=0.000452 *7* α(N)=0.0001112 *16*; α(O)=1.92×10^{-5} *3*; α(P)=9.45×10^{-7} *14* E_γ: NRM-weighted average. Eγ=700.693 *14*, Iγ=0.199 *2* (2016Kr06). Eγ=700.547 *35*, Iγ=0.190 *31* from γγ-coin (1976Cl03). Eγ=700.68 *8*, Iγ=0.21 *5* (1974HeYW).
810.569 *18*	0.0206 *4*	1432.559	3^-	622.023	2^+	E1		0.00313	α(K)=0.00262 *4*; α(L)=0.000391 *6*; α(M)=8.91×10^{-5} *13* α(N)=2.19×10^{-5} *3*; α(O)=3.92×10^{-6} *6*; α(P)=2.56×10^{-7} *4* Eγ=810.568 *18*, Iγ=0.0206 *4* (2016Kr06). Eγ=810.66 *19*, Iγ=0.019 *4* (1976Cl03).
857.224 *14*	0.0445 *6*	1479.265	0^+	622.023	2^+	[E2]		0.00746	α(K)=0.00597 *9*; α(L)=0.001145 *16*; α(M)=0.000269 *4* α(N)=6.64×10^{-5} *10*; α(O)=1.160×10^{-5} *17*; α(P)=6.31×10^{-7} *9* Eγ=857.225 *14*, Iγ=0.0445 *4* (2016Kr06). Eγ=857.12 *19*, Iγ=0.054 *6* from γγ-coin (1976Cl03).
859.396 *25*	0.0133 *6*	1670.685	2^+	811.297	4^+	(E2)		0.00742	α(K)=0.00594 *9*; α(L)=0.001138 *16*; α(M)=0.000268 *4* α(N)=6.60×10^{-5} *10*; α(O)=1.153×10^{-5} *17*; α(P)=6.28×10^{-7} *9* Eγ=859.395 *25*, Iγ=0.0133 *6* (2016Kr06). Eγ=859.45 *18*, Iγ=0.013 *6* (1976Cl03).
889.986 *10*	0.401 *4*	1512.004	2^+	622.023	2^+	E2+M1	+0.50 *16*	0.0155 *12*	α(K)=0.0128 *10*; α(L)=0.00205 *14*; α(M)=0.00047 *3* α(N)=0.000117 *8*; α(O)=2.10×10^{-5} *14*; α(P)=1.41×10^{-6} *11* Eγ=889.987 *10*, Iγ=0.402 *4* (2016Kr06). Eγ=889.976 *35*, Iγ=0.386 *13* (1976Cl03). Eγ=889.93 *9*, Iγ=0.39 *8* (1974HeYW). δ: other: +1.51 *40* from γ(θ) (1983Ri14).
925.269 *14*	0.108 *1*	1547.293	0^+	622.023	2^+	E2		0.00639	α(K)=0.00515 *8*; α(L)=0.000955 *14*; α(M)=0.000224 *4* α(N)=5.52×10^{-5} *8*; α(O)=9.69×10^{-6} *14*; α(P)=5.43×10^{-7} *8*

$^{194}_{78}$Pt$_{116}$-6

γ(^{194}Pt) (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [#]	δ [#]	α [a]	Comments
									Eγ=925.270 *14*, Iγ=0.108 *1* (2016Kr06). Eγ=925.26 *6*, Iγ=0.097 *6* (1976Cl03). Eγ=925.22 *25*, Iγ=0.08 *3* (1974HeYW).
938.719 *10*	4.57 *13*	1267.203	0^+	328.475	2^+	E2		0.00621	α(K)=0.00500 *7*; α(L)=0.000924 *13*; α(M)=0.000216 *3* α(N)=5.34×10^{-5} *8*; α(O)=9.37×10^{-6} *14*; α(P)=5.28×10^{-7} *8* Eγ=938.725 *10*, Iγ=4.57 *13* (2016Kr06). Eγ=938.690 *23*, Iγ=4.57 *14* (1976Cl03). Eγ=938.68 *6*, Iγ=4.56 *30* (1974HeYW). (939γ)(328γ)(θ): 1973Si22, 1976Cl03, 1975Ka42, 1965Ma10, 1962Bu03, 1960Ma19, 1959Jo35. See A_2, A_4 coefficients below. A_2=+0.191 *10*, A_4=+0.795 *17* (1975Ka42). A_2=+0.33 *2*, A_4=+1.08 *4* (1973Si22). A_2=+0.36 *4*, A_4=+1.05 *7* (1965Ma10). A_2=+0.35 *8*, A_4=+0.92 *11* (1962Bu03). A_2=+0.23 *2*, A_4=+0.87 *4* (1960Ma19). A_2=+0.12 *3*, A_4=+0.78 *4* (1959Jo35).
1000.173 *10*	0.362 *4*	1622.197	2^+	622.023	2^+	E2+M1	1.38 +*13*−*12*	0.0081 *4*	α(K)=0.0066 *3*; α(L)=0.00111 *5*; α(M)=0.000258 *10* α(N)=6.36×10^{-5} *24*; α(O)=1.13×10^{-5} *5*; α(P)=7.2×10^{-7} *4* Eγ=1000.177 *10*, Iγ=0.363 *4* (2016Kr06). Eγ=1000.12 *4*, Iγ=0.355 *13* (1976Cl03). Eγ=1000.10 *12*, Iγ=0.38 *8* (1974HeYW).
1007.55 [‡] *7*	0.0044 *5*	1930.410	2^+	922.773	3^+	(M1+E2)	1.1 +*5*−*3*	0.0088 *13*	α(K)=0.0072 *11*; α(L)=0.00119 *16*; α(M)=0.00027 *4* α(N)=6.8×10^{-5} *9*; α(O)=1.21×10^{-5} *16*; α(P)=7.9×10^{-7} *13*
1048.655 *14*	0.202 *2*	1670.685	2^+	622.023	2^+	M1		0.01161	α(K)=0.00964 *14*; α(L)=0.001515 *22*; α(M)=0.000348 *5* α(N)=8.61×10^{-5} *12*; α(O)=1.553×10^{-5} *22*; α(P)=1.067×10^{-6} *15* Eγ=1048.656 *14*, Iγ=0.202 *2* (2016Kr06). Eγ=1048.64 *5*, Iγ=0.199 *9* (1976Cl03). Eγ=1048.68 *10*, Iγ=0.20 *5* (1974HeYW).
1104.073 *10*	0.213 *3*	1432.559	3^-	328.475	2^+	E1		1.77×10^{-3}	α(K)=0.001490 *21*; α(L)=0.000218 *3*; α(M)=4.95×10^{-5} *7* α(N)=1.221×10^{-5} *17*; α(O)=2.19×10^{-6} *3*; α(P)=1.467×10^{-7} *21*; α(IPF)=1.075×10^{-6} *15* Eγ=1104.073 *10*, Iγ=0.214 *2* (2016Kr06). Eγ=1104.05 *5*, Iγ=0.198 *8* (1976Cl03). Eγ=1104.17 *13*, Iγ=0.23 *6* (1974HeYW). (1104γ)(328γ)(θ): 1976Cl03.
1150.799 *12*	4.56 *5*	1479.265	0^+	328.475	2^+	E2		0.00416	α(K)=0.00340 *5*; α(L)=0.000585 *9*; α(M)=0.0001360 *19* α(N)=3.36×10^{-5} *5*; α(O)=5.94×10^{-6} *9*; α(P)=3.58×10^{-7} *5*; α(IPF)=1.162×10^{-6} *17*

$^{194}_{78}$Pt$_{116}$-7

γ(^{194}Pt) (continued)

E_γ[†]	I_γ[†@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[a]	Comments
									Eγ=1150.800 *10*, Iγ=4.55 *5* (2016Kr06). Eγ=1150.75 *5*, Iγ=4.56 *15* (1976Cl03). Eγ=1150.94 *10*, Iγ=4.69 *25* (1974HeYW). (1151γ)(328γ)(θ): 1976Cl03, 1975Ka42, 1973Si22, 1965Ma10, 1962Bu03, 1960Ma19. A_2=+0.108 *9*, A_4=+0.745 *16* (1975Ka42). A_2=+0.10 *2*, A_4=+0.73 *3* (1965Ma10). A_2=+0.357, A_4=+1.14 (1962Bu03). A_2=+0.128 *10*, A_4=+0.85 *4* (1960Ma19).
1156.48 *4*	0.0250 *10*	1778.602	2^+	622.023	2^+	M1(+E2)	<0.2	0.00898 *16*	α(K)=0.00746 *14*; α(L)=0.001169 *20*; α(M)=0.000269 *5* α(N)=6.64×10^{-5} *12*; α(O)=1.198×10^{-5} *21*; α(P)=8.24×10^{-7} *15*; α(IPF)=2.20×10^{-6} *4* Iγ from 2016Kr06. Eγ=1156.48 *4*, Iγ=0.0250 *10* (2016Kr06). Eγ=1156.60 *30*, Iγ=0.014 *3* (1976Cl03).
1175.377 *10*	0.450 *4*	1797.402	1^-	622.023	2^+	E1		1.60×10^{-3}	α(K)=0.001334 *19*; α(L)=0.000194 *3*; α(M)=4.42×10^{-5} *7* α(N)=1.089×10^{-5} *16*; α(O)=1.95×10^{-6} *3*; α(P)=1.315×10^{-7} *19*; α(IPF)=1.024×10^{-5} *15* Eγ=1175.376 *10*, Iγ=0.449 *4* (2016Kr06). Eγ=1175.38 *5*, Iγ=0.463 *17* (1976Cl03). Eγ=1175.63 *18*, Iγ=0.43 *12* (1974HeYW). (1175γ)(622γ)(θ): A_2=−0.054 *12*, A_4=+0.12 *3* (1974BeYP).
1183.539 *10*	2.27 *2*	1512.004	2^+	328.475	2^+	M1+E2	+1.09 *+18−16*	0.0061 *4*	α(K)=0.0050 *4*; α(L)=0.00081 *5*; α(M)=0.000186 *11* α(N)=4.6×10^{-5} *3*; α(O)=8.2×10^{-6} *5*; α(P)=5.4×10^{-7} *4*; α(IPF)=3.68×10^{-6} *15* Eγ=1183.540 *10*, Iγ=2.26 *2* (2016Kr06). Eγ=1183.49 *5*, Iγ=2.32 *8* (1976Cl03). Eγ=1183.68 *14*, Iγ=2.42 *19* (1974HeYW). δ: others: +1.32 *9* from γ(θ) (1983Ri14); +0.9 *1* (1973Si22, from A_2=−0.25 *2*, A_4=+0.18 *5* for (1183γ)(328γ)(θ)); 1976Cl03 (value not explicitly given).
1186.408 *26*	0.0739 *12*	2109.079	$(2)^+$	922.773	3^+	(M1+E2)	1.1 *+6−4*	0.0060 *10*	α(K)=0.0050 *9*; α(L)=0.00080 *13*; α(M)=0.00018 *3* α(N)=4.6×10^{-5} *7*; α(O)=8.2×10^{-6} *13*; α(P)=5.4×10^{-7} *10*; α(IPF)=3.9×10^{-6} *4* Uncertainty for Eγ was doubled in the least-squares fit procedure. Eγ=1186.408 *26*, Iγ=0.0740 *12* (2016Kr06). Eγ=1186.4 *4*, Iγ=0.064 *12* from γγ-coin (1976Cl03).

$^{194}_{78}Pt_{116}$-8

γ(^{194}Pt) (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	δ [#]	α [a]	$I_{(\gamma+ce)}$ [&]	Comments
1218.813 *10*	0.433 *4*	1547.293	0+	328.475	2+	E2		0.00373		α(K)=0.00306 *5*; α(L)=0.000517 *8*; α(M)=0.0001200 *17* α(N)=2.96×10^{-5} *5*; α(O)=5.25×10^{-6} *8*; α(P)=3.21×10^{-7} *5*; α(IPF)=6.00×10^{-6} *9* Eγ=1218.813 *10*, Iγ=0.433 *4* (2016Kr06). Eγ=1218.78 *5*, Iγ=0.429 *17* (1976Cl03). Eγ=1219.00 *15*, Iγ=0.45 *8* (1974HeYW). (1219γ)(328γ)(θ) (1976Cl03) and γ(θ) (1983Ri14) are consistent with J=0 for 1547 level.
(1267.37)		1267.203	0+	0.0	0+	E0			0.010 *1*	
1293.723 *14*	0.339 *3*	1622.197	2+	328.475	2+	E2+M1+E0	−0.9 *1*	0.0192 *8*		Eγ=1293.726 *14*, Iγ=0.339 *3* (2016Kr06). Eγ=1293.67 *6*, Iγ=0.352 *23* (1976Cl03). Eγ=1294.20 *20*, Iγ=0.34 *9* (1974HeYW). Eγ not used in averaging. δ: adopted δ(E2/M1) from (1294γ)(328γ)(θ): A_2=+0.37 *7*, A_4=+0.30 *13* (1973Si22). Others: 1.79 *3* (from γ(θ), 1983Ri14), 1976Cl03 (value not explicitly given). α: from ^{194}Au ε decay.
1308.304 *40*	0.0100 *3*	1930.410	2+	622.023	2+	(M1+E2)	1.7 *+11−5*	0.0042 *6*		α(K)=0.0034 *5*; α(L)=0.00055 *7*; α(M)=0.000128 *15* α(N)=3.2×10^{-5} *4*; α(O)=5.6×10^{-6} *7*; α(P)=3.7×10^{-7} *5*; α(IPF)=2.05×10^{-5} *16* Eγ=1308.314 *31*, Iγ=0.0100 *3* (2016Kr06). Eγ=1308.15 *12*, Iγ=0.0099 *11* (1976Cl03).
1342.204 *10*	0.304 *3*	1670.685	2+	328.475	2+	M1+E2	−0.23 *9*	0.00612 *16*		α(K)=0.00506 *14*; α(L)=0.000790 *20*; α(M)=0.000181 *5* α(N)=4.49×10^{-5} *12*; α(O)=8.09×10^{-6} *21*; α(P)=5.57×10^{-7} *16*; α(IPF)=3.70×10^{-5} *8* Eγ=1342.205 *10*, Iγ=0.305 *3* (2016Kr06). Eγ=1342.16 *6*, Iγ=0.290 *11* (1976Cl03). Eγ=1342.70 *20*, Iγ=0.32 *9* (1974HeYW). Eγ not used in averaging. δ: others: −0.1 to −1.5 from (1342γ)(328γ)(θ): A_2=+0.41 *6*, A_4=+0.14 *12* (1973Si22). Other: 1976Cl03 (value not explicitly given).
1421.72 *4*	0.0045 *2*	2043.736	1+	622.023	2+	M1(+E2)	<0.2	0.00542 *10*		α(K)=0.00446 *8*; α(L)=0.000694 *12*; α(M)=0.000159 *3* α(N)=3.94×10^{-5} *7*; α(O)=7.11×10^{-6} *12*; α(P)=4.91×10^{-7} *9*; α(IPF)=6.64×10^{-5} *11* Eγ=1421.72 *4*, Iγ=0.0045 *2* (2016Kr06). Eγ=1421.48 *28*, Iγ=0.0048 *15* (1976Cl03).

$^{194}_{78}$Pt$_{116}$-9

γ(^{194}Pt) (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [#]	δ [#]	α [a]	$I_{(\gamma+ce)}$ [&]	Comments
1430.95 *4*	0.0091 *10*	2053.006	(2)$^+$	622.023	2$^+$					Eγ=1430.95 *3*, Iγ=0.0090 *6* (2016Kr06). Eγ=1431.35 *34*, Iγ=0.017 *5* (1976Cl03).
1432.56 *8*	0.0071 *3*	1432.559	3$^-$	0.0	0$^+$	[E3]		0.00566		α(K)=0.00450 *7*; α(L)=0.000870 *13*; α(M)=0.000205 *3* α(N)=5.07×10^{-5} *7*; α(O)=8.92×10^{-6} *13*; α(P)=5.10×10^{-7} *8*; α(IPF)=1.93×10^{-5} *3* Eγ=1432.58 *8*, Iγ=0.0071 *3* (2016Kr06). Eγ=1432.52 *12*, Iγ=0.0087 *18* (1976Cl03).
1441.733 *19*	0.0123 *3*	2063.759	2$^+$	622.023	2$^+$	M1(+E2)	<0.6	0.0050 *4*		α(K)=0.0041 *3*; α(L)=0.00063 *5*; α(M)=0.000146 *10* α(N)=3.60×10^{-5} *24*; α(O)=6.5×10^{-6} *5*; α(P)=4.5×10^{-7} *4*; α(IPF)=7.2×10^{-5} *4* Eγ=1441.732 *19*, Iγ=0.0123 *3* (2016Kr06). Eγ=1441.78 *14*, Iγ=0.0114 *18* (1976Cl03).
1450.137 *14*	0.0154 *6*	1778.602	2$^+$	328.475	2$^+$	M1+E2	−0.27 *10*	0.00506 *15*		α(K)=0.00414 *13*; α(L)=0.000645 *19*; α(M)=0.000148 *5* α(N)=3.66×10^{-5} *11*; α(O)=6.61×10^{-6} *19*; α(P)=4.55×10^{-7} *14*; α(IPF)=7.69×10^{-5} *18* Eγ=1450.135 *14*, Iγ=0.0155 *3* (2016Kr06). Eγ=1450.23 *11*, Iγ=0.0125 *15* (1976Cl03).
1463.445 *14*	0.0456 *5*	2085.472	0$^+$	622.023	2$^+$	(E2)		0.00270		α(K)=0.00218 *3*; α(L)=0.000353 *5*; α(M)=8.16×10^{-5} *12* α(N)=2.01×10^{-5} *3*; α(O)=3.59×10^{-6} *5*; α(P)=2.28×10^{-7} *4*; α(IPF)=5.51×10^{-5} *8* Eγ=1463.445 *14*, Iγ=0.0456 *5* (2016Kr06). Eγ=1463.50 *15*, Iγ=0.045 *9* (1976Cl03).
1468.910 *10*	1.42 *1*	1797.402	1$^-$	328.475	2$^+$	E1		1.23×10^{-3}		α(K)=0.000908 *13*; α(L)=0.0001310 *19*; α(M)=2.97×10^{-5} *5* α(N)=7.33×10^{-6} *11*; α(O)=1.318×10^{-6} *19*; α(P)=8.99×10^{-8} *13*; α(IPF)=0.0001568 *22* Eγ=1468.910 *10*, Iγ=1.42 *1* (2016Kr06). Eγ=1468.91 *7*, Iγ=1.46 *6* (1976Cl03). Eγ=1469.2 *1*, Iγ=1.53 *12* (1974HeYW). (1469γ)(328γ)(θ): A$_2$=−0.23 *2*, A$_4$=+0.05 *5* (1973Si22). δ(1469γ)=0.0 *2*, consistent with E1. Others: 1976Cl03, 1965Ma10, 1953Kr07. Other: A$_2$=+0.18 *3*, A$_4$=+0.002 *36* (1965Ma10).
1479.2		1479.265	0$^+$	0.0	0$^+$	E0			0.024 *2*	$I_{(\gamma+ce)}$: deduced from Branching in ^{194}Au ε decay. Other: 0.021, from ce(K)(1479)/ce(K)(328γ)=0.037 (1960Ke09).

From ENSDF

$^{194}_{78}$Pt$_{116}$-10

γ(^{194}Pt) (continued)

E_γ[†]	I_γ[†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[a]	$I_{(\gamma+ce)}$[&]	Comments
1487.058 *14*	0.131 *1*	2109.079	(2)$^+$	622.023	2$^+$	(M1(+E2))	<0.3	0.00483 *12*		α(K)=0.00394 *10*; α(L)=0.000614 *15*; α(M)=0.000141 *4* α(N)=3.48×10^{-5} *9*; α(O)=6.29×10^{-6} *15*; α(P)=4.34×10^{-7} *11*; α(IPF)=9.39×10^{-5} *19* Eγ=1487.057 *14*, Iγ=0.131 *1* (2016Kr06). Eγ=1487.05 *8*, Iγ=0.129 *6* (1976Cl03). Eγ=1487.30 *20*, Iγ=0.16 *3* (1974HeYW).
1492.020 *27*	0.0136 *3*	2114.096	1$^+$	622.023	2$^+$	M1(+E2)	<0.5	0.00466 *24*		α(K)=0.00380 *20*; α(L)=0.00059 *3*; α(M)=0.000136 *7* α(N)=3.36×10^{-5} *17*; α(O)=6.1×10^{-6} *3*; α(P)=4.17×10^{-7} *23*; α(IPF)=9.4×10^{-5} *4* Eγ=1492.015 *22*, Iγ=0.0136 *2* (2016Kr06). Eγ=1492.18 *13*, Iγ=0.0111 *16* (1976Cl03).
1511.98 *10*	0.180 *22*	1512.004	2$^+$	0.0	0$^+$	(E2)		0.00255		α(K)=0.00206 *3*; α(L)=0.000331 *5*; α(M)=7.63×10^{-5} *11* α(N)=1.88×10^{-5} *3*; α(O)=3.36×10^{-6} *5*; α(P)=2.15×10^{-7} *3*; α(IPF)=7.00×10^{-5} *10* Eγ and Iγ from 1976Cl03. In 2016Kr06 and 1974HeYW, values are given for a doublet of 1511.98 and 1512.15 proposed in 1976Cl03. Eγ=1512.072 *14*, Iγ=0.285 *3* (2016Kr06). Eγ=1511.98 *10*, Iγ=0.180 *22* from $\gamma\gamma$-coin (1976Cl03). Eγ=1512.6 *2*, Iγ=0.31 *7* (1974HeYW).
1512.15 *21*	0.101 *14*	2134.211	1$^+$,2$^+$	622.023	2$^+$	M1,E2		0.0036 *11*		α(K)=0.0030 *9*; α(L)=0.00047 *14*; α(M)=0.00011 *3* α(N)=2.6×10^{-5} *8*; α(O)=4.8×10^{-6} *14*; α(P)=3.2×10^{-7} *11*; α(IPF)=8.9×10^{-5} *19* Eγ and Iγ from 1976Cl03. In 2016Kr06 and 1974HeYW, values are given for a doublet of 1511.98 and 1512.15 proposed in 1976Cl03. Eγ=1512.072 *14*, Iγ=0.285 *3* (2016Kr06). Eγ=1512.15 *21*, Iγ=0.101 *14* from $\gamma\gamma$-coin (1976Cl03). Eγ=1512.6 *2*, Iγ=0.31 *7* (1974HeYW).
1518.652 *22*	0.0140 *3*	2140.679	(1$^+$,2$^+$)	622.023	2$^+$	(M1(+E2))	<0.7	0.0043 *4*		α(K)=0.0035 *3*; α(L)=0.00055 *5*; α(M)=0.000126 *11* α(N)=3.1×10^{-5} *3*; α(O)=5.6×10^{-6} *5*; α(P)=3.9×10^{-7} *4*; α(IPF)=0.000104 *7* Eγ=1518.649 *22*, Iγ=0.0140 *3* (2016Kr06). Eγ=1518.76 *14*, Iγ=0.0127 *18* (1976Cl03).
(1547.3)		1547.293	0$^+$	0.0	0$^+$	E0			0.00095 *12*	
1565.116 *14*	0.161 *2*	1893.597	0$^+$	328.475	2$^+$					Eγ=1565.115 *14*, Iγ=0.161 *2* (2016Kr06). Eγ=1565.15 *8*, Iγ=0.158 *7* (1976Cl03).

γ(^{194}Pt) (continued)

E_γ[†]	I_γ[†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[a]	Comments
									Eγ=1565.70 *25*, Iγ=0.20 *4* (1974HeYW). Eγ not used in averaging. (1565γ)(328γ)(θ): 1976Cl03.
1595.802 *23*	0.0131 *2*	1924.305	1$^+$	328.475	2$^+$	M1+E2	−0.071 *21*	0.00420	α(K)=0.00337 *5*; α(L)=0.000523 *8*; α(M)=0.0001199 *17* α(N)=2.97×10^{-5} *5*; α(O)=5.36×10^{-6} *8*; α(P)=3.71×10^{-7} *6*; α(IPF)=0.0001507 *22* Eγ=1595.805 *23*, Iγ=0.0131 *2* (2016Kr06). Eγ=1595.77 *10*, Iγ=0.0124 *12* (1976Cl03).
1601.947 *17*	0.0159 *3*	1930.410	2$^+$	328.475	2$^+$	M1(+E2)	<−0.2	0.00414 *7*	α(K)=0.00332 *6*; α(L)=0.000515 *9*; α(M)=0.0001181 *20* α(N)=2.92×10^{-5} *5*; α(O)=5.27×10^{-6} *9*; α(P)=3.64×10^{-7} *7*; α(IPF)=0.0001533 *24* Eγ=1601.948 *17*, Iγ=0.0159 *3* (2016Kr06). Eγ=1601.90 *12*, Iγ=0.0149 *15* (1976Cl03).
1622.185 *14*	0.475 *5*	1622.197	2$^+$	0.0	0$^+$	E2		0.00229	α(K)=0.00181 *3*; α(L)=0.000287 *4*; α(M)=6.62×10^{-5} *10* α(N)=1.633×10^{-5} *23*; α(O)=2.92×10^{-6} *4*; α(P)=1.89×10^{-7} *3*; α(IPF)=0.0001085 *16* Eγ=1622.185 *14*, Iγ=0.474 *5* (2016Kr06). Eγ=1622.20 *8*, Iγ=0.490 *22* (1976Cl03). Eγ=1623.08 *20*, Iγ=0.45 *8* (1974HeYW). Eγ not used in averaging.
1670.680 *16*	0.0452 *4*	1670.685	2$^+$	0.0	0$^+$	(E2)		0.00219	α(K)=0.001714 *24*; α(L)=0.000271 *4*; α(M)=6.23×10^{-5} *9* α(N)=1.539×10^{-5} *22*; α(O)=2.75×10^{-6} *4*; α(P)=1.79×10^{-7} *3*; α(IPF)=0.0001272 *18* Eγ=1670.679 *16*, Iγ=0.0452 *4* (2016Kr06). Eγ=1670.72 *10*, Iγ=0.0442 *28* (1976Cl03). Eγ=1671.5 *3*, Iγ=0.05 *2* (1974HeYW). Eγ not used in averaging.
1675.147 *24*	0.0079 *2*	2003.630	(2$^+$)	328.475	2$^+$	(M1)		0.00379	α(K)=0.00299 *5*; α(L)=0.000464 *7*; α(M)=0.0001064 *15* α(N)=2.63×10^{-5} *4*; α(O)=4.75×10^{-6} *7*; α(P)=3.29×10^{-7} *5*; α(IPF)=0.000195 *3* Placement from 2016Kr06; unplaced in 1976Cl03 study. Eγ=1675.145 *24*, Iγ=0.0079 *2* (2016Kr06). Eγ=1675.24 *17*, Iγ=0.0066 *11* (1976Cl03).
1715.243 *25*	0.0108 *2*	2043.736	1$^+$	328.475	2$^+$	E2+M1	−1.10 *12*	0.00279 *10*	α(K)=0.00217 *8*; α(L)=0.000339 *12*; α(M)=7.8×10^{-5} *3* α(N)=1.92×10^{-5} *7*; α(O)=3.46×10^{-6} *12*; α(P)=2.34×10^{-7} *9*; α(IPF)=0.000179 *5* Eγ=1715.241 *25*, Iγ=0.0108 *2* (2016Kr06). Eγ=1715.28 *11*, Iγ=0.0100 *9* (1976Cl03). Eγ=1716.0 *3*, Iγ=0.010 *3* (1974HeYW). Eγ not used in averaging.
1724.535 *27*	0.0072 *4*	2053.006	(2)$^+$	328.475	2$^+$				Eγ=1724.535 *27*, Iγ=0.0073 *2* (2016Kr06). Eγ=1724.54 *15*, Iγ=0.0058 *8* (1976Cl03).
1735.272 *21*	0.0223 *4*	2063.759	2$^+$	328.475	2$^+$	M1+E2	+0.12 *6*	0.00351 *6*	α(K)=0.00273 *5*; α(L)=0.000422 *7*; α(M)=9.68×10^{-5} *16*

$^{194}_{78}$Pt$_{116}$-12

γ(^{194}Pt) (continued)

E$_\gamma$[†]	I$_\gamma$[†@]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[#]	δ[#]	α[a]	Comments
									α(N)=2.39×10^{-5} *4*; α(O)=4.32×10^{-6} *7*; α(P)=2.99×10^{-7} *5*; α(IPF)=0.000230 *4* Eγ=1735.269 *21*, Iγ=0.0224 *3* (2016Kr06). Eγ=1735.37 *12*, Iγ=0.0190 *19* (1976Cl03). Eγ=1736.9 *3*, Iγ=0.020 *5* (1974HeYW). Eγ not used in averaging.
1756.93 *7*	0.0037 *2*	2085.472	0$^+$	328.475	2$^+$	(E2)		0.00204	α(K)=0.001564 *22*; α(L)=0.000245 *4*; α(M)=5.64×10^{-5} *8* α(N)=1.391×10^{-5} *20*; α(O)=2.49×10^{-6} *4*; α(P)=1.632×10^{-7} *23*; α(IPF)=0.0001621 *23* Eγ=1756.91 *4*, Iγ=0.0037 *2* (2016Kr06). Eγ=1757.27 *19*, Iγ=0.0032 *7* (1976Cl03).
1778.25[‡] *14*	0.0023 *2*	1778.602	2$^+$	0.0	0$^+$	(E2)		0.00201	α(K)=0.001531 *22*; α(L)=0.000240 *4*; α(M)=5.50×10^{-5} *8* α(N)=1.359×10^{-5} *19*; α(O)=2.43×10^{-6} *4*; α(P)=1.596×10^{-7} *23*; α(IPF)=0.0001710 *24*
1780.571 *18*	0.0342 *5*	2109.079	(2)$^+$	328.475	2$^+$	[M1,E2]		0.0027 *7*	α(K)=0.0021 *6*; α(L)=0.00032 *8*; α(M)=7.3×10^{-5} *19* α(N)=1.8×10^{-5} *5*; α(O)=3.3×10^{-6} *9*; α(P)=2.2×10^{-7} *7*; α(IPF)=0.00022 *5* Eγ=1780.568 *17*, Iγ=0.0341 *3* (2016Kr06). Eγ=1780.69 *11*, Iγ=0.0396 *28* (1976Cl03). Eγ=1782.0 *3*, Iγ=0.05 *2* (1974HeYW). Eγ not used in averaging.
1785.631 *21*	0.0331 *3*	2114.096	1$^+$	328.475	2$^+$	M1(+E2)	−0.04 *3*	0.00333	α(K)=0.00255 *4*; α(L)=0.000395 *6*; α(M)=9.06×10^{-5} *13* α(N)=2.24×10^{-5} *4*; α(O)=4.04×10^{-6} *6*; α(P)=2.80×10^{-7} *4*; α(IPF)=0.000263 *4* Eγ=1785.628 *21*, Iγ=0.0331 *3* (2016Kr06). Eγ=1785.69 *11*, Iγ=0.0302 *23* (1976Cl03). Eγ=1786.2 *5*, Iγ=0.04 *1* (1974HeYW). (1786γ)(328γ)(θ): A$_2$=−0.13 *12*, A$_4$=+0.21 *14* (1965Ma10).
1797.408 *14*	0.130 *1*	1797.402	1$^-$	0.0	0$^+$	E1		1.16×10^{-3}	α(K)=0.000649 *9*; α(L)=9.28×10^{-5} *13*; α(M)=2.11×10^{-5} *3* α(N)=5.19×10^{-6} *8*; α(O)=9.35×10^{-7} *13*; α(P)=6.44×10^{-8} *9*; α(IPF)=0.000393 *6* Eγ=1797.406 *14*, Iγ=0.130 *1* (2016Kr06). Eγ=1797.48 *9*, Iγ=0.134 *7* (1976Cl03). Eγ=1798.3 *4*, Iγ=0.14 *4* (1974HeYW). Eγ not used in averaging.
1805.727 *14*	0.244 *2*	2134.211	1$^+$,2$^+$	328.475	2$^+$	M1(+E2)	<0.5	0.00313 *14*	α(K)=0.00239 *11*; α(L)=0.000369 *16*; α(M)=8.5×10^{-5} *4* α(N)=2.09×10^{-5} *10*; α(O)=3.78×10^{-6} *17*; α(P)=2.61×10^{-7} *13*; α(IPF)=0.000266 *10* Eγ=1805.726 *14*, Iγ=0.244 *2* (2016Kr06). Eγ=1805.75 *9*, Iγ=0.249 *13* (1976Cl03).

γ(^{194}Pt) (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	δ [#]	α [a]	$I_{(\gamma+ce)}$ [&]	Comments
										Eγ=1807.0 *5*, Iγ=0.24 *5* (1974HeYW). Eγ not used in averaging. (1806γ)(328γ)(θ): 1976Cl03, 1965Ma10.
1812.18 *7*	0.0046 *12*	2140.679	(1$^+$,2$^+$)	328.475	2$^+$	(M1)		0.00324		α(K)=0.00246 *4*; α(L)=0.000381 *6*; α(M)=8.73×10^{-5} *13* α(N)=2.16×10^{-5} *3*; α(O)=3.90×10^{-6} *6*; α(P)=2.70×10^{-7} *4*; α(IPF)=0.000280 *4* Iγ is unweighted average. Eγ=1812.17 *4*, Iγ=0.0058 *2* (2016Kr06). Eγ=1812.59 *25*, Iγ=0.0034 *10* (1976Cl03).
1829.524 *33*	0.0165 *2*	2158.01	(2)$^+$	328.475	2$^+$	M1(+E2)	<0.3	0.00313 *7*		α(K)=0.00237 *6*; α(L)=0.000366 *8*; α(M)=8.39×10^{-5} *18* α(N)=2.08×10^{-5} *5*; α(O)=3.75×10^{-6} *9*; α(P)=2.59×10^{-7} *6*; α(IPF)=0.000287 *6* Eγ=1829.520 *26*, Iγ=0.0165 *2* (2016Kr06). Eγ=1829.59 *15*, Iγ=0.0142 *15* (1976Cl03). Eγ=1830.4 *5*, Iγ=0.020 *5* (1974HeYW).
(1893.1 *4*)		1893.597	0$^+$	0.0	0$^+$	(E0)				
1924.327 *28*	0.0155 *3*	1924.305	1$^+$	0.0	0$^+$	M1		0.00290		α(K)=0.00212 *3*; α(L)=0.000328 *5*; α(M)=7.51×10^{-5} *11* α(N)=1.86×10^{-5} *3*; α(O)=3.36×10^{-6} *5*; α(P)=2.33×10^{-7} *4*; α(IPF)=0.000352 *5* Eγ=1924.323 *28*, Iγ=0.0155 *2* (2016Kr06). Eγ=1924.42 *14*, Iγ=0.0136 *13* (1976Cl03). Eγ=1926.0 *5*, Iγ=0.020 *5* (1974HeYW). Eγ not used in averaging.
2043.727 *17*	0.0541 *5*	2043.736	1$^+$	0.0	0$^+$	M1		0.00263		α(K)=0.00183 *3*; α(L)=0.000282 *4*; α(M)=6.46×10^{-5} *9* α(N)=1.599×10^{-5} *23*; α(O)=2.89×10^{-6} *4*; α(P)=2.01×10^{-7} *3*; α(IPF)=0.000431 *6* Eγ=2043.727 *17*, Iγ=0.0541 *5* (2016Kr06). Eγ=2043.72 *11*, Iγ=0.0539 *34* (1976Cl03). Eγ=2045.8 *5*, Iγ=0.060 *15* (1974HeYW). Eγ not used in averaging.
(2085.8 *4*)		2085.472	0$^+$	0.0	0$^+$	E0			0.00025 *6*	
2114.099 *26*	0.0196 *2*	2114.096	1$^+$	0.0	0$^+$	M1		0.00250		α(K)=0.001684 *24*; α(L)=0.000259 *4*; α(M)=5.94×10^{-5} *9* α(N)=1.469×10^{-5} *21*; α(O)=2.65×10^{-6} *4*; α(P)=1.84×10^{-7} *3*; α(IPF)=0.000478 *7* Eγ=2114.096 *26*, Iγ=0.0196 *2* (2016Kr06). Eγ=2114.20 *14*, Iγ=0.0199 *19* (1976Cl03). Eγ=2116.0 *5*, Iγ=0.020 *6* (1974HeYW). Eγ not used in averaging.

$^{194}_{78}$Pt$_{116}$-14

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

† Weighted averages of available values from 2016Kr06, 1976Cl03 and 1974HeYW, unless otherwise indicated. Energies and intensities of the E0 transitions are taken from the Adopted dataset, based on data from ^{194}Au ε decay.

‡ This γ ray from 2016Kr06 only.

From Adopted Gammas. Values from this study are given under comments.

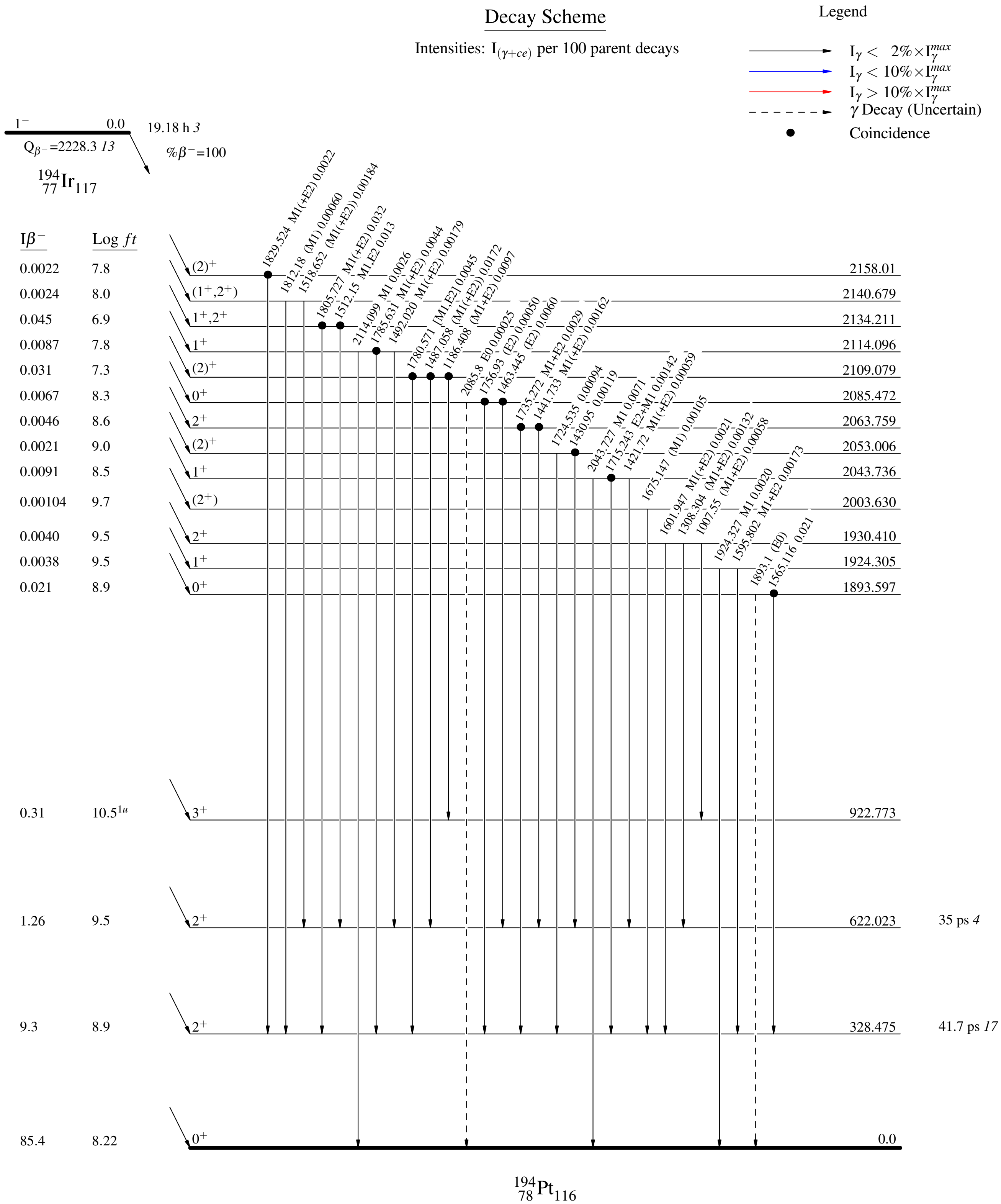
@ For absolute intensity per 100 decays, multiply by 0.131 *17*.

& Absolute intensity per 100 decays.

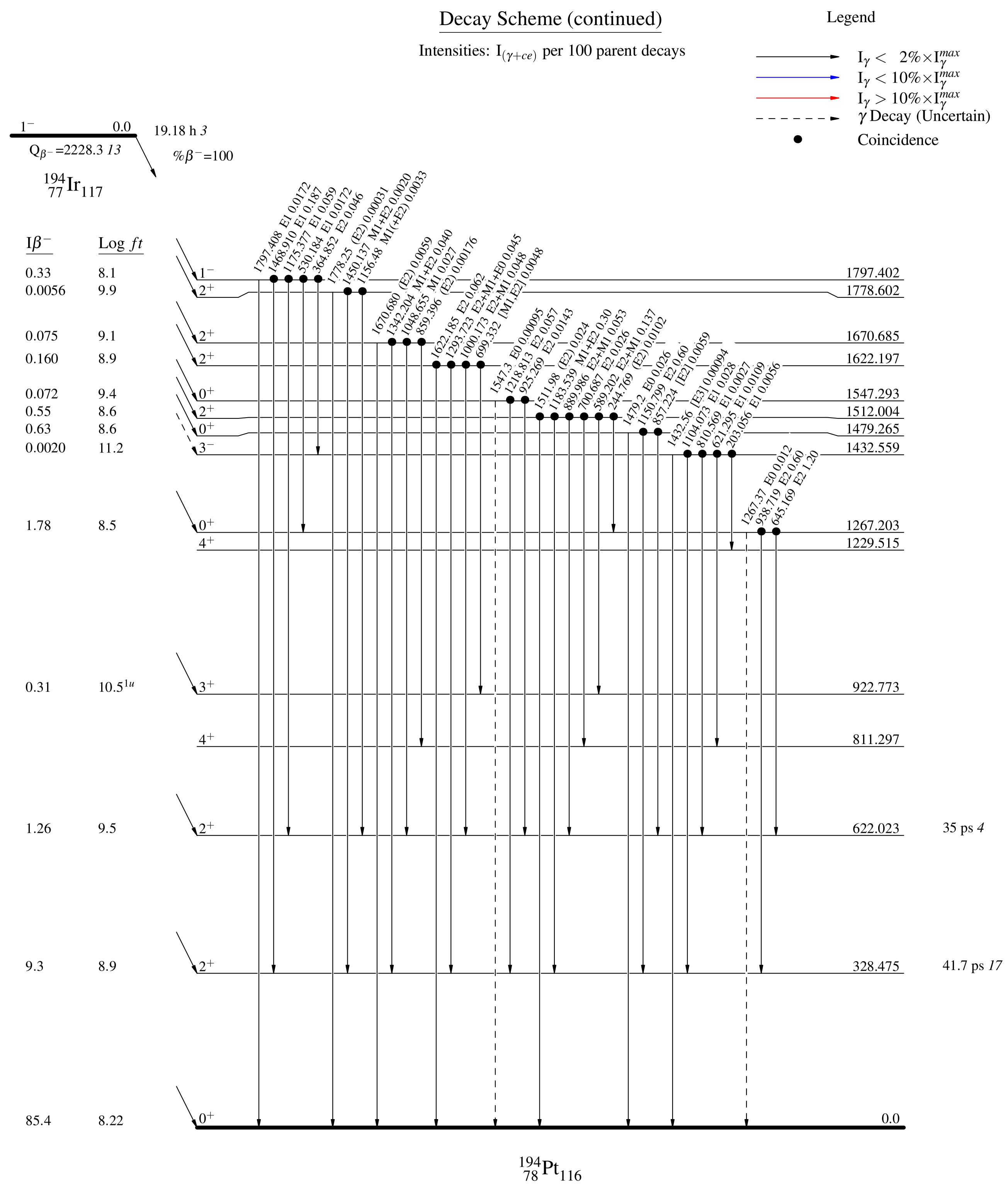
^{a} Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

$^{194}_{78}Pt_{116}$-15

^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW



^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW



^{194}Ir β^- decay (19.18 h) 2016Kr06,1976Cl03,1974HeYW