^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 213,1 (2026)	1-Jul-2026

Parent: ^{166}Tm: E=0.0; $J^\pi=2^+$; $T_{1/2}$=7.71 h *5*; Q(ε)=3038 *12*; %ε+%β^+ decay=100

^{166}Tm-J^π,$T_{1/2}$: from ^{166}Tm Adopted Levels.

^{166}Tm-Q($\varepsilon+\beta^+$): from 2021Wa16.

1989Ad11: ^{166}Tm obtained from ^{166}Yb decay; measured Eγ, Iγ, $\gamma\gamma$-, $\gamma\gamma\gamma$-, $\beta\gamma$-coin; deduced ($\varepsilon+\beta^+$), log *ft*. Deduced levels, spin, parity, band structure.

1987Kr12: ^{166}Tm was produced from spallation of 660 MeV proton on Ta target and chemically separated from the tantalum target. γ-rays were detected by coaxial and planar x-ray Ge(Li) detectors. Measured Eγ, $\gamma(\theta)$; deduced δ. Also 1985DaZV.

2006Ku03: ^{166}Tm obtained ^{166}Yb decay produced from the ^{166}Er(α,4n) reaction bombarding 96.3% enriched $^{166}Er_2O_3$ powder with a 50-MeV ^{4}He beam from the 88-Inch Cyclotron. γs were detected with the 8π array of 20 Compton-suppressed Ge detectors. 2.9 × 10^8 γ-γ coincidence events were recorded in 266 hours of counting. Measured Iγ and deduced intraband transition strengths.

Other measurements: 1995KrZX (and 1996KrZW), 1993AdZY, 1993BaZS, 1980Pe15, 1980VyZZ, 1979Ad06, 1975Ad07, 1974Ar28, 1973De22, 1970Re16, 1969Ar23, 1968Mi13, 1967Ab12, 1967Bu14, 1966Zy01, 1965Ga03, 1964Pr02, 1963Pr13, 1962Gr29, 1961Bo15, 1961Ha23, 1961Gr33, 1961Zy02, 1960Ja08, 1960Wi12, 1959Ba12, 1959Bo57, 1959Br17.

Level scheme is from 1989Ad11. Proposed levels in 1960Wi12 at 1248-, 1317-, and 1547-keV are not confirmed in 1989Ad11. All data are from 1989Ad11, unless where otherwise noted.

^{166}Er Levels

E(level)[†‡]	J^π[@]	$T_{1/2}$[@]	Comments
0.0	0^+		
80.583 *11*	2^+	1.84 ns *3*	
264.987 *13*	4^+	118 ps *4*	
545.446 *16*	6^+	15.0 ps *8*	
785.915 *11*	2^+	3.12 ps *10*	
859.400 *12*	3^+	4.5 ps *8*	
956.241 *12*	4^+	3.5 ps *2*	
1075.285 *14*	5^+	2.7 ps *3*	
1458.165 *14*	2^-		
1513.760 *13*	3^-		
1528.406 *14*	2^+	49 fs *9*	
1572.209 *14*	$(4)^-$		
1596.264 *17*	$(4)^-$		
1662.33 *6*	1^-	5.1 fs *7*	
1678.771 *26*	$(4)^+$		
1703.059 *20*	$(2,3,4)^+$		J^π: other: (2^+) in 1989Ad11.
1813.17[#] *26*	$1^{(+)}$	37 fs *8*	
1830.45 *4*	1^-	44.7 fs *9*	
1865.17[#] *4*			
1894.365[#] *23*	2^+		
1917.769 *13*	3^-		
1938.273 *15*	3^+		
1969.71 *17*	(2,3,4)		J^π: other: (3) in 1989Ad11.
1978.435 *16*	4^+	2.2 ps *+11−9*	
1985.646 *16*	3^-		
2001.885 *15*	$(3)^-$		
2021.359 *15*	2^-		
2022.62[#] *12*			

Continued on next page (footnotes at end of table)

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

^{166}Er Levels (continued)

E(level)†‡	Jπ@	$T_{1/2}$@	Comments
2046.883# *34*	$2^+,3^+$		
2075.580# *21*	(3^-)		
2101.60# *28*	(4^+)	0.27 ps *19*	
2117.8# *8*	$(2^+,3,4^+)$		
2132.952 *12*	3^+		
2160.126 *14*	3^+		
2172.759 *20*	3^+		
2213.00# *11*			
2215.977 *16*	$2^-,3^-$		Jπ: other: 3^- in 1989Ad11.
2243.099 *23*	3^-		
2260.665# *30*	$2^{(+)},3$		
2264.31# *5*	(2^+)		
2273.009 *29*	3^-		
2282.68 *4*	$2^{(+)},3$		Jπ: other: (3) in 1989Ad11.
2290.967 *25*	$(3)^+$		
2328.69# *9*	(1,2)		
2352.91 *8*	$2^{(+)},3$		
2377.77 *5*	1^+		Jπ: other: $(1,2)^+$ in 1989Ad11.
2382.27 *4*	$(3)^+$		
2393.137 *27*	$2^+,3^+$		Jπ: other: 3^+ in 1989Ad11.
2413.68 *7*	(2,3,4)		Jπ: other: 3^+ in 1989Ad11.
2435.11# *10*	$(3,4)^+$		
2444.16# *24*			
2464.52# *10*	1^+	39 fs *3*	
2475.40# *4*	$(1,2,3)^+$		
2542.88 *5*	(3^-)		Jπ: (3) in 1989Ad11.
2586.07 *12*	$(4)^+$		Jπ: other: (3) in 1989Ad11.
2600.637# *31*	1^+	9.8 fs *5*	
2613.51# *17*			
2619.6# *5*	(2^+)		
2624.83# *28*	$(1,2^+)$		
2628.46# *29*	$(1,2^+)$		
2632.66# *17*	$(3,4)^+$		
2671.98# *17*	(1^-)		
2679.05 *18*	1^+	22.6 fs *14*	Jπ: other: (2) in 1989Ad11, considering 2414γ to 4^+. However, in Table 1, a comparable 2413.0 *5* is listed, listed as unplaced in this dataset.
2729.095 *20*	2^+		
2783.70 *19*	1^+	92 fs *8*	Jπ: other: (2) in 1989Ad11.
2797.5# *4*	$(1,2^+)$		
2811.99# *11*	1^-	2.9 fs *2*	
2858.17# *18*	$(1,2^+)$		

† Additional information 1.
‡ From least-squares fit to Eγ. A few Eγs fit poorly (deviates >3σ) and yield a χ^2=7.3 cf. χ^2_{crit}=1.03. The uncertainty of Eγ adjusted or the Eγ was omitted, identified by footnote, in the least-squares fit to yield a χ^2=1.03.
# Excited level is absent in Table 2 (1989Ad11). However, depopulating γ/s is/are present in Table 1.
@ From Adopted Levels.

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

ε,β^+ radiations

εK, εL, εM, εN: Additional information 2.
av Eβ: Additional information 3.

E(decay)	E(level)	Iβ^+ ‡	Iε†‡	Log *ft*	I($\varepsilon+\beta^+$)‡	Comments
(180 *12*)	2858.17		0.0031 *4*	8.34 *10*	0.0031 *4*	εK=0.725 *13*; εL=0.204 *9*; εM+=0.0703 *29*
(226 *12*)	2811.99		<0.03	>7.6	<0.03	εK=0.756 *7*; εL=0.1821 *47*; εM+=0.0615 *16* I($\varepsilon+\beta^+$): from 0.025 *4*.
(241 *12*)	2797.5		0.0035 *5*	8.61 *8*	0.0035 *5*	εK=0.763 *6*; εL=0.1774 *40*; εM+=0.0596 *14*
(254 *12*)	2783.70		<0.0149	>8.0	<0.0149	εK=0.7684 *49*; εL=0.1735 *34*; εM+=0.0581 *12* I($\varepsilon+\beta^+$): from 0.0134 *15*.
(309 *12*)	2729.095		0.358 *21*	6.86 *5*	0.358 *21*	εK=0.7837 *31*; εL=0.1625 *21*; εM+=0.0538 *7*
(359 *12*)	2679.05		0.070 *8*	7.72 *6*	0.070 *8*	εK=0.7929 *22*; εL=0.1559 *15*; εM+=0.0512 *5*
(366 *12*)	2671.98		0.0075 *10*	8.71 *7*	0.0075 *10*	εK=0.7940 *21*; εL=0.1551 *14*; εM+=0.0509 *5*
(405 *12*)	2632.66		0.019 *6*	8.41 *14*	0.019 *6*	εK=0.7990 *17*; εL=0.1515 *11*; εM+=0.04952 *43*
(410 *12*)	2628.46		0.0056 *8*	8.95 *7*	0.0056 *8*	εK=0.7995 *17*; εL=0.1511 *11*; εM+=0.04938 *42*
(413 *12*)	2624.83		0.0057 *7*	8.95 *6*	0.0057 *7*	εK=0.7999 *16*; εL=0.1508 *11*; εM+=0.04928 *42*
(418 *12*)	2619.6		0.008 *3*	8.82 *17*	0.008 *3*	εK=0.8005 *16*; εL=0.1504 *11*; εM+=0.04911 *42*
(425 *12*)	2613.51		0.0051 *6*	9.03 *6*	0.0051 *6*	εK=0.8011 *16*; εL=0.150 *1*; εM+=0.04895 *40*
(437 *12*)	2600.637		<0.184	>7.5	<0.184	εK=0.8024 *15*; εL=0.149 *1*; εM+=0.04858 *38* I($\varepsilon+\beta^+$): from 0.174 *10*.
(452 *12*)	2586.07		<0.044	>8.2	<0.044	εK=0.8037 *14*; εL=0.1481 *9*; εM+=0.04822 *36* I($\varepsilon+\beta^+$): from 0.037 *7*.
(495 *12*)	2542.88		0.077 *9*	8.00 *6*	0.077 *9*	εK=0.8071 *12*; εL=0.1456 *7*; εM+=0.04726 *31*
(563 *12*)	2475.40		0.082 *7*	8.093 *43*	0.082 *7*	εK=0.8113 *9*; εL=0.1426 *6*; εM+=0.04610 *26*
(574 *12*)	2464.52		0.037 *3*	8.457 *41*	0.037 *3*	εK=0.8119 *9*; εL=0.1422 *6*; εM+=0.04594 *26*
(594 *12*)	2444.16		0.024 *5*	8.68 *9*	0.024 *5*	εK=0.8129 *9*; εL=0.1414 *5*; εM+=0.04566 *25*
(603 *12*)	2435.11		0.090 *14*	8.12 *7*	0.090 *14*	εK=0.8133 *8*; εL=0.1411 *5*; εM+=0.04555 *24*
(624 *12*)	2413.68		0.058 *8*	8.34 *6*	0.058 *8*	εK=0.8143 *8*; εL=0.14043 *48*; εM+=0.04528 *23*
(645 *12*)	2393.137		0.250 *19*	7.738 *38*	0.250 *19*	εK=0.8151 *8*; εL=0.13982 *45*; εM+=0.04505 *22*
(656 *12*)	2382.27		0.140 *9*	8.005 *34*	0.140 *9*	εK=0.8155 *7*; εL=0.13952 *44*; εM+=0.04493 *22*
(660 *12*)	2377.77		0.195 *12*	7.868 *32*	0.195 *12*	εK=0.8157 *7*; εL=0.13940 *43*; εM+=0.04488 *22*
(685 *12*)	2352.91		0.028 *4*	8.75 *6*	0.028 *4*	εK=0.8166 *7*; εL=0.13875 *40*; εM+=0.04463 *21*
(709 *12*)	2328.69		0.0066 *7*	9.405 *49*	0.0066 *7*	εK=0.8174 *7*; εL=0.13816 *38*; εM+=0.04442 *20*
(747 *12*)	2290.967		1.37 *10*	7.136 *36*	1.37 *10*	εK=0.8186 *6*; εL=0.13734 *35*; εM+=0.04409 *18*
(755 *12*)	2282.68		0.089 *7*	8.334 *38*	0.089 *7*	εK=0.8188 *6*; εL=0.13717 *34*; εM+=0.04403 *18*
(765 *12*)	2273.009		0.466 *24*	7.627 *27*	0.466 *24*	εK=0.8191 *6*; εL=0.13698 *34*; εM+=0.04396 *18*
(774 *12*)	2264.31		0.0296 *23*	8.834 *37*	0.0296 *23*	εK=0.8193 *6*; εL=0.13681 *33*; εM+=0.04390 *18*
(777 *12*)	2260.665		0.188 *13*	8.036 *34*	0.188 *13*	εK=0.8194 *6*; εL=0.13674 *33*; εM+=0.04387 *18*
(795 *12*)	2243.099		0.324 *24*	7.820 *36*	0.324 *24*	εK=0.8198 *6*; εL=0.13641 *32*; εM+=0.04375 *18*
(822 *12*)	2215.977		3.48 *21*	6.82 *3*	3.48 *21*	εK=0.8205 *5*; εL=0.13594 *30*; εM+=0.04356 *18*
(825 *12*)	2213.00		0.049 *10*	8.67 *9*	0.049 *10*	εK=0.8206 *5*; εL=0.13589 *30*; εM+=0.04354 *18*
(865 *12*)	2172.759		2.35 *18*	7.038 *36*	2.35 *18*	εK=0.8214 *5*; εL=0.13525 *28*; εM+=0.04331 *17*
(878 *12*)	2160.126		16.2 *11*	6.213 *33*	16.2 *11*	εK=0.8217 *5*; εL=0.13506 *27*; εM+=0.04323 *17*
(905 *12*)	2132.952		59 *4*	5.679 *32*	59 *4*	εK=0.82223 *49*; εL=0.13468 *26*; εM+=0.04308 *17*
(920 *12*)	2117.8		0.067 *13*	8.64 *9*	0.067 *13*	εK=0.82251 *48*; εL=0.13448 *26*; εM+=0.04301 *15*
(936 *12*)	2101.60		0.024 *3*	9.58 *6*	0.024 *3*	εK=0.8029 *8*; εL=0.1487 *5*; εM+=0.04840 *25*
(962 *12*)	2075.580		0.222 *15*	8.159 *32*	0.222 *15*	εK=0.82323 *46*; εL=0.13396 *24*; εM+=0.04282 *15*
(991 *12*)	2046.883		0.145 *8*	8.372 *27*	0.145 *8*	εK=0.82370 *44*; εL=0.13362 *23*; εM+=0.04268 *15*
(1015 *12*)	2022.62		0.061 *7*	8.77 *5*	0.061 *7*	εK=0.8061 *7*; εL=0.14636 *44*; εM+=0.04751 *22*
(1017 *12*)	2021.359		2.56 *16*	7.148 *30*	2.56 *16*	εK=0.82409 *43*; εL=0.13334 *23*; εM+=0.04258 *14*
(1036 *12*)	2001.885		0.59 *13*	7.8	0.59 *13*	
(1068 *12*)	1969.71		0.059 *11*	8.8	0.059 *11*	
(1100 *12*)	1938.273	2.469×10^{-7}	0.99 *8*	7.6	0.99 *8*	av Eβ=44 *6*; εK=0.82521 *40*; εL=0.13252 *21*; εM+=0.04226 *14*

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^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ ‡	Iε†‡	Log *ft*	I($\varepsilon+\beta^+$)‡	Comments
(1144 *12*)	1894.365	<2.061×10^{-7}	<0.072	>8.8	<0.072	av Eβ=66 *6*; εK=0.82573 *39*; εL=0.13215 *20*; εM+=0.04212 *13* I($\varepsilon+\beta^+$): from 0.060 *12*.
(1173 *12*)	1865.17	8.1×10^{-7} *43*	0.093 *7*	8.718 *34*	0.093 *7*	av Eβ=80 *6*; εK=0.82605 *38*; εL=0.13191 *19*; εM+=0.04204 *13*
(1208 *12*)	1830.45	3.9×10^{-7} *19*	0.016 *5*	9.51 *14*	0.016 *5*	av Eβ=97 *6*; εK=0.82640 *38*; εL=0.13164 *19*; εM+=0.04194 *13*
(1225 *12*)	1813.17	<3.983×10^{-6}	<0.107	>8.7	<0.107	av Eβ=105 *6*; εK=0.82656 *37*; εL=0.13152 *18*; εM+=0.04188 *13* I($\varepsilon+\beta^+$): from 0.094 *13*.
(1335 *12*)	1703.059	1.03×10^{-4} *21*	0.375 *22*	8.230 *27*	0.375 *22*	av Eβ=156 *5*; εK=0.82736 *35*; εL=0.13077 *17*; εM+=0.04160 *13*
(1359 *12*)	1678.771	4.1×10^{-7} *24*	0.009 *5*	10.68 *24*	0.009 *5*	av Eβ=177 *6*; εK=0.8153 *5*; εL=0.13967 *27*; εM+=0.04496 *17*
(1376 *12*)	1662.33	2.0×10^{-5} *7*	0.043 *13*	9.20 *13*	0.043 *13*	av Eβ=174 *5*; εK=0.82752 *35*; εL=0.13051 *16*; εM+=0.04150 *13*
(1442 *12*)	1596.264	5.0×10^{-6} *16*	0.039 *11*	10.15^{1u} *12*	0.039 *11*	av Eβ=217 *6*; εK=0.81673 *47*; εL=0.13859 *25*; εM+=0.04455 *16*
(1466 *12*)	1572.209	8.7×10^{-6} *34*	0.052 *19*	10.06^{1u} *16*	0.052 *19*	av Eβ=228 *6*; εK=0.81709 *46*; εL=0.13830 *24*; εM+=0.04445 *15*
(1510 *12*)	1528.406	0.00183 *22*	1.03 *6*	7.902 *27*	1.03 *6*	av Eβ=234 *5*; εK=0.82737 *36*; εL=0.12966 *15*; εM+=0.04119 *12*
(1524 *12*)	1513.760	2.2×10^{-4} *18*	0.11 *9*	8.88 *36*	0.11 *9*	av Eβ=240 *5*; εK=0.82728 *37*; εL=0.12957 *15*; εM+=0.04116 *12*
(1580 *12*)	1458.165	0.0012 *5*	0.39 *17*	8.37 *19*	0.39 *17*	av Eβ=265 *5*; εK=0.82676 *39*; εL=0.12919 *15*; εM+=0.04102 *12*
(2179 *12*)	859.400	0.046 *25*	1.1 *6*	8.22 *24*	1.1 *6*	av Eβ=527 *5*; εK=0.7971 *13*; εL=0.12248 *23*; εM+=0.03879 *12*
(2252 *12*)	785.915	0.071 *20*	1.33 *40*	8.15 *12*	1.4 *4*	av Eβ=559 *5*; εK=0.7897 *15*; εL=0.12117 *25*; εM+=0.03837 *12*
(2957 *12*)	80.583	0.94074	4 *5*	≥7.5	5 *5*	av Eβ=871 *5*; εK=0.6766 *28*; εL=0.10279 *44*; εM+=0.03249 *14* E(decay): Eβ+=1940 *20* (1961Gr33); =1928 *20* (1961Zy02); =1936 *20* (1963Pr13).

† From intensity balance, unless otherwise noted.
‡ Absolute intensity per 100 decays.

$\gamma(^{166}Er)$

Iγ normalization: from ΣI(γ+ce) to g.s.=100%, assuming no g.s. feeding (ΔJ=2, $\Delta\pi$=no).
$\gamma\gamma$-coin: 1960Wi12, 1961Bo15, 1966Zy01, 1968Mi13, 1979Ad06.

x-rays: (1980VyZZ) (Iγ relative to Iγ(778.8γ)=100)

Energy	Iγ	Identification	
48.221	142.5 *28*	Kα_2	x ray
49.128	252.0 *40*	Kα_1	x ray
55.6	80.2 *15*	Kβ_1'	x ray
57.1	21.0 *4*	Kβ_2'	x ray

1973De22 report, for equilibrium source (^{166}Yb+^{166}Tm+^{166}Er):
I(Tm K x ray):I(82.3γ, ^{166}Tm):I(Er K x ray):I(80.6γ, ^{166}Er):I(785.9γ, ^{166}Er)=
868 *21*:100:805 *32*:90.2 *9*:73 *4*.

E$_\gamma$[#]	I$_\gamma$[#e]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[c]	α[d]	Comments
73.45 *2*	≤0.5	859.400	3$^+$	785.915	2$^+$	M1	6.92 *10*	%Iγ≤0.0954 α(K)=5.80 *8*; α(L)=0.876 *12*; α(M)=0.1944 *27* α(N)=0.0453 *6*; α(O)=0.00655 *9*; α(P)=0.000360 *5* E$_\gamma$,I$_\gamma$: from 1979Ad06. Mult.: from L1:L2:L3=10 *3*:70 *7*:50 *5*.
80.585 *15*	60.4 *32*	80.583	2$^+$	0.0	0$^+$	E2	6.78 *10*	%Iγ=11.52 *15* α(K)=1.671 *23*; α(L)=3.91 *5*; α(M)=0.953 *13* α(N)=0.2154 *30*; α(O)=0.02508 *35*; α(P)=7.29×10^{-5} *10* %I(80.6γ)=11.5 *3* assuming adopted normalization. Mult.: from L1:L2:L3=2270 *115*:26700 *1400*:27500 *1400* and α(K)exp=2.2 *6*; K:L:M=0.40 *4*:1:0.32 *3* (1966Zy01).
84.11 *2*	0.19 *5*	2001.885	(3)$^-$	1917.769	3$^-$	M1	4.68 *7*	%Iγ=0.036 *10* α(K)=3.92 *5*; α(L)=0.591 *8*; α(M)=0.1311 *18* α(N)=0.0306 *4*; α(O)=0.00442 *6*; α(P)=0.0002427 *34* E$_\gamma$,I$_\gamma$: from 1979Ad06; not reported in 1989Ad11. Mult.: from L1:L2:L3=110 *11*:10 *1*:2.5. α(K)exp=21 *9* is not consistent with M1; probably Iγ or Ice contained a typographical error.
86.84[†]		1917.769	3$^-$	1830.45	1$^-$	E2	5.05 *7*	α(K)=1.459 *20*; α(L)=2.75 *4*; α(M)=0.671 *9* α(N)=0.1516 *21*; α(O)=0.01770 *25*; α(P)=6.18×10^{-5} *9* E$_\gamma$: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=87.32. E$_\gamma$: from 1993BaZS. Mult.: from L2/L3≈1 (1993BaZS).

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
96.85 *5*	0.065 *3*	956.241	4^+	859.400	3^+	E2		3.32 *5*	%Iγ=0.0124 *8* α(K)=1.157 *16*; α(L)=1.657 *24*; α(M)=0.403 *6* α(N)=0.0912 *13*; α(O)=0.01069 *15*; α(P)=4.82×10^{-5} *7* Mult.: from L1:L2:L3=3.1 *4*:19 *2*:17 *2* and α(K)exp=2.3 *10*.
112.7[i]		2273.009	3^-	2160.126	3^+				E_γ: from 1993BaZS. Mult.: M1+E2 from L1/L2=0.25, L2/L3=1.3 (1993BaZS). However, level scheme requires E1. Consequently, placement is shown as uncertain here and transition is omitted in adopted gammas.
114.09		1572.209	$(4)^-$	1458.165	2^-	E2		1.799 *25*	α(K)=0.778 *11*; α(L)=0.783 *11*; α(M)=0.1898 *27* α(N)=0.0430 *6*; α(O)=0.00508 *7*; α(P)=3.26×10^{-5} *5* E_γ: from 1993BaZS. Mult.: from L1/L2≈1 (1993BaZS).
118.18 *3*	0.16 *5*	2290.967	$(3)^+$	2172.759	3^+	[M1]		1.765 *25*	%Iγ=0.031 *10* α(K)=1.481 *21*; α(L)=0.2216 *31*; α(M)=0.0492 *7* α(N)=0.01146 *16*; α(O)=0.001657 *23*; α(P)=9.13×10^{-5} *13*
(119.041 *3*)	0.0173 *5*	1075.285	5^+	956.241	4^+	(M1+E2)	+1.94 *+23−21*	1.579 *23*	%Iγ=0.00330 *19* α(K)=0.855 *33*; α(L)=0.556 *19*; α(M)=0.134 *5* α(N)=0.0304 *11*; α(O)=0.00366 *12*; α(P)=4.19×10^{-5} *25* E_γ: from Adopted Gammas. I_γ: from I(810γ) and adopted branching.
130.90 *20*	2.70 *25*	2132.952	3^+	2001.885	$(3)^-$	E1		0.1591 *23*	%Iγ=0.51 *5* α(K)=0.1329 *19*; α(L)=0.02048 *30*; α(M)=0.00453 *7* α(N)=0.001040 *15*; α(O)=0.0001413 *21*; α(P)=6.22×10^{-6} *9* Mult.: from L1:L2:L3=14 *2*:2.8 *3*:3.0 *3* and α(K)exp=0.20 *4*.
139.64[‡] *4*	0.066 *4*	2215.977	$2^-,3^-$	2075.580	(3^-)				%Iγ=0.0126 *10* E_γ: very poor fit and omitted in the fitting; level-energy difference=140.397.
143.2 *6*	0.013 *5*	2729.095	2^+	2586.07	$(4)^+$				%Iγ=0.0025 *10*
147.301 *20*	1.79 *7*	2132.952	3^+	1985.646	3^-	E1		0.1162 *16*	%Iγ=0.341 *21* α(K)=0.0973 *14*; α(L)=0.01481 *21*; α(M)=0.00328 *5* α(N)=0.000753 *11*; α(O)=0.0001029 *14*; α(P)=4.63×10^{-6} *6* Mult.: from L1:L2:L3=2.5 *3*:0.5 *1*:0.6 *1* and α(K)exp=0.083 *20*.
154.508 *25*	1.08 *9*	2132.952	3^+	1978.435	4^+	M1+E2	0.75 *25*	0.75 *4*	%Iγ=0.206 *20*

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.57 *6*; α(L)=0.140 *16*; α(M)=0.032 *4* α(N)=0.0074 *9*; α(O)=0.00098 *9*; α(P)=3.3×10^{-5} *4* Mult.: from L1:L2:L3=14 *2*:2.7 *3*:1.4 *2* and α(K)exp=0.54 *11*. K:L1=6.0:0.8 (1961Gr33), K:L1=6.0:2.0 (1960Ja08).
158.269 *25*	0.186 *9*	2160.126	3$^+$	2001.885	(3)$^-$	E1		0.0961 *13*	%Iγ=0.0355 *24* α(K)=0.0805 *11*; α(L)=0.01218 *17*; α(M)=0.00269 *4* α(N)=0.000619 *9*; α(O)=8.49×10^{-5} *12*; α(P)=3.87×10^{-6} *5* Mult.: from α(K)exp=0.13 *6*.
[x]163.21 *10*	0.030 *4*								%Iγ=0.0057 *8*
166.26[g] *20*	0.020[g] *8*	2213.00		2046.883	2$^+$,3$^+$				%Iγ=0.0038 *15*
166.26[g] *20*	0.020[g] *8*	2382.27	(3)$^+$	2215.977	2$^-$,3$^-$				%Iγ=0.0038 *15*
170.325 *16*	0.390 *20*	956.241	4$^+$	785.915	2$^+$	E2		0.433 *6*	%Iγ=0.074 *5* α(K)=0.258 *4*; α(L)=0.1347 *19*; α(M)=0.0323 *5* α(N)=0.00734 *10*; α(O)=0.000893 *13*; α(P)=1.170×10^{-5} *16* Mult.: from L1:L2:L3=2.5 *3*:6.7 *7*:5.9 *6* and α(K)exp=0.30 *11*.
184.405 *25*	85.0 *18*	264.987	4$^+$	80.583	2$^+$	E2		0.331 *5*	%Iγ=16.2 *9* α(K)=0.2052 *29*; α(L)=0.0964 *14*; α(M)=0.02305 *32* α(N)=0.00524 *7*; α(O)=0.000642 *9*; α(P)=9.48×10^{-6} *13* Mult.: from L1:L2:L3=330 *20*:580 *30*:500 *25* and α(K)exp=0.19 *8*.; (K:L:M=2.1 *1*:1:0.36 *2* (1966Zy01)). δ: δ(E2/M3)=+0.09 *10* (1985DaZV).
194.678[h&] *15*	≈4.0[h]	2132.952	3$^+$	1938.273	3$^+$	M1		0.433 *6*	%Iγ≈0.763 α(K)=0.364 *5*; α(L)=0.0541 *8*; α(M)=0.01199 *17* α(N)=0.00279 *4*; α(O)=0.000404 *6*; α(P)=2.235×10^{-5} *31* Mult.: from L1:L2:L3=43 *5*:3.7 *4*:0.55 *10* and α(K)exp=0.37 *8*.
194.678[h&]	≈0.35[h]	2215.977	2$^-$,3$^-$	2021.359	2$^-$	M1		0.433 *6*	%Iγ≈0.0667 α(K)=0.364 *5*; α(L)=0.0541 *8*; α(M)=0.01199 *17* α(N)=0.00279 *4*; α(O)=0.000404 *6*; α(P)=2.235×10^{-5} *31*
215.185 *14*	27.7 *9*	2132.952	3$^+$	1917.769	3$^-$	E1+M2	−0.09 +*7*−*6*	0.056 *23*	%Iγ=5.28 *31* α(K)=0.047 *18*; α(L)=0.008 *4*; α(M)=0.0017 *9* α(N)=3.9×10^{-4} *21*; α(O)=5.5×10^{-5} *29*; α(P)=2.7×10^{-6} *15* Iγ: from Iγ=28.0 *9* for a doublet in 1989Ad11 and the adopted gamma branching. Mult.: from L1:L2:L3=22 *3*:3.7 *4*:4.2 *5* and α(K)exp=0.034 *7*. δ: from 1985DaZV. Other δ: −0.04 *8* from $\gamma(\theta$,H,t) (1995KrZX).

From ENSDF

$^{166}_{68}Er_{98}$-7

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
215.88 *3*	0.290 *13*	1075.285	5^+	859.400	3^+	[E2]		0.1955 *27*	%Iγ=0.055 *4* α(K)=0.1298 *18*; α(L)=0.0506 *7*; α(M)=0.01201 *17* α(N)=0.00274 *4*; α(O)=0.000340 *5*; α(P)=6.23×10^{-6} *9* E_γ: from 1979Ad06. Other: Eγ=215.185 *14* for a doublet (1989Ad11). I_γ: from Iγ=28.0 *9* (for a doublet) in 1989Ad11 and the adopted gamma branching.
225.9 *5*	0.007 *3*	2273.009	3^-	2046.883	$2^+,3^+$				%Iγ=0.0013 *6*
x228.21 *7*	0.121 *4*								%Iγ=0.0231 *14* α(K)exp=0.39 *10*.
238.581 *20*	0.187 *5*	2132.952	3^+	1894.365	2^+	M1		0.2478 *35*	%Iγ=0.0357 *20* α(K)=0.2083 *29*; α(L)=0.0308 *4*; α(M)=0.00682 *10* α(N)=0.001591 *22*; α(O)=0.0002303 *32*; α(P)=1.276×10^{-5} *18* Mult.: from α(K)exp=0.31 *9*.
255.44 *6*	0.028 *3*	1917.769	3^-	1662.33	1^-				%Iγ=0.0053 *6*
257.36 *10*	0.017 *5*	2243.099	3^-	1985.646	3^-				%Iγ=0.0032 *10*
x277.73 *20*	0.030 *10*								%Iγ=0.0057 *19* α(K)exp=0.16 *15*.
280.461 *20*	1.47 *3*	545.446	6^+	264.987	4^+	E2		0.0849 *12*	%Iγ=0.280 *15* α(K)=0.0611 *9*; α(L)=0.01832 *26*; α(M)=0.00430 *6* α(N)=0.000984 *14*; α(O)=0.0001255 *18*; α(P)=3.11×10^{-6} *4* Mult.: from L1:L2:L3=3.1 *4*:3.3 *4*:2.3 *3* and α(K)exp=0.08 *3*.
287.1 *3*	0.006 *2*	2273.009	3^-	1985.646	3^-				%Iγ=0.0011 *4*
x293.40 *8*	0.051 *8*								%Iγ=0.0097 *16* α(K)exp=0.16 *8*.
298.207 *20*	0.95 *2*	2215.977	$2^-,3^-$	1917.769	3^-	M1		0.1355 *19*	%Iγ=0.181 *10* α(K)=0.1140 *16*; α(L)=0.01676 *23*; α(M)=0.00371 *5* α(N)=0.000865 *12*; α(O)=0.0001254 *18*; α(P)=6.96×10^{-6} *10* Mult.: from α(K)exp=0.12 *3*.
312.58 *20*	0.006 *3*	2290.967	$(3)^+$	1978.435	4^+				%Iγ=0.0011 *6*
x319.883 *18*	0.233 *7*								%Iγ=0.0444 *25* α(K)exp=0.19 *6*.
345.569 *15*	2.43 *6*	1917.769	3^-	1572.209	$(4)^-$	M1+E2	−0.57 *+21−25*	0.080 *7*	%Iγ=0.463 *25* α(K)=0.067 *7*; α(L)=0.0106 *4*; α(M)=0.00237 *8* α(N)=0.000552 *21*; α(O)=7.8×10^{-5} *4*; α(P)=4.0×10^{-6} *5* Mult.: from L1:L2=6.7 *7*:1.0 *1* and α(K)exp=0.10 *2*. δ: from A_2=+0.22 *6*, A_4=−0.07 *15* for 215γ-345γ(θ) (1993AdZY). Other δ: 0.75 *25* from ce data.

From ENSDF

$^{166}_{68}Er_{98}$-8

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
[x]372.40 *4*	0.062 *4*								%Iγ=0.0118 *10*
385.54 *4*	0.076 *3*	2215.977	$2^-,3^-$	1830.45	1^-	E2		0.0331 *5*	%Iγ=0.0145 *9* α(K)=0.0255 *4*; α(L)=0.00594 *8*; α(M)=0.001371 *19* α(N)=0.000315 *4*; α(O)=4.16×10^{-5} *6*; α(P)=1.367×10^{-6} *19* Mult.: from α(K)exp=0.042 *5*.
389.38 *3*	0.254 *7*	1985.646	3^-	1596.264	$(4)^-$	M1		0.0668 *9*	%Iγ=0.0484 *27* α(K)=0.0563 *8*; α(L)=0.00820 *11*; α(M)=0.001815 *25* α(N)=0.000423 *6*; α(O)=6.13×10^{-5} *9*; α(P)=3.42×10^{-6} *5* Mult.: from α(K)exp=0.059 *23*.
404.004 *13*	4.12 *10*	1917.769	3^-	1513.760	3^-	M1+E2	−0.34 *+17−19*	0.057 *4*	%Iγ=0.79 *4* α(K)=0.0481 *34*; α(L)=0.00720 *29*; α(M)=0.00160 *6* α(N)=0.000372 *14*; α(O)=5.36×10^{-5} *24*; α(P)=2.91×10^{-6} *22* Mult.: from L1:L2=7 *1*:0.8 *3* and α(K)exp=0.053 *12*. K:L1=1.85:0.28 (1961Gr33), K:L1=3.3:0.5 (1960Ja08). δ: from A_2=+0.05 *8*, A_4=+0.08 *15* for 215γ-404γ(θ) (1993AdZY). Other: 0.43 *+28−25* from L1:L2 and α(K)exp values using BrIccMixing (2.3d) code.
410.797 *16*	0.490 *10*	956.241	4^+	545.446	6^+	E2		0.0278 *4*	%Iγ=0.093 *5* α(K)=0.02155 *30*; α(L)=0.00481 *7*; α(M)=0.001109 *16* α(N)=0.000255 *4*; α(O)=3.39×10^{-5} *5*; α(P)=1.167×10^{-6} *16* E_γ: other: 410.61 *14* (1970Re16). Iγ(411γ):Iγ(691γ)=0.0233 *5*:1.85 (2006Ku03). Mult.: from α(K)exp=0.019 *10*.
413.430 *18*	0.320 *10*	1985.646	3^-	1572.209	$(4)^-$	E2		0.0273 *4*	%Iγ=0.0610 *35* α(K)=0.02119 *30*; α(L)=0.00472 *7*; α(M)=0.001086 *15* α(N)=0.0002497 *35*; α(O)=3.32×10^{-5} *5*; α(P)=1.148×10^{-6} *16* Mult.: from α(K)exp=0.047 *18*.
429.885 *20*	0.410 *10*	2132.952	3^+	1703.059	$(2,3,4)^+$	M1		0.0516 *7*	%Iγ=0.078 *4* α(K)=0.0435 *6*; α(L)=0.00632 *9*; α(M)=0.001397 *20* α(N)=0.000326 *5*; α(O)=4.72×10^{-5} *7*; α(P)=2.64×10^{-6} *4* Mult.: from α(K)exp=0.055 *21*.
454.20 *3*	0.172 *20*	2132.952	3^+	1678.771	$(4)^+$	(E2)		0.02115 *30*	%Iγ=0.033 *4* α(K)=0.01664 *23*; α(L)=0.00349 *5*; α(M)=0.000801 *11* α(N)=0.0001844 *26*; α(O)=2.472×10^{-5} *35*;

From ENSDF

$^{166}_{68}Er_{98}$-9

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(P)=9.12×10^{-7} *13* Mult.: E1,E2 from α(K)exp=0.009 *5*; $\Delta\pi$=no from level scheme.
459.600 *15*	13.26 *26*	1917.769	3$^-$	1458.165	2$^-$	M1+E2	−0.16 *4*	0.0428 *7*	%Iγ=2.53 *13* α(K)=0.0361 *6*; α(L)=0.00525 *8*; α(M)=0.001162 *17* α(N)=0.000271 *4*; α(O)=3.92×10^{-5} *6*; α(P)=2.181×10^{-6} *35* I_γ: Iγ(1652.8):Iγ(459.6):Iγ(403.9):Iγ(389.4):Iγ(345.6)= 20 *6*:124 *10*:37 *4*:2.8 LT:15.5 *15* (1967Bu14). Mult.: other: M1 from L1:L2:L3=14 *2*:1.0 *2*:0.3 and α(K)exp=0.043 *9*. K:L1=4.6:0.7 (1961Gr33), K:L1=8.0:1.3 (1960Ja08). δ: others: δ=−0.17 *5* from A_2=−0.28 *3*, A_4=+0.01 *7* for 215γ-460$\gamma(\theta)$ and δ=−0.21 *9* from A_2=−0.17 *5*, A_4=+0.06 *9* for 460γ-672$\gamma(\theta)$ (1993AdZY).
464.5 *3*	0.030 *8*	1978.435	4$^+$	1513.760	3$^-$				%Iγ=0.0057 *16*
471.871 *23*	0.558 *13*	1985.646	3$^-$	1513.760	3$^-$	M1		0.0405 *6*	%Iγ=0.106 *6* α(K)=0.0342 *5*; α(L)=0.00495 *7*; α(M)=0.001094 *15* α(N)=0.000255 *4*; α(O)=3.70×10^{-5} *5*; α(P)=2.067×10^{-6} *29* Mult.: from α(K)exp=0.034 *10*.
475.36 *25*	0.055 *10*	2413.68	(2,3,4)	1938.273	3$^+$				%Iγ=0.0105 *20*
[x]477.24 *20*	0.028 *7*								%Iγ=0.0053 *14*
481.33 *10*	0.089 *7*	2160.126	3$^+$	1678.771	(4)$^+$				%Iγ=0.0170 *16*
488.19 *8*	0.18 *4*	2001.885	(3)$^-$	1513.760	3$^-$				%Iγ=0.034 *8*
496.935 *16*	0.990 *20*	1572.209	(4)$^-$	1075.285	5$^+$	(E1)		0.00566 *8*	%Iγ=0.189 *10* α(K)=0.00480 *7*; α(L)=0.000672 *9*; α(M)=0.0001478 *21* α(N)=3.43×10^{-5} *5*; α(O)=4.88×10^{-6} *7*; α(P)=2.57×10^{-7} *4* Mult.: from α(K)exp=0.0072 *35*.
520.92 *4*	0.32 *4*	1596.264	(4)$^-$	1075.285	5$^+$				%Iγ=0.061 *8* E_γ: from deconvolution of a doublet (1989Ad11). I_γ: see comment on 521γ from 786 level.
520.99 *4*	0.998 *23*	785.915	2$^+$	264.987	4$^+$	E2		0.01480 *21*	%Iγ=0.190 *10* α(K)=0.01184 *17*; α(L)=0.002302 *32*; α(M)=0.000524 *7* α(N)=0.0001210 *17*; α(O)=1.643×10^{-5} *23*; α(P)=6.57×10^{-7} *9* E_γ: others: 520.65 *10* (1970Re16), 521.2 *10* (1967Bu14). L1:L2=0.4 *2*:0.15 and α(K)exp=0.012 *5* for the doublet. I_γ,E_γ: Iγ is from Iγ(521γ from 786 level)/Iγ(705γ)=0.0172

From ENSDF

$^{166}_{68}Er_{98}$-10

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									4 (2006Ku03) and I(705γ). Eγ=520.945 *15*, Iγ=1.32 *3* for doublet in 1989Ad11, so Iγ(521γ from 1596 level)=0.32 *4*. Note, however, that the resulting 521γ branch from the 1596 level is somewhat smaller than the value adopted from β^- decay (1200 y). 1989Ad11 estimated Eγ=520.99 *4*, Iγ=0.89 *9* and Eγ=520.92 *4*, Iγ=0.42 *7* for the respective components of the doublet they observed.
527.58 *10*	0.154 *5*	1985.646	3^-	1458.165	2^-				%Iγ=0.0294 *17*
529.835 *20*	0.947 *20*	1075.285	5^+	545.446	6^+	E2+M1	−25 *+4−5*	0.01421 *20*	%Iγ=0.181 *10* α(K)=0.01139 *16*; α(L)=0.002194 *31*; α(M)=0.000499 *7* α(N)=0.0001152 *16*; α(O)=1.567×10^{-5} *22*; α(P)=6.33×10^{-7} *9* Mult.: from α(K)exp=0.012 *6*.
536.67 *3*	0.671 *18*	2132.952	3^+	1596.264	$(4)^-$	E1		0.00478 *7*	%Iγ=0.128 *7* α(K)=0.00406 *6*; α(L)=0.000566 *8*; α(M)=0.0001243 *17* α(N)=2.88×10^{-5} *4*; α(O)=4.11×10^{-6} *6*; α(P)=2.181×10^{-7} *31* Mult.: from α(K)exp=0.0038 *20*.
543.69 *3*	0.387 *11*	2001.885	$(3)^-$	1458.165	2^-	E2,M1		0.021 *7*	%Iγ=0.074 *4* α(K)=0.017 *7*; α(L)=0.0027 *7*; α(M)=0.00061 *15* α(N)=0.000142 *35*; α(O)=2.0×10^{-5} *6*; α(P)=1.0×10^{-6} *4* Mult.: from α(K)exp=0.025 *14*.
[x]547.04 *25*	0.028 *7*								%Iγ=0.0053 *14*
557.514 *18*	1.54 *3*	1513.760	3^-	956.241	4^+	E1		0.00440 *6*	%Iγ=0.294 *15* α(K)=0.00374 *5*; α(L)=0.000520 *7*; α(M)=0.0001142 *16* α(N)=2.65×10^{-5} *4*; α(O)=3.78×10^{-6} *5*; α(P)=2.012×10^{-7} *28* Mult.: α(K)exp=0.004 *2*.
560.77 *3*	0.363 *12*	2132.952	3^+	1572.209	$(4)^-$				%Iγ=0.069 *4* Eγ: other: 563.2 *10* (1967Bu14).
563.21 *3*	0.318 *10*	2021.359	2^-	1458.165	2^-	E2,M1		0.019 *7*	%Iγ=0.0606 *35* α(K)=0.016 *6*; α(L)=0.0025 *6*; α(M)=0.00055 *14* α(N)=1.29×10^{-4} *32*; α(O)=1.8×10^{-5} *5*; α(P)=9 Mult.: from α(K)exp=0.015 *8*.
572.2		1528.406	2^+	956.241	4^+				Eγ: from 1993BaZS.
587.90 *16*	0.27 *5*	2160.126	3^+	1572.209	$(4)^-$				%Iγ=0.051 *10*
594.409 *15*	18.3 *4*	859.400	3^+	264.987	4^+	E2+M1	−12 *2*	0.01076 *15*	%Iγ=3.49 *19* A_2=+0.56 *14* (1987Kr12) A_2=+0.428 *20* (1996KrZW) α(K)=0.00872 *13*; α(L)=0.001586 *22*; α(M)=0.000359 *5* α(N)=8.30×10^{-5} *12*; α(O)=1.140×10^{-5} *16*; α(P)=4.89×10^{-7} *7* Mult.: from L1:L2:L3=4.5 *5*:1.3 *2*:0.8 *1* and α(K)exp=0.0076

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									20. K:L1=2.5:0.5 (1960Ja08). δ: from $\gamma(\theta$,H,t) (1995KrZX). Other δ: >+31 from $\gamma\gamma(\theta)$ (1980Bu26); +5.5 *+74−22* (1987Kr12, 1985DaZV); −1.3 *+3−5* from 594γ-184$\gamma(\theta)$ (1993AdZY), however, evaluator (C.M. Baglin − 2008Ba14) of cannot reproduce this value using the authors' stated A_2 and A_4 coefficients.
598.764 *19*	11.13 *23*	1458.165	2^-	859.400	3^+	E1(+M2)	−0.02 *6*	0.0038 *4*	%Iγ=2.12 *11* α(K)=0.00323 *30*; α(L)=0.00045 *5*; α(M)=9.8×10^{-5} *11* α(N)=2.29×10^{-5} *26*; α(O)=3.3×10^{-6} *4*; α(P)=1.75×10^{-7} *20* Mult.: other: E1 from L1:L2:L3=1.2 *2*:0.2 and α(K)exp=0.0042 *13*.
604.553 *15*	1.047 *23*	2132.952	3^+	1528.406	2^+	E2		0.01025 *14*	%Iγ=0.200 *11* α(K)=0.00832 *12*; α(L)=0.001506 *21*; α(M)=0.000341 *5* α(N)=7.88×10^{-5} *11*; α(O)=1.083×10^{-5} *15*; α(P)=4.67×10^{-7} *7* Mult.: from α(K)exp=0.0086 *18* (1974Ar28).
610.8[g] *3*	0.015[g] *6*	2273.009	3^-	1662.33	1^-				%Iγ=0.0029 *12*
610.8[g] *3*	0.015[g] *6*	2783.70	1^+	2172.759	3^+				%Iγ=0.0029 *12*
615.963 *15*	0.763 *17*	1572.209	$(4)^-$	956.241	4^+	(E1(+M2))		0.0041 *6*	%Iγ=0.146 *8* α(K)=0.0035 *5*; α(L)=0.00049 *8*; α(M)=0.000109 *17* α(N)=2.5×10^{-5} *4*; α(O)=3.6×10^{-6} *6*; α(P)=1.94×10^{-7} *31*
619.49[g] *25*	0.015[g] *6*	2132.952	3^+	1513.760	3^-				%Iγ=0.0029 *12*
619.49[g] *25*	0.015[g] *6*	2215.977	2^-,3^-	1596.264	$(4)^-$				%Iγ=0.0029 *12*
631.62 *10*	0.380 *10*	2160.126	3^+	1528.406	2^+	(E2)		0.00924 *13*	%Iγ=0.072 *4* α(K)=0.00752 *11*; α(L)=0.001336 *19*; α(M)=0.000302 *4* α(N)=6.98×10^{-5} *10*; α(O)=9.63×10^{-6} *13*; α(P)=4.23×10^{-7} *6* Mult.: from α(K)exp=0.009 *5* (1979Ad06), 0.006 3 (1974Ar28).
640.04 *3*	0.263 *8*	1596.264	$(4)^-$	956.241	4^+				%Iγ=0.0502 *29*
643.90 *10*	0.120 *6*	2215.977	2^-,3^-	1572.209	$(4)^-$				%Iγ=0.0229 *16*
646.75[ha†] *4*	≈0.04[h]	2160.126	3^+	1513.760	3^-				%Iγ≈0.076 E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=646.364.
646.75[ha] *4*	≈0.08[h]	2243.099	3^-	1596.264	$(4)^-$				%Iγ≈0.015
654.358 *16*	1.97 *4*	1513.760	3^-	859.400	3^+	E1		0.00314 *4*	%Iγ=0.376 *20* α(K)=0.00267 *4*; α(L)=0.000368 *5*; α(M)=8.08×10^{-5} *11*

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(N)=1.875×10^{-5} *26*; α(O)=2.69×10^{-6} *4*; α(P)=1.446×10^{-7} *20* Mult.: from α(K)exp=0.0046 *25*.
659.04 *20*	0.029 *6*	2172.759	3$^+$	1513.760	3$^-$				%Iγ=0.0055 *12*
672.242 *20*	32.4 *7*	1458.165	2$^-$	785.915	2$^+$	E1		0.00297 *4*	%Iγ=6.18 *33* α(K)=0.002526 *35*; α(L)=0.000348 *5*; α(M)=7.63×10^{-5} *11* α(N)=1.772×10^{-5} *25*; α(O)=2.54×10^{-6} *4*; α(P)=1.370×10^{-7} *19* Mult.: L1:L2:L3=1.9 *2*:0.2 *1*:0.2 *1* and α(K)exp=0.0026 *9*. δ: <−0.01 from $\gamma\gamma(\theta)$ (1980Bu26); +0.16 *4* from 672γ-785$\gamma(\theta)$ (1993AdZY).
674.788 *22*	13.6 *3*	2132.952	3$^+$	1458.165	2$^-$	E1		0.00295 *4*	%Iγ=2.59 *14* α(K)=0.002507 *35*; α(L)=0.000345 *5*; α(M)=7.57×10^{-5} *11* α(N)=1.758×10^{-5} *25*; α(O)=2.520×10^{-6} *35*; α(P)=1.360×10^{-7} *19* Mult.: from α(K)exp=0.002 *1*.
691.250 *17*	39.1 *8*	956.241	4$^+$	264.987	4$^+$	E2+M1	−3.7 *5*	0.00802 *20*	%Iγ=7.5 *4* A_2=+0.33 *18* (1987Kr12) A_2=+0.11 *6* (1996KrZW) α(K)=0.00660 *17*; α(L)=0.001105 *23*; α(M)=0.000248 *5* α(N)=5.75×10^{-5} *12*; α(O)=8.03×10^{-6} *17*; α(P)=3.76×10^{-7} *10* E_γ: others: 691.21 *4* (1970Re16), 691.8 *5* (1967Bu14). Mult.: from L1:L2:L3=5.6 *6*:0.5 *2*:0.5 *2* and α(K)exp=0.0068 *16*. K:L1=1.6:0.27 (1961Gr33), K:L1=3.6:0.7 (1960Ja08). δ: data from ε decay: −3.7 *5* from $\gamma\gamma(\theta)$ (1980Bu26); −8.5<δ<+7.0 (1987Kr12, 1985DaZV), −13 *9* from 691γ-184$\gamma(\theta)$ (1993AdZY), +5.5 *+28−14* from $\gamma(\theta$,H,t) (1995KrZX).
702.28 *10*	2.71 *7*	2215.977	2$^-$,3$^-$	1513.760	3$^-$	M1		0.01475 *21*	%Iγ=0.517 *29* α(K)=0.01247 *17*; α(L)=0.001781 *25*; α(M)=0.000393 *6* α(N)=9.17×10^{-5} *13*; α(O)=1.332×10^{-5} *19*; α(P)=7.49×10^{-7} *10* Mult.: from α(K)exp=0.014 *4*.
705.333 *20*	58.0 *12*	785.915	2$^+$	80.583	2$^+$	M1+E2	−5 *+3−14*	0.0074 *12*	%Iγ=11.1 *6* A_2=+0.30 *13* (1996KrZW) α(K)=0.0061 *10*; α(L)=0.00103 *12*; α(M)=0.000231 *27* α(N)=5.3×10^{-5} *6*; α(O)=7.5×10^{-6} *10*; α(P)=3.5×10^{-7} *7* Mult.: from L1:L2:L3=7.0 *7*:0.7 *1*:0.7 *1* and α(K)exp=0.0067 *14*. K:L1=2.4:0.4 (1961Gr33), K:L1=5.6:1.0 (1960Ja08). δ: from $\gamma\gamma(\theta)$ (1987Kr12). Other: −22 *+13−7* (1980Bu26), −7 *+3−23* from $\gamma(\theta$,H,t) (1995KrZX).
712.817 *22*	2.19 *4*	1572.209	(4)$^-$	859.400	3$^+$	E1		0.00264 *4*	%Iγ=0.418 *22*

From ENSDF

$^{166}_{68}Er_{98}$-13

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.002243 *31*; α(L)=0.000308 *4*; α(M)=6.75×10^{-5} *9* α(N)=1.568×10^{-5} *22*; α(O)=2.250×10^{-6} *31*; α(P)=1.219×10^{-7} *17* Mult.: from α(K)exp=0.0032 *17*.
727.858 *20*	2.09 *10*	1513.760	3$^-$	785.915	2$^+$	E1		2.53×10^{-3} *4*	%Iγ=0.399 *27* α(K)=0.002151 *30*; α(L)=0.000295 *4*; α(M)=6.47×10^{-5} *9* α(N)=1.502×10^{-5} *21*; α(O)=2.156×10^{-6} *30*; α(P)=1.170×10^{-7} *16* I$_\gamma$: Other: Iγ(1248.7):Iγ(727.8):Iγ(654.4):Iγ(557.5)= 5 *2*:11.5 *3*:11 *1*:11 *2* (1967Bu14).
729.38 *3*	0.45 *4*	2243.099	3$^-$	1513.760	3$^-$	M1		0.01342 *19*	Mult.: from α(K)exp=0.0013 *5*. %Iγ=0.086 *9* α(K)=0.01135 *16*; α(L)=0.001619 *23*; α(M)=0.000357 *5* α(N)=8.33×10^{-5} *12*; α(O)=1.210×10^{-5} *17*; α(P)=6.81×10^{-7} *10* Mult.: from α(K)exp=0.023 *13*.
736.832 *22*	0.721 *24*	1596.264	(4)$^-$	859.400	3$^+$	E1		2.47×10^{-3} *4*	%Iγ=0.137 *8* α(K)=0.002099 *29*; α(L)=0.000287 *4*; α(M)=6.30×10^{-5} *9* α(N)=1.464×10^{-5} *21*; α(O)=2.102×10^{-6} *29*; α(P)=1.142×10^{-7} *16*
742.59 *10*	0.138 *12*	1528.406	2$^+$	785.915	2$^+$				%Iγ=0.0263 *26*
743.8 *5*	0.037 *13*	2729.095	2$^+$	1985.646	3$^-$				%Iγ=0.0071 *25*
757.798 *17*	12.33 *25*	2215.977	2$^-$,3$^-$	1458.165	2$^-$	M1		0.01220 *17*	%Iγ=2.35 *12* α(K)=0.01032 *14*; α(L)=0.001470 *21*; α(M)=0.000324 *5* α(N)=7.56×10^{-5} *11*; α(O)=1.099×10^{-5} *15*; α(P)=6.19×10^{-7} *9* Mult.: from α(K)exp=0.011 *3*. δ: 0.03 *+18−14* if J^π=2$^-$ or +0.31 *9* if J^π=3$^-$ (1985DaZV).
778.814 *15*	100.0 *20*	859.400	3$^+$	80.583	2$^+$	E2+M1	−20 *+2−4*	0.00574 *8*	%Iγ=19.1 *10* A$_2$=+0.25 *8* (1987Kr12) A$_2$=+0.186 *45* (1996KrZW) α(K)=0.00474 *7*; α(L)=0.000778 *11*; α(M)=0.0001743 *24* α(N)=4.04×10^{-5} *6*; α(O)=5.65×10^{-6} *8*; α(P)=2.69×10^{-7} *4* E$_\gamma$: others: 778.80 *4* (1970Re16), 779.8 *6* (1967Bu14).

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									L1:L2:L3=11 *1*:2.2 *3*:1.0 *2* (α(K)=4.79×10^{-3} (E2 theory)). α(K)exp=0.00474 (1974Ar28). K:L1=3.15:0.55 (1961Gr33), K:L1=7.3:1.3 (1960Ja08). δ: others: +8.4 *7* from $\gamma\gamma(\theta)$ (1980Bu26); +15 *+26−6* (1987Kr12, 1985DaZV), +10 *+130−5* from 598γ-778$\gamma(\theta)$ (1993AdZY), −6.2 *+8−10* from $\gamma(\theta$,H,t) (1995KrZX); reason for discrepant results is not known.
785.904 *15*	52.5 *6*	785.915	2$^+$	0.0	0$^+$	E2		0.00561 *8*	%Iγ=10.0 *5* A$_2$=0.34 *15* (1987Kr12) α(K)=0.00463 *6*; α(L)=0.000759 *11*; α(M)=0.0001700 *24* α(N)=3.94×10^{-5} *6*; α(O)=5.52×10^{-6} *8*; α(P)=2.63×10^{-7} *4* I$_\gamma$: from Iγ(786γ)/Iγ(705γ)=0.906 *10* (2006Ku03) and I(705γ); in excellent agreement with Iγ=52.4 *11* from 1989Ad11. Mult.: from L1:L2:L3=3.3 *10*:1.3 *4*:0.5 *2* and α(K)exp=0.0046 *3* (1979Ad06,1989Ad11); α(K)exp=0.0046 *2* (1974Ar28).
797.02 *20*	0.023 *5*	2393.137	2$^+$,3$^+$	1596.264	(4)$^-$				%Iγ=0.0044 *10*
[x]799.74 *20*	0.023 *5*								%Iγ=0.0044 *10*
810.290 *16*	5.78 *13*	1075.285	5$^+$	264.987	4$^+$	E2+M1	−21.2 *+18−21*	0.00526 *7*	%Iγ=1.10 *6* α(K)=0.00435 *6*; α(L)=0.000705 *10*; α(M)=0.0001578 *22* α(N)=3.66×10^{-5} *5*; α(O)=5.14×10^{-6} *7*; α(P)=2.471×10^{-7} *35* Mult.: other: E2 from L1:L2=1.0 *2*:0.2 *1* and α(K)exp=0.006 *2*. δ: other: <−17 from $\gamma\gamma(\theta)$ (1980Bu26). +0.39 *+19−17* from 810γ-184$\gamma(\theta)$ (1993AdZY); however, evaluator obtains −0.35 *+9−11* and −3.8 *+11−21* (first solution preferred) using authors' stated A$_2$ and A$_4$.
814.82 *20*	0.062 *12*	2273.009	3$^-$	1458.165	2$^-$				%Iγ=0.0118 *24*
824.52[g] *11*	0.026[g] *7*	2282.68	2$^{(+)}$,3	1458.165	2$^-$				%Iγ=0.0050 *14*
824.52[g] *11*	0.026[g] *7*	2352.91	2$^{(+)}$,3	1528.406	2$^+$				%Iγ=0.0050 *14*
832.88 *7*	0.051 *4*	2290.967	(3)$^+$	1458.165	2$^-$				%Iγ=0.0097 *9*
[x]858.62 *9*	0.042 *7*								%Iγ=0.0080 *14*
868.47 *12*	0.052 *9*	2382.27	(3)$^+$	1513.760	3$^-$				%Iγ=0.0099 *18*
875.650 *15*	21.5 *4*	956.241	4$^+$	80.583	2$^+$	E2		0.00444 *6*	%Iγ=4.10 *21* α(K)=0.00369 *5*; α(L)=0.000584 *8*; α(M)=0.0001305 *18* α(N)=3.03×10^{-5} *4*; α(O)=4.27×10^{-6} *6*; α(P)=2.097×10^{-7} *29*

From ENSDF

$\gamma(^{166}\text{Er})$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
								Iγ(875γ):Iγ(691γ)=1.026 *16*:1.85 (2006Ku03). Mult.: from L1:L2:L3=2.0 *2*:0.4 *1*:0.2 and α(K)exp=0.0035 *4* (1979Ad06,1989Ad11), 0.0036 *3* (1974Ar28). K:L1=0.5:0.1 (1961Gr33). δ: δ(E2/M3)=−0.07 *9* (1985DaZV).
899.80 *18*	0.020 *4*	2413.68	(2,3,4)	1513.760	3^-			%Iγ=0.0038 *8*
903.01 *13*	0.029 *5*	1978.435	4^+	1075.285	5^+			%Iγ=0.0055 *10*
924.21 *11*	0.063 *9*	2382.27	$(3)^+$	1458.165	2^-			%Iγ=0.0120 *18*
946.57 *8*	0.038 *5*	2542.88	(3^-)	1596.264	$(4)^-$			%Iγ=0.0072 *10*
982.00 *15*	0.051 *9*	1938.273	3^+	956.241	4^+			%Iγ=0.0097 *18*
[x]985.53 *15*	0.052 *9*							%Iγ=0.0099 *18*
[x]1004.99 *20*	0.028 *8*							%Iγ=0.0053 *15*
1017.29 *6*	0.077 *5*	2475.40	$(1,2,3)^+$	1458.165	2^-			%Iγ=0.0147 *12*
1022.175 *23*	0.294 *11*	1978.435	4^+	956.241	4^+			%Iγ=0.0561 *35*
1034.79 *13*	0.029 *5*	1894.365	2^+	859.400	3^+			%Iγ=0.0055 *10*
1045.648 *20*	0.901 *20*	2001.885	$(3)^-$	956.241	4^+	E1	1.26×10^{-3} *2*	%Iγ=0.172 *9* α(K)=0.001075 *15*; α(L)=0.0001447 *20*; α(M)=3.17×10^{-5} *4* α(N)=7.37×10^{-6} *10*; α(O)=1.063×10^{-6} *15*; α(P)=5.90×10^{-8} *8* Mult.: from α(K)exp=0.0018 *9*.
1057.67 *4*	3.66 *12*	2132.952	3^+	1075.285	5^+	E2	0.00300 *4*	%Iγ=0.70 *4* α(K)=0.002511 *35*; α(L)=0.000379 *5*; α(M)=8.43×10^{-5} *12* α(N)=1.957×10^{-5} *27*; α(O)=2.78×10^{-6} *4*; α(P)=1.430×10^{-7} *20* Mult.: from α(K)exp=0.0024 *3* (1974Ar28).
1078.876 *22*	2.51 *5*	1938.273	3^+	859.400	3^+	M1	0.00513 *7*	%Iγ=0.479 *25* α(K)=0.00435 *6*; α(L)=0.000612 *9*; α(M)=0.0001348 *19* α(N)=3.14×10^{-5} *4*; α(O)=4.57×10^{-6} *6*; α(P)=2.59×10^{-7} *4* E_γ: other: 1080 *1* (1967Bu14). Mult.: from α(K)exp=0.0059 *20*.
1084.826 *17*	1.92 *4*	2160.126	3^+	1075.285	5^+	E2	0.00285 *4*	%Iγ=0.366 *19* α(K)=0.002387 *33*; α(L)=0.000359 *5*; α(M)=7.96×10^{-5} *11* α(N)=1.850×10^{-5} *26*; α(O)=2.63×10^{-6} *4*; α(P)=1.360×10^{-7} *19* Mult.: from α(K)exp=0.0024 *2* (1974Ar28).
1090.70 *6*	0.113 *6*	2046.883	$2^+,3^+$	956.241	4^+			%Iγ=0.0215 *16*
1097.46 *5*	0.302 *9*	2172.759	3^+	1075.285	5^+	E2	0.00278 *4*	%Iγ=0.0576 *33* α(K)=0.002333 *33*; α(L)=0.000350 *5*; α(M)=7.76×10^{-5} *11* α(N)=1.803×10^{-5} *25*; α(O)=2.57×10^{-6} *4*; α(P)=1.329×10^{-7} *19* Mult.: from α(K)exp=0.0035 *19*.
1119.50[h@†]	≈0.68[h]	1978.435	4^+	859.400	3^+			%Iγ≈0.130

From ENSDF

$^{166}_{68}Er_{98}$-16

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=1119.030.
1119.50[h@]	≈0.67[h]	2075.580	(3$^-$)	956.241	4$^+$				%Iγ≈0.128
[x]1126.807 *25*	0.380 *11*								%Iγ=0.072 *4*
									α(K)exp=0.0032 *8* (1993BaZS).
1131.872 *25*	1.28 *3*	1917.769	3$^-$	785.915	2$^+$	E1		1.09×10^{-3} *2*	%Iγ=0.244 *13*
									α(K)=0.000931 *13*; α(L)=0.0001249 *17*; α(M)=2.73×10^{-5} *4*
									α(N)=6.36×10^{-6} *9*; α(O)=9.18×10^{-7} *13*; α(P)=5.11×10^{-8} *7*; α(IPF)=4.50×10^{-6} *6*
									Mult.: from α(K)exp=0.0013 *7*.
1142.45[g] *3*	0.578[g] *13*	2001.885	(3)$^-$	859.400	3$^+$				%Iγ=0.110 *6*
									Mult.: α(K)exp≈0.0010, mult=E1 for doublet (1993BaZS).
1142.45[g] *3*	0.578[g] *13*	2600.637	1$^+$	1458.165	2$^-$				%Iγ=0.110 *6*
									Mult.: α(K)exp≈0.0010, mult=E1 for doublet (1993BaZS).
1152.350 *16*	8.20 *21*	1938.273	3$^+$	785.915	2$^+$	M1		0.00438 *6*	%Iγ=1.56 *9*
									α(K)=0.00371 *5*; α(L)=0.000521 *7*; α(M)=0.0001148 *16*
									α(N)=2.68×10^{-5} *4*; α(O)=3.89×10^{-6} *5*; α(P)=2.207×10^{-7} *31*; α(IPF)=1.945×10^{-6} *27*
									I_γ: other: Iγ(1152.3):Iγ(1078.9)=55 *6*:6.5 *30* (1967Bu14).
									Mult.: from α(K)exp=0.0040 *14* (1979Ad06,1989Ad11) and 0.0033 *5* (1993BaZS).
1161.955 *16*	3.78 *9*	2021.359	2$^-$	859.400	3$^+$	E1		1.05×10^{-3} *2*	%Iγ=0.72 *4*
									α(K)=0.000888 *12*; α(L)=0.0001190 *17*; α(M)=2.60×10^{-5} *4*
									α(N)=6.06×10^{-6} *8*; α(O)=8.75×10^{-7} *12*; α(P)=4.88×10^{-8} *7*; α(IPF)=1.024×10^{-5} *14*
									Mult.: from α(K)exp=0.0012 *6*.
1176.704 *16*	50.5 *10*	2132.952	3$^+$	956.241	4$^+$	M1+E2	+0.20 *4*	0.00410 *6*	%Iγ=9.6 *5*
									A_2=+0.37 *15* (1987Kr12)
									α(K)=0.00347 *5*; α(L)=0.000488 *8*; α(M)=0.0001074 *16*
									α(N)=2.51×10^{-5} *4*; α(O)=3.64×10^{-6} *6*; α(P)=2.062×10^{-7} *33*; α(IPF)=3.70×10^{-6} *5*
									E_γ: other: 1177.8 *6* (1967Bu14).
									Mult.: from α(K)exp=0.0032 *2* (1974Ar28).
									δ: weighted average of +0.24 *4* from 1177γ-876γ(θ) (1993AdZY), +0.11 *7* from 1177γ-876γ(θ) (1993AdZY) and +0.16 *11* (1987Kr12, 1985DaZV).

From ENSDF

$^{166}_{68}Er_{98}$-17

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1187.49 *4*	0.560 *14*	2046.883	$2^+,3^+$	859.400	3^+	M1(+E2)		0.0032 *8*	%Iγ=0.107 *6* α(K)=0.0027 *7*; α(L)=0.00039 *9*; α(M)=8.6×10^{-5} *21* α(N)=2.0×10^{-5} *5*; α(O)=2.9×10^{-6} *7*; α(P)=1.6×10^{-7} *5*; α(IPF)=4.4×10^{-6} *4* Mult.: from α(K)exp=0.0030 *7* (1993BaZS).
1192.516 *16*	0.880 *20*	1978.435	4^+	785.915	2^+	E2		2.36×10^{-3} *3*	%Iγ=0.168 *9* α(K)=0.001982 *28*; α(L)=0.000292 *4*; α(M)=6.48×10^{-5} *9* α(N)=1.505×10^{-5} *21*; α(O)=2.151×10^{-6} *30*; α(P)=1.130×10^{-7} *16*; α(IPF)=4.41×10^{-6} *6* Mult.: from α(K)exp=0.0015 *8* (1979Ad06,1989Ad11) and 0.0020 *6* (1993BaZS).
1200.66 *3*	1.66 *5*	2729.095	2^+	1528.406	2^+	E2,M1		0.0032 *8*	%Iγ=0.317 *18* α(K)=0.0027 *7*; α(L)=0.00038 *9*; α(M)=8.4×10^{-5} *20* α(N)=2.0×10^{-5} *5*; α(O)=2.8×10^{-6} *7*; α(P)=1.6×10^{-7} *4*; α(IPF)=5.7×10^{-6} *5* Mult.: from α(K)exp=4.3×10^{-3} *22*.
1203.873 *20*	5.49 *11*	2160.126	3^+	956.241	4^+	M1+E2		0.0031 *8*	%Iγ=1.05 *6* α(K)=0.0026 *7*; α(L)=0.00038 *9*; α(M)=8.3×10^{-5} *20* α(N)=1.9×10^{-5} *5*; α(O)=2.8×10^{-6} *7*; α(P)=1.5×10^{-7} *4*; α(IPF)=6.1×10^{-6} *6* Mult.: from α(K)exp=0.0026 *4* (1974Ar28).
1216.173[h†] *17*	2.5[h] *5*	2001.885	$(3)^-$	785.915	2^+				%Iγ=0.48 *10* E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=1215.964. I_γ: from ce-γ coin data (1989Ad11); Iγ=3.72 *8* for doublet.
1216.173[fi] *17*		2075.580	(3^-)	859.400	3^+				I_γ: Iγ must be small. Placement is uncertain.
1216.173[h‡] *17*	1.2[h] *5*	2172.759	3^+	956.241	4^+				%Iγ=0.23 *10* E_γ: very poor fit and omitted in the fitting; level-energy difference=1216.513. I_γ: from ce-γ coin data (1989Ad11); Iγ=3.72 *8* for doublet.
1235.433 *16*	9.8 *2*	2021.359	2^-	785.915	2^+	E1(+M2)	+0.04 *+9–6*	0.00098 *12*	%Iγ=1.87 *10* A_2=−0.51 *21* (1987Kr12)

From ENSDF

$^{166}_{68}Er_{98}$-18

γ(^{166}Er) (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.00081 *10*; α(L)=0.000108 *15*; α(M)=2.36×10^{-5} *34* α(N)=5.5×10^{-6} *8*; α(O)=8.0×10^{-7} *11*; α(P)=4.4×10^{-8} *6*; α(IPF)=3.71×10^{-5} *7* Mult.: other: E1 from α(K)exp=0.8×10^{-3} *4* (1979Ad06), 0.00092 *20* (1993BaZS). δ: other: +0.1 *2* (1987Kr12, 1985DaZV), +0.05 *10* from γ(θ,H,t) (1995KrZX).
1242.2 *3*	0.035 *7*	2101.60	(4$^+$)	859.400	3$^+$				%Iγ=0.0067 *14*
1248.78 *3*	1.175 *25*	1513.760	3$^-$	264.987	4$^+$	E1+M2	+0.13 *3*	0.00109 *7*	%Iγ=0.224 *12* α(K)=0.00089 *6*; α(L)=0.000121 *8*; α(M)=2.64×10^{-5} *18* α(N)=6.2×10^{-6} *4*; α(O)=8.9×10^{-7} *6*; α(P)=4.98×10^{-8} *35*; α(IPF)=4.25×10^{-5} *7* E_γ: other: 1250.3 *15* (1967Bu14). α(K)exp=0.0011 *4* (1993BaZS).
1256.7 *3*	0.047 *20*	2213.00		956.241	4$^+$				%Iγ=0.009 *4*
1263.412 *16*	4.77 *10*	1528.406	2$^+$	264.987	4$^+$	E2		2.12×10^{-3} *3*	%Iγ=0.91 *5* α(K)=0.001772 *25*; α(L)=0.000259 *4*; α(M)=5.73×10^{-5} *8* α(N)=1.331×10^{-5} *19*; α(O)=1.906×10^{-6} *27*; α(P)=1.010×10^{-7} *14*; α(IPF)=1.315×10^{-5} *18* E_γ: other: 1265.3 *10* (1967Bu14). Mult.: consistent with α(K)exp=0.0030 *12* (1979Ad06) and 0.0021 *4* (1993BaZS).
1273.540 *16*	78.6 *16*	2132.952	3$^+$	859.400	3$^+$	M1+E2	−0.11 *8*	0.00344 *6*	%Iγ=15.0 *8* A_2=−0.33 *8* (1987Kr12) α(K)=0.00290 *5*; α(L)=0.000407 *7*; α(M)=8.96×10^{-5} *15* α(N)=2.089×10^{-5} *34*; α(O)=3.04×10^{-6} *5*; α(P)=1.725×10^{-7} *29*; α(IPF)=1.768×10^{-5} *26* E_γ: other: 1275.3 *6* (1967Bu14). Mult.: from α(K)exp=0.0029 *2* (1974Ar28). K:L1=3.1:0.45 (1960Ja08). δ: from 1987Kr12, 1985DaZV. Other: δ=+0.30 *6* from 1273γ-778γ(θ) (1993AdZY).
1287.1 *3*	0.023 *6*	2243.099	3$^-$	956.241	4$^+$				%Iγ=0.0044 *12*
1290.368[‡] *22*	0.416 *11*	2075.580	(3$^-$)	785.915	2$^+$				%Iγ=0.079 *4* E_γ: very poor fit and omitted in the fitting; level-energy difference=1289.659.
1300.725 *16*	7.05 *14*	2160.126	3$^+$	859.400	3$^+$	M1		0.00329 *5*	%Iγ=1.34 *7*

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.00277 *4*; α(L)=0.000388 *5*; α(M)=8.55×10^{-5} *12* α(N)=1.994×10^{-5} *28*; α(O)=2.90×10^{-6} *4*; α(P)=1.648×10^{-7} *23*; α(IPF)=2.313×10^{-5} *32* E_γ: other: 1302.5 *10* (1967Bu14). Mult.: from α(K)exp=0.0028 *3* (1974Ar28).
1307.17 *15*	0.023 *6*	1572.209	(4)$^-$	264.987	4$^+$				%Iγ=0.0044 *12*
1313.37 *3*	1.13 *3*	2172.759	3$^+$	859.400	3$^+$	M1,E2		0.0026 *6*	%Iγ=0.215 *12* α(K)=0.0022 *5*; α(L)=0.00031 *7*; α(M)=6.8×10^{-5} *15* α(N)=1.6×10^{-5} *4*; α(O)=2.3×10^{-6} *5*; α(P)=1.27×10^{-7} *34*; α(IPF)=2.37×10^{-5} *23* E_γ: other: 1315.2 *15* (1967Bu14). Mult.: from α(K)exp=0.0014 *7*.
1315.6 *8*	0.090 *9*	2101.60	(4$^+$)	785.915	2$^+$				%Iγ=0.0172 *19*
1334.74 *21*	0.042 *7*	2290.967	(3)$^+$	956.241	4$^+$	M1(+E2)		0.0025 *6*	%Iγ=0.0080 *14* α(K)=0.0021 *5*; α(L)=0.00030 *7*; α(M)=6.6×10^{-5} *15* α(N)=1.53×10^{-5} *34*; α(O)=2.2×10^{-6} *5*; α(P)=1.23×10^{-7} *32*; α(IPF)=2.85×10^{-5} *27* Mult.: from α(K)exp≈0.0048 *8* (1993BaZS).
1347.035 *18*	5.79 *12*	2132.952	3$^+$	785.915	2$^+$	M1		0.00304 *4*	%Iγ=1.10 *6* α(K)=0.00255 *4*; α(L)=0.000357 *5*; α(M)=7.86×10^{-5} *11* α(N)=1.832×10^{-5} *26*; α(O)=2.67×10^{-6} *4*; α(P)=1.515×10^{-7} *21*; α(IPF)=3.45×10^{-5} *5* E_γ: other: 1348.6 *8* (1967Bu14). Mult.: from α(K)exp=0.0024 *3* (1974Ar28).
1353.27 *25*	0.050 *15*	2213.00		859.400	3$^+$				%Iγ=0.0095 *29*
1356.62 *4*	0.09 *6*	2215.977	2$^-$,3$^-$	859.400	3$^+$				%Iγ=0.017 *11* Mult.: α(K)exp=0.008 *6* (1993BaZS).
1374.194 *25*	29.6 *7*	2160.126	3$^+$	785.915	2$^+$	M1+E2	−0.11 *4*	0.00290 *4*	%Iγ=5.64 *31* A_2=+0.66 *11* (1987Kr12) α(K)=0.002424 *35*; α(L)=0.000339 *5*; α(M)=7.46×10^{-5} *11* α(N)=1.739×10^{-5} *25*; α(O)=2.53×10^{-6} *4*; α(P)=1.437×10^{-7} *21*; α(IPF)=4.23×10^{-5} *6* E_γ: other: 1374.9 *8* (1967Bu14). 1347 in 1987Kr12 could be a misprint for 1374 if considered from this level, Note that 1347γ is placed from 2132 keV level, while in 1987Kr12 it is placed from 2160 keV level. Mult.: from α(K)exp=0.0023 *2* (1974Ar28). δ: weighted average of −0.18 *7* (1987Kr12, 1985DaZV) and −0.09

From ENSDF

$^{166}_{68}Er_{98}$-20

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									4 from 1374γ-785$\gamma(\theta)$ (1993AdZY). Others: +0.01 *14* from 1374γ-705$\gamma(\theta)$ (1993AdZY), −0.34 *+12−17* from $\gamma(\theta$,H,t) (1995KrZX).
1378.6 *10*	0.040 *20*	1458.165	2^-	80.583	2^+				%Iγ=0.008 *4*
1383.5 *3*	0.06 *3*	2243.099	3^-	859.400	3^+				%Iγ=0.011 *6*
x1388.47 *5*	0.22 *3*								%Iγ=0.042 *6*
1396.8 *4*	0.015 *8*	2352.91	$2^{(+)}$,3	956.241	4^+				%Iγ=0.0029 *15*
1401.16 *4*	0.39 *3*	2260.665	$2^{(+)}$,3	859.400	3^+				%Iγ=0.074 *7*
x1406.6 *3*	0.023 *8*								%Iγ=0.0044 *15*
1413.81 *4*	0.310 *15*	1678.771	$(4)^+$	264.987	4^+	M1(+E2+E0)	+0.35 *30*	0.0060 *18*	%Iγ=0.059 *4* Mult.: from α(K)exp=0.0048 *16* (1993BaZS). α: calculated using Bricc (updated and not released yet) by T. Kibedi (June 13, 2025).
1427.06 *20*	0.14 *4*	2213.00		785.915	2^+				%Iγ=0.027 *8*
1430.2 *3*	0.86 *20*	2215.977	2^-,3^-	785.915	2^+				%Iγ=0.16 *4*
1431.6 *3*	1.8 *3*	2290.967	$(3)^+$	859.400	3^+				%Iγ=0.34 *6* E_γ: other: 1432.5 *10* (1967Bu14).
1433.1 *3*	2.3 *4*	1513.760	3^-	80.583	2^+	E1+M2	+0.054 *+19−27*	8.86×10^{-4} *18*	%Iγ=0.44 *8* α(K)=0.000629 *14*; α(L)=8.38×10^{-5} *20*; α(M)=1.83×10^{-5} *4* α(N)=4.26×10^{-6} *10*; α(O)=6.17×10^{-7} *15*; α(P)=3.47×10^{-8} *8*; α(IPF)=0.0001501 *21* Mult.,δ: other: E1 from α(K)exp=0.0009 *3* (1993BaZS).
1437.3 *3*	0.30 *4*	2393.137	2^+,3^+	956.241	4^+				%Iγ=0.057 *8*
1447.820 *25*	3.39 *8*	1528.406	2^+	80.583	2^+	M1+E2+E0	+0.5 *3*	0.0051 *18*	%Iγ=0.646 *35* E_γ: other: 1449.6 *10* (1967Bu14). Mult.: α(K)exp=0.0038 *9* (1993BaZS). α: calculated using Bricc (updated and not released yet) by T. Kibedi (June 13, 2025).
1457.17[b] *5*	0.35 *5*	2243.099	3^-	785.915	2^+				%Iγ=0.067 *10*
1474.84 *4*	0.593 *16*	2260.665	$2^{(+)}$,3	785.915	2^+	M1,E2		0.0021 *4*	%Iγ=0.113 *6* α(K)=0.0017 *4*; α(L)=0.00024 *5*; α(M)=5.2×10^{-5} *11* α(N)=1.22×10^{-5} *25*; α(O)=1.8×10^{-6} *4*; α(P)=9.9×10^{-8} *23*; α(IPF)=7.1×10^{-5} *7* Mult.: from α(K)exp=1.8×10^{-3} *10*.
1487.01 *15*	0.046 *8*	2273.009	3^-	785.915	2^+				%Iγ=0.0088 *16*
1493.43 *16*	0.081 *12*	2352.91	$2^{(+)}$,3	859.400	3^+				%Iγ=0.0154 *24*
x1495.57 *18*	0.074 *12*								%Iγ=0.0141 *24*

From ENSDF

$^{166}_{68}Er_{98}$-21

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [#]	I_γ [#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1505.00 *4*	4.37 *10*	2290.967	$(3)^+$	785.915	2^+	M1(+E2)	−0.2 *+2−3*	0.00237 *14*	%Iγ=0.83 *4* A_2=+0.6 *4* (1987Kr12) α(K)=0.00194 *12*; α(L)=0.000270 *15*; α(M)=5.94×10^{-5} *34* α(N)=1.39×10^{-5} *8*; α(O)=2.02×10^{-6} *12*; α(P)=1.15×10^{-7} *7*; α(IPF)=8.89×10^{-5} *28* E_γ: other: 1506.6 *10* (1967Bu14). I_γ: other: Iγ(2210.6):Iγ(1505):Iγ(1430.5)= 15 *6*:350 *40*:300 *50* (1967Bu14). Mult.: from α(K)exp=0.0024 *10*. δ: from 1987Kr12, 1985DaZV.
1518.8 *9*	0.026 *6*	2377.77	1^+	859.400	3^+				%Iγ=0.0050 *12*
1522.85 *4*	0.552 *21*	2382.27	$(3)^+$	859.400	3^+	M1(+E2)		0.0019 *4*	%Iγ=0.105 *7* α(K)=0.00158 *33*; α(L)=0.00022 *4*; α(M)=4.9×10^{-5} *10* α(N)=1.14×10^{-5} *23*; α(O)=1.65×10^{-6} *34*; α(P)=9.2×10^{-8} *21*; α(IPF)=8.8×10^{-5} *9* Mult.: from α(K)exp=2.4×10^{-3} *9*.
1528.38 *4*	0.207 *17*	1528.406	2^+	0.0	0^+	E2		1.54×10^{-3} *2*	%Iγ=0.039 *4* α(K)=0.001235 *17*; α(L)=0.0001754 *25*; α(M)=3.87×10^{-5} *5* α(N)=8.99×10^{-6} *13*; α(O)=1.295×10^{-6} *18*; α(P)=7.04×10^{-8} *10*; α(IPF)=8.15×10^{-5} *11* Mult.: from α(K)exp>0.0013.
1533.80 *19*	0.024 *6*	2393.137	$2^+,3^+$	859.400	3^+				%Iγ=0.0046 *12*
1554.33 *20*	0.030 *15*	2413.68	(2,3,4)	859.400	3^+				%Iγ=0.0057 *29*
[x]1562.05 *9*	0.068 *12*								%Iγ=0.0130 *24*
1575.65 *26*	0.14 *3*	2435.11	$(3,4)^+$	859.400	3^+				%Iγ=0.027 *6*
[x]1577.5 *3*	0.051 *20*								%Iγ=0.010 *4*
1581.8 *8*	0.15 *6*	1662.33	1^-	80.583	2^+	E1(+M2)	−0.027 *27*	8.69×10^{-4} *15*	%Iγ=0.029 *12* α(K)=0.000524 *11*; α(L)=6.94×10^{-5} *15*; α(M)=1.517×10^{-5} *33* α(N)=3.53×10^{-6} *8*; α(O)=5.12×10^{-7} *11*; α(P)=2.89×10^{-8} *6*; α(IPF)=0.000257 *4*
1586.68 *8*	0.143 *24*	2542.88	(3^-)	956.241	4^+				%Iγ=0.027 *5*
1591.77 *6*	0.812 *18*	2377.77	1^+	785.915	2^+	E2,M1		0.00181 *35*	%Iγ=0.155 *8* α(K)=0.00143 *29*; α(L)=0.00020 *4*; α(M)=4.4×10^{-5} *9* α(N)=1.03×10^{-5} *20*; α(O)=1.49×10^{-6} *30*; α(P)=8.4×10^{-8} *18*; α(IPF)=0.000116 *12* Mult.: from α(K)exp=0.0026 *14*.

From ENSDF

$^{166}_{68}Er_{98}$-22

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
1596.7 *5*	0.045 *20*	2382.27	$(3)^+$	785.915	2^+			%Iγ=0.009 *4*
1607.18 *3*	0.79 *4*	2393.137	$2^+,3^+$	785.915	2^+	E2,M1	0.00178 *34*	%Iγ=0.151 *11* α(K)=0.00140 *28*; α(L)=0.00020 *4*; α(M)=4.3×10^{-5} *8* α(N)=1.01×10^{-5} *19*; α(O)=1.46×10^{-6} *29*; α(P)=8.2×10^{-8} *18*; α(IPF)=0.000122 *12* Mult.: from α(K)exp=2.0×10^{-3} *11*.
1615.88 *7*	0.153 *11*	2475.40	$(1,2,3)^+$	859.400	3^+			%Iγ=0.0292 *25*
1622.45 *3*	2.39 *6*	1703.059	$(2,3,4)^+$	80.583	2^+	E2,M1	0.00175 *33*	%Iγ=0.456 *25* α(K)=0.00138 *27*; α(L)=0.00019 *4*; α(M)=4.2×10^{-5} *8* α(N)=9.9×10^{-6} *19*; α(O)=1.43×10^{-6} *28*; α(P)=8.0×10^{-8} *17*; α(IPF)=0.000129 *13* E_γ: other: 1625 *1* (1967Bu14). Mult.: from α(K)exp=0.0021 *11*.
1627.8 *3*	0.16 *3*	2413.68	(2,3,4)	785.915	2^+			%Iγ=0.031 *6* If this is the same transition as the 1630γ in (n,n′γ), mult=D+Q, δ=+15 +*31*−*5*.
1629.4[g] *3*	0.15[g] *3*	1894.365	2^+	264.987	4^+			%Iγ=0.029 *6*
1629.4[g] *3*	0.15[g] *3*	2586.07	$(4)^+$	956.241	4^+			%Iγ=0.029 *6*
[x]1641.10[b] *20*	0.127 *15*							%Iγ=0.0242 *31*
1649.19 *10*	0.33 *6*	2435.11	$(3,4)^+$	785.915	2^+			%Iγ=0.063 *12*
1652.76 *3*	5.60 *15*	1917.769	3^-	264.987	4^+	E1	8.76×10^{-4} *12*	%Iγ=1.07 *6* α(K)=0.000484 *7*; α(L)=6.41×10^{-5} *9*; α(M)=1.400×10^{-5} *20* α(N)=3.26×10^{-6} *5*; α(O)=4.73×10^{-7} *7*; α(P)=2.67×10^{-8} *4*; α(IPF)=0.000310 *4* E_γ: other: 1654.6 *15* (1967Bu14). Mult.: from α(K)exp=0.0005 *2*. δ: <−0.03 from γγ(θ) (1980Bu26); −0.05 *8* from A_2=−0.10 *7*, A_4=−0.06 *16* for 1653γ-184γ(θ) (1993AdZY).
1658.4 *3*	0.097 *20*	2444.16		785.915	2^+			%Iγ=0.018 *4*
1662.33 *20*	0.120 *15*	1662.33	1^-	0.0	0^+	E1	8.77×10^{-4} *12*	%Iγ=0.0229 *31* α(K)=0.000480 *7*; α(L)=6.35×10^{-5} *9*; α(M)=1.387×10^{-5} *19* α(N)=3.23×10^{-6} *5*; α(O)=4.68×10^{-7} *7*; α(P)=2.65×10^{-8} *4*; α(IPF)=0.000317 *4*
1673.5 *4*	0.078 *20*	1938.273	3^+	264.987	4^+			%Iγ=0.015 *4*
1683.3 *3*	0.08 *3*	2542.88	(3^-)	859.400	3^+			%Iγ=0.015 *6*
[x]1688.6 *4*	0.041 *15*							%Iγ=0.0078 *29*
1690.2 *4*	0.043 *15*	2475.40	$(1,2,3)^+$	785.915	2^+			%Iγ=0.0082 *29*
[x]1703.0 *5*	0.055 *22*							%Iγ=0.010 *4*
1704.7 *3*	0.17 *4*	1969.71	(2,3,4)	264.987	4^+			%Iγ=0.032 *8*
[x]1707.7 *5*	0.032 *12*							%Iγ=0.0061 *23*

From ENSDF

$\gamma(^{166}\text{Er})$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
[x]1714.2 *5*	0.025 *10*							%Iγ=0.0048 *19*
1720.87 *20*	0.26 *3*	1985.646	3^-	264.987	4^+	(E1)	8.89×10^{-4} *12*	%Iγ=0.050 *6* α(K)=0.000453 *6*; α(L)=5.99×10^{-5} *8*; α(M)=1.308×10^{-5} *18* α(N)=3.04×10^{-6} *4*; α(O)=4.41×10^{-7} *6*; α(P)=2.500×10^{-8} *35*; α(IPF)=0.000360 *5* Mult.: E1,E2 from α(K)exp=0.6×10^{-3} *4*.
1726.3 *5*	0.021 *8*	2586.07	$(4)^+$	859.400	3^+			%Iγ=0.0040 *15*
[x]1730.5 *5*	0.12 *4*							%Iγ=0.023 *8*
1731.9 *5*	0.12 *4*	1813.17	$1^{(+)}$	80.583	2^+	(M1+E2)	0.00159 *27*	%Iγ=0.023 *8* α(K)=0.00120 *22*; α(L)=0.000167 *30*; α(M)=3.7×10^{-5} *7* α(N)=8.5×10^{-6} *15*; α(O)=1.24×10^{-6} *23*; α(P)=7.0×10^{-8} *14*; α(IPF)=0.000179 *18*
1737.09 *20*	0.41 *2*	2001.885	$(3)^-$	264.987	4^+	(E1)	8.93×10^{-4} *13*	%Iγ=0.078 *5* α(K)=0.000446 *6*; α(L)=5.89×10^{-5} *8*; α(M)=1.287×10^{-5} *18* α(N)=3.00×10^{-6} *4*; α(O)=4.35×10^{-7} *6*; α(P)=2.461×10^{-8} *34*; α(IPF)=0.000372 *5* Mult.: E1,E2 from α(K)exp=0.7×10^{-3} *4*.
1749.78 *7*	0.113 *8*	1830.45	1^-	80.583	2^+	(E1(+M2))	9.25×10^{-4} *31*	%Iγ=0.0215 *19* α(K)=0.000467 *27*; α(L)=6.2×10^{-5} *4*; α(M)=1.36×10^{-5} *9* α(N)=3.16×10^{-6} *21*; α(O)=4.59×10^{-7} *30*; α(P)=2.60×10^{-8} *17*; α(IPF)=0.000379 *6*
[x]1755.5 *5*	0.033 *6*							%Iγ=0.0063 *12*
1758.06 *20*	0.101 *9*	2022.62		264.987	4^+			%Iγ=0.0193 *20*
1781.40 *15*	0.110 *12*	2046.883	$2^+,3^+$	264.987	4^+			%Iγ=0.0210 *25*
1784.58 *4*	0.489 *25*	1865.17		80.583	2^+			%Iγ=0.093 *7*
1810.6 *5*	0.10 *3*	2075.580	(3^-)	264.987	4^+			%Iγ=0.019 *6*
1813.4[g] *3*	0.37[g] *5*	1813.17	$1^{(+)}$	0.0	0^+	(M1)	1.74×10^{-3} *2*	%Iγ=0.071 *10* α(K)=0.001270 *18*; α(L)=0.0001759 *25*; α(M)=3.87×10^{-5} *5* α(N)=9.02×10^{-6} *13*; α(O)=1.314×10^{-6} *18*; α(P)=7.50×10^{-8} *11*; α(IPF)=0.0002410 *34*
1813.4[g] *3*	0.37[g] *5*	1894.365	2^+	80.583	2^+			%Iγ=0.071 *10*
[x]1824.10 *20*	0.51 *10*							%Iγ=0.097 *20*
1830.9 *5*	0.050 *20*	1830.45	1^-	0.0	0^+	(E1)	9.20×10^{-4} *13*	%Iγ=0.010 *4* α(K)=0.000409 *6*; α(L)=5.40×10^{-5} *8*; α(M)=1.179×10^{-5} *17* α(N)=2.74×10^{-6} *4*; α(O)=3.98×10^{-7} *6*; α(P)=2.259×10^{-8} *32*; α(IPF)=0.000442 *6*
1837.17 *3*	3.95 *9*	1917.769	3^-	80.583	2^+	E1	9.22×10^{-4} *13*	%Iγ=0.75 *4*

From ENSDF

$^{166}_{68}Er_{98}$-24

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.000407 *6*; α(L)=5.37×10^{-5} *8*; α(M)=1.172×10^{-5} *16* α(N)=2.73×10^{-6} *4*; α(O)=3.96×10^{-7} *6*; α(P)=2.246×10^{-8} *31*; α(IPF)=0.000446 *6*
1846.6 *3*	0.08 *3*	2632.66	(3,4)$^+$	785.915	2$^+$				Mult.: from α(K)exp=5.3×10^{-4} *25*. %Iγ=0.015 *6*
1853.1 *10*	0.25 *6*	2117.8	(2$^+$,3,4$^+$)	264.987	4$^+$				%Iγ=0.048 *12*
1857.62 *17*	0.10 *3*	1938.273	3$^+$	80.583	2$^+$				%Iγ=0.019 *6*
1867.94 *3*	21.4 *5*	2132.952	3$^+$	264.987	4$^+$	M1+E2	+3.49 *+10−3*	1.26×10^{-3} *2*	%Iγ=4.08 *22* A_2=+0.66 *20* (1987Kr12) α(K)=0.000878 *12*; α(L)=0.0001218 *17*; α(M)=2.68×10^{-5} *4* α(N)=6.24×10^{-6} *9*; α(O)=9.02×10^{-7} *13*; α(P)=5.01×10^{-8} *7*; α(IPF)=0.0002252 *32* δ: from $\gamma\gamma(\theta)$ (1980Bu26). Others: 3.7 *+57−18* (1987Kr12). +4.3 *+10−7* from 1868γ-184γ(θ) (1993AdZY), +3.6 *+24−12* from γ(θ,H,t) (1995KrZX).
[x]1883.18 *11*	0.127 *22*								Mult.: from α(K)exp=0.00081 *9* (1974Ar28). %Iγ=0.024 *4*
1889.12 *20*	0.14 *3*	1969.71	(2,3,4)	80.583	2$^+$				%Iγ=0.027 *6*
1895.12 *3*	6.4 *2*	2160.126	3$^+$	264.987	4$^+$	M1+E2	+2.63 *4*	1.26×10^{-3} *2*	%Iγ=1.2 *4* α(K)=0.000870 *12*; α(L)=0.0001206 *17*; α(M)=2.65×10^{-5} *4* α(N)=6.17×10^{-6} *9*; α(O)=8.94×10^{-7} *13*; α(P)=4.98×10^{-8} *7*; α(IPF)=0.0002405 *34* Mult.: from α(K)exp=0.00076 *10* (1974Ar28). δ: from $\gamma\gamma(\theta)$ (1980Bu26) based on %E2=87.4 and %M1=12.6 *3*. Other: +2.3 *+6−4* from 1895γ-184γ(θ) (1993AdZY).
1905.43 *23*	0.23 *6*	1985.646	3$^-$	80.583	2$^+$				%Iγ=0.044 *12*
1907.71 *6*	1.82 *8*	2172.759	3$^+$	264.987	4$^+$	E2,M1		0.00141 *21*	%Iγ=0.347 *23* α(K)=0.00097 *15*; α(L)=0.000135 *21*; α(M)=3.0×10^{-5} *5* α(N)=6.9×10^{-6} *11*; α(O)=1.00×10^{-6} *16*; α(P)=5.66×10^{-8} *99*; α(IPF)=0.000266 *27* Mult.: from α(K)exp=0.0015 *6*.
1921.40 *15*	0.36 *3*	2001.885	(3)$^-$	80.583	2$^+$				%Iγ=0.069 *7*
[x]1922.4 *4*	0.06 *3*								%Iγ=0.011 *6*
[x]1929.1 *3*	0.024 *6*								%Iγ=0.0046 *12*

From ENSDF

$^{166}_{68}Er_{98}$-25

γ(^{166}Er) (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1941.78 *15*	0.22 *3*	2022.62		80.583	2$^+$				%Iγ=0.042 *6*
1943.6 *15*	0.06 *4*	2729.095	2$^+$	785.915	2$^+$				%Iγ=0.011 *8*
1948.2[i] *3*	0.071 *8*	2213.00		264.987	4$^+$				%Iγ=0.0135 *17*
[x]1966.52 *4*	0.234 *23*								%Iγ=0.045 *5* E_γ: close to, but inconsistent with, Eγ expected for a 2047 to 81 transition. Mult.: α(K)exp=0.0023 *15*.
[x]1976.38 *20*	0.29 *3*								%Iγ=0.055 *6*
1978.12 *20*	0.43 *3*	2243.099	3$^-$	264.987	4$^+$	E1		9.71×10^{-4} *14*	%Iγ=0.082 *7* α(K)=0.000361 *5*; α(L)=4.75×10^{-5} *7*; α(M)=1.038×10^{-5} *15* α(N)=2.414×10^{-6} *34*; α(O)=3.51×10^{-7} *5*; α(P)=1.994×10^{-8} *28*; α(IPF)=0.000549 *8* I_γ: Iγ(1977.7):Iγ(2162.7)=20 *8*:18 *5* (1967Bu14). Mult.: E1,E2 from α(K)exp=1.0×10^{-3} *6*.
[x]1986.53 *5*	0.194 *10*								%Iγ=0.0370 *26* α(K)exp=0.0011 *6*.
1996.10[†] *15*	0.041 *5*	2075.580	(3$^-$)	80.583	2$^+$				%Iγ=0.0078 *10* E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=1994.984.
[x]2003.4 *3*	0.071 *14*								%Iγ=0.0135 *28*
2008.00 *4*	1.21 *3*	2273.009	3$^-$	264.987	4$^+$	E1		9.82×10^{-4} *14*	%Iγ=0.231 *13* α(K)=0.000353 *5*; α(L)=4.64×10^{-5} *6*; α(M)=1.012×10^{-5} *14* α(N)=2.356×10^{-6} *33*; α(O)=3.42×10^{-7} *5*; α(P)=1.946×10^{-8} *27*; α(IPF)=0.000571 *8* E_γ: other: 2009.3 *15* (1967Bu14). Mult.: from α(K)exp=0.44×10^{-3} *25*.
2017.67 *7*	0.200 *20*	2282.68	2$^{(+)}$,3	264.987	4$^+$				%Iγ=0.038 *4*
[x]2022.03 *20*	0.09 *3*								%Iγ=0.017 *6*
2026.06[g] *11*	0.120[g] *20*	2290.967	(3)$^+$	264.987	4$^+$				%Iγ=0.023 *4*
2026.06[g] *11*	0.120[g] *20*	2811.99	1$^-$	785.915	2$^+$				%Iγ=0.023 *4*
2036.8 *12*	0.100 *20*	2117.8	(2$^+$,3,4$^+$)	80.583	2$^+$				%Iγ=0.019 *4*
2052.36 *3*	91.0 *18*	2132.952	3$^+$	80.583	2$^+$	M1+E2	+7.0 *5*	1.16×10^{-3} *2*	%Iγ=17.4 *9* A_2=−0.32 *13* (1987Kr12) α(K)=0.000723 *10*; α(L)=9.95×10^{-5} *14*; α(M)=2.187×10^{-5} *31* α(N)=5.09×10^{-6} *7*; α(O)=7.37×10^{-7} *10*; α(P)=4.12×10^{-8} *6*; α(IPF)=0.000308 *4* E_γ: other: 2053.7 *10* (1967Bu14). I_γ: Iγ(2052.4):Iγ(1868):Iγ(1346.9):Iγ(1273.4):Iγ(1176.6):

From ENSDF

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									Iγ(560.8):Iγ(194.7):Iγ(154.5):Iγ(131.0)=770 *80*:145 *15*:32 *3*: 610 *60*:390 *40*:9.5 *20*:36 *4*:9.5 *10*:27 *3* (1967Bu14). Mult.: from α(K)exp=0.00077 *8* (1974Ar28), 0.00086 *10* (1964Pr02 − from ref. 5). δ: from $\gamma\gamma(\theta)$ (1980Bu26). Others: +9 *+19−4* (1987Kr12, 1985DaZV), +6.0 *+76−24* from $\gamma(\theta$,H,t) (1995KrZX).
2079.53 *3*	33.3 *7*	2160.126	3^+	80.583	2^+	M1+E2	+5.2 *+15−5*	1.16×10^{-3} *2*	%Iγ=6.35 *34* A_2=−0.31 *26* (1987Kr12) α(K)=0.000709 *10*; α(L)=9.76×10^{-5} *14*; α(M)=2.143×10^{-5} *31* α(N)=4.99×10^{-6} *7*; α(O)=7.23×10^{-7} *11*; α(P)=4.04×10^{-8} *6*; α(IPF)=0.000322 *5* E_γ: other: 2080.9 *10* (1967Bu14). I_γ: Iγ(2079.6):Iγ(1895.3):Iγ(1374.1):Iγ(1300.6):Iγ(1203.8)= 270 *27*:42 *5*:200 *20*:<52:52 *4* (1967Bu14). Mult.: from α(K)exp=0.00072 *7* (1974Ar28), 0.00082 *26* (1964Pr02 − from ref. 5). δ: from $\gamma\gamma(\theta)$ (1980Bu26). Others: +10 *+∞−6* (1985DaZV), +9.7 *+∞−61* from $\gamma(\theta$,H,t) (1995KrZX).
2092.13 *3*	8.26 *18*	2172.759	3^+	80.583	2^+	M1+E2	+3.7 *+19−7*	1.16×10^{-3} *2*	%Iγ=1.58 *8* α(K)=0.000709 *13*; α(L)=9.74×10^{-5} *18*; α(M)=2.14×10^{-5} *4* α(N)=4.98×10^{-6} *9*; α(O)=7.22×10^{-7} *13*; α(P)=4.04×10^{-8} *8*; α(IPF)=0.000331 *5* E_γ: other: 2094.2 *10* (1967Bu14). I_γ: other: Iγ(2093.3):Iγ(1907.5):Iγ(1313.4)=65 *7*:13 *4*:13 *4* (1967Bu14). Mult.: from α(K)exp=0.99×10^{-3} *44*. δ: from $\gamma\gamma(\theta)$ (1980Bu26).
[x]2100.2 *6*	0.032 *9*								%Iγ=0.0061 *17*
2128.19 *5*	0.088 *6*	2393.137	$2^+,3^+$	264.987	4^+				%Iγ=0.0168 *14*
2135.36 *4*	0.192 *8*	2215.977	$2^-,3^-$	80.583	2^+				%Iγ=0.0366 *24*
2148.6 *3*	0.012 *3*	2413.68	(2,3,4)	264.987	4^+				%Iγ=0.0023 *6*
									I_γ: there is a discrepancy. Iγ=0.12 *3* in table 1 but 0.01 in table 2 of 1989Ad11.
2162.54 *5*	0.278 *11*	2243.099	3^-	80.583	2^+	E1		1.04×10^{-3} *2*	%Iγ=0.0530 *33* α(K)=0.000313 *4*; α(L)=4.11×10^{-5} *6*; α(M)=8.98×10^{-6} *13* α(N)=2.089×10^{-6} *29*; α(O)=3.04×10^{-7} *4*; α(P)=1.730×10^{-8} *24*; α(IPF)=0.000678 *9* Mult.: from α(K)exp=0.29×10^{-3} *17*.
[x]2176.61 *6*	0.184 *8*								%Iγ=0.0351 *23* α(K)exp=0.0015 *9*.

From ENSDF

$^{166}_{68}Er_{98}$-27

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ [#]	I_γ [#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
2183.68 *7*	0.117 *7*	2264.31	(2^+)	80.583	2^+	Q(+D)		%Iγ=0.0223 *17*
2192.43 *4*	1.09 *3*	2273.009	3^-	80.583	2^+	E1	1.06×10^{-3} *2*	%Iγ=0.208 *12* α(K)=0.000307 *4*; α(L)=4.02×10^{-5} *6*; α(M)=8.78×10^{-6} *12* α(N)=2.043×10^{-6} *29*; α(O)=2.97×10^{-7} *4*; α(P)=1.693×10^{-8} *24*; α(IPF)=0.000698 *10* Mult.: from α(K)exp=0.40×10^{-3} *23*. I_γ: other: Iγ(2192.6):Iγ(2008.2)=75 *20*:35 *10* (1967Bu14).
2202.09 *6*	0.238 *10*	2282.68	$2^{(+)}$,3	80.583	2^+	E1,E2		%Iγ=0.0454 *29* Mult.: from α(K)exp=0.68×10^{-3} *37*.
2210.49 *6*	0.323 *12*	2290.967	$(3)^+$	80.583	2^+			%Iγ=0.062 *4*
2247.90 *20*	0.0118 *19*	2328.69	(1,2)	80.583	2^+			%Iγ=0.0023 *4*
[x]2254.5 *3*	0.007 *3*							%Iγ=0.0013 *6*
[x]2257.0 *3*	0.0096 *25*							%Iγ=0.0018 *5*
2264.34 *8*	0.038 *3*	2264.31	(2^+)	0.0	0^+			%Iγ=0.0072 *7*
2272.33 *15*	0.0228 *23*	2352.91	$2^{(+)}$,3	80.583	2^+			%Iγ=0.0043 *5*
2277.88 *8*	0.056 *2*	2542.88	(3^-)	264.987	4^+			%Iγ=0.0107 *6*
[x]2284.6 *3*	0.0087 *19*							%Iγ=0.0017 *4*
2297.26 *10*	0.079 *4*	2377.77	1^+	80.583	2^+	E2,M1	0.00125 *14*	%Iγ=0.0151 *11* α(K)=0.00066 *8*; α(L)=9.1×10^{-5} *11*; α(M)=1.99×10^{-5} *24* α(N)=4.6×10^{-6} *6*; α(O)=6.7×10^{-7} *8*; α(P)=3.8×10^{-8} *5*; α(IPF)=0.00047 *5* Mult.: from α(K)exp=0.0014 *8*.
[x]2302.85 *8*	0.112 *10*							%Iγ=0.0214 *22* α(K)exp=0.9×10^{-3} *6*.
[x]2309.3 *3*	0.0145 *17*							%Iγ=0.00277 *35*
2312.57 *9*	0.082 *4*	2393.137	$2^+,3^+$	80.583	2^+	M1	1.38×10^{-3} *2*	%Iγ=0.0156 *11* α(K)=0.000726 *10*; α(L)=9.98×10^{-5} *14*; α(M)=2.193×10^{-5} *31* α(N)=5.11×10^{-6} *7*; α(O)=7.45×10^{-7} *10*; α(P)=4.27×10^{-8} *6*; α(IPF)=0.000526 *7* Mult.: from α(K)exp=1.5×10^{-3} *9*.
2321.18 *18*	0.0122 *18*	2586.07	$(4)^+$	264.987	4^+			%Iγ=0.0023 *4*
2328.72 *10*	0.0225 *21*	2328.69	(1,2)	0.0	0^+			%Iγ=0.0043 *5*
2333.11 *10*	0.0247 *25*	2413.68	(2,3,4)	80.583	2^+			%Iγ=0.0047 *5*
[x]2352.7 *10*	0.006 *3*							%Iγ=0.0011 *6*
2354.6 *10*	0.009 *4*	2619.6	(2^+)	264.987	4^+			%Iγ=0.0017 *8*
2363.3 *4*	0.0186 *22*	2444.16		80.583	2^+			%Iγ=0.0035 *5*
[x]2366.6 *4*	0.0163 *24*							%Iγ=0.0031 *5*
2377.84 *8*	0.100 *10*	2377.77	1^+	0.0	0^+	M1	1.36×10^{-3} *2*	%Iγ=0.0191 *21* α(K)=0.000681 *10*; α(L)=9.36×10^{-5} *13*; α(M)=2.056×10^{-5} *29*

From ENSDF

$^{166}_{68}Er_{98}$-28

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
								α(N)=4.80×10^{-6} *7*; α(O)=6.99×10^{-7} *10*; α(P)=4.00×10^{-8} *6*; α(IPF)=0.000564 *8*
								Mult.: from α(K)exp=0.0010 *6*.
2383.91 *10*	0.066 *6*	2464.52	1^+	80.583	2^+	E2,M1	0.00124 *13*	%Iγ=0.0126 *13*
								α(K)=0.00061 *6*; α(L)=8.4×10^{-5} *9*; α(M)=1.84×10^{-5} *20*
								α(N)=4.3×10^{-6} *5*; α(O)=6.2×10^{-7} *7*; α(P)=3.5×10^{-8} *4*; α(IPF)=0.00052 *5*
								Mult.: from α(K)exp=6.5×10^{-4} *40*.
2394.81 *8*	0.155 *7*	2475.40	$(1,2,3)^+$	80.583	2^+	E2,M1	0.00123 *13*	%Iγ=0.0296 *20*
								α(K)=0.00061 *6*; α(L)=8.3×10^{-5} *9*; α(M)=1.82×10^{-5} *20*
								α(N)=4.3×10^{-6} *5*; α(O)=6.2×10^{-7} *7*; α(P)=3.5×10^{-8} *4*; α(IPF)=0.00052 *5*
								Mult.: from α(K)exp=0.8×10^{-3} *4*.
[x]2398.7 *4*	0.014 *4*							%Iγ=0.0027 *8*
[x]2403.05 *25*	0.0096 *22*							%Iγ=0.0018 *4*
[x]2413.0 *5*	0.007 *3*							%Iγ=0.0013 *6*
[x]2423.95 *10*	0.128 *4*							%Iγ=0.0244 *14*
								α(K)exp=0.8×10^{-3} *4*.
[x]2435.8 *5*	0.019 *3*							%Iγ=0.0036 *6*
[x]2438.6 *10*	0.0110 *25*							%Iγ=0.0021 *5*
[x]2441.3 *8*	0.016 *3*							%Iγ=0.0031 *6*
2444.0 *10*	0.0086 *25*	2444.16		0.0	0^+			%Iγ=0.0016 *5*
[x]2458.51 *20*	0.023 *5*							%Iγ=0.0044 *10*
2462.5 *5*	0.085 *8*	2542.88	(3^-)	80.583	2^+			%Iγ=0.0162 *17*
2464.7 *5*	0.126 *10*	2464.52	1^+	0.0	0^+	M1	1.35×10^{-3} *2*	%Iγ=0.0240 *22*
								α(K)=0.000628 *9*; α(L)=8.62×10^{-5} *12*; α(M)=1.893×10^{-5} *27*
								α(N)=4.42×10^{-6} *6*; α(O)=6.44×10^{-7} *9*; α(P)=3.69×10^{-8} *5*; α(IPF)=0.000614 *9*
								Mult.: E2,M1 from α(K)exp=9×10^{-4} *5*; ΔJ=1 from Adopted Gammas.
[x]2490.4 *7*	0.0040 *9*							%Iγ=0.00076 *18*
[x]2494.42 *20*	0.0247 *15*							%Iγ=0.0047 *4*
2505.58 *20*	0.0224 *18*	2586.07	$(4)^+$	80.583	2^+			%Iγ=0.0043 *4*
2520.20 *10*	0.110 *7*	2600.637	1^+	80.583	2^+			%Iγ=0.0210 *17*
[x]2524.6 *5*	0.0086 *20*							%Iγ=0.0016 *4*
2532.3 *3*	0.0077 *13*	2613.51		80.583	2^+			%Iγ=0.00147 *26*
[x]2536.7 *10*	0.014 *3*							%Iγ=0.0027 *6*
2538.8 *10*	0.0145 *26*	2619.6	(2^+)	80.583	2^+			%Iγ=0.0028 *5*
2544.3 *3*	0.0146 *25*	2624.83	$(1,2^+)$	80.583	2^+			%Iγ=0.0028 *5*
2547.1 *10*	0.008 *3*	2628.46	$(1,2^+)$	80.583	2^+			%Iγ=0.0015 *6*

From ENSDF

$^{166}_{68}Er_{98}$-29

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	α[d]	Comments
2552.12 *20*	0.0210 *16*	2632.66	(3,4)$^+$	80.583	2$^+$			%Iγ=0.0040 *4*
[x]2560.1 *5*	0.029 *4*							%Iγ=0.0055 *8*
[x]2562.8 *3*	0.084 *4*							%Iγ=0.0160 *11* α(K)exp=1.2×10^{-3} *6*.
2591.4 *3*	0.013 *4*	2671.98	(1$^-$)	80.583	2$^+$			%Iγ=0.0025 *8*
2598.2 *4*	0.125 *25*	2679.05	1$^+$	80.583	2$^+$			%Iγ=0.024 *5*
2600.76 *20*	0.225 *25*	2600.637	1$^+$	0.0	0$^+$	M1	1.34×10^{-3} *2*	%Iγ=0.043 *5* α(K)=0.000556 *8*; α(L)=7.62×10^{-5} *11*; α(M)=1.674×10^{-5} *23* α(N)=3.90×10^{-6} *5*; α(O)=5.69×10^{-7} *8*; α(P)=3.26×10^{-8} *5*; α(IPF)=0.000690 *10* Mult.: E2,M1 from α(K)exp=0.7×10^{-3} *4*.
2613.75 *20*	0.0188 *18*	2613.51		0.0	0$^+$			%Iγ=0.0036 *4*
2619.7 *8*	0.021 *14*	2619.6	(2$^+$)	0.0	0$^+$			%Iγ=0.0040 *27*
[x]2620.8 *6*	0.042 *4*							%Iγ=0.0080 *9*
2624.4 *7*	0.0150 *15*	2624.83	(1,2$^+$)	0.0	0$^+$			%Iγ=0.00286 *32*
2628.5 *3*	0.0215 *21*	2628.46	(1,2$^+$)	0.0	0$^+$			%Iγ=0.0041 *4*
2648.50 *2*	0.092 *6*	2729.095	2$^+$	80.583	2$^+$	E2,M1	0.00123 *11*	%Iγ=0.0175 *14* α(K)=0.00049 *4*; α(L)=6.7×10^{-5} *6*; α(M)=1.48×10^{-5} *13* α(N)=3.44×10^{-6} *31*; α(O)=5.0×10^{-7} *5*; α(P)=2.86×10^{-8} *28*; α(IPF)=0.00065 *7* Mult.: from α(K)exp=0.9×10^{-3} *5*.
2671.95 *20*	0.0262 *19*	2671.98	(1$^-$)	0.0	0$^+$			%Iγ=0.0050 *4*
2679.09 *20*	0.241 *18*	2679.05	1$^+$	0.0	0$^+$	M1	1.34×10^{-3} *2*	%Iγ=0.046 *4* α(K)=0.000520 *7*; α(L)=7.13×10^{-5} *10*; α(M)=1.565×10^{-5} *22* α(N)=3.65×10^{-6} *5*; α(O)=5.32×10^{-7} *7*; α(P)=3.05×10^{-8} *4*; α(IPF)=0.000733 *10* I_γ: Iγ(2678.8):Iγ(2596.8)=30 *7*:24 *6* (1967Bu14). Mult.: E2,M1 from α(K)exp=0.7×10^{-3} *4*.
[x]2682.5 *7*	0.030 *3*							%Iγ=0.0057 *6*
2703.1 *4*	0.0202 *25*	2783.70	1$^+$	80.583	2$^+$			%Iγ=0.0039 *5*
2716.8 *4*	0.0139 *16*	2797.5	(1,2$^+$)	80.583	2$^+$			%Iγ=0.00265 *33*
[x]2720.2 *4*	0.0102 *20*							%Iγ=0.0019 *4*
2728.9 *10*	0.0065 *20*	2729.095	2$^+$	0.0	0$^+$			%Iγ=0.0012 *4*
2732.0 *10*	0.0060 *20*	2811.99	1$^-$	80.583	2$^+$			%Iγ=0.0011 *4*
[x]2740.26 *20*	0.0440 *25*							%Iγ=0.0084 *6*
[x]2753.05 *20*	0.0140 *25*							%Iγ=0.0027 *5*
2777.56 *18*	0.0126 *11*	2858.17	(1,2$^+$)	80.583	2$^+$			%Iγ=0.00240 *24*
2783.8 *3*	0.0351 *19*	2783.70	1$^+$	0.0	0$^+$	M1	1.35×10^{-3} *2*	%Iγ=0.0067 *5* α(K)=0.000478 *7*; α(L)=6.53×10^{-5} *9*; α(M)=1.434×10^{-5} *20*

From ENSDF

$^{166}_{68}Er_{98}$-30

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11 (continued)

$\gamma(^{166}Er)$ (continued)

E_γ[#]	I_γ[#e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[c]	Comments
							α(N)=3.34×10^{-6} *5*; α(O)=4.88×10^{-7} *7*; α(P)=2.80×10^{-8} *4*; α(IPF)=0.000790 *11* Mult.: E2,M1 from α(K)exp=0.7×10^{-3} *4*.
[x]2795.7 *7*	0.0057 *20*						%Iγ=0.0011 *4*
2798.2 *10*	0.0043 *18*	2797.5	(1,2$^+$)	0.0	0$^+$		%Iγ=0.00082 *35*
[x]2801.3 *7*	0.0042 *15*						%Iγ=0.00080 *29*
[x]2808.5 *10*	0.0034 *12*						%Iγ=0.00065 *23*
2811.7 *10*	0.0041 *12*	2811.99	1$^-$	0.0	0$^+$	E1	%Iγ=0.00078 *23*
2858.1 *10*	0.0035 *15*	2858.17	(1,2$^+$)	0.0	0$^+$		%Iγ=0.00067 *29*
[x]2861.4 *10*	0.0043 *15*						%Iγ=0.00082 *29*

† Poor fit; uncertainty multiplied by a factor in the fitting.
‡ Very poor fit and omitted in the fitting.
# From 1989Ad11, except as noted.
@ Measured Eγ=1119.50 *4* (Iγ=1.35 *5*) is a doublet, Iγ divided by 1989Ad11. α(K)exp=0.00089 *22* for doublet (1993BaZS).
& Measured Eγ=194.678 *15* (Iγ=4.34 *13*) is a doublet, Iγ divided by 1989Ad11.
[a] Measured Eγ=646.75 *4* (Iγ=0.117 *6*) is a doublet, Iγ divided by 1989Ad11.
[b] If the unplaced 1641γ in ε decay corresponds to the 1641γ deexciting a 1722 level in (n,n′γ), then one should also see a 1456.6γ in ε decay. From Iγ(1456.6γ)/Iγ(1641.2γ)=0.78 *16* in (n,n′γ) and I(1641γ)=0.127 *15* in ε decay, one expects Iγ(1456γ)=0.099 *24* for a possible 1456.6 *10* transition in ε decay. This could have been masked by the 1457.17γ, with Iγ=0.35 *5*. However, if present, Iγ(1457γ) from the 2243.1 level in ε decay should then be decreased to 0.25 *6*.
[c] From Adopted Gammas. Some of the adopted values are from this dataset. All subshell ce ratio for multipolarity and mixing ratio of this dataset are listed in the comments. α(K)exp=ce(K)/Iγ normalized to α(K)(778.90γ)=4.79×10^{-3} (E2 theory), ce(K) from 1979Ad06, Iγ from 1989Ad11, except as noted.
[d] Additional information 4.
[e] For absolute intensity per 100 decays, multiply by 0.191 *9*.
[f] Multiply placed.
[g] Multiply placed with undivided intensity.
[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.

From ENSDF

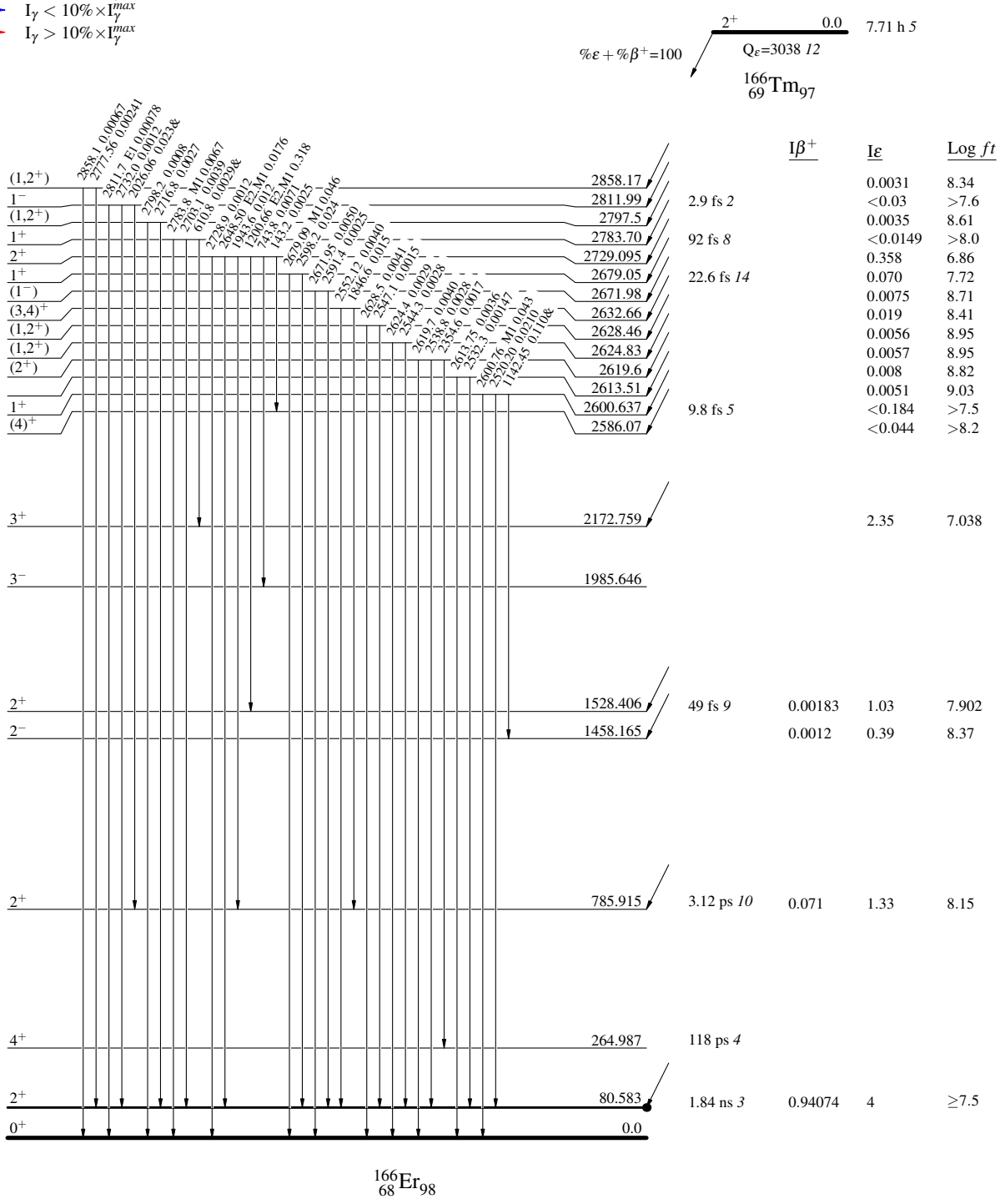
$^{166}_{68}Er_{98}$-31

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

Decay Scheme

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

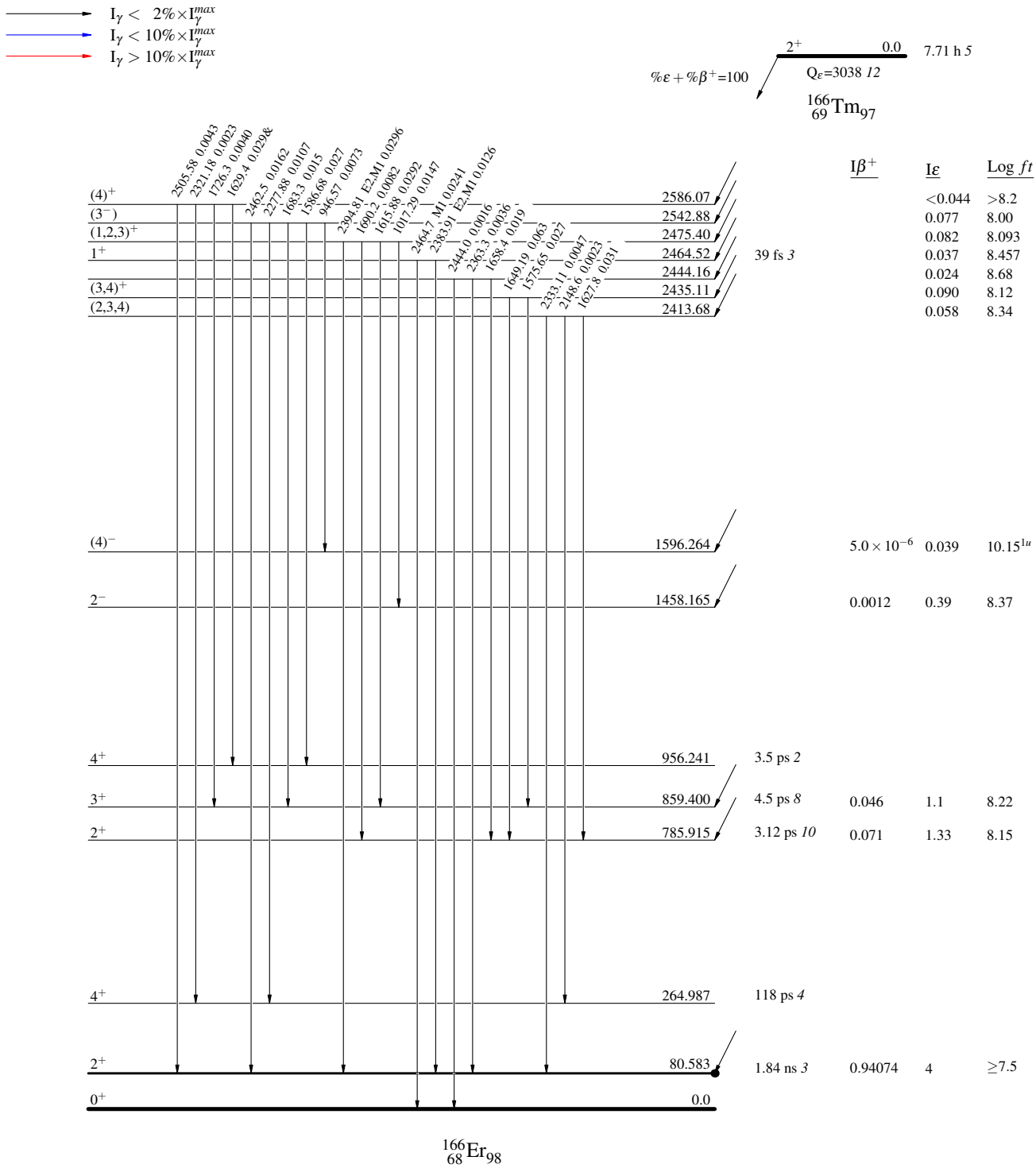
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

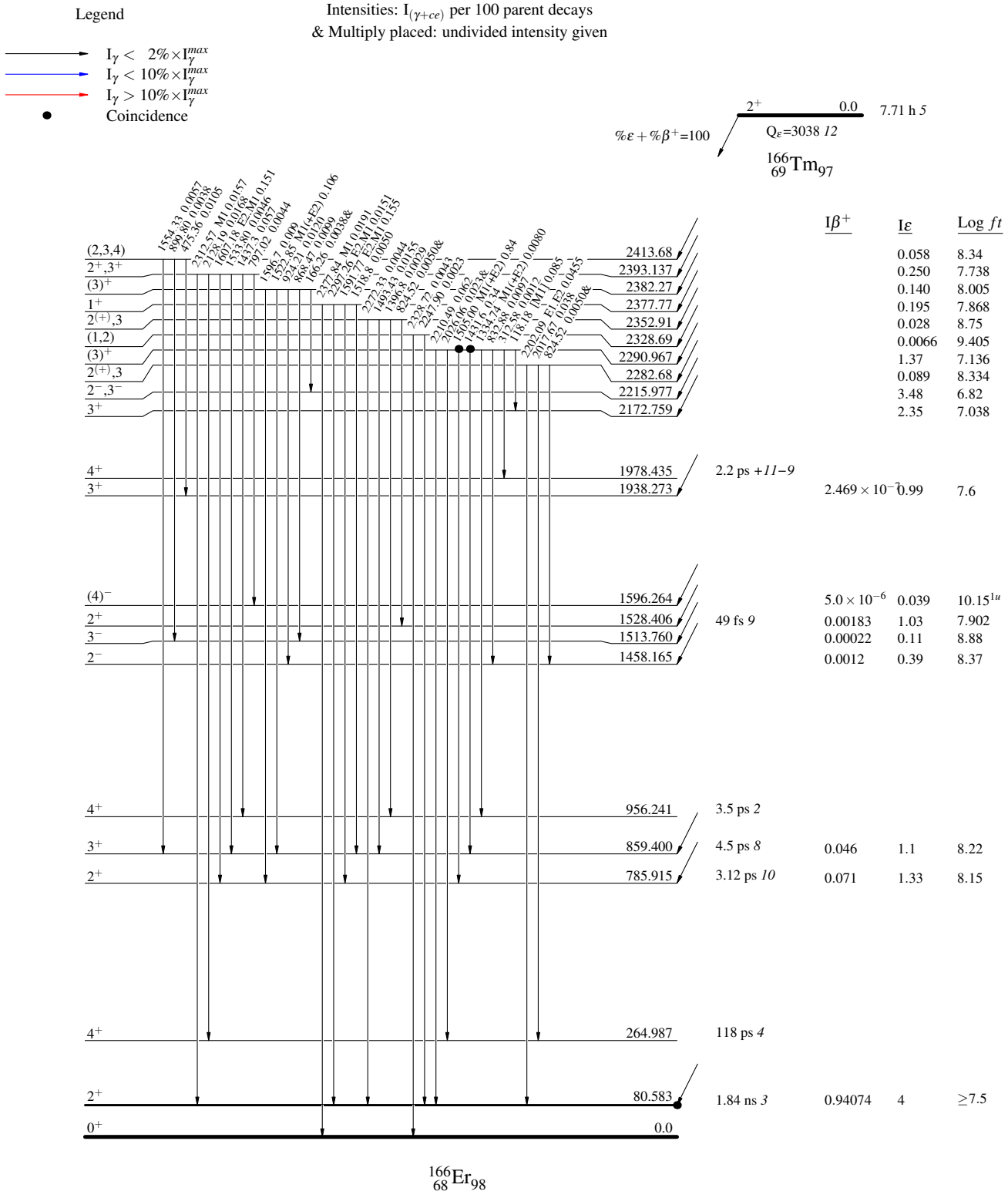


	Iβ+	Iε	Log *ft*
		<0.044	>8.2
		0.077	8.00
		0.082	8.093
		0.037	8.457
		0.024	8.68
		0.090	8.12
		0.058	8.34
	5.0×10^{-6}	0.039	10.15[1u]
	0.0012	0.39	8.37
	0.046	1.1	8.22
	0.071	1.33	8.15
	0.94074	4	≥7.5

^{166}Tm ε+β$^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

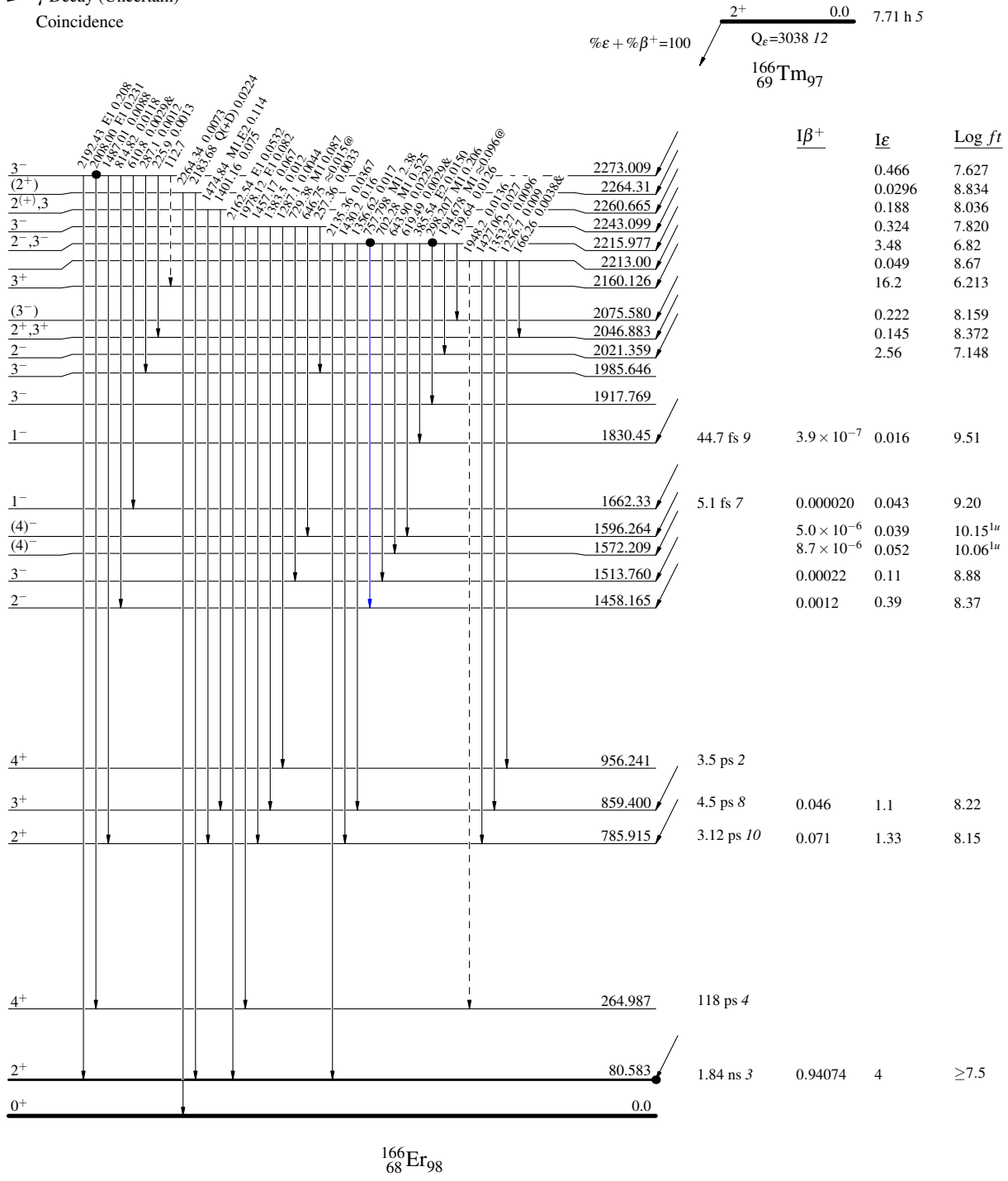


^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

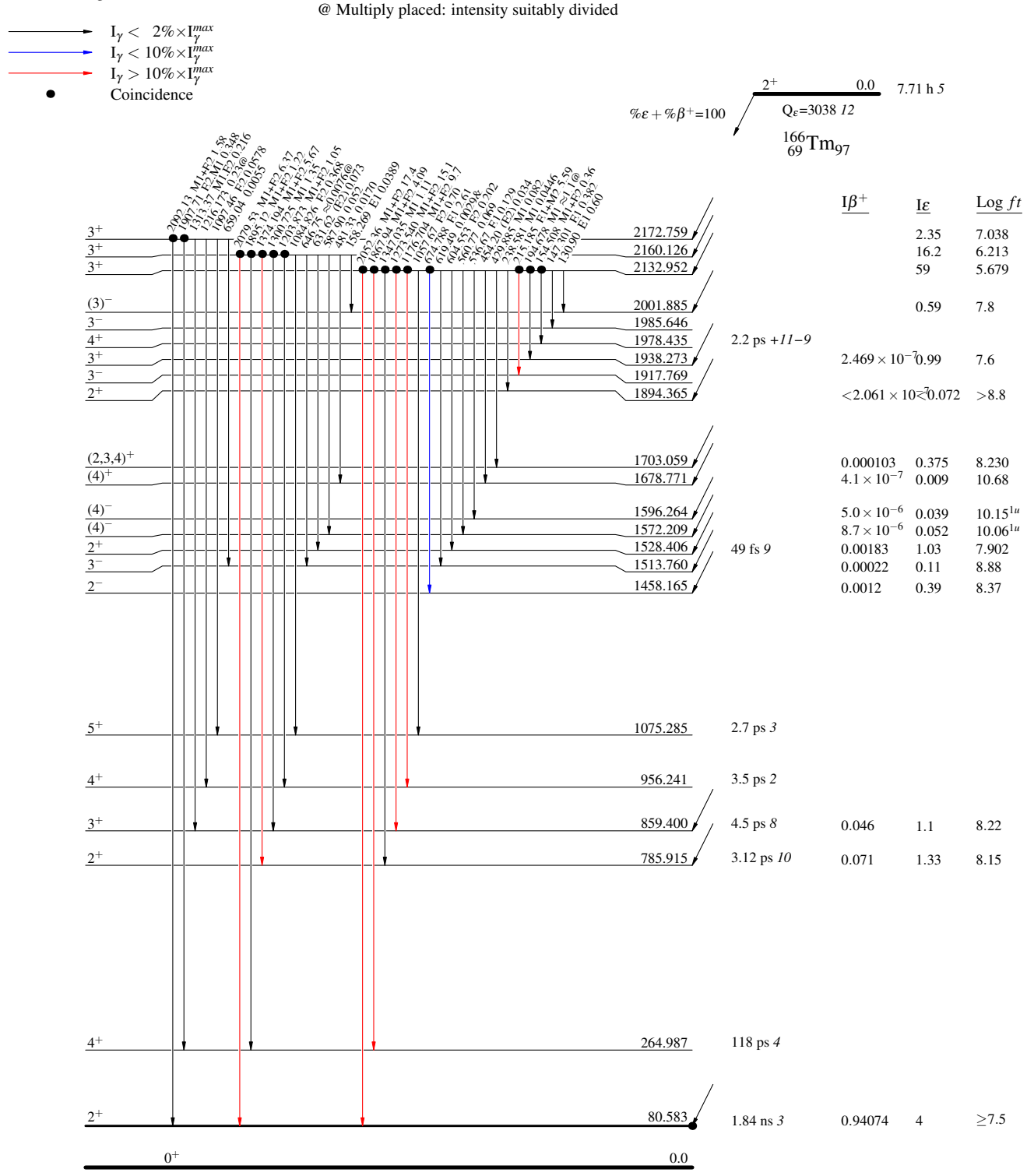
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)
Coincidence



^{166}Tm ε+β⁺ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

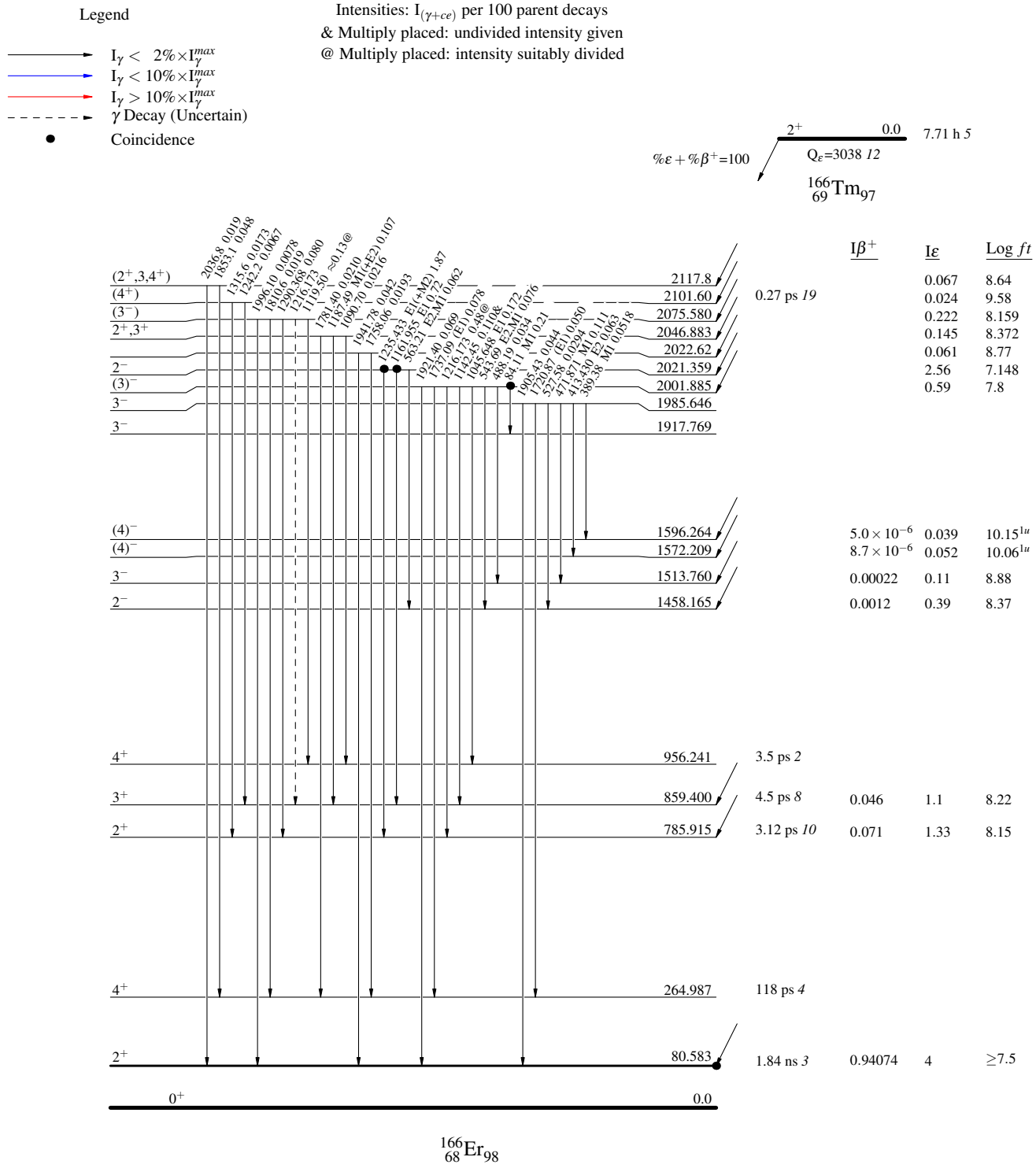


$^{166}_{68}Er_{98}$

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

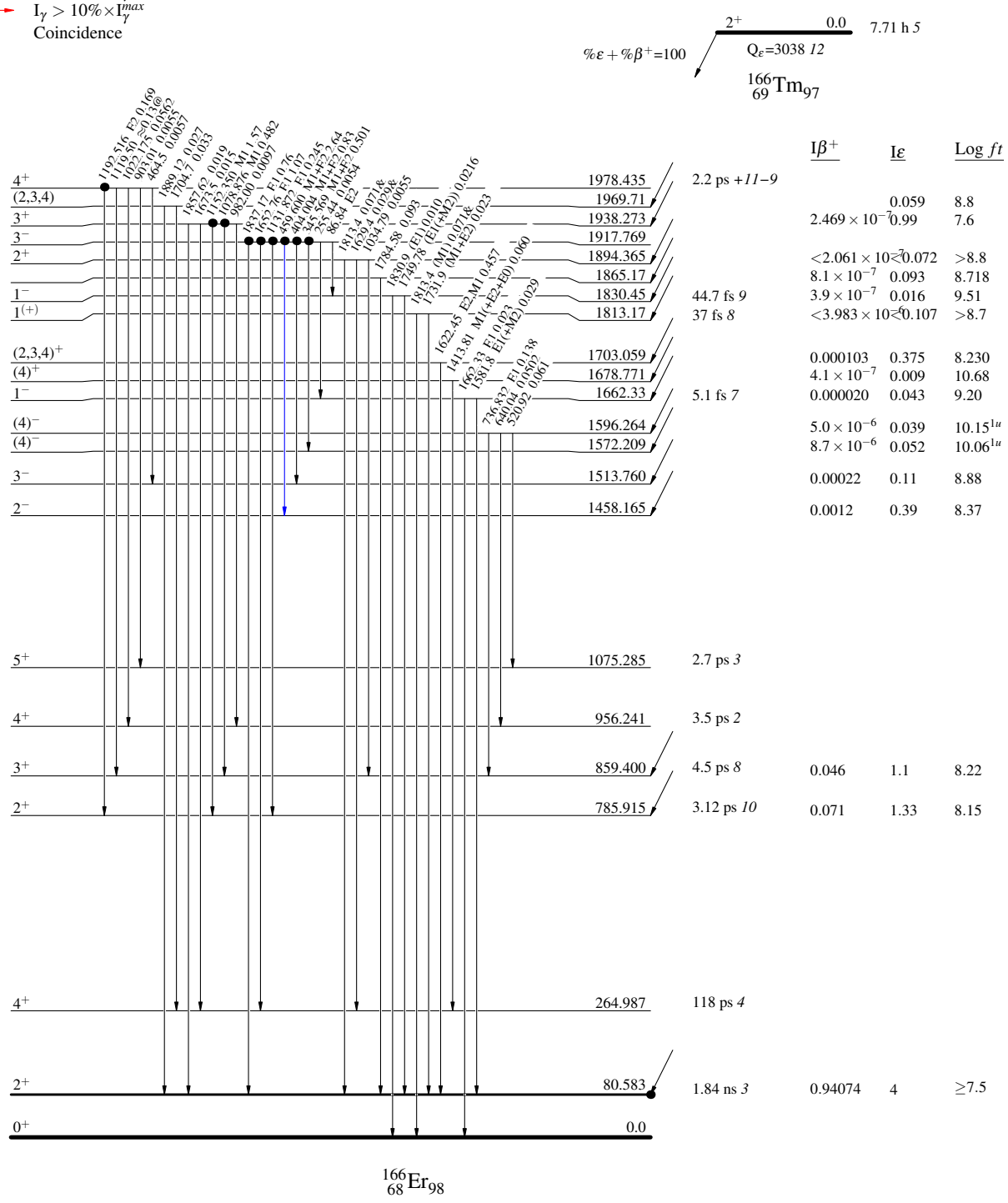


^{166}Tm ε+β$^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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

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

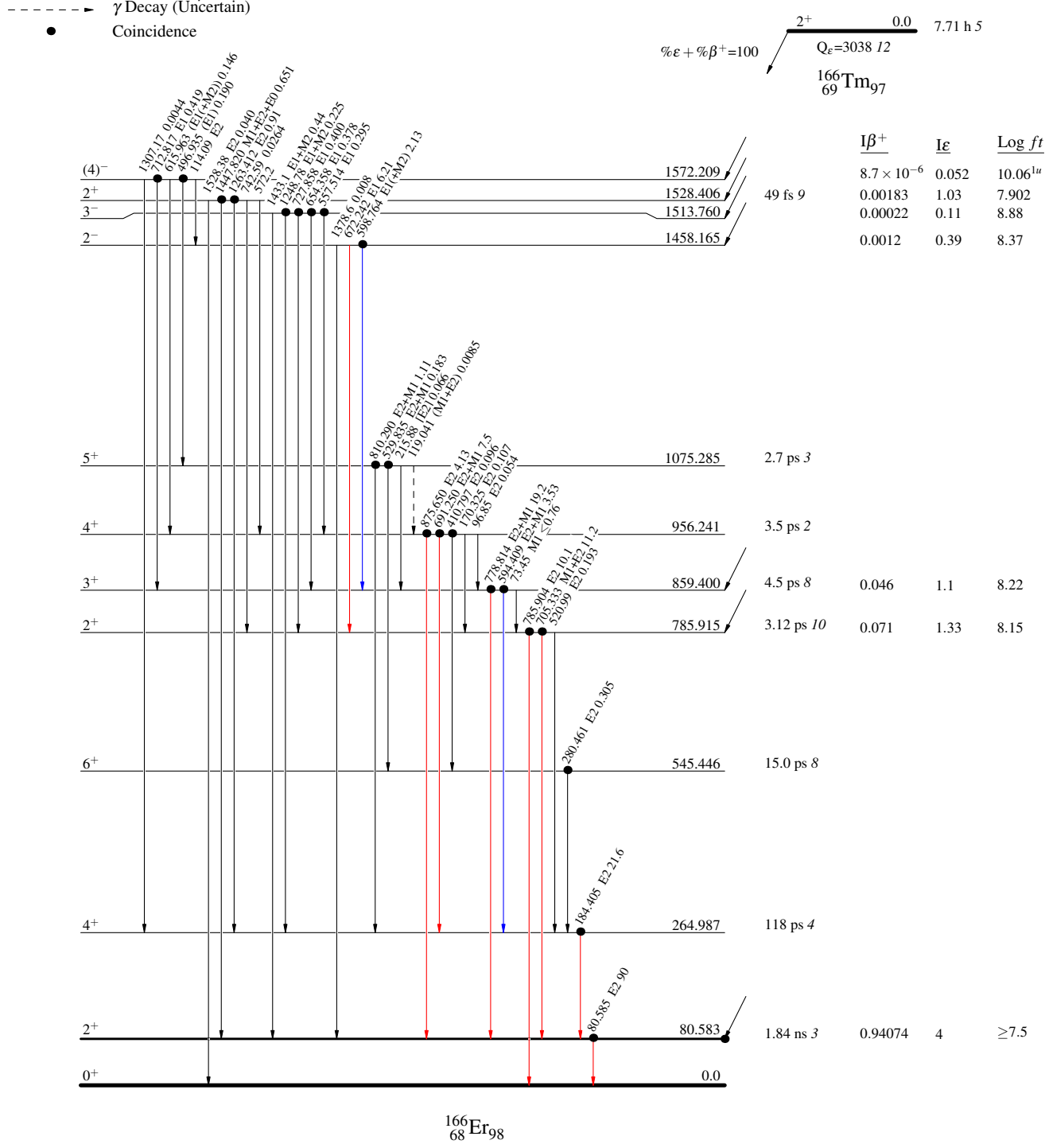


$^{166}_{68}Er_{98}$

^{166}Tm $\varepsilon+\beta^+$ decay (7.71 h) 1989Ad11

Decay Scheme (continued)

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



$^{166}_{68}Er_{98}$