^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin[1], E. A. Mccutchan[2], S. Basunia[1]	NDS 153, 1 (2018)	1-Oct-2018

Parent: ^{170}Lu: E=0.0; $J^\pi=0^+$; $T_{1/2}$=2.012 d *30*; Q(ε)=3458 *17*; %ε+%β^+ decay=100.0

^{170}Lu sources produced, typically, by ^{169}Tm(α,3n) and ^{181}Ta(p,X).

1993Ku09: measured Iγ, Ice, I(internal e^+e^- pairs) in vicinity of 2820 keV; set upper limit of 2×10^{-8} e/^{170}Lu decay for a postulated 2820-keV M0 transition (1988Gr29) connecting the 2819.6 level to the 0^+ g.s.

1990AbZT: measured ce spectra for E=100-600 keV using a 0.06% resolution β spectrometer; deduced mult for 13 transitions based on unenumerated α(K)exp values.

1980Bu28: measured I(ce) for 84-keV transition, deduced subshell ratios for this 2^+ to 0^+ transition.

1972Ca21: measured Eγ, Iγ, γγ-coin and ce(K). Much better resolution than that of 1971Bo09.

1971Bo09: measured Eγ, Iγ, γγ-coin, cece-coin and ceγ-coin. Deduced α(K)exp using ce data from 1968Ba54. See also 1969Bo10 and 1968Ba54.

1970Dz11, 1973TeZT: measured I(ce) in complex segments of ce spectrum with greater precision than 1968Ba54 and, in some cases, resolved peaks which were complex in 1968Ba54. 1973TeZT also assign to ^{170}Lu 14 transitions reported In 1972Dz02 to belong to decays of ^{169}Lu or ^{170}Lu or ^{172}Lu.

Others: 1960Dz02, 1960Ha18, 1969PaZR.

The adopted decay scheme is that of 1972Ca21 with the addition of a very large number of placements shown In the evaluation by 1988DzZW and a much smaller number of placements proposed In 1990Gr19. Additional 0^+ levels tentatively proposed by 1990Gr19 At 1770.0, 2147.8 and 2177.9 have not been included; In each case, the transition to the 0^+ g.s. had been observed In the γ spectrum so 1990Gr19 assumed it formed a doublet with the required E0 transition, and most or all of the other deexciting transitions had alternative placements. Interpretation of this decay is greatly complicated by the large number of transitions (many of them multiply-placed) and the inability of α(K)exp data for singly-placed transitions to differentiate between M2 and E0+M1+E2 transitions.

^{170}Yb Levels

E(level)†	Jπ‡	$T_{1/2}$#	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0	0^+		2268.08 *17*	1^-	2969.45 *13*	1^-
84.262 *4*	2^+	1.58 ns *7*	2275.49 *5*	1^-	2975.32 *11*	1^-
277.44 *4*	4^+		2289.37 *10*	1^+	3007.6 *3*	1^-
1069.36 *6*	0^+		2328.0? *4*	(0^+)	3042.46 *17*	1^+
1138.55 *3*	2^+		2351.71 *6*	$0^-,1^-,2^-$	3065.36 *12*	1^+
1145.72 *5*	2^+		2364.06 *4*	1^-	3067.62 *10*	1^-
1225.35 *6*	$(3)^+$		2367.65 *5*	$(1)^-$	3070.52 *19*	0,1
1228.84 *10*	0^+		2400.10 *6*	1^-	3091.93 *11*	1
1306.39 *5*	2^+		2429.05 *11*	$1^+,2^+$	3099.64 *9*	$1^{(-)}$
1364.53 *4*	1^-		2436.01 *11*	$(2,3)^-$	3115.58 *11*	1^-
1397.05 *13*	$(3)^-$		2496.20 *5*	1^-	3123.94 *12*	1^-
1425.24 *4*	$(2)^-$		2498.19 *7*	$0^-,1^-,2^-$	3131.10 *16*	1^+
1479.91 *6*	0^+		2523.07 *14*	1^+	3140.60 *13*	(1)
1512.37 *4*	1^-		2536.97 *6*	1^-	3146.03 *9*	1^+
1534.57 *4*	2^+		2661.02 *12*	1^+	3149.09 *9*	1^-
1566.38 *8*	0^+		2667.19 *4*	$1^{(+)}$	3161.02 *17*	(1^-)
1634.84 *8*	(1^+)		2748.08 *5*	1^-	3165.59@ *9*	1^-
1658.06 *9*	$(2)^+$		2768.34 *8*	$0^-,1^-$	3169.59 *12*	1^-
1717.95 *4*	$(2)^-$		2775.66 *8*	1^-	3179.76 *16*	1^-
1838.2? *3*	$(2)^+$		2783.12 *10*	1^+	3186.66 *13*	(1^-)
1985.64 *9*	$1^-,2^-$		2819.77 *4*	$0^-,1^-$	3195.58 *8*	1^-
2039.85 *8*	1^+		2929.60 *8*	1^-	3202.94 *13*	1^+
2052.59 *7*	$0^-,1^-,2^-$		2939.73 *5*	1^-	3213.27 *13*	1^-
2115.90 *7*	1^-		2947.84 *6*	1^-	3258.18 *10*	1^+
2126.14 *5*	1^-		2956.55 *11*	1^+	3268.91 *15*	$1^{(+)}$
2200.91 *9*	$1^-,2^-$		2965.66 *8*	1^+	3274.17 *14*	1^-

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^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

^{170}Yb Levels (continued)

E(level)[†]	Jπ[‡]
3291.82 *21*	1^+
3301.95 *11*	1^+
3314.42 *11*	1
3366.40 *11*	1
3384.87 *17*	1^-
3423.2? *8*	(0^-)

[†] From least-squares fit to Eγ, omitting data for multiply-placed transitions and data for which authors did not report the uncertainty.
[‡] From Adopted Levels.
[#] From γγ(t) (1959Si74).
[@] Possible doublet; see comment in Adopted Levels.

ε,β+ radiations

E(decay)	E(level)	Iε[†]	Log *ft*	I(ε+β+)[†]	Comments
(35 *17*)	3423.2?	0.06 *4*	5.7 *9*	0.06 *4*	εL=0.65 *23*; εM+=0.35 *23*
(73 *17*)	3384.87	0.097 *19*	6.3 *4*	0.097 *19*	εK=0.14 *25*; εL=0.62 *17*; εM+=0.24 *8*
(92 *17*)	3366.40	0.16 *4*	6.5 *4*	0.16 *4*	εK=0.40 *24*; εL=0.44 *17*; εM+=0.16 *7*
(144 *17*)	3314.42	0.20 *6*	7.03 *22*	0.20 *6*	εK=0.65 *5*; εL=0.26 *4*; εM+=0.088 *13*
(156 *17*)	3301.95	0.37 *5*	6.87 *16*	0.37 *5*	εK=0.68 *4*; εL=0.243 *25*; εM+=0.081 *10*
(166 *17*)	3291.82	0.19 *5*	7.24 *18*	0.19 *5*	εK=0.69 *3*; εL=0.232 *20*; εM+=0.077 *8*
(184 *17*)	3274.17	0.22 *4*	7.30 *15*	0.22 *4*	εK=0.712 *20*; εL=0.217 *15*; εM+=0.071 *6*
(189 *17*)	3268.91	0.20 *3*	7.37 *13*	0.20 *3*	εK=0.717 *19*; εL=0.213 *14*; εM+=0.070 *5*
(200 *17*)	3258.18	0.27 *4*	7.31 *13*	0.27 *4*	εK=0.726 *16*; εL=0.207 *12*; εM+=0.067 *5*
(245 *17*)	3213.27	0.27 *8*	7.53 *16*	0.27 *8*	εK=0.753 *9*; εL=0.187 *7*; εM+=0.0599 *23*
(255 *17*)	3202.94	0.46 *12*	7.35 *14*	0.46 *12*	εK=0.758 *8*; εL=0.184 *6*; εM+=0.0587 *21*
(262 *17*)	3195.58	0.52 *5*	7.33 *9*	0.52 *5*	εK=0.760 *7*; εL=0.182 *6*; εM+=0.0579 *19*
(271 *17*)	3186.66	0.57 *5*	7.32 *8*	0.57 *5*	εK=0.764 *7*; εL=0.179 *5*; εM+=0.0571 *18*
(278 *17*)	3179.76	0.50 *4*	7.41 *8*	0.50 *4*	εK=0.766 *6*; εL=0.178 *5*; εM+=0.0564 *17*
(288 *17*)	3169.59	0.11 *4*	8.10 *17*	0.11 *4*	εK=0.769 *6*; εL=0.175 *4*; εM+=0.0556 *15*
(292 *17*)	3165.59	1.13 *6*	7.10 *7*	1.13 *6*	εK=0.770 *6*; εL=0.174 *4*; εM+=0.0553 *15*
					Iε,log *ft*: for possible doublet; see comment in Adopted Levels.
(297 *17*)	3161.02	0.153 *23*	7.99 *9*	0.153 *23*	εK=0.772 *5*; εL=0.174 *4*; εM+=0.0549 *14*
(309 *17*)	3149.09	0.60 *5*	7.44 *7*	0.60 *5*	εK=0.775 *5*; εL=0.171 *4*; εM+=0.0541 *13*
(312 *17*)	3146.03	0.49 *3*	7.53 *7*	0.49 *3*	εK=0.775 *5*; εL=0.171 *4*; εM+=0.0539 *12*
(317 *17*)	3140.60	0.364 *18*	7.68 *7*	0.364 *18*	εK=0.777 *5*; εL=0.170 *3*; εM+=0.0535 *12*
(327 *17*)	3131.10	0.23 *5*	7.91 *11*	0.23 *5*	εK=0.779 *4*; εL=0.168 *3*; εM+=0.0530 *11*
(334 *17*)	3123.94	0.29 *7*	7.83 *12*	0.29 *7*	εK=0.780 *4*; εL=0.167 *3*; εM+=0.0526 *10*
(342 *17*)	3115.58	2.11 *13*	7.00 *6*	2.11 *13*	εK=0.782 *4*; εL=0.166 *3*; εM+=0.0521 *10*
(358 *17*)	3099.64	1.58 *8*	7.17 *6*	1.58 *8*	εK=0.785 *3*; εL=0.1638 *23*; εM+=0.0514 *9*
(366 *17*)	3091.93	0.24 *8*	8.01 *16*	0.24 *8*	εK=0.786 *3*; εL=0.1629 *22*; εM+=0.0510 *8*
(387 *17*)	3070.52	0.23 *12*	8.08 *24*	0.23 *12*	εK=0.789 *3*; εL=0.1605 *19*; εM+=0.0501 *7*
(390 *17*)	3067.62	0.61 *5*	7.67 *6*	0.61 *5*	εK=0.790 *3*; εL=0.1602 *19*; εM+=0.0500 *7*
(393 *17*)	3065.36	0.34 *8*	7.93 *12*	0.34 *8*	εK=0.7901 *25*; εL=0.1600 *18*; εM+=0.0499 *7*
(416 *17*)	3042.46	0.21 *4*	8.19 *10*	0.21 *4*	εK=0.7930 *22*; εL=0.1578 *16*; εM+=0.0492 *6*
(450 *17*)	3007.6	0.26 *7*	8.18 *13*	0.26 *7*	εK=0.7968 *18*; εL=0.1550 *13*; εM+=0.0481 *5*
(483 *17*)	2975.32	0.70 *6*	7.82 *6*	0.70 *6*	εK=0.7998 *15*; εL=0.1529 *11*; εM+=0.0473 *4*
(489 *17*)	2969.45	0.62 *4*	7.88 *5*	0.62 *4*	εK=0.8003 *15*; εL=0.1525 *11*; εM+=0.0472 *4*
(492 *17*)	2965.66	2.32 *13*	7.32 *5*	2.32 *13*	εK=0.8006 *15*; εL=0.1523 *11*; εM+=0.0471 *4*
(501 *17*)	2956.55	0.501 *25*	8.00 *4*	0.501 *25*	εK=0.8013 *14*; εL=0.1518 *10*; εM+=0.0469 *4*
(510 *17*)	2947.84	3.35 *15*	7.19 *4*	3.35 *15*	εK=0.8020 *14*; εL=0.1513 *10*; εM+=0.0468 *4*

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^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
(518 *17*)	2939.73		7.3 *4*	6.87 *4*	7.3 *4*	εK=0.8026 *13*; εL=0.1508 *10*; εM+=0.0466 *4*
(528 *17*)	2929.60		3.68 *20*	7.18 *4*	3.68 *20*	εK=0.8033 *13*; εL=0.1503 *9*; εM+=0.0464 *4*
(638 *17*)	2819.77		5.9 *3*	7.16 *4*	5.9 *3*	εK=0.8094 *8*; εL=0.1458 *6*; εM+=0.04480 *21*
(675 *17*)	2783.12		1.60 *9*	7.78 *4*	1.60 *9*	εK=0.8109 *7*; εL=0.1447 *5*; εM+=0.04439 *19*
(682 *17*)	2775.66		2.81 *15*	7.54 *4*	2.81 *15*	εK=0.8112 *7*; εL=0.1445 *5*; εM+=0.04431 *18*
(690 *17*)	2768.34		1.16 *6*	7.94 *4*	1.16 *6*	εK=0.8115 *7*; εL=0.1443 *5*; εM+=0.04423 *18*
(710 *17*)	2748.08		4.73 *22*	7.36 *3*	4.73 *22*	εK=0.8122 *7*; εL=0.1437 *5*; εM+=0.04404 *17*
(791 *17*)	2667.19		0.38 *4*	8.55 *5*	0.38 *4*	εK=0.8148 *5*; εL=0.1419 *4*; εM+=0.04336 *13*
(797 *17*)	2661.02		0.29 *5*	8.68 *8*	0.29 *5*	εK=0.8149 *5*; εL=0.1418 *4*; εM+=0.04332 *13*
(921 *17*)	2536.97		0.39 *4*	8.68 *5*	0.39 *4*	εK=0.8178 *4*; εL=0.1396 *3*; εM+=0.04255 *10*
(935 *17*)	2523.07		0.32 *11*	8.78 *15*	0.32 *11*	εK=0.8181 *4*; εL=0.13941 *25*; εM+=0.04247 *9*
(960 *17*)	2498.19		1.12 *7*	8.26 *4*	1.12 *7*	εK=0.8186 *4*; εL=0.13907 *24*; εM+=0.04235 *9*
(962 *17*)	2496.20		1.77 *11*	8.06 *4*	1.77 *11*	εK=0.8186 *4*; εL=0.13904 *24*; εM+=0.04234 *9*
(1090 *17*)	2367.65		5.16 *25*	7.71 *3*	5.16 *25*	εK=0.8207 *3*; εL=0.13753 *18*; εM+=0.04180 *7*
(1094 *17*)	2364.06		14.9 *7*	7.26 *3*	14.9 *7*	εK=0.8207 *3*; εL=0.13750 *18*; εM+=0.04178 *7*
(1106 *17*)	2351.71		2.64 *13*	8.02 *3*	2.64 *13*	εK=0.8209 *3*; εL=0.13737 *18*; εM+=0.04174 *7*
(1130‡ *17*)	2328.0?		0.055 *23*	9.72 *19*	0.055 *23*	εK=0.8212 *3*; εL=0.13714 *17*; εM+=0.04166 *6*
(1183 *17*)	2275.49		1.88 *12*	8.23 *4*	1.88 *12*	εK=0.8218 *2*; εL=0.13667 *15*; εM+=0.04149 *6*
(1190‡ *17*)	2268.08		0.11 *6*	9.47 *24*	0.11 *6*	εK=0.8219 *2*; εL=0.13660 *15*; εM+=0.04146 *6*
(1257 *17*)	2200.91		0.58 *7*	8.79 *6*	0.58 *7*	εK=0.8226 *2*; εL=0.1361 *2*; εM+=0.04127 *5*
(1332 *17*)	2126.14	0.0024 *6*	10.4 *5*	7.592 *25*	10.4 *5*	av Eβ=155.8 *78*; εK=0.8232 *2*; εL=0.1355 *2*; εM+=0.04107 *5*
(1342‡ *17*)	2115.90		0.15 *14*	9.4 *4*	0.15 *14*	εK=0.8233 *1*; εL=0.1354 *2*; εM+=0.04104 *5*
(1405 *17*)	2052.59		0.217 *20*	9.32 *5*	0.217 *20*	εK=0.8236; εL=0.1350 *2*; εM+=0.04089 *5*
(1418 *17*)	2039.85	0.0025 *5*	3.84 *20*	8.08 *3*	3.84 *20*	av Eβ=194.9 *77*; εK=0.8236; εL=0.1349 *2*; εM+=0.04086 *4*
(1472 *17*)	1985.64	0.00032 *19*	0.28 *16*	9.25 *25*	0.28 *16*	av Eβ=219.2 *76*; εK=0.8236; εL=0.1345 *2*; εM+=0.04073 *4*
(1620‡ *17*)	1838.2?	0.00021 *8*	0.061 *22*	10.00 *16*	0.061 *22*	av Eβ=284.5 *75*; εK=0.8226 *3*; εL=0.1335 *2*; εM+=0.04037 *5*
(1740 *17*)	1717.95	0.00034 *10*	0.26 *7*	10.47[1u] *12*	0.26 *7*	av Eβ=353.2 *76*; εK=0.8150 *1*; εL=0.14073 *18*; εM+=0.04300 *7*
(1823 *17*)	1634.84	0.0016 *4*	0.15 *4*	9.72 *12*	0.15 *4*	av Eβ=374.1 *75*; εK=0.8179 *7*; εL=0.13175 *17*; εM+=0.03980 *6*
(1892 *17*)	1566.38	0.0050 *8*	0.35 *5*	9.39 *7*	0.35 *5*	av Eβ=404.1 *75*; εK=0.8152 *8*; εL=0.13104 *19*; εM+=0.03957 *6*
(1946 *17*)	1512.37	0.010 *3*	0.58 *18*	9.19 *14*	0.59 *18*	av Eβ=427.9 *75*; εK=0.8127 *9*; εL=0.13043 *21*; εM+=0.03938 *7*
(1978‡ *17*)	1479.91	0.0022 *18*	0.11 *9*	9.9 *4*	0.11 *9*	av Eβ=442.1 *75*; εK=0.8109 *10*; εL=0.13004 *22*; εM+=0.03926 *7*
(2061 *17*)	1397.05	0.0092 *8*	0.340 *23*	9.47 *4*	0.349 *24*	av Eβ=478.5 *75*; εK=0.8059 *12*; εL=0.12895 *25*; εM+=0.03891 *8*
(2093 *17*)	1364.53	0.03 *1*	0.9 *3*	9.07 *15*	0.9 *3*	av Eβ=492.8 *75*; εK=0.8036 *13*; εL=0.1285 *3*; εM+=0.03877 *8*
(2229 *17*)	1228.84	0.032 *5*	0.70 *11*	9.23 *8*	0.73 *12*	av Eβ=552.5 *75*; εK=0.7923 *16*; εL=0.1263 *3*; εM+=0.03809 *10*
(3458 *17*)	0.0	0.24 *4*	0.56 *9*	9.71 *8*	0.80 *13*	av Eβ=1100.6 *77*; εK=0.582 *4*; εL=0.0912 *6*; εM+=0.02743 *18* E(decay): other: 3467 *20* from β+ endpoint energy of 2445 *20* (1960Dz02). Other: β+ endpoint energy = 2390 *50* (1965Ha30). Iβ+: from decay scheme and I(β+ to g.s.)/I(84 ce)=0.0041 *8* (1965Ha30) assuming α(84)=6.28. 1965Ha30 deduce Iβ=0.19% *5* based on

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^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Comments
		Ti(84)=53% *10* derived from their I(84γ)/I(K x ray), γ-84γ coin and βγ coin data combined with I(ce(K)).

† Absolute intensity per 100 decays.
‡ Existence of this branch is questionable.

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb)

Iγ normalization: from I(β^+ to g.s.)/I(84 ce)=0.0041 *8* (1965Ha30), β^+/ε(g.s.) theory, α(84)=6.28 and Σ (I(γ+ce) to g.s.). Uncertainty does not include possible contributions from unplaced γ-rays.

Total unplaced Iγ is ≈ 3%.

α(K)exp Data:

Large ammount of data are from 1972Ca21, or from a combination of Iγ from 1972Ca21 and I(ce) from 1973TeZT, 1972Dz02, 1970Dz11 or 1968Ba54, as noted for each datum (I(ce) from 1960Ha18 lack uncertainty estimates and appear to be insufficiently reliable to be useful). Due to the complexity of the spectrum, 1972Ca21 limited their use of ce data to peaks which are well defined and for which the intensity uncertainty is≤10%. Since ΔIγ values for the relevant peaks do not exceed 10%, the uncertainty in these measured α(K)exp can be assumed to be≤15%. 1972Ca21 used the 193, 1139, 1144.6, 1145.9, 1396 and 1535 E2 transitions and the 1280 and 1365 E1 transitions for α(K)exp normalization. α(K)exp values deduced by the evaluator from Iγ of 1972Ca21 and I(ce) of 1970Dz11 or 1968Ba54 agree well with those deduced by 1972Ca21 for E below≈1600. However, at higher energies, α(K)exp values from 1972Ca21 tend to fall increasingly far below data from other sources and theory (by as much as a factor of 2); since Iγ from 1972Ca21 and 1971Bo09 remain consistent, the high-energy I(ce) normalization in 1972Ca21 may be at fault. For E>1600, α(K)exp is based on I(ce) from sources other than 1972Ca21 when possible.

Additional α(K)exp values for many transitions are deduced In 1988DzZW, an evaluation of ^{170}Lu ε decay data. since these are based on ce measurements other than those of 1972Ca21 and appear to be deduced from literature which is not readily accessible, the evaluator quotes those α(K)exp values also and attributes them to 1988DzZW (except when adequate values can be deduced using I(ce(K)) In 1968Ba54, 1970Dz11, 1972Dz02 or 1973TeZT). Note that 1988DzZW normalized their α(K)exp values using 985γ, 1512γ, 2126γ, 2364γ, 2496γ, 2748γ, 2783γ, 2940γ and 2966γ, all of which feed the 0$^+$ g.s.; this leads to α(K)exp values that are 10% lower than ones deduced using 1972Ca21's normalization, but the evaluator has not adjusted α(K)exp from 1988DzZW accordingly since the statistical uncertainties are usually the more significant ones.

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
84.262 *4*	195×10^2 *10*	84.262	2$^+$	0.0	0$^+$	E2[&]	6.28	α(K)=1.406 *20*; α(L)=3.72 *6*; α(M)=0.919 *13*; α(N+..)=0.233 *4* α(N)=0.209 *3*; α(O)=0.0239 *4*; α(P)=6.36×10^{-5} *9* %Iγ=8.72 *24* assuming present Iγ normalization.
118.80 *15*	72 *7*	1425.24	(2)$^-$	1306.39	2$^+$	[E1]	0.217	α(K)=0.180 *3*; α(L)=0.0289 *5*; α(M)=0.00646 *10*; α(N+..)=0.001696 *25* α(N)=0.001490 *22*; α(O)=0.000198 *3*; α(P)=8.14×10^{-6} *12*
119.90 *20*	15.0 *15*	2939.73	1$^-$	2819.77	0$^-$,1$^-$	[M1,E2]	1.81 *20*	α(K)=1.2 *5*; α(L)=0.49 *24*; α(M)=0.12 *6*; α(N+..)=0.031 *16* α(N)=0.027 *14*; α(O)=0.0033 *15*; α(P)=7.E−5 *4*
134.05 *15*	28 *3*	3099.64	1$^{(-)}$	2965.66	1$^+$	[E1]	0.1579	α(K)=0.1313 *19*; α(L)=0.0207 *3*; α(M)=0.00464 *7*; α(N+..)=0.001220 *18* α(N)=0.001071 *16*; α(O)=0.0001432 *21*; α(P)=6.04×10^{-6} *9*
142.50[a] *15*	21.0 *20*	3258.18	1$^+$	3115.58	1$^-$	[E1]	0.1344	α(K)=0.1119 *16*; α(L)=0.0175 *3*; α(M)=0.00392 *6*; α(N+..)=0.001033 *15* α(N)=0.000906 *13*; α(O)=0.0001216 *18*; α(P)=5.19×10^{-6} *8*
152.60 *3*	610 *20*	2819.77	0$^-$,1$^-$	2667.19	1$^{(+)}$	[E1]	0.1123	α(K)=0.0936 *14*; α(L)=0.01456 *21*; α(M)=0.00325 *5*; α(N+..)=0.000858 *12* α(N)=0.000753 *11*; α(O)=0.0001014 *15*; α(P)=4.38×10^{-6} *7* Mult.: α(K)exp=1.09 (I(ce), 1960Ha18; Iγ, 1972Ca21) suggests mult=M1; K/L implies E1 or M1(+E2). Uncertainties may, however, be large. M1 inconsistent with placement.

From ENSDF

$^{170}_{70}Yb_{100}$-5

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
160.2		1228.84	0^+	1069.36	0^+	E0		α(exp)≥7 (1990AbZT) E_γ,Mult.: from 1990AbZT.
166.70[h] *20*	13.5[h] *15*	2367.65	$(1)^-$	2200.91	$1^-,2^-$	[M1,E2]	0.64 *15*	α(K)=0.47 *20*; α(L)=0.14 *4*; α(M)=0.032 *10*; α(N+..)=0.0084 *23* α(N)=0.0074 *22*; α(O)=0.00094 *19*; α(P)=2.6×10^{-5} *14*
166.70[ha] *20*	13.5[h] *15*	3123.94	1^-	2956.55	1^+	[E1]	0.0890	α(K)=0.0743 *11*; α(L)=0.01147 *17*; α(M)=0.00256 *4*; α(N+..)=0.000677 *10* α(N)=0.000593 *9*; α(O)=8.02×10^{-5} *12*; α(P)=3.52×10^{-6} *5*
170.80[h] *20*	7.0[h] *10*	3146.03	1^+	2975.32	1^-			
170.80[ha] *20*	7.0[h] *10*	3213.27	1^-	3042.46	1^+			
193.13 *5*	463×10[1] *15*	277.44	4^+	84.262	2^+	E2	0.302	α(K)=0.182 *3*; α(L)=0.0918 *13*; α(M)=0.0222 *4*; α(N+..)=0.00572 *8* α(N)=0.00510 *8*; α(O)=0.000613 *9*; α(P)=8.45×10^{-6} *12* α(K)exp=0.179 (1972Ca21) K:(L1+L2):L3:M=35:13:6.6:5 (1960Ha18).
199.65[ha] *15*	20.0[h] *20*	2947.84	1^-	2748.08	1^-	[M1]	0.478	α(K)=0.401 *6*; α(L)=0.0606 *9*; α(M)=0.01357 *20*; α(N+..)=0.00367 *6* α(N)=0.00319 *5*; α(O)=0.000456 *7*; α(P)=2.43×10^{-5} *4*
199.65[ha] *15*	20.0[h] *20*	3291.82	1^+	3091.93	1	[E1]	0.0557	α(K)=0.0466 *7*; α(L)=0.00708 *10*; α(M)=0.001579 *23*; α(N+..)=0.000418 *6* α(N)=0.000366 *6*; α(O)=4.99×10^{-5} *7*; α(P)=2.26×10^{-6} *4*
201.75 *15*	35 *3*	1566.38	0^+	1364.53	1^-	[E1]	0.0542	α(K)=0.0454 *7*; α(L)=0.00688 *10*; α(M)=0.001535 *22*; α(N+..)=0.000407 *6* α(N)=0.000356 *5*; α(O)=4.86×10^{-5} *7*; α(P)=2.20×10^{-6} *4*
205.55 *20*	17.5 *15*	1717.95	$(2)^-$	1512.37	1^-	(M1+E2)	0.34 *10*	α(K)=0.26 *11*; α(L)=0.063 *8*; α(M)=0.0148 *24*; α(N+..)=0.0039 *6* α(N)=0.0034 *5*; α(O)=0.00045 *3*; α(P)=1.5×10^{-5} *8* Mult.: based on unenumerated ce data of 1990AbZT.
209.90[a] *20*	16.5 *15*	3301.95	1^+	3091.93	1			
220.90 *15*	42.5 *15*	2496.20	1^-	2275.49	1^-	[M1,E2]	0.28 *9*	α(K)=0.21 *9*; α(L)=0.049 *4*; α(M)=0.0115 *13*; α(N+..)=0.0030 *3* α(N)=0.0027 *3*; α(O)=0.000351 *8*; α(P)=1.2×10^{-5} *7* α(K)exp≤0.21 (1972Ca21)
222.40[ha] *15*	90[h] *3*	2498.19	$0^-,1^-,2^-$	2275.49	1^-	[M1]	0.355	α(K)=0.297 *5*; α(L)=0.0449 *7*; α(M)=0.01005 *15*; α(N+..)=0.00272 *4* α(N)=0.00236 *4*; α(O)=0.000338 *5*; α(P)=1.81×10^{-5} *3* α(K)exp=0.267 (1972Ca21); mult=M1(+E2) for doubly-placed γ.
222.40[ha] *15*	90[h] *3*	3314.42	1	3091.93	1	[M1]	0.355	α(K)=0.297 *5*; α(L)=0.0449 *7*; α(M)=0.01005 *15*; α(N+..)=0.00272 *4* α(N)=0.00236 *4*; α(O)=0.000338 *5*; α(P)=1.81×10^{-5} *3* α(K)exp=0.267 (1972Ca21); mult=M1(+E2) for doubly-placed γ.
[x]223.40 *15*	45.0 *15*					M1	0.351	α(K)exp=0.332 (1972Ca21) α(K)=0.294 *5*; α(L)=0.0444 *7*; α(M)=0.00993 *14*; α(N+..)=0.00268 *4* α(N)=0.00233 *4*; α(O)=0.000334 *5*; α(P)=1.78×10^{-5} *3*
225.45[h] *20*	13.0[h] *20*	2351.71	$0^-,1^-,2^-$	2126.14	1^-	[M1,E2]	0.26 *8*	α(K)=0.20 *9*; α(L)=0.046 *3*; α(M)=0.0107 *11*; α(N+..)=0.00283 *22* α(N)=0.00249 *22*; α(O)=0.000327 *6*; α(P)=1.2×10^{-5} *6*

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
225.45[ha] *20*	13.0[h] *20*	2661.02	1^+	2436.01	$(2,3)^-$	[E1]	0.0407	α(K)=0.0342 *5*; α(L)=0.00514 *8*; α(M)=0.001145 *17*; α(N+..)=0.000304 *5* α(N)=0.000266 *4*; α(O)=3.65×10^{-5} *6*; α(P)=1.680×10^{-6} *24*
228.05 *15*	80 *5*	1534.57	2^+	1306.39	2^+	E0+M1+E2	≈0.65	α(K)exp=0.542 (1972Ca21) α: estimated from (α(K)exp=0.54)x1.2.
231.15[ha] *20*	13.0[h] *15*	2667.19	$1^{(+)}$	2436.01	$(2,3)^-$	[E1]	0.0382	α(K)=0.0321 *5*; α(L)=0.00481 *7*; α(M)=0.001073 *16*; α(N+..)=0.000285 *4* α(N)=0.000249 *4*; α(O)=3.42×10^{-5} *5*; α(P)=1.582×10^{-6} *23*
231.15[h] *20*	13.0[h] *15*	2768.34	$0^-,1^-$	2536.97	1^-	[M1,E2]	0.24 *8*	α(K)=0.19 *8*; α(L)=0.0423 *21*; α(M)=0.0098 *9*; α(N+..)=0.00259 *16* α(N)=0.00228 *17*; α(O)=0.000301 *5*; α(P)=1.1×10^{-5} *6*
235.55[h] *15*	88[h] *8*	2351.71	$0^-,1^-,2^-$	2115.90	1^-	[M1,E2]	0.23 *8*	α(K)=0.18 *8*; α(L)=0.0397 *15*; α(M)=0.0092 *7*; α(N+..)=0.00243 *12* α(N)=0.00214 *13*; α(O)=0.000283 *7*; α(P)=1.0×10^{-5} *6* α(K)exp=0.192 (1972Ca21), mult=M1+E2 for doubly-placed γ.
235.55[h] *15*	88[h] *8*	2436.01	$(2,3)^-$	2200.91	$1^-,2^-$	[M1,E2]	0.23 *8*	α(K)=0.18 *8*; α(L)=0.0397 *15*; α(M)=0.0092 *7*; α(N+..)=0.00243 *12* α(N)=0.00214 *13*; α(O)=0.000283 *7*; α(P)=1.0×10^{-5} *6* α(K)exp=0.192 (1972Ca21), mult=M1+E2 for doubly-placed γ.
238.25[ha] *15*	37[h] *4*	2364.06	1^-	2126.14	1^-	[M1,E2]	0.22 *8*	α(K)=0.17 *8*; α(L)=0.0382 *12*; α(M)=0.0089 *6*; α(N+..)=0.00234 *10* α(N)=0.00206 *11*; α(O)=0.000272 *8*; α(P)=1.0×10^{-5} *5*
238.25[h] *15*	37[h] *4*	2667.19	$1^{(+)}$	2429.05	$1^+,2^+$	[M1,E2]	0.22 *8*	α(K)=0.17 *8*; α(L)=0.0382 *12*; α(M)=0.0089 *6*; α(N+..)=0.00234 *10* α(N)=0.00206 *11*; α(O)=0.000272 *8*; α(P)=1.0×10^{-5} *5*
238.25[ha] *15*	37[h] *4*	3213.27	1^-	2975.32	1^-	[M1,E2]	0.22 *8*	α(K)=0.17 *8*; α(L)=0.0382 *12*; α(M)=0.0089 *6*; α(N+..)=0.00234 *10* α(N)=0.00206 *11*; α(O)=0.000272 *8*; α(P)=1.0×10^{-5} *5*
241.50 *5*	510 *15*	2367.65	$(1)^-$	2126.14	1^-	M1	0.283	α(K)=0.237 *4*; α(L)=0.0358 *5*; α(M)=0.00801 *12*; α(N+..)=0.00216 *3* α(N)=0.00188 *3*; α(O)=0.000269 *4*; α(P)=1.439×10^{-5} *21* α(K)exp=0.238 (1972Ca21)
249.95[hb] *20*	8.5[h] *25*	2289.37	1^+	2039.85	1^+	[M1,E2]	0.19 *7*	α(K)=0.15 *7*; α(L)=0.0325 *5*; α(M)=0.0075 *3*; α(N+..)=0.00199 *4* α(N)=0.00175 *5*; α(O)=0.000233 *13*; α(P)=9.E−6 *5*
249.95[h] *20*	8.5[h] *25*	2748.08	1^-	2498.19	$0^-,1^-,2^-$	[M1,E2]	0.19 *7*	α(K)=0.15 *7*; α(L)=0.0325 *5*; α(M)=0.0075 *3*; α(N+..)=0.00199 *4* α(N)=0.00175 *5*; α(O)=0.000233 *13*; α(P)=9.E−6 *5*
251.0		1479.91	0^+	1228.84	0^+	E0		α(K)exp≥2.5 (1972Ca21) ce(K)/ce=0.87. I(ce(K))/I(1396γ)=0.0051 from α(K)exp>2.5 if Iγ<10 (1972Ca21).
251.75 *10*	105 *5*	2367.65	$(1)^-$	2115.90	1^-	[M1,E2]	0.19 *7*	α(K)=0.15 *7*; α(L)=0.0318 *5*; α(M)=0.00736 *24*; α(N+..)=0.00195 *4* α(N)=0.00171 *4*; α(O)=0.000227 *13*; α(P)=9.E−6 *5*
272.40 *15*	20.5 *20*	2939.73	1^-	2667.19	$1^{(+)}$	[E1]	0.0253	α(K)=0.0212 *3*; α(L)=0.00315 *5*; α(M)=0.000702 *10*; α(N+..)=0.000187 *3* α(N)=0.0001633 *23*; α(O)=2.25×10^{-5} *4*; α(P)=1.066×10^{-6} *15* E_γ: also placed by 1988DaZW from 3213 level, but Eγ does not fit that placement.
[x]275.40 *20*	10.0 *10*							

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
279.40 *15*	47 *3*	2775.66	1^-	2496.20	1^-	[M1,E2]	0.14 *5*	α(K)=0.11 *5*; α(L)=0.0226 *15*; α(M)=0.00521 *17*; α(N+..)=0.00138 *7* α(N)=0.00121 *5*; α(O)=0.000163 *18*; α(P)=6.E−6 *4*
283.05 *10*	445 *15*	2819.77	$0^-,1^-$	2536.97	1^-	M1	0.184	α(K)=0.1543 *22*; α(L)=0.0232 *4*; α(M)=0.00518 *8*; α(N+..)=0.001400 *20* α(N)=0.001217 *17*; α(O)=0.0001742 *25*; α(P)=9.33×10^{-6} *13* α(K)exp=0.124 (1972Ca21)
286.60 *5*	1010 *30*	1425.24	$(2)^-$	1138.55	2^+	E1	0.0223	α(K)exp=0.018 (1972Ca21) α(K)=0.0187 *3*; α(L)=0.00277 *4*; α(M)=0.000617 *9*; α(N+..)=0.0001643 *23* α(N)=0.0001435 *21*; α(O)=1.98×10^{-5} *3*; α(P)=9.45×10^{-7} *14*
292.55[h] *20*	11.0[h] *10*	1717.95	$(2)^-$	1425.24	$(2)^-$	[M1,E2]	0.12 *5*	α(K)=0.10 *5*; α(L)=0.0195 *17*; α(M)=0.0045 *3*; α(N+..)=0.00119 *9* α(N)=0.00105 *7*; α(O)=0.000141 *19*; α(P)=6.E−6 *3*
292.55[ha] *20*	11.0[h] *10*	3258.18	1^+	2965.66	1^+	[M1,E2]	0.12 *5*	α(K)=0.10 *5*; α(L)=0.0195 *17*; α(M)=0.0045 *3*; α(N+..)=0.00119 *9* α(N)=0.00105 *7*; α(O)=0.000141 *19*; α(P)=6.E−6 *3*
[x]295.15 *20*	10.0 *10*					M1	0.1644	α(K)=0.1379 *20*; α(L)=0.0207 *3*; α(M)=0.00462 *7*; α(N+..)=0.001249 *18* α(N)=0.001086 *16*; α(O)=0.0001554 *22*; α(P)=8.33×10^{-6} *12* 4 placements possible based on Eγ (1972Ca21); mult=M1 from ce data of 1990AbZT, inconsistent with placements from 1364 and 2957 levels In 1988DzZW.
296.70[ha] *20*	17.0[h] *15*	2661.02	1^+	2364.06	1^-	[E1]	0.0205	α(K)=0.01721 *25*; α(L)=0.00254 *4*; α(M)=0.000565 *8*; α(N+..)=0.0001506 *22* α(N)=0.0001315 *19*; α(O)=1.82×10^{-5} *3*; α(P)=8.71×10^{-7} *13* 3 placements possible based on Eγ (1972Ca21); mult=M1 from ce data of 1990AbZT.
296.70[ha] *20*	17.0[h] *15*	3065.36	1^+	2768.34	$0^-,1^-$	[E1]	0.0205	α(K)=0.01721 *25*; α(L)=0.00254 *4*; α(M)=0.000565 *8*; α(N+..)=0.0001506 *22* α(N)=0.0001315 *19*; α(O)=1.82×10^{-5} *3*; α(P)=8.71×10^{-7} *13* 3 placements possible based on Eγ (1972Ca21); mult=M1 from ce data of 1990AbZT.
[x]297.70 *20*	8.5 *10*							
300.60[a] *20*	10.0 *10*	3366.40	1	3065.36	1^+	M1	0.1565	α(K)=0.1313 *19*; α(L)=0.0197 *3*; α(M)=0.00440 *7*; α(N+..)=0.001189 *17* α(N)=0.001033 *15*; α(O)=0.0001479 *21*; α(P)=7.93×10^{-6} *12* α(K)exp=0.264 (1972Ca21)
301.85[a] *20*	13.0 *15*	3258.18	1^+	2956.55	1^+	[M1]	0.1548	α(K)=0.1298 *19*; α(L)=0.0195 *3*; α(M)=0.00435 *7*; α(N+..)=0.001175 *17* α(N)=0.001021 *15*; α(O)=0.0001463 *21*; α(P)=7.84×10^{-6} *11* α(K)exp=0.205 (1972Ca21), mult=M1 for doublet.
303.20[ha] *20*	9.0[h] *10*	2429.05	$1^+,2^+$	2126.14	1^-	[E1]	0.0194	α(K)=0.01633 *23*; α(L)=0.00240 *4*; α(M)=0.000535 *8*; α(N+..)=0.0001427 *21* α(N)=0.0001246 *18*; α(O)=1.726×10^{-5} *25*; α(P)=8.28×10^{-7} *12* α(K)exp=0.205 (1972Ca21), mult=M1 for doublet.
303.20[ha] *20*	9.0[h] *10*	2667.19	$1^{(+)}$	2364.06	1^-	[E1]	0.0194	α(K)=0.01633 *23*; α(L)=0.00240 *4*; α(M)=0.000535 *8*; α(N+..)=0.0001427 *21* α(N)=0.0001246 *18*; α(O)=1.726×10^{-5} *25*; α(P)=8.28×10^{-7} *12* α(K)exp=0.205 (1972Ca21), mult=M1 for doublet.

From ENSDF

$^{170}_{70}Yb_{100}$-8

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
311.80 *20*	16.0 *15*	2351.71	0⁻,1⁻,2⁻	2039.85	1⁺	[E1]	0.0181	α(K)=0.01525 *22*; α(L)=0.00224 *4*; α(M)=0.000499 *7*; α(N+..)=0.0001331 *19* α(N)=0.0001162 *17*; α(O)=1.611×10⁻⁵ *23*; α(P)=7.76×10⁻⁷ *11* Mult=M1+E2 from unenumerated ce data of 1990AbZT is inconsistent with this placement.
323.57 *5*	770 *25*	2819.77	0⁻,1⁻	2496.20	1⁻	M1	0.1285	α(K)=0.1078 *15*; α(L)=0.01612 *23*; α(M)=0.00360 *5*; α(N+..)=0.000974 *14* α(N)=0.000846 *12*; α(O)=0.0001212 *17*; α(P)=6.50×10⁻⁶ *10* α(K)exp=0.085 (1972Ca21); α(K)exp=0.17 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)).
[x]328.5						E0+M1+E2		E_γ,Mult.: from 1990ABZT.
329.3 *2*	25.0 *20*	3149.09	1⁻	2819.77	0⁻,1⁻	M1	0.1226	α(K)=0.1029 *15*; α(L)=0.01538 *22*; α(M)=0.00344 *5*; α(N+..)=0.000929 *13* α(N)=0.000807 *12*; α(O)=0.0001156 *17*; α(P)=6.21×10⁻⁶ *9* Mult.: based on ce data of 1990AbZT.
337.5		1566.38	0⁺	1228.84	0⁺	E0		ce(K)/ce=0.87. α(K)exp≥0.15 (1972Ca21). I(ce(K))/I(1482γ)=0.00111 from α(K)exp>0.15 if Iγ<10 (1972Ca21).
339.45[ha] *20*	7.0[h] *10*	2768.34	0⁻,1⁻	2429.05	1⁺,2⁺			
339.45[ha] *20*	7.0[h] *10*	3115.58	1⁻	2775.66	1⁻			
339.45[ha] *20*	7.0[h] *10*	3314.42	1	2975.32	1⁻			
340.90[h] *15*	34.0[h] *15*	3123.94	1⁻	2783.12	1⁺	[E1]	0.01461	α(K)=0.01231 *18*; α(L)=0.00180 *3*; α(M)=0.000400 *6*; α(N+..)=0.0001068 *15* α(N)=9.32×10⁻⁵ *13*; α(O)=1.296×10⁻⁵ *19*; α(P)=6.31×10⁻⁷ *9*
340.90[ha] *15*	34.0[h] *15*	3161.02	(1⁻)	2819.77	0⁻,1⁻	[M1]	0.1118	α(K)=0.0938 *14*; α(L)=0.01401 *20*; α(M)=0.00313 *5*; α(N+..)=0.000846 *12* α(N)=0.000735 *11*; α(O)=0.0001053 *15*; α(P)=5.66×10⁻⁶ *8*
366.35[ha] *15*	54.0[h] *20*	2351.71	0⁻,1⁻,2⁻	1985.64	1⁻,2⁻			α(K)exp=0.17 *7* (1988DzZW) for multiply-placed γ.
366.35[ha] *15*	54.0[h] *20*	3149.09	1⁻	2783.12	1⁺			α(K)exp=0.17 *7* (1988DzZW) for multiply-placed γ.
366.35[ha] *15*	54.0[h] *20*	3314.42	1	2947.84	1⁻			α(K)exp=0.17 *7* (1988DzZW) for multiply-placed γ.
368.30 *20*	20.0 *10*	2768.34	0⁻,1⁻	2400.10	1⁻	[M1,E2]	0.07 *3*	α(K)=0.053 *23*; α(L)=0.0096 *18*; α(M)=0.0022 *4*; α(N+..)=0.00059 *11* α(N)=0.00051 *9*; α(O)=7.0×10⁻⁵ *16*; α(P)=3.1×10⁻⁶ *15*
369.80[a] *15*	58 *3*	2496.20	1⁻	2126.14	1⁻			
371.90 *15*	68 *4*	2498.19	0⁻,1⁻,2⁻	2126.14	1⁻	(M1)	0.0887	α(K)=0.0745 *11*; α(L)=0.01110 *16*; α(M)=0.00248 *4*; α(N+..)=0.000670 *10* α(N)=0.000582 *9*; α(O)=8.34×10⁻⁵ *12*; α(P)=4.48×10⁻⁶ *7* α(K)exp<0.21 (1972Ca21)
374.55[a] *20*	10.0 *10*	3314.42	1	2939.73	1⁻			
382.35 *10*	130 *5*	2498.19	0⁻,1⁻,2⁻	2115.90	1⁻	(M1)	0.0825	α(K)=0.0692 *10*; α(L)=0.01031 *15*; α(M)=0.00230 *4*; α(N+..)=0.000622 *9*

From ENSDF

$^{170}_{70}Yb_{100}$-9

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=0.000541 *8*; α(O)=7.75×10^{-5} *11*; α(P)=4.17×10^{-6} *6* α(K)exp<0.13 (1972Ca21),≈0.085 (1972Ca21, Iγ; 1968Ba54, I(ce)).
384.85[a] *15*	32.0 *15*	3314.42	1	2929.60	1$^-$	M1(+E2+E0)		α(K)exp=0.16 *6* (1988DzZW)
386.45 *20*	20.0 *15*	3169.59	1$^-$	2783.12	1$^+$	[E1]	0.01087	α(K)=0.00916 *13*; α(L)=0.001328 *19*; α(M)=0.000295 *5*; α(N+..)=7.89×10^{-5} *11* α(N)=6.88×10^{-5} *10*; α(O)=9.61×10^{-6} *14*; α(P)=4.74×10^{-7} *7*
388.80 *10*	200 *6*	1534.57	2$^+$	1145.72	2$^+$	M1(+E0+E2)	0.081	α(K)exp=0.060 (1972Ca21) Mult.: M1 from 1972Ca21; M1+E0+E2 from 1990AbZT.
390.40[hb] *15*	125[h] *5*	2819.77	0$^-$,1$^-$	2429.05	1$^+$,2$^+$	[E1]	0.01061	α(K)=0.00895 *13*; α(L)=0.001296 *19*; α(M)=0.000288 *4*; α(N+..)=7.70×10^{-5} *11* α(N)=6.72×10^{-5} *10*; α(O)=9.38×10^{-6} *14*; α(P)=4.63×10^{-7} *7* Mult.: M1+E2 from ce data of 1990AbZT for doubly-placed γ.
390.40[ha] *15*	125[h] *5*	3366.40	1	2975.32	1$^-$			α(K)=0.047 *21*; α(L)=0.0083 *18*; α(M)=0.0019 *4*; α(N+..)=0.00055 *12* Mult.: M1+E2 from ce data of 1990AbZT for doubly-placed γ.
395.95 *10*	420 *12*	1534.57	2$^+$	1138.55	2$^+$	M1(+E0+E2)	0.077	α(K)exp=0.060 (1972Ca21); α(K)exp=0.075 *7* (1988DzZW) Mult.: M1 from 1972Ca21; M1+E0+E2 from 1990AbZT.
401.30 *20*	19 *6*	3169.59	1$^-$	2768.34	0$^-$,1$^-$	M1	0.0726	α(K)=0.0610 *9*; α(L)=0.00906 *13*; α(M)=0.00202 *3*; α(N+..)=0.000547 *8* α(N)=0.000475 *7*; α(O)=6.81×10^{-5} *10*; α(P)=3.67×10^{-6} *6* α(K)exp=0.11 *4* (1988DzZW)
404.00[ha] *15*	32.0[h] *15*	3065.36	1$^+$	2661.02	1$^+$	[M1]	0.0714	α(K)=0.0599 *9*; α(L)=0.00890 *13*; α(M)=0.00199 *3*; α(N+..)=0.000537 *8* α(N)=0.000467 *7*; α(O)=6.69×10^{-5} *10*; α(P)=3.60×10^{-6} *5* α(K)exp=0.068 (1972Ca21), 0.122 *13* (1988DzZW) for doubly-placed γ.
404.00[ha] *15*	32.0[h] *15*	3179.76	1$^-$	2775.66	1$^-$	[M1]	0.0714	α(K)=0.0599 *9*; α(L)=0.00890 *13*; α(M)=0.00199 *3*; α(N+..)=0.000537 *8* α(N)=0.000467 *7*; α(O)=6.69×10^{-5} *10*; α(P)=3.60×10^{-6} *5* α(K)exp=0.068 (1972Ca21), 0.122 *13* (1988DzZW) for doubly-placed γ.
406.25[ha] *15*	52[h] *3*	2929.60	1$^-$	2523.07	1$^+$	[E1]	0.00968 *14*	α=0.00968 *14*; α(K)=0.00816 *12*; α(L)=0.001179 *17*; α(M)=0.000262 *4*; α(N+..)=7.01×10^{-5} *10* α(N)=6.11×10^{-5} *9*; α(O)=8.55×10^{-6} *12*; α(P)=4.24×10^{-7} *6* Mult.: E2 from ce data of 1990AbZT and α(K)exp=0.038 *5* (1988DzZW), not consistent with either placement of γ-ray.
406.25[ha] *15*	52[h] *3*	3067.62	1$^-$	2661.02	1$^+$	[E1]	0.00968 *14*	α=0.00968 *14*; α(K)=0.00816 *12*; α(L)=0.001179 *17*; α(M)=0.000262 *4*; α(N+..)=7.01×10^{-5} *10* α(N)=6.11×10^{-5} *9*; α(O)=8.55×10^{-6} *12*; α(P)=4.24×10^{-7} *6* Mult.: E2 from ce data of 1990AbZT and α(K)exp=0.038 *5* (1988DzZW), not consistent with either placement of γ-ray.

From ENSDF

$^{170}_{70}Yb_{100}$-10

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[f]	Comments
[x]407.55 *20*	20.0 *10*								α(K)exp=0.072 *14* (1988DzZW)
410.5		1479.91	0+	1069.36	0+	E0			α(K)exp≥0.23 (1972Ca21); α(K)exp=0.30 *11* (1988DzZW) ce(K)/ce=0.87. I(ce(K))/I(1396γ)=0.00103 from α(K)exp>0.23 if Iγ<22 (1972Ca21).
410.55[a] *15*	22 *5*	2947.84	1−	2536.97	1−				
416.50 *20*	13.5 *15*	2768.34	0−,1−	2351.71	0−,1−,2−	(M1,E2)		0.048 *20*	α(K)exp=0.040 *21* (1988DzZW) α(K)=0.039 *17*; α(L)=0.0067 *15*; α(M)=0.0015 *3*; α(N+..)=0.00041 *9* α(N)=0.00036 *8*; α(O)=4.9×10^{-5} *13*; α(P)=2.3×10^{-6} *11*
419.65 *5*	1120 *30*	2819.77	0−,1−	2400.10	1−	M1		0.0646	α(K)=0.0542 *8*; α(L)=0.00805 *12*; α(M)=0.00180 *3*; α(N+..)=0.000486 *7* α(N)=0.000422 *6*; α(O)=6.05×10^{-5} *9*; α(P)=3.26×10^{-6} *5* α(K)exp=0.043 (1972Ca21); α(K)exp=0.049 *4* (1988DzZW)
427.20 *20*	19 *3*	3195.58	1−	2768.34	0−,1−	M1(+E2+E0)		≈0.114	α(K)exp=0.095 *24* (1988DzZW) α: estimated from (α(K)exp=0.095)x1.2.
443.40[a] *15*	91 *3*	2939.73	1−	2496.20	1−	M1,E2		0.040 *16*	α(K)=0.033 *14*; α(L)=0.0056 *14*; α(M)=0.0013 *3*; α(N+..)=0.00034 *8* α(N)=0.00030 *7*; α(O)=4.1×10^{-5} *11*; α(P)=1.9×10^{-6} *9* α(K)exp=0.024 (1972Ca21); α(K)exp=0.043 *8* (1988DzZW) Eγ: placed from 3213 level also by 1988DzZW but Eγ does not fit that placement.
447.65[a] *10*	157 *5*	3195.58	1−	2748.08	1−	M1		0.0546	α(K)=0.0458 *7*; α(L)=0.00679 *10*; α(M)=0.001516 *22*; α(N+..)=0.000410 *6* α(N)=0.000356 *5*; α(O)=5.10×10^{-5} *8*; α(P)=2.75×10^{-6} *4* α(K)exp=0.0475 (1972Ca21); α(K)exp=0.038 *3* (1988DzZW)
449.25[a] *20*	16.0 *15*	3268.91	1(+)	2819.77	0−,1−	[E1]		0.00769 *11*	α=0.00769 *11*; α(K)=0.00650 *10*; α(L)=0.000933 *13*; α(M)=0.000207 *3*; α(N+..)=5.54×10^{-5} *8* α(N)=4.83×10^{-5} *7*; α(O)=6.78×10^{-6} *10*; α(P)=3.40×10^{-7} *5* α(K)exp=0.057 *23* (1988DzZW) Mult.: M1 from α(K)exp; level scheme requires E1.
455.50 *10*	290 *10*	2819.77	0−,1−	2364.06	1−	M1		0.0521	α(K)=0.0438 *7*; α(L)=0.00649 *9*; α(M)=0.001448 *21*; α(N+..)=0.000391 *6* α(N)=0.000340 *5*; α(O)=4.87×10^{-5} *7*; α(P)=2.63×10^{-6} *4* α(K)exp≤0.0465 (1972Ca21); α(K)exp=0.042 *15* (1988DzZW)
457.90 *15*	48 *4*	2115.90	1−	1658.06	(2)+	(E1+M2)	0.36 *7*	0.026 *7*	α(K)=0.021 *6*; α(L)=0.0036 *10*; α(M)=0.00081 *23*; α(N+..)=0.00022 *6*

From ENSDF

$^{170}_{70}Yb_{100}$-11

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=0.00019 *6*; α(O)=2.7×10^{-5} *8*; α(P)=1.4×10^{-6} *4* α(K)exp=0.021 *5* (1988DzZW) Mult.: α(K)exp implies E2(+M1) or E1+M2 with δ=0.35 *7*; level scheme requires Δπ=yes.
[x]461.20 *15*	27 *4*					M1	0.0505	α(K)exp=0.050 (1972Ca21); α(K)exp=0.064 *19* (1988DzZW) α(K)=0.0424 *6*; α(L)=0.00628 *9*; α(M)=0.001401 *20*; α(N+..)=0.000379 *6* α(N)=0.000329 *5*; α(O)=4.72×10^{-5} *7*; α(P)=2.54×10^{-6} *4*
465.50[a] *15*	24.0 *20*	3213.27	1$^-$	2748.08	1$^-$	M1+E0		α(K)exp=0.087 *16* (1988DzZW)
467.35 *15*	49.0 *25*	2965.66	1$^+$	2498.19	0$^-$,1$^-$,2$^-$	[E1]	0.00704 *10*	α=0.00704 *10*; α(K)=0.00595 *9*; α(L)=0.000852 *12*; α(M)=0.000189 *3*; α(N+..)=5.06×10^{-5} *7* α(N)=4.41×10^{-5} *7*; α(O)=6.19×10^{-6} *9*; α(P)=3.12×10^{-7} *5* α(K)exp=0.0475 (1972Ca21); α(K)exp=0.046 *10* (1988DzZW) Mult.: M1 from α(K)exp is inconsistent with placement.
472.50 *15*	25.0 *10*	2748.08	1$^-$	2275.49	1$^-$	M1	0.0474	α(K)=0.0398 *6*; α(L)=0.00589 *9*; α(M)=0.001315 *19*; α(N+..)=0.000355 *5* α(N)=0.000309 *5*; α(O)=4.43×10^{-5} *7*; α(P)=2.39×10^{-6} *4* α(K)exp=0.054 *11* (1988DzZW) Eγ: placed by evaluator, based on Eγ, and multipolarity; 1990Gr19 placed γ from 1985 level, but Eγ is too low for that placement.
478.80 *10*	125 *14*	3146.03	1$^+$	2667.19	1$^{(+)}$	M1	0.0458	α(K)=0.0385 *6*; α(L)=0.00569 *8*; α(M)=0.001270 *18*; α(N+..)=0.000343 *5* α(N)=0.000298 *5*; α(O)=4.28×10^{-5} *6*; α(P)=2.31×10^{-6} *4* α(K)exp=0.051 *9* (1988DzZW) α(K)exp≤0.050 for 478.8γ+479.5γ doublet (1972Ca21).
479.50 *15*	67 *3*	3140.60	(1)	2661.02	1$^+$	M1+E2	0.033 *13*	α(K)=0.027 *12*; α(L)=0.0045 *12*; α(M)=0.00102 *25*; α(N+..)=0.00027 *7* α(N)=0.00024 *6*; α(O)=3.3×10^{-5} *10*; α(P)=1.6×10^{-6} *8* α(K)exp=0.024 *6* (1988DzZW) α(K)exp≤0.050 for 478.8γ+479.5γ doublet (1972Ca21).
[x]480.50 *15*	44.0 *20*							α(K)exp=0.049 *13* (1988DzZW)
[x]486.80 *15*	42.0 *20*					M1	0.0439	α(K)exp=0.034 *13* (1988DzZW) α(K)=0.0369 *6*; α(L)=0.00545 *8*; α(M)=0.001216 *17*; α(N+..)=0.000329 *5* α(N)=0.000286 *4*; α(O)=4.09×10^{-5} *6*; α(P)=2.21×10^{-6} *3*
490.95[a] *15*	50.0 *15*	3274.17	1$^-$	2783.12	1$^+$	[E1]	0.00631 *9*	α=0.00631 *9*; α(K)=0.00533 *8*; α(L)=0.000761 *11*; α(M)=0.0001690 *24*; α(N+..)=4.53×10^{-5} *7* α(N)=3.95×10^{-5} *6*; α(O)=5.54×10^{-6} *8*; α(P)=2.80×10^{-7} *4* α(K)exp=0.036 *13* (1988DzZW) Mult.: M1(+E2) from α(K)exp; M1+E2 from ce data of 1990AbZT. However, level scheme requires E1.
492.58 *5*	1270 *40*	1717.95	(2)$^-$	1225.35	(3)$^+$	E1	0.00626 *9*	α=0.00626 *9*; α(K)=0.00530 *8*; α(L)=0.000756 *11*; α(M)=0.0001678 *24*; α(N+..)=4.49×10^{-5} *7* α(N)=3.92×10^{-5} *6*; α(O)=5.50×10^{-6} *8*; α(P)=2.78×10^{-7} *4* α(K)exp=0.0056 (1972Ca21); α(K)exp=0.0068 *7* (1988DzZW)
497.0		1566.38	0$^+$	1069.36	0$^+$	E0		ce(K)/ce=0.87. α(K)exp≥0.14 (1972Ca21). I(ce(K))/I(1482γ)=0.00321 from α(K)exp>0.14 if Iγ<31 (1972Ca21).

From ENSDF

$^{170}_{70}Yb_{100}$-12

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[f]	Comments
497.50[a] *15*	31.0 *10*	2536.97	1^-	2039.85	1^+				α(K)exp=0.053 *20* (1988DzZW) Mult.: M1 from α(K)exp; placement requires E1.
500.50 *15*	22.0 *10*	2929.60	1^-	2429.05	$1^+,2^+$				α(K)exp=0.07 *3* (1988DzZW) α(K)=0.0352 *11*; α(L)=0.00519 *16* Mult.: α(K)exp favors mult=M1, but large uncertainty may render result unreliable. Placement requires E1.
518.90[a] *15*	22.0 *10*	3301.95	1^+	2783.12	1^+	M1		0.0372	α(K)=0.0313 *5*; α(L)=0.00461 *7*; α(M)=0.001029 *15*; α(N+..)=0.000278 *4* α(N)=0.000242 *4*; α(O)=3.47×10^{-5} *5*; α(P)=1.87×10^{-6} *3* α(K)exp=0.037 *17* (1988DzZW)
[x]524.3[d] *3*									
[x]525.05 *15*	25 *3*					M1		0.0361	α(K)exp=0.036 *13* (1988DzZW) α(K)=0.0304 *5*; α(L)=0.00447 *7*; α(M)=0.000998 *14*; α(N+..)=0.000270 *4* α(N)=0.000234 *4*; α(O)=3.36×10^{-5} *5*; α(P)=1.82×10^{-6} *3*
530.50 *10*	210 *10*	2819.77	$0^-,1^-$	2289.37	1^+	(E1+M2)	0.28 *+6−7*	0.013 *4*	α(K)=0.011 *3*; α(L)=0.0017 *5*; α(M)=0.00038 *11*; α(N+..)=0.00010 *3* α(N)=9.0×10^{-5} *25*; α(O)=1.3×10^{-5} *4*; α(P)=6.5×10^{-7} *18* α(K)exp=0.0145 (1972Ca21); α(K)exp=0.012 *3* (1972Ca21, Iγ; 1968Ba54, I(ce)). Mult.: E2 favored by α(K)exp but inconsistent with level scheme; E1+M2 would imply δ=0.28 *+6−7*. However, mixed multipolarity inconsistent with level scheme if J(2820)=0.
534.65[a] *15*	22.0 *10*	3195.58	1^-	2661.02	1^+				α(K)exp=0.06 *3* (1988DzZW) α(K)exp=0.021 for doublet (1972Ca21).
535.95[a] *15*	21.0 *10*	3202.94	1^+	2667.19	$1^{(+)}$				α(K)exp≤0.030 (1988DzZW) α(K)exp=0.021 for doublet (1972Ca21).
539.05[ha] *15*	54[h] *5*	2975.32	1^-	2436.01	$(2,3)^-$				α(K)exp=0.037 *20* (1988DzZW) for doubly-placed γ.
539.05[ha] *15*	54[h] *5*	3314.42	1	2775.66	1^-				α(K)exp=0.037 *20* (1988DzZW) for doubly-placed γ.
540.15 *10*	460 *20*	2052.59	$0^-,1^-,2^-$	1512.37	1^-	M1		0.0336	α(K)=0.0282 *4*; α(L)=0.00416 *6*; α(M)=0.000927 *13*; α(N+..)=0.000251 *4* α(N)=0.000218 *3*; α(O)=3.12×10^{-5} *5*; α(P)=1.687×10^{-6} *24* α(K)exp=0.027 (1972Ca21); α(K)exp=0.032 *4* (1972Ca21, Iγ; 1968Ba54, I(ce)).
[x]542.84[d] *17*									
544.24 *5*	1850 *50*	2819.77	$0^-,1^-$	2275.49	1^-	M1(+E2)		0.024 *10*	α(K)=0.020 *9*; α(L)=0.0032 *9*; α(M)=0.00072 *19*; α(N+..)=0.00019 *6* α(N)=0.00017 *5*; α(O)=2.4×10^{-5} *7*; α(P)=1.1×10^{-6} *6* α(K)exp≤0.023 (1972Ca21); 0.0297 *23* (1972Ca21, Iγ; 1968Ba54, I(ce)). K/L=5.0 (1960Ha18). Mult.: E2 component inconsistent with decay scheme if J(2820)=0.

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
547.25 *15*	86 *4*	2748.08	1⁻	2200.91	1⁻,2⁻	M1(+E2)	0.023 *10*	α(K)=0.019 *8*; α(L)=0.0031 *9*; α(M)=0.00071 *19*; α(N+..)=0.00019 *6* α(N)=0.00017 *5*; α(O)=2.3×10^{-5} *7*; α(P)=1.1×10^{-6} *5* α(K)exp=0.032 *11* (1988DzZW) E_γ: placed from 3203 level also in 1990Gr19 but Eγ does not fit that placement.
[x]558.90 *15*	35 *4*					E1	0.00476 *7*	α(K)exp=0.0080 (1972Ca21); α(K)exp=0.0028 *13* (1988DzZW) α=0.00476 *7*; α(K)=0.00403 *6*; α(L)=0.000571 *8*; α(M)=0.0001266 *18*; α(N+..)=3.39×10^{-5} *5* α(N)=2.96×10^{-5} *5*; α(O)=4.17×10^{-6} *6*; α(P)=2.13×10^{-7} *3*
560.55[b] *15*	37 *5*	1985.64	1⁻,2⁻	1425.24	(2)⁻	M1	0.0305	α(K)=0.0257 *4*; α(L)=0.00377 *6*; α(M)=0.000842 *12*; α(N+..)=0.000228 *4* α(N)=0.000198 *3*; α(O)=2.84×10^{-5} *4*; α(P)=1.534×10^{-6} *22* α(K)exp=0.0325 (1972Ca21)
[x]563.00 *15*	96 *3*					E2(+M1)	0.022 *9*	α(K)exp≤0.021 (1972Ca21); α(K)exp=0.016 *7* (1988DzZW) α(K)=0.018 *8*; α(L)=0.0029 *9*; α(M)=0.00066 *18*; α(N+..)=0.00018 *5* α(N)=0.00015 *5*; α(O)=2.1×10^{-5} *7*; α(P)=1.1×10^{-6} *5*
565.80[ha] *15*	28.0[h] *15*	2965.66	1⁺	2400.10	1⁻			α(K)exp=0.042 *26* (1988DzZW) for doubly-placed γ.
565.80[h] *15*	28.0[h] *15*	3314.42	1	2748.08	1⁻			α(K)exp=0.042 *26* (1988DzZW) for doubly-placed γ.
[x]571.48[d] *16*								
572.20 *5*	2800 *75*	1717.95	(2)⁻	1145.72	2⁺	E1	0.00453 *7*	α=0.00453 *7*; α(K)=0.00383 *6*; α(L)=0.000542 *8*; α(M)=0.0001202 *17*; α(N+..)=3.22×10^{-5} *5* α(N)=2.81×10^{-5} *4*; α(O)=3.96×10^{-6} *6*; α(P)=2.03×10^{-7} *3* α(K)exp=0.0033 (1972Ca21); α(K)exp=0.0045 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)). K/L=2.25 (1960Ha18).
574.2[db] *3*		3070.52	0,1	2496.20	1⁻			
575.95[a] *25*	43.5 *20*	2939.73	1⁻	2364.06	1⁻	M1	0.0285	α(K)=0.0240 *4*; α(L)=0.00352 *5*; α(M)=0.000785 *11*; α(N+..)=0.000212 *3* α(N)=0.000184 *3*; α(O)=2.64×10^{-5} *4*; α(P)=1.430×10^{-6} *20* α(K)exp≤0.080 (1972Ca21); α(K)exp=0.044 *14* (1972Ca21, Iγ; 1968Ba54, I(ce)).
579.40 *5*	1000 *30*	1717.95	(2)⁻	1138.55	2⁺	E1	0.00441 *7*	α=0.00441 *7*; α(K)=0.00373 *6*; α(L)=0.000528 *8*; α(M)=0.0001170 *17*; α(N+..)=3.14×10^{-5} *5* α(N)=2.73×10^{-5} *4*; α(O)=3.86×10^{-6} *6*; α(P)=1.98×10^{-7} *3* α(K)exp=0.0044 (1972Ca21); α(K)exp=0.0067 *20* (1988DzZW)
[x]582.3[d] *4*								
[x]584.35 *15*	26.5 *15*							α(K)exp=0.041 *21* (1988DzZW)
[x]585.80 *15*	34.0 *20*					(M1)	0.0273	α(K)exp=0.032 *16* (1988DzZW) α(K)=0.0230 *4*; α(L)=0.00337 *5*; α(M)=0.000751 *11*; α(N+..)=0.000203 *3* α(N)=0.0001764 *25*; α(O)=2.53×10^{-5} *4*; α(P)=1.369×10^{-6} *20*
587.15[a] *15*	66 *12*	3123.94	1⁻	2536.97	1⁻	M1(+E2)	0.020 *8*	α(K)=0.016 *7*; α(L)=0.0026 *8*; α(M)=0.00059 *17*; α(N+..)=0.00016 *5*

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=0.00014 *4*; α(O)=1.9×10^{-5} *6*; α(P)=9.E−7 *5* α(K)exp=0.018 (1972Ca21); α(K)exp=0.038 *15* (1988DzZW)
590.85[ha] *15*	81.0[h] *25*	3258.18	1$^+$	2667.19	1$^{(+)}$			α(K)exp=0.017 *6* (1988DzZW), mult=M1 for doubly-placed γ.
590.85[ha] *15*	81.0[h] *25*	3366.40	1	2775.66	1$^-$			α(K)exp=0.017 *6* (1988DzZW), mult=M1 for doubly-placed γ.
595.70[a] *15*	70.0 *20*	3091.93	1	2496.20	1$^-$	M1	0.0261	α(K)=0.0220 *3*; α(L)=0.00323 *5*; α(M)=0.000719 *10*; α(N+..)=0.000194 *3* α(N)=0.0001689 *24*; α(O)=2.42×10^{-5} *4*; α(P)=1.312×10^{-6} *19* α(K)exp=0.030 *12* (1988DzZW) Mult.: from ce data of 1990AbZT.
598.15[a] *15*	72 *3*	3366.40	1	2768.34	0$^-$,1$^-$	E2	0.01147	α(K)=0.00921 *13*; α(L)=0.001755 *25*; α(M)=0.000402 *6*; α(N+..)=0.0001068 *15* α(N)=9.36×10^{-5} *14*; α(O)=1.263×10^{-5} *18*; α(P)=5.11×10^{-7} *8* α(K)exp=0.011 *5* (1988DzZW)
612.15 *15*	93 *3*	3149.09	1$^-$	2536.97	1$^-$	E2	0.0108 *6*	α(K)=0.00873 *13*; α(L)=0.001646 *23*; α(M)=0.000377 *6*; α(N+..)=0.0001001 *14* α(N)=8.77×10^{-5} *13*; α(O)=1.187×10^{-5} *17*; α(P)=4.86×10^{-7} *7* α(K)exp=0.0078 (1972Ca21); α(K)exp=0.0053 *26* (1988DzZW)
614.00[ha] *20*	20.0[h] *10*	2126.14	1$^-$	1512.37	1$^-$			α(K)exp=0.024 *12* (1988DzZW), mult=M1,E2 for doubly-placed γ.
614.00[h] *20*	20.0[h] *10*	2965.66	1$^+$	2351.71	0$^-$,1$^-$,2$^-$			α(K)exp=0.024 *12* (1988DzZW), mult=M1,E2 for doubly-placed γ.
618.95[h] *10*	165[h] *5*	2819.77	0$^-$,1$^-$	2200.91	1$^-$,2$^-$	[M1,E2]	0.017 *7*	α(K)=0.014 *6*; α(L)=0.0023 *7*; α(M)=0.00051 *15*; α(N+..)=0.00014 *4* α(N)=0.00012 *4*; α(O)=1.7×10^{-5} *6*; α(P)=8.E−7 *4* α(K)exp=0.011 (1972Ca21), 0.0176 *18* (1988DzZW), mult=M1+E2 for doubly-placed γ.
618.95[ha] *10*	165[h] *5*	3115.58	1$^-$	2496.20	1$^-$	[M1,E2]	0.017 *7*	α(K)=0.014 *6*; α(L)=0.0023 *7*; α(M)=0.00051 *15*; α(N+..)=0.00014 *4* α(N)=0.00012 *4*; α(O)=1.7×10^{-5} *6*; α(P)=8.E−7 *4* α(K)exp=0.011 (1972Ca21), 0.0176 *18* (1988DzZW), mult=M1+E2 for doubly-placed γ.
621.40[hb] *15*	97[h] *10*	1985.64	1$^-$,2$^-$	1364.53	1$^-$	[M1]	0.0235	α(K)=0.0198 *3*; α(L)=0.00289 *4*; α(M)=0.000645 *9*; α(N+..)=0.0001744 *25* α(N)=0.0001515 *22*; α(O)=2.17×10^{-5} *3*; α(P)=1.178×10^{-6} *17* α(K)exp=0.023 (1972Ca21), 0.026 *5* (1988DzZW), mult=M1 for doubly-placed γ.
621.40[ha] *15*	97[h] *10*	2661.02	1$^+$	2039.85	1$^+$	[M1]	0.0235	α(K)=0.0198 *3*; α(L)=0.00289 *4*; α(M)=0.000645 *9*; α(N+..)=0.0001744 *25* α(N)=0.0001515 *22*; α(O)=2.17×10^{-5} *3*; α(P)=1.178×10^{-6} *17* α(K)exp=0.023 (1972Ca21), 0.026 *5* (1988DzZW), mult=M1 for doubly-placed γ.
622.75[a] *20*	55 *4*	3146.03	1$^+$	2523.07	1$^+$	M1	0.0233	α(K)=0.0197 *3*; α(L)=0.00288 *4*; α(M)=0.000642 *9*; α(N+..)=0.0001735 *25* α(N)=0.0001507 *22*; α(O)=2.16×10^{-5} *3*; α(P)=1.171×10^{-6} *17* α(K)exp=0.020 *7* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-15

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
633.75 *25*	20.0 *10*	2351.71	0⁻,1⁻,2⁻	1717.95	(2)⁻			α(K)exp=0.025 *13* (1988DzZW) Mult.: M1,E2 from α(K)exp.
636.80[a] *20*	50 *8*	3384.87	1⁻	2748.08	1⁻	M1,E2	0.016 *6*	α(K)=0.013 *6*; α(L)=0.0021 *7*; α(M)=0.00047 *14*; α(N+..)=0.00013 *4* α(N)=0.00011 *4*; α(O)=1.6×10⁻⁵ *5*; α(P)=8.E−7 *4* α(K)exp=0.016 *8* (1988DzZW)
645.80[a] *20*	30.0 *15*	2126.14	1⁻	1479.91	0⁺			α(K)exp=0.023 *7* (1988DzZW)
649.60[ha] *15*	100[h] *6*	2367.65	(1)⁻	1717.95	(2)⁻	[M1]	0.0210	α(K)=0.01766 *25*; α(L)=0.00258 *4*; α(M)=0.000576 *8*; α(N+..)=0.0001556 *22* α(N)=0.0001352 *19*; α(O)=1.94×10⁻⁵ *3*; α(P)=1.052×10⁻⁶ *15* α(K)exp=0.023 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)), mult=M1 for doubly-placed γ.
649.60[ha] *15*	100[h] *6*	2775.66	1⁻	2126.14	1⁻	[M1]	0.0210	α(K)=0.01766 *25*; α(L)=0.00258 *4*; α(M)=0.000576 *8*; α(N+..)=0.0001556 *22* α(N)=0.0001352 *19*; α(O)=1.94×10⁻⁵ *3*; α(P)=1.052×10⁻⁶ *15* α(K)exp=0.023 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)), mult=M1 for doubly-placed γ.
652.65[a] *20*	37 *3*	3149.09	1⁻	2496.20	1⁻	M1	0.0207	α(K)=0.01746 *25*; α(L)=0.00255 *4*; α(M)=0.000569 *8*; α(N+..)=0.0001538 *22* α(N)=0.0001336 *19*; α(O)=1.92×10⁻⁵ *3*; α(P)=1.039×10⁻⁶ *15* α(K)exp=0.024 *8* (1988DzZW)
[x]655.10 *20*	22.5 *10*							α(K)exp=0.016 *12* (1988DzZW)
656.65[ha] *20*	28.0[h] *15*	2783.12	1⁺	2126.14	1⁻			α(K)exp<0.014 (1988DzZW) for multiply-placed γ.
656.65[h] *20*	28.0[h] *15*	3179.76	1⁻	2523.07	1⁺			α(K)exp<0.014 (1988DzZW) for multiply-placed γ.
658.20[a] *20*	22.0 *20*	3195.58	1⁻	2536.97	1⁻			α(K)exp<0.018 (1988DzZW)
659.70 *20*	24.0 *15*	2775.66	1⁻	2115.90	1⁻	(M1)	0.0202	α(K)=0.01699 *24*; α(L)=0.00248 *4*; α(M)=0.000553 *8*; α(N+..)=0.0001496 *21* α(N)=0.0001299 *19*; α(O)=1.87×10⁻⁵ *3*; α(P)=1.011×10⁻⁶ *15* α(K)exp=0.023 *8* (1988DzZW)
670.35[hb] *20*	84[h] *4*	3070.52	0,1	2400.10	1⁻			α(K)=0.0167 *5*; α(L)=0.00244 *8* α(K)exp=0.017 *5* (1988DzZW), mult=M1 for doubly-placed γ.
670.35[h] *20*	84[h] *4*	3099.64	1(⁻)	2429.05	1⁺,2⁺	[E1]	0.00326 *5*	α=0.00326 *5*; α(K)=0.00276 *4*; α(L)=0.000387 *6*; α(M)=8.57×10⁻⁵ *12*; α(N+..)=2.30×10⁻⁵ *4* α(N)=2.00×10⁻⁵ *3*; α(O)=2.83×10⁻⁶ *4*; α(P)=1.472×10⁻⁷ *21* α(K)exp=0.017 *5* (1988DzZW), mult=M1 for doubly-placed γ.
674.1[da] *3*		3169.59	1⁻	2496.20	1⁻			
675.45[a] *20*	24.0 *15*	2039.85	1⁺	1364.53	1⁻			α(K)exp=0.030 *11* (1988DzZW) May also deexcite 2661 level, based on Eγ.
678.8[gad] *3*		3115.58	1⁻	2436.01	(2,3)⁻			
678.8[gad] *3*		3202.94	1⁺	2523.07	1⁺			
681.50 *25*	17.5 *10*	3179.76	1⁻	2498.19	0⁻,1⁻,2⁻	(M1)	0.0186	α(K)=0.01565 *22*; α(L)=0.00229 *4*; α(M)=0.000509 *8*; α(N+..)=0.0001377 *20*

From ENSDF

$^{170}_{70}Yb_{100}$-16

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=0.0001196 *17*; α(O)=1.717×10^{-5} *24*; α(P)=9.31×10^{-7} *13* α(K)exp=0.026 *15* (1988DzZW)
688.00 *8*	440 *15*	2052.59	0$^-$,1$^-$,2$^-$	1364.53	1$^-$	M1	0.0181	α(K)=0.01528 *22*; α(L)=0.00223 *4*; α(M)=0.000497 *7*; α(N+..)=0.0001344 *19* α(N)=0.0001167 *17*; α(O)=1.676×10^{-5} *24*; α(P)=9.09×10^{-7} *13* α(K)exp=0.015 (1972Ca21); α(K)exp=0.0122 *21* (1988DzZW)
691.75[a] *20*	37.0 *15*	3091.93	1	2400.10	1$^-$	M1	0.0179	α(K)=0.01508 *22*; α(L)=0.00220 *3*; α(M)=0.000490 *7*; α(N+..)=0.0001325 *19* α(N)=0.0001151 *17*; α(O)=1.653×10^{-5} *24*; α(P)=8.97×10^{-7} *13* α(K)exp=0.027 *12* (1988DzZW)
693.55 *20*	53 *5*	2819.77	0$^-$,1$^-$	2126.14	1$^-$	M1	0.01778	α(K)=0.01498 *21*; α(L)=0.00219 *3*; α(M)=0.000487 *7*; α(N+..)=0.0001316 *19* α(N)=0.0001143 *16*; α(O)=1.642×10^{-5} *23*; α(P)=8.91×10^{-7} *13* α(K)exp=0.024 *7* (1988DzZW)
695.2[da] *3*		3131.10	1$^+$	2436.01	(2,3)$^-$			
700.15[a] *20*	46.5 *15*	3067.62	1$^-$	2367.65	(1)$^-$	(M1)	0.01736	α(K)=0.01463 *21*; α(L)=0.00213 *3*; α(M)=0.000475 *7*; α(N+..)=0.0001285 *18* α(N)=0.0001116 *16*; α(O)=1.603×10^{-5} *23*; α(P)=8.70×10^{-7} *13* α(K)exp=0.027 *7* (1988DzZW) α(K)exp=0.020, mult=M1 for doublet (1972Ca21).
700.80 *20*	70.0 *20*	2126.14	1$^-$	1425.24	(2)$^-$	M1	0.01732	α(K)=0.01459 *21*; α(L)=0.00213 *3*; α(M)=0.000474 *7*; α(N+..)=0.0001282 *18* α(N)=0.0001113 *16*; α(O)=1.599×10^{-5} *23*; α(P)=8.67×10^{-7} *13* α(K)exp=0.021 *8* (1988DzZW) other α(K)exp: 0.020, mult=M1 for doublet (1972Ca21) in which this transition is major component.
703.85 *15*	170 *5*	2819.77	0$^-$,1$^-$	2115.90	1$^-$	M1	0.01713	α(K)=0.01443 *21*; α(L)=0.00210 *3*; α(M)=0.000469 *7*; α(N+..)=0.0001268 *18* α(N)=0.0001101 *16*; α(O)=1.581×10^{-5} *23*; α(P)=8.58×10^{-7} *12* α(K)exp=0.016 (1972Ca21); α(K)exp=0.0155 *22* (1988DzZW)
706.5[a] *5*	165 *15*	3202.94	1$^+$	2496.20	1$^-$	E1	0.00293 *5*	α=0.00293 *5*; α(K)=0.00248 *4*; α(L)=0.000347 *5*; α(M)=7.68×10^{-5} *11*; α(N+..)=2.06×10^{-5} *3* α(N)=1.80×10^{-5} *3*; α(O)=2.54×10^{-6} *4*; α(P)=1.326×10^{-7} *19* α(K)exp<0.0037 (1988DzZW) α(K)exp=0.0027, mult=E1 for doublet (1972Ca21).
[x]707.10 *15*	300 *10*							α(K)exp=0.0045 *18* (1988DzZW) α(K)exp=0.0027, mult=E1 for doublet (1972Ca21).
709.9[da] *4*		3146.03	1$^+$	2436.01	(2,3)$^-$			
711.65 *15*	160 *5*	3140.60	(1)	2429.05	1$^+$,2$^+$	M1	0.01667	α(K)=0.01404 *20*; α(L)=0.00205 *3*; α(M)=0.000456 *7*; α(N+..)=0.0001233 *18* α(N)=0.0001071 *15*; α(O)=1.537×10^{-5} *22*; α(P)=8.34×10^{-7} *12* α(K)exp=0.019 (1972Ca21); α(K)exp=0.023 *7* (1988DzZW)
723.05 *20*	44.0 *20*	2775.66	1$^-$	2052.59	0$^-$,1$^-$,2$^-$			α(K)exp<0.013 (1988DzZW)

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
728.85 *20*	95 *20*	2929.60	1⁻	2200.91	1⁻,2⁻			α(K)exp<0.006 (1988DzZW) Mult.: E1 or E2, from α(K)exp.
741.50 *20*	97 *3*	2400.10	1⁻	1658.06	(2)⁺			α(K)exp<0.015 (1988DzZW)
746.90 *20*	68.0 *20*	2947.84	1⁻	2200.91	1⁻,2⁻	M1	0.01476	α(K)=0.01244 *18*; α(L)=0.00181 *3*; α(M)=0.000403 *6*; α(N+..)=0.0001090 *16* α(N)=9.47×10⁻⁵ *14*; α(O)=1.360×10⁻⁵ *19*; α(P)=7.39×10⁻⁷ *11* α(K)exp=0.015 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)).
750.95[ha] *20*	83[h] *3*	3186.66	(1⁻)	2436.01	(2,3)⁻	[M1,E2]	0.011 *4*	α(K)=0.009 *4*; α(L)=0.0014 *5*; α(M)=0.00031 *9*; α(N+..)=8.3×10⁻⁵ *25* α(N)=7.2×10⁻⁵ *22*; α(O)=1.0×10⁻⁵ *4*; α(P)=5.2×10⁻⁷ *21* α(K)exp=0.014 *7* (1972Ca21, Iγ; 1968Ba54, I(ce)), mult=M1 for multiply-placed γ.
750.95[ha] *20*	83[h] *3*	3274.17	1⁻	2523.07	1⁺			α(K)exp=0.014 *7* (1972Ca21, Iγ; 1968Ba54, I(ce)), mult=M1 for multiply-placed γ.
752.3[da] *3*		3115.58	1⁻	2364.06	1⁻			
756.15[a] *20*	45.0 *20*	3123.94	1⁻	2367.65	(1)⁻	M1	0.01431	α(K)=0.01206 *17*; α(L)=0.001755 *25*; α(M)=0.000391 *6*; α(N+..)=0.0001057 *15* α(N)=9.18×10⁻⁵ *13*; α(O)=1.318×10⁻⁵ *19*; α(P)=7.16×10⁻⁷ *10* α(K)exp=0.027 *11* (1972Ca21, Iγ; 1968Ba54, I(ce)).
757.60 *15*	255 *10*	3186.66	(1⁻)	2429.05	1⁺,2⁺			α(K)exp=0.0129 *16* (1972Ca21, Iγ; 1968Ba54, I(ce)). Mult.: M1 from α(K)exp; inconsistent with placement.
762.55 *15*	62.0 *20*	2748.08	1⁻	1985.64	1⁻,2⁻	M1	0.0140 *2*	α(K)=0.01181 *17*; α(L)=0.001718 *24*; α(M)=0.000383 *6*; α(N+..)=0.0001035 *15* α(N)=8.98×10⁻⁵ *13*; α(O)=1.290×10⁻⁵ *18*; α(P)=7.01×10⁻⁷ *10* α(K)exp=0.020 *6* (1988DzZW)
[x]785.75 *20*	62 *7*					M1	0.01300	α(K)exp=0.015 *5* (1988DzZW) α(K)=0.01096 *16*; α(L)=0.001592 *23*; α(M)=0.000355 *5*; α(N+..)=9.59×10⁻⁵ *14* α(N)=8.33×10⁻⁵ *12*; α(O)=1.196×10⁻⁵ *17*; α(P)=6.50×10⁻⁷ *10*
[x]787.60 *15*	120 *8*					(M1)	0.01293	α(K)exp=0.019 *4* (1988DzZW) α(K)=0.01090 *16*; α(L)=0.001583 *23*; α(M)=0.000353 *5*; α(N+..)=9.53×10⁻⁵ *14* α(N)=8.28×10⁻⁵ *12*; α(O)=1.189×10⁻⁵ *17*; α(P)=6.46×10⁻⁷ *9*
792.00 *15*	235 *12*	3067.62	1⁻	2275.49	1⁻	E2	0.00606 *9*	α=0.00606 *9*; α(K)=0.00497 *7*; α(L)=0.000842 *12*; α(M)=0.000191 *3*; α(N+..)=5.09×10⁻⁵ *8* α(N)=4.45×10⁻⁵ *7*; α(O)=6.14×10⁻⁶ *9*; α(P)=2.79×10⁻⁷ *4* α(K)exp=0.005 *2* (1988DzZW)
801.25[a] *20*	80 *4*	2436.01	(2,3)⁻	1634.84	(1⁺)			α(K)exp=0.010 *5* (1988DzZW) Mult.: M1,E2 from α(K)exp does not fit placement; however, a large uncertainty exists In α(K)exp.
802.40[hb] *20*	73[h] *4*	3070.52	0,1	2268.08	1⁻			α(K)exp=0.012 *5* (1988DzZW), mult=M1 for multiply-placed γ.
802.40[ha] *20*	73[h] *4*	3091.93	1	2289.37	1⁺			α(K)exp=0.012 *5* (1988DzZW), mult=M1 for multiply-placed γ.

From ENSDF

$^{170}_{70}Yb_{100}$-18

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
802.40[ha] *20*	73[h] *4*	3169.59	1⁻	2367.65	(1)⁻			α(K)exp=0.012 *5* (1988DzZW), mult=M1 for multiply-placed γ.
802.40[ha] *20*	73[h] *4*	3202.94	1⁺	2400.10	1⁻			α(K)exp=0.012 *5* (1988DzZW), mult=M1 for multiply-placed γ.
805.85[a] *25*	40 *10*	3301.95	1⁺	2496.20	1⁻			α(K)exp=0.027 *10* (1988DzZW) Mult.: α(K)exp favors M1; decay scheme requires E1.
809.25[a] *20*	62 *3*	3161.02	(1⁻)	2351.71	0⁻,1⁻,2⁻			α(K)exp<0.015 (1988DzZW)
813.55[ha] *20*	90[h] *9*	2929.60	1⁻	2115.90	1⁻			α(K)exp=0.018 *4* (1988DzZW) exceeds M1(theory) for doubly-placed γ.
813.55[hai] *20*	90[h] *9*	2939.73	1⁻	2126.14	1⁻			α(K)exp=0.018 *4* (1988DzZW) exceeds M1(theory) for doubly-placed γ.
[x]815.70 *20*	52.0 *25*							Eγ: placement is tentative in 1990Gr19. α(K)exp=0.006 *5* (1988DzZW) Eγ: may deexcite 3179 and/or 3314 level.
819.50 *20*	70.0 *20*	2126.14	1⁻	1306.39	2⁺			α(K)exp=0.017 *10* (1988DzZW)
822.30[a] *15*	245 *10*	3258.18	1⁺	2436.01	(2,3)⁻			α(K)exp=0.0155 *16* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: M1 from α(K)exp; E1 required by placement.
829.30 *10*	1085 *30*	2364.06	1⁻	1534.57	2⁺	E1	0.00213 *3*	α=0.00213 *3*; α(K)=0.00181 *3*; α(L)=0.000251 *4*; α(M)=5.55×10^{-5} *8*; α(N+..)=1.492×10^{-5} *21* α(N)=1.298×10^{-5} *19*; α(O)=1.84×10^{-6} *3*; α(P)=9.73×10^{-8} *14* α(K)exp=0.0018 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)).
834.45[hb] *10*	223[h] *8*	2819.77	0⁻,1⁻	1985.64	1⁻,2⁻			α(K)exp=0.0030 (1972Ca21), 0.0102 *24* (1988DzZW) for doubly-placed γ.
834.45[ha] *10*	223[h] *8*	3123.94	1⁻	2289.37	1⁺			α(K)exp=0.0030 (1972Ca21), 0.0102 *24* (1988DzZW) for doubly-placed γ.
839.30 *10*	1570 *45*	2351.71	0⁻,1⁻,2⁻	1512.37	1⁻	M1	0.0110 *4*	α(K)=0.00931 *13*; α(L)=0.001349 *19*; α(M)=0.000300 *5*; α(N+..)=8.12×10^{-5} *12* α(N)=7.05×10^{-5} *10*; α(O)=1.013×10^{-5} *15*; α(P)=5.51×10^{-7} *8* α(K)exp=0.0092 *18* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp≤0.0106 (1972Ca21).
850.05 *15*	105 *5*	2275.49	1⁻	1425.24	(2)⁻			α(K)exp<0.007 (1988DzZW)
851.45 *20*	180 *10*	2364.06	1⁻	1512.37	1⁻	M1	0.01065	α(K)=0.00898 *13*; α(L)=0.001301 *19*; α(M)=0.000290 *4*; α(N+..)=7.83×10^{-5} *11* α(N)=6.80×10^{-5} *10*; α(O)=9.77×10^{-6} *14*; α(P)=5.32×10^{-7} *8* α(K)exp=0.0091 *25* (1988DzZW)
855.15 *15*	2140 *60*	2367.65	(1)⁻	1512.37	1⁻	M1	0.01054	α(K)=0.00888 *13*; α(L)=0.001287 *18*; α(M)=0.000287 *4*; α(N+..)=7.75×10^{-5} *11* α(N)=6.73×10^{-5} *10*; α(O)=9.67×10^{-6} *14*; α(P)=5.26×10^{-7} *8* α(K)exp=0.0075 (1972Ca21); α(K)exp=0.0087 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)).
858.1[ad] *3*		3258.18	1⁺	2400.10	1⁻			Eγ: placed from 3146 level also in 1990Gr19 but Eγ does not fit that placement. 1990Gr19 estimate α(K)exp>0.008 assuming Iγ does not exceed Iγ for weak lines In same region of γ spectrum.

From ENSDF

$^{170}_{70}Yb_{100}$-19

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
859.45 *20*	130 *10*	2975.32	1^-	2115.90	1^-	M1(+E0)		α(K)exp=0.015 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)).
861.8[gad] *4*		3213.27	1^-	2351.71	$0^-,1^-,2^-$			
861.8[gad] *4*		3291.82	1^+	2429.05	$1^+,2^+$			
861.8[gad] *4*		3384.87	1^-	2523.07	1^+			
863.7[da] *3*		3065.36	1^+	2200.91	$1^-,2^-$			
864.85 *25*	80 *4*	2523.07	1^+	1658.06	$(2)^+$	M1	0.01024	α(K)=0.00864 *13*; α(L)=0.001251 *18*; α(M)=0.000279 *4*; α(N+..)=7.53×10^{-5} *11* α(N)=6.54×10^{-5} *10*; α(O)=9.40×10^{-6} *14*; α(P)=5.12×10^{-7} *8* α(K)exp=0.0116 *26* (1972Ca21, Iγ; 1970Dz11, I(ce)).
868.10 *20*	170 *20*	1145.72	2^+	277.44	4^+	(E2)	0.00497 *7*	α=0.00497 *7*; α(K)=0.00411 *6*; α(L)=0.000674 *10*; α(M)=0.0001523 *22*; α(N+..)=4.07×10^{-5} *6* α(N)=3.56×10^{-5} *5*; α(O)=4.93×10^{-6} *7*; α(P)=2.31×10^{-7} *4* α(K)exp=0.0065 *18* (1972Ca21, Iγ; 1970Dz11, I(ce)) implies mult=E2+M1: M1 component inconsistent with placement.
873.85[h] *25*	30[h] *3*	3149.09	1^-	2275.49	1^-			α(K)exp=0.010 *5* (1988DzZW)
873.85[ha] *25*	30[h] *3*	3274.17	1^-	2400.10	1^-			
876.80 *25*	60 *3*	2929.60	1^-	2052.59	$0^-,1^-,2^-$	M1	0.00990 *14*	α=0.00990 *14*; α(K)=0.00835 *12*; α(L)=0.001209 *17*; α(M)=0.000269 *4*; α(N+..)=7.28×10^{-5} *11* α(N)=6.32×10^{-5} *9*; α(O)=9.08×10^{-6} *13*; α(P)=4.94×10^{-7} *7* α(K)exp=0.012 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)).
879.65[a] *25*	50.0 *25*	3169.59	1^-	2289.37	1^+			α(K)exp=0.005 *4* (1988DzZW)
884.10 *15*	770 *45*	2364.06	1^-	1479.91	0^+	E1	0.00189 *3*	α=0.00189 *3*; α(K)=0.001604 *23*; α(L)=0.000221 *3*; α(M)=4.89×10^{-5} *7*; α(N+..)=1.316×10^{-5} *19* α(N)=1.145×10^{-5} *16*; α(O)=1.628×10^{-6} *23*; α(P)=8.62×10^{-8} *12* α(K)exp=0.0025 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)).
895.00 *25*	54 *3*	2947.84	1^-	2052.59	$0^-,1^-,2^-$	(M1,E2)	0.0070 *24*	α=0.0070 *24*; α(K)=0.0059 *21*; α(L)=0.0009 *3*; α(M)=0.00020 *6*; α(N+..)=5.3×10^{-5} *16* α(N)=4.7×10^{-5} *14*; α(O)=6.6×10^{-6} *21*; α(P)=3.4×10^{-7} *13* α(K)exp=0.008 *5* (1988DzZW)
901.40[ha] *20*	150[h] *7*	2039.85	1^+	1138.55	2^+			α(K)exp<0.018 (1988DzZW) for multiply-placed γ.
901.40[ha] *20*	150[h] *7*	2436.01	$(2,3)^-$	1534.57	2^+			α(K)exp<0.018 (1988DzZW) for multiply-placed γ.
901.40[ha] *20*	150[h] *7*	3169.59	1^-	2268.08	1^-			α(K)exp<0.018 for multiply-placed γ.
901.40[ha] *20*	150[h] *7*	3301.95	1^+	2400.10	1^-			
910.8 *3*	92 *5*	2275.49	1^-	1364.53	1^-			α(K)exp<0.010 (1988DzZW)
916.65	220 *20*	2429.05	$1^+,2^+$	1512.37	1^-	[E1]	0.001762 *25*	α=0.001762 *25*; α(K)=0.001498 *21*; α(L)=0.000206 *3*; α(M)=4.56×10^{-5} *7*; α(N+..)=1.227×10^{-5} *1* α(N)=1.067×10^{-5} *15*; α(O)=1.519×10^{-6} *22*; α(P)=8.06×10^{-8} *12* α(K)exp=0.0103 *19* (1988DzZW) α(K)exp=0.0042 (1972Ca21) for 916.65γ+916.90γ doublet; mult(916.65γ)=E1 is required by level scheme.

From ENSDF

$^{170}_{70}Yb_{100}$-20

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
916.90	150 *15*	2969.45	1⁻	2052.59	0⁻,1⁻,2⁻	M1	0.00887 *13*	α=0.00887 *13*; α(K)=0.00748 *11*; α(L)=0.001081 *16*; α(M)=0.000241 *4*; α(N+..)=6.51×10^{-5} *10* α(N)=5.65×10^{-5} *8*; α(O)=8.12×10^{-6} *12*; α(P)=4.42×10^{-7} *7* α(K)exp=0.0085 *20* (1988DzZW) α(K)exp=0.0042 (1972Ca21) for 916.65γ+916.90γ doublet implies mult(916.9γ)=M1 if mult(916.65γ)=E1 as required by level scheme.
926.40 *15*	580 *18*	2351.71	0⁻,1⁻,2⁻	1425.24	(2)⁻	E2	0.00434 *6*	α=0.00434 *6*; α(K)=0.00360 *5*; α(L)=0.000579 *9*; α(M)=0.0001305 *19*; α(N+..)=3.49×10^{-5} *5* α(N)=3.05×10^{-5} *5*; α(O)=4.25×10^{-6} *6*; α(P)=2.02×10^{-7} *3* α(K)exp=0.0028 (1972Ca21); α(K)exp=0.0038 *9* (1972Ca21, Iγ; 1970Dz11, I(ce)).
938.75 *8*	3.52×10^3 *10*	2364.06	1⁻	1425.24	(2)⁻	M1	0.00837 *12*	α=0.00837 *12*; α(K)=0.00706 *10*; α(L)=0.001019 *15*; α(M)=0.000227 *4*; α(N+..)=6.13×10^{-5} *9* α(N)=5.33×10^{-5} *8*; α(O)=7.66×10^{-6} *11*; α(P)=4.17×10^{-7} *6* α(K)exp=0.0068 (1972Ca21); α(K)exp=0.0075 *7* (1972Ca21, Iγ; 1970Dz11, I(ce)).
942.45 *15*	470 *15*	2367.65	(1)⁻	1425.24	(2)⁻	E2	0.00419 *6*	α=0.00419 *6*; α(K)=0.00347 *5*; α(L)=0.000556 *8*; α(M)=0.0001253 *18*; α(N+..)=3.36×10^{-5} *5* α(N)=2.93×10^{-5} *5*; α(O)=4.08×10^{-6} *6*; α(P)=1.95×10^{-7} *3* α(K)exp=0.0040 *11* (1972Ca21, Iγ; 1970Dz11, I(ce)).
947.80 *15*	350 *10*	1225.35	(3)⁺	277.44	4⁺	E2,M1	0.0062 *21*	α=0.0062 *21*; α(K)=0.0052 *18*; α(L)=0.00077 *23*; α(M)=0.00017 *5*; α(N+..)=4.7×10^{-5} *14* α(N)=4.0×10^{-5} *12*; α(O)=5.8×10^{-6} *18*; α(P)=3.0×10^{-7} *11* α(K)exp=0.0054 *20* (1972Ca21, Iγ; 1970Dz11, I(ce)).
[x]952.55 *25*	93 *5*					M1+E0+E2		α=0.0061 *20*, α(K)=0.0051 *17* if mult=M1. α(K)exp=0.033 *16* (1972Ca21, Iγ; 1970Dz11, I(ce)).
954.30[h] *15*	500[h] *15*	2939.73	1⁻	1985.64	1⁻,2⁻		0.00830	α=0.00830; α(K)=0.00696; α(L)=0.00101 α(K)exp=0.0075 (1972Ca21) and α(K)exp=0.0080 *24* (1972Ca21, Iγ; 1970Dz11, I(ce)) imply mult=M1 for doubly-placed γ.
954.30[hb] *15*	500[h] *15*	3070.52	0,1	2115.90	1⁻			α(K)exp=0.0075 (1972Ca21) and α(K)exp=0.0080 *24* (1972Ca21, Iγ; 1970Dz11, I(ce)) imply mult=M1 for doubly-placed γ.
955.22[gad] *24*		3007.6	1⁻	2052.59	0⁻,1⁻,2⁻			
955.22[gad] *24*		3384.87	1⁻	2429.05	1⁺,2⁺			
962.85[a] *25*	17.0 *20*	3314.42	1	2351.71	0⁻,1⁻,2⁻	M1+E2+E0		α(K)exp=0.032 *16* (1988DzZW)
965.52[gad] *26*		3091.93	1	2126.14	1⁻			
965.52[gad] *26*		3366.40	1	2400.10	1⁻			
966.85 *20*	320 *10*	2364.06	1⁻	1397.05	(3)⁻	(E2)	0.00397 *6*	α=0.00397 *6*; α(K)=0.00330 *5*; α(L)=0.000525 *8*; α(M)=0.0001181 *17*; α(N+..)=3.16×10^{-5} *5*

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=2.76×10^{-5} *4*; α(O)=3.85×10^{-6} *6*; α(P)=1.86×10^{-7} *3* α(K)exp=0.0047 *9* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: M1,E2 from α(K)exp; ΔJ=2 from level scheme.
969.05[h] *20*	130[h] *6*	2275.49	1$^-$	1306.39	2$^+$			α(K)exp=0.0077 *23* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1 for doubly-placed γ; however, this placement requires E1.
969.05[hb] *20*	130[h] *6*	3258.18	1$^+$	2289.37	1$^+$			α(K)exp=0.0077 *23* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1 for doubly-placed γ.
970.20[ha] *20*	250[h] *8*	2039.85	1$^+$	1069.36	0$^+$	(M1)	0.00771 *11*	α=0.00771 *11*; α(K)=0.00651 *10*; α(L)=0.000939 *14*; α(M)=0.000209 *3*; α(N+..)=5.65×10^{-5} *8* α(N)=4.91×10^{-5} *7*; α(O)=7.05×10^{-6} *10*; α(P)=3.85×10^{-7} *6* α(K)exp=0.0076 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)); implies mult=M1 for doubly-placed γ, but alternative placement requires E1.
970.20[h] *20*	250[h] *8*	2115.90	1$^-$	1145.72	2$^+$			Mult.: α(K)exp=0.0076 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)); implies mult=M1 for doubly-placed γ, but this placement requires E1.
[x]973.4[d] *3*								
980.30 *20*	290 *30*	2126.14	1$^-$	1145.72	2$^+$			α(K)exp≤0.0064 (1972Ca21); 0.0035 *10* (1988DzZW). Mult=E2 from α(K)exp is inconsistent with placement.
983.67 *20*	700 *50*	2496.20	1$^-$	1512.37	1$^-$	M1	0.00746 *11*	α=0.00746 *11*; α(K)=0.00629 *9*; α(L)=0.000907 *13*; α(M)=0.000202 *3*; α(N+..)=5.46×10^{-5} *8* α(N)=4.74×10^{-5} *7*; α(O)=6.81×10^{-6} *10*; α(P)=3.72×10^{-7} *6* α(K)exp=0.0057 *15* (1988DzZW)
985.10 *10*	120×10^2 *4*	1069.36	0$^+$	84.262	2$^+$	E2	0.00382 *6*	α=0.00382 *6*; α(K)=0.00318 *5*; α(L)=0.000503 *7*; α(M)=0.0001131 *16*; α(N+..)=3.03×10^{-5} *5* α(N)=2.64×10^{-5} *4*; α(O)=3.70×10^{-6} *6*; α(P)=1.79×10^{-7} *3* α(K)exp=0.0029 (1972Ca21); α(K)exp=0.0034 *2* (1972Ca21, Iγ; 1970Dz11, I(ce)). A_2=+0.29 *8*, A_4=+0.91 *10* for 985γ-84γ(θ) (1969PaZR).
987.25 *10*	370×10^1 *12*	2351.71	0$^-$,1$^-$,2$^-$	1364.53	1$^-$	M1	0.00739 *11*	α=0.00739 *11*; α(K)=0.00624 *9*; α(L)=0.000899 *13*; α(M)=0.000200 *3*; α(N+..)=5.41×10^{-5} *8* α(N)=4.70×10^{-5} *7*; α(O)=6.75×10^{-6} *10*; α(P)=3.68×10^{-7} *6* α(K)exp=0.0075 (1972Ca21); α(K)exp=0.0059 *4* (1988DzZW)
988.5[@]	300[@] *30*	2126.14	1$^-$	1138.55	2$^+$			α(K)exp=0.0024 *12* (1988DzZW)
999.60 *10*	3.40×10^3 *10*	2364.06	1$^-$	1364.53	1$^-$	M1	0.00717 *10*	α=0.00717 *10*; α(K)=0.00605 *9*; α(L)=0.000872 *13*; α(M)=0.000194 *3*; α(N+..)=5.25×10^{-5} *8* α(N)=4.56×10^{-5} *7*; α(O)=6.55×10^{-6} *10*; α(P)=3.57×10^{-7} *5* α(K)exp=0.0056 (1972Ca21); α(K)exp=0.0064 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1002.3[@]	300[@] *30*	2536.97	1$^-$	1534.57	2$^+$			α(K)exp<0.014 (1988DzZW)
1003.20 *10*	770×10^1 *24*	2367.65	(1)$^-$	1364.53	1$^-$	M1,E2	0.0054 *18*	α=0.0054 *18*; α(K)=0.0045 *15*; α(L)=0.00067 *19*; α(M)=0.00015 *5*;

From ENSDF

$^{170}_{70}Yb_{100}$-22

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	α [f]	Comments
								α(N+..)=4.1×10^{-5} *12* α(N)=3.5×10^{-5} *10*; α(O)=5.0×10^{-6} *15*; α(P)=2.6×10^{-7} *9* α(K)exp=0.0055 (1972Ca21); α(K)exp=0.0049 *3* (1988DzZW)
1009.5 *3*	88 *5*	2667.19	1(+)	1658.06	(2)+	M1	0.00700 *10*	α=0.00700 *10*; α(K)=0.00591 *9*; α(L)=0.000851 *12*; α(M)=0.000189 *3*; α(N+..)=5.12×10^{-5} *8* α(N)=4.44×10^{-5} *7*; α(O)=6.39×10^{-6} *9*; α(P)=3.49×10^{-7} *5* α(K)exp=0.0097 *18* (1988DzZW) note that α(K)exp is somewhat larger than α(K)(M1).
1012.3[h] *3*	29[h] *3*	3065.36	1+	2052.59	0−,1−,2−			α(K)exp=0.012 *4* (1988DzZW) for doubly-placed γ.
1012.3[ha] *3*	29[h] *3*	3213.27	1−	2200.91	1−,2−			α(K)exp=0.012 *4* (1988DzZW) for doubly-placed γ.
1021.5[gad] *3*		3007.6	1−	1985.64	1−,2−			
1021.5[gad] *3*		3384.87	1−	2364.06	1−			
1028.80 *10*	1800 *60*	1306.39	2+	277.44	4+	E2	0.00350 *5*	α=0.00350 *5*; α(K)=0.00291 *4*; α(L)=0.000456 *7*; α(M)=0.0001025 *15*; α(N+..)=2.75×10^{-5} *4* α(N)=2.40×10^{-5} *4*; α(O)=3.36×10^{-6} *5*; α(P)=1.640×10^{-7} *23* α(K)exp=0.0031 (1972Ca21); α(K)exp=0.0026 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)).
[x]1031.3[d] *7*								
1034.2[a] *3*	60 *20*	3301.95	1+	2268.08	1−			α(K)exp=0.008 *4* (1988DzZW)
1046.60[h] *25*	195[h] *10*	2275.49	1−	1228.84	0+			α(K)exp=0.0020 *10* (1988DzZW) for doubly-placed γ.
1046.60[ha] *25*	195[h] *10*	3314.42	1	2268.08	1−			α(K)exp=0.0020 *10* (1988DzZW) for doubly-placed γ.
1050.40 *10*	2200 *70*	2768.34	0−,1−	1717.95	(2)−	E2	0.00336 *5*	α=0.00336 *5*; α(K)=0.00280 *4*; α(L)=0.000436 *6*; α(M)=9.78×10^{-5} *14*; α(N+..)=2.62×10^{-5} *4* α(N)=2.29×10^{-5} *4*; α(O)=3.21×10^{-6} *5*; α(P)=1.574×10^{-7} *22* α(K)exp≤0.0034 (1972Ca21); α(K)exp=0.0029 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1053.7	250 *50*	3179.76	1−	2126.14	1−			α(K)exp≤0.006 (1988DzZW)
1054.28 *5*	103×10^2 *3*	1138.55	2+	84.262	2+	E2	0.00333 *5*	α=0.00333 *5*; α(K)=0.00278 *4*; α(L)=0.000432 *6*; α(M)=9.70×10^{-5} *14*; α(N+..)=2.60×10^{-5} *4* α(N)=2.27×10^{-5} *4*; α(O)=3.18×10^{-6} *5*; α(P)=1.563×10^{-7} *22* α(K)exp=0.00260 *16* (1988DzZW) α(K)exp≤0.0024 (1972Ca21) for triplet dominated by this transition.
1055.23	50×10^1 *10*	2200.91	1−,2−	1145.72	2+	E1	0.001356 *19*	α(K)exp≤0.0015 (1988DzZW) α=0.001356 *19*; α(K)=0.001154 *17*; α(L)=0.0001579 *23*; α(M)=3.49×10^{-5} *5*; α(N+..)=9.39×10^{-6} α(N)=8.16×10^{-6} *12*; α(O)=1.164×10^{-6} *17*; α(P)=6.23×10^{-8} *9*
1057.70 *15*	475 *15*	2364.06	1−	1306.39	2+	E1	0.001351 *19*	α=0.001351 *19*; α(K)=0.001149 *16*; α(L)=0.0001572 *22*; α(M)=3.47×10^{-5} *5*; α(N+..)=9.35×10^{-6} α(N)=8.13×10^{-6} *12*; α(O)=1.159×10^{-6} *17*; α(P)=6.20×10^{-8} *9* α(K)exp=0.0011 *6* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-23

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1060.58 *20*	550 *50*	3186.66	(1⁻)	2126.14	1⁻	M1	0.00620 *9*	α=0.00620 *9*; α(K)=0.00523 *8*; α(L)=0.000753 *11*; α(M)=0.0001675 *24*; α(N+..)=4.53×10^{-5} *7* α(K)exp=0.0062 *16* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1061.35[@]	5.0×10^{2}[@] *10*	2367.65	(1)⁻	1306.39	2⁺			α(K)exp<0.034 (1988DzZW)
1061.39 *10*	470×10^{1} *15*	1145.72	2⁺	84.262	2⁺	E2	0.00329 *5*	α=0.00329 *5*; α(K)=0.00274 *4*; α(L)=0.000426 *6*; α(M)=9.55×10^{-5} *14*; α(N+..)=2.56×10^{-5} *4* α(N)=2.23×10^{-5} *4*; α(O)=3.13×10^{-6} *5*; α(P)=1.542×10^{-7} *22* α(K)exp=0.00268 *19* (1988DzZW) other α(K)exp: 0.0029 (1972Ca21) for doublet.
1068.8[a] *4*	12.0 *10*	3195.58	1⁻	2126.14	1⁻			α(K)exp≤0.015 (1988DzZW)
1069.4		1069.36	0⁺	0.0	0⁺	E0		α(K)exp>0.11 (1988DzZW) ce(K)/ce=0.87. other α(K)exp: 0.28 for 1068.8γ+1069.4γ doublet (1972Ca21).
1070.9 *3*	117 *4*	2496.20	1⁻	1425.24	(2)⁻	M1	0.00606 *9*	α=0.00606 *9*; α(K)=0.00511 *8*; α(L)=0.000735 *11*; α(M)=0.0001635 *23*; α(N+..)=4.42×10^{-5} *7* α(N)=3.84×10^{-5} *6*; α(O)=5.52×10^{-6} *8*; α(P)=3.02×10^{-7} *5* α(K)exp=0.0060 *26* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1078.3 *4*	75 *20*	3131.10	1⁺	2052.59	0⁻,1⁻,2⁻			α(K)exp=0.0033 *24* (1988DzZW)
1082.1[a] *3*	57 *6*	3067.62	1⁻	1985.64	1⁻,2⁻	M1	0.00590 *9*	α=0.00590 *9*; α(K)=0.00498 *7*; α(L)=0.000716 *10*; α(M)=0.0001593 *23*; α(N+..)=4.31×10^{-5} *6* α(N)=3.74×10^{-5} *6*; α(O)=5.38×10^{-6} *8*; α(P)=2.94×10^{-7} *5* α(K)exp=0.0052 *23* (1988DzZW)
1086.9[ha] *3*	75[h] *3*	3202.94	1⁺	2115.90	1⁻			α(K)exp=0.008 *3* (1988DzZW) for doubly-placed γ.
1086.9[ha] *3*	75[h] *3*	3213.27	1⁻	2126.14	1⁻			α(K)exp=0.008 *3* (1988DzZW) for doubly-placed γ.
1101.70 *10*	2130 *60*	2819.77	0⁻,1⁻	1717.95	(2)⁻	E2	0.00305 *5*	α=0.00305 *5*; α(K)=0.00255 *4*; α(L)=0.000392 *6*; α(M)=8.79×10^{-5} *13*; α(N+..)=2.38×10^{-5} *4* α(N)=2.06×10^{-5} *3*; α(O)=2.89×10^{-6} *4*; α(P)=1.434×10^{-7} *20*; α(IPF)=2.51×10^{-7} *4* α(K)exp=0.0034 (1972Ca21); α(K)exp=0.00273 *23* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1107.1[da] *5*		3146.03	1⁺	2039.85	1⁺	(M1+E2+E0)		1990Gr19 estimate α(K)exp>0.012 assuming Iγ does not exceed Iγ for weak lines In same region of γ spectrum.
1110.7 *3*	27.0 *15*	2768.34	0⁻,1⁻	1658.06	(2)⁺			α(K)exp≤0.008 (1988DzZW)
1113.10 *20*	225 *10*	2748.08	1⁻	1634.84	(1⁺)			α(K)exp≤0.015 (1972Ca21); α(K)exp<0.004 (1988DzZW)
1119.40 *20*	400 *12*	1397.05	(3)⁻	277.44	4⁺	E1	0.001221 *18*	α(K)exp=0.0014 *5* (1988DzZW) α=0.001221 *18*; α(K)=0.001037 *15*; α(L)=0.0001415 *20*; α(M)=3.12×10^{-5} *5*; α(N+..)=1.119×10^{-5} α(N)=7.31×10^{-6} *11*; α(O)=1.044×10^{-6} *15*; α(P)=5.60×10^{-8} *8*; α(IPF)=2.77×10^{-6} *5*
1122.5 *3*	35.0 *10*	2268.08	1⁻	1145.72	2⁺			α(K)exp<0.0032 (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-24

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ	α[f]	Comments
[x]1124.7 *3*	85.0 *25*								α(K)exp=0.0076 *26* (1988DzZW)
1132.86[@]	150[@] *15*	2667.19	1(+)	1534.57	2+				
1133.60 *10*	2300 *75*	2498.19	0−,1−,2−	1364.53	1−	M1		0.00527 *8*	α=0.00527 *8*; α(K)=0.00445 *7*; α(L)=0.000639 *9*; α(M)=0.0001421 *20*; α(N+..)=3.95×10^{-5} *6* α(N)=3.34×10^{-5} *5*; α(O)=4.80×10^{-6} *7*; α(P)=2.62×10^{-7} *4*; α(IPF)=1.070×10^{-6} *16* α(K)exp=0.0040 (1972Ca21); α(K)exp=0.0046 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: α(K)exp is for doublet dominated by 1133.6γ. 1132.86γ (mult)=[M1,E2].
1135.2		2364.06	1−	1228.84	0+				E_γ: unresolved multiplet; Eγ from level energy difference.
1137.1 *3*	350 *10*	2275.49	1−	1138.55	2+	(E1+M2)	0.57 *16*	0.0040 *12*	α=0.0040 *12*; α(K)=0.0034 *10*; α(L)=0.00051 *16*; α(M)=0.00011 *4*; α(N+..)=3.4×10^{-5} *9* α(N)=2.7×10^{-5} *9*; α(O)=3.8×10^{-6} *12*; α(P)=2.0×10^{-7} *7*; α(IPF)=3.7×10^{-6} *5* α(K)exp=0.0034 *10* (1988DzZW) Mult.: α(K)exp implies E2(+M1) or E1+M2 (δ=0.57 *16*); level scheme requires Δπ=yes.
1138.65 *10*	780×10[1] *24*	1138.55	2+	0.0	0+	E2		0.00286 *4*	α=0.00286 *4*; α(K)=0.00239 *4*; α(L)=0.000365 *6*; α(M)=8.18×10^{-5} *12*; α(N+..)=2.29×10^{-5} *4* α(N)=1.91×10^{-5} *3*; α(O)=2.69×10^{-6} *4*; α(P)=1.344×10^{-7} *19*; α(IPF)=9.92×10^{-7} *15* α(K)exp=0.0024 (1972Ca21); α(K)exp=0.00238 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1141.30 *20*	1140 *35*	1225.35	(3)+	84.262	2+	E2		0.00284 *4*	α=0.00284 *4*; α(K)=0.00238 *4*; α(L)=0.000363 *5*; α(M)=8.14×10^{-5} *12*; α(N+..)=2.29×10^{-5} *4* α(N)=1.90×10^{-5} *3*; α(O)=2.68×10^{-6} *4*; α(P)=1.338×10^{-7} *19*; α(IPF)=1.081×10^{-6} *17* α(K)exp=0.0022 (1972Ca21). Other: 0.0035 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1144.65 *20*	372×10[1] *12*	1228.84	0+	84.262	2+	E2		0.00283 *4*	α=0.00283 *4*; α(K)=0.00236 *4*; α(L)=0.000361 *5*; α(M)=8.09×10^{-5} *12*; α(N+..)=2.29×10^{-5} *4* α(N)=1.89×10^{-5} *3*; α(O)=2.66×10^{-6} *4*; α(P)=1.331×10^{-7} *19*; α(IPF)=1.202×10^{-6} *19* α(K)exp=0.0022 (1972Ca21); α(K)exp=0.0023 *2* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1145.80 *20*	391×10[1] *15*	1145.72	2+	0.0	0+	E2		0.00282 *4*	α=0.00282 *4*; α(K)=0.00236 *4*; α(L)=0.000360 *5*; α(M)=8.07×10^{-5} *12*; α(N+..)=2.29×10^{-5} *4* α(N)=1.89×10^{-5} *3*; α(O)=2.66×10^{-6} *4*; α(P)=1.328×10^{-7} *19*; α(IPF)=1.247×10^{-6} *20* α(K)exp=0.0023 (1972Ca21); α(K)exp=0.0027 *2* (1972Ca21, Iγ; 1970Dz11, I(ce)).

From ENSDF

$^{170}_{70}Yb_{100}$-25

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1155.3[ha] *3*	75[h] *5*	3195.58	1⁻	2039.85	1⁺			α(K)exp=0.0012 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)) for multiply-placed γ.
1155.3[hbi] *3*	75[h] *5*	3423.2?	(0⁻)	2268.08	1⁻			α(K)exp=0.0012 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=(M1) for multiply-placed γ.
1158.5[ha] *3*	46.0[h] *25*	2523.07	1⁺	1364.53	1⁻			α(K)exp<0.004 (1988DzZW) for doubly-placed γ.
1158.5[ha] *3*	46.0[h] *25*	3274.17	1⁻	2115.90	1⁻			α(K)exp<0.004 (1988DzZW) for doubly-placed γ.
1162.4[a] *3*	90 *5*	3202.94	1⁺	2039.85	1⁺	M1,E2	0.0039 *12*	α=0.0039 *12*; α(K)=0.0032 *10*; α(L)=0.00047 *13*; α(M)=0.00011 *3*; α(N+..)=3.1×10⁻⁵ *8* α(N)=2.5×10⁻⁵ *7*; α(O)=3.5×10⁻⁶ *10*; α(P)=1.9×10⁻⁷ *6*; α(IPF)=2.3×10⁻⁶ *3* α(K)exp=0.0033 *17* (1988DzZW)
1173.2[h] *4*	70[h] *30*	2536.97	1⁻	1364.53	1⁻			α(K)exp=0.006 *4* (1988DzZW) for doubly-placed γ.
1173.2[ha] *4*	70[h] *30*	3213.27	1⁻	2039.85	1⁺			α(K)exp=0.006 *4* (1988DzZW) for doubly-placed γ.
[x]1180.8 *3*	25.0 *25*							α(K)exp=0.019 *10* (1988DzZW)
1181.5[hbi] *3*	100[h] *20*	2328.0?	(0⁺)	1145.72	2⁺			α(K)exp=0.005 *3* (1988DzZW) for multiply-placed γ.
1181.5[ha] *3*	100[h] *20*	2661.02	1⁺	1479.91	0⁺			α(K)exp=0.005 *3* (1988DzZW) for multiply-placed γ.
1181.5[h] *3*	100[h] *20*	2748.08	1⁻	1566.38	0⁺			α(K)exp=0.005 *3* (1988DzZW) for multiply-placed γ.
1187.5 *3*	100 *5*	2667.19	1⁽⁺⁾	1479.91	0⁺			α(K)exp=0.0024 *24* (1988DzZW)
[x]1203.0 *3*	45.0 *25*							α(K)exp<0.006 (1988DzZW)
1204.8[a] *3*	40.0 *20*	3258.18	1⁺	2052.59	0⁻,1⁻,2⁻			α(K)exp<0.007 (1988DzZW)
1206.30 *20*	300 *15*	2275.49	1⁻	1069.36	0⁺	E1	0.001089 *16*	α=0.001089 *16*; α(K)=0.000908 *13*; α(L)=0.0001234 *18*; α(M)=2.72×10⁻⁵ *4*; α(N+..)=3.10×10⁻⁵ α(N)=6.38×10⁻⁶ *9*; α(O)=9.11×10⁻⁷ *13*; α(P)=4.91×10⁻⁸ *7*; α(IPF)=2.37×10⁻⁵ *4* α(K)exp<0.0010 (1988DzZW)
1211.2[a] *3*	80 *4*	2436.01	(2,3)⁻	1225.35	(3)⁺	E1	0.001084 *16*	α=0.001084 *16*; α(K)=0.000901 *13*; α(L)=0.0001225 *18*; α(M)=2.70×10⁻⁵ *4*; α(N+..)=3.29×10⁻⁵ α(N)=6.33×10⁻⁶ *9*; α(O)=9.05×10⁻⁷ *13*; α(P)=4.87×10⁻⁸ *7*; α(IPF)=2.56×10⁻⁵ *4* α(K)exp=0.0010 *4* (1988DzZW)
1213.65 *20*	115 *6*	2748.08	1⁻	1534.57	2⁺			α(K)exp=0.0047 *24* (1988DzZW)
1217.30[ha] *20*	450[h] *15*	2523.07	1⁺	1306.39	2⁺			α(K)exp=0.0030 (1972Ca21), 0.0026 *6* (1988DzZW), mult=E2(+M1) for doubly-placed γ.
1217.30[ha] *20*	450[h] *15*	3202.94	1⁺	1985.64	1⁻,2⁻			α(K)exp=0.0030 (1972Ca21), 0.0026 *6* (1988DzZW), mult=E2(+M1) for doubly-placed γ.
1218.50 *20*	3.04×10³ *10*	2364.06	1⁻	1145.72	2⁺	E1	0.001075 *15*	α=0.001075 *15*; α(K)=0.000892 *13*; α(L)=0.0001212 *17*; α(M)=2.68×10⁻⁵ *4*; α(N+..)=3.57×10⁻⁵ α(N)=6.26×10⁻⁶ *9*; α(O)=8.95×10⁻⁷ *13*; α(P)=4.82×10⁻⁸ *7*; α(IPF)=2.85×10⁻⁵ *4* α(K)exp=0.00065 (1972Ca21); α(K)exp=0.00069 *9* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-26

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1222.3 *3*	1430 *50*	1306.39	2^+	84.262	2^+	E0+E2+M1	0.013	α(K)exp=0.0103 (1972Ca21); α(K)exp=0.0094 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)). α: estimated from α(K)exp.
1225.65 *10*	1080×10[1] *32*	2364.06	1^-	1138.55	2^+	E1	0.001068 *15*	α=0.001068 *15*; α(K)=0.000883 *13*; α(L)=0.0001199 *17*; α(M)=2.65×10^{-5} *4*; α(N+..)=3.86×10^{-5} α(N)=6.20×10^{-6} *9*; α(O)=8.86×10^{-7} *13*; α(P)=4.77×10^{-8} *7*; α(IPF)=3.15×10^{-5} *5* α(K)exp=0.00092 (1972Ca21); α(K)exp=0.00081 *7* (1988DzZW) Other α(K)exp: 0.00080 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1228.9	<200	1228.84	0^+	0.0	0^+	E0		α(K)exp>0.05 (1972Ca21) ce(K)/ce=0.87. I_γ: observation limit resulting from proximity of strong 1226γ. I(ce(K))/I(1145γ)=0.00269 from α(K)exp and Iγ limits (1972Ca21).
1230.2 *3*	250 *10*	2536.97	1^-	1306.39	2^+			α(K)exp≤0.0115 (1972Ca21); α(K)exp=0.0022 *22* (1988DzZW)
1234.5 *3*	50.0 *25*	3274.17	1^-	2039.85	1^+	E1	0.001058 *15*	α=0.001058 *15*; α(K)=0.000871 *13*; α(L)=0.0001184 *17*; α(M)=2.61×10^{-5} *4*; α(N+..)=4.22×10^{-5} α(N)=6.12×10^{-6} *9*; α(O)=8.74×10^{-7} *13*; α(P)=4.71×10^{-8} *7*; α(IPF)=3.52×10^{-5} *5* α(K)exp=0.0010 *6* (1988DzZW)
1235.90 *10*	510 *15*	2748.08	1^-	1512.37	1^-	M1	0.00429 *6*	α=0.00429 *6*; α(K)=0.00361 *5*; α(L)=0.000517 *8*; α(M)=0.0001149 *16*; α(N+..)=4.25×10^{-5} *6* α(N)=2.70×10^{-5} *4*; α(O)=3.88×10^{-6} *6*; α(P)=2.12×10^{-7} *3*; α(IPF)=1.142×10^{-5} *16* α(K)exp=0.0050 (1972Ca21); 0.0043 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1240.7[a] *3*	37.0 *20*	3366.40	1	2126.14	1^-			α(K)exp=0.004 *3* (1988DzZW)
1241.95 *20*	110 *5*	2667.19	$1^{(+)}$	1425.24	$(2)^-$	(E1)	0.001051 *15*	α=0.001051 *15*; α(K)=0.000862 *12*; α(L)=0.0001171 *17*; α(M)=2.58×10^{-5} *4*; α(N+..)=4.54×10^{-5} α(N)=6.05×10^{-6} *9*; α(O)=8.65×10^{-7} *13*; α(P)=4.67×10^{-8} *7*; α(IPF)=3.84×10^{-5} *6* α(K)exp=0.0017 *10* (1988DzZW) Mult.: E1 or E2 from α(K)exp; Δπ=(yes) from level scheme.
1252.1[da] *4*		3291.82	1^+	2039.85	1^+			
[x]1256.69[d] *20*								
1257.20 *10*	3.05×10[3] *10*	1534.57	2^+	277.44	4^+			α(K)exp=0.0021 (1972Ca21); α(K)exp=0.00063 *12* (1988DzZW) Mult.: α(K)exp data mutually inconsistent.
1263.45 *20*	690 *20*	2775.66	1^-	1512.37	1^-	M1	0.00407 *6*	α=0.00407 *6*; α(K)=0.00342 *5*; α(L)=0.000490 *7*; α(M)=0.0001088 *16*; α(N+..)=4.56×10^{-5} *7* α(N)=2.56×10^{-5} *4*; α(O)=3.68×10^{-6} *6*; α(P)=2.01×10^{-7} *3*; α(IPF)=1.614×10^{-5} *23* α(K)exp=0.0045 (1972Ca21); α(K)exp=0.0039 *7* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-27

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1268.30 *20*	260 *10*	2748.08	1⁻	1479.91	0⁺			α(K)exp=0.0017 *8* (1988DzZW)
1280.25 *10*	1770×10[1] *50*	1364.53	1⁻	84.262	2⁺	E1	0.001015 *15*	α=0.001015 *15*; α(K)=0.000818 *12*; α(L)=0.0001109 *16*; α(M)=2.45×10⁻⁵ *4*; α(N+..)=6.22×10⁻⁵ α(N)=5.73×10⁻⁶ *8*; α(O)=8.19×10⁻⁷ *12*; α(P)=4.43×10⁻⁸ *7*; α(IPF)=5.56×10⁻⁵ *8* α(K)exp=0.00087 (1972Ca21); α(K)exp=0.00088 *8* (1972Ca21, Iγ; 1968Ba54, I(ce)). A_2=−0.24 *5*, A_4=−0.03 *7* for 1280γ-84γ(θ) (1969PaZR).
1290.9 *4*	190 *35*	2429.05	1⁺,2⁺	1138.55	2⁺	(E2)	0.00225 *4*	α=0.00225 *4*; α(K)=0.00187 *3*; α(L)=0.000280 *4*; α(M)=6.25×10⁻⁵ *9*; α(N+..)=3.38×10⁻⁵ *5* α(N)=1.462×10⁻⁵ *21*; α(O)=2.07×10⁻⁶ *3*; α(P)=1.055×10⁻⁷ *15*; α(IPF)=1.697×10⁻⁵ *25* α(K)exp<0.0018 (1988DzZW) Mult.: E1 or E2 from α(K)exp; level scheme requires Δπ=No.
1294.70 *10*	635×10[1] *20*	2364.06	1⁻	1069.36	0⁺	E1	0.001003 *14*	α=0.001003 *14*; α(K)=0.000802 *12*; α(L)=0.0001087 *16*; α(M)=2.40×10⁻⁵ *4* α(N)=5.62×10⁻⁶ *8* α(K)exp<0.00090 (1988DzZW) other α(K)exp: 0.00095 for doublet dominated by 1294.7γ.
1294.74[@]	100[@] *10*	2929.60	1⁻	1634.84	(1⁺)			α(K)exp<0.060 (1988DzZW)
1304.85 *20*	220 *8*	2939.73	1⁻	1634.84	(1⁺)		0.0030 *9*	α(K)exp=0.0029 *11* (1988DzZW) α=0.0030 *9*; α(K)=0.0025 *8*; α(L)=0.00037 *10* Mult.: α(K)exp implies mult=M1,E2, inconsistent with placement.
1306.30 *20*	1100 *50*	1306.39	2⁺	0.0	0⁺	(E2)	0.00220 *3*	α=0.00220 *3*; α(K)=0.00183 *3*; α(L)=0.000273 *4*; α(M)=6.09×10⁻⁵ *9*; α(N+..)=3.60×10⁻⁵ *5* α(N)=1.426×10⁻⁵ *20*; α(O)=2.02×10⁻⁶ *3*; α(P)=1.032×10⁻⁷ *15*; α(IPF)=1.96×10⁻⁵ *3* α(K)exp≤0.0042 (1972Ca21); α(K)exp=0.0025 *3* (1988DzZW) Mult.: M1+E2 from α(K)exp; ΔJ=2 from level scheme.
1307.55 *10*	2.40×10[3] *10*	2819.77	0⁻,1⁻	1512.37	1⁻	M1+E2	0.0030 *8*	α=0.0030 *8*; α(K)=0.0025 *7*; α(L)=0.00036 *9*; α(M)=8.0×10⁻⁵ *20*; α(N+..)=4.4×10⁻⁵ *8* α(N)=1.9×10⁻⁵ *5*; α(O)=2.7×10⁻⁶ *7*; α(P)=1.4×10⁻⁷ *5*; α(IPF)=2.2×10⁻⁵ *3* α(K)exp=0.00239 *15* (1988DzZW) Mult.: M1+E2 from α(K)exp but mixed multipolarity inconsistent with level scheme if J(2820)=0. other α(K)exp:≤0.0022 for doublet dominated by 1307.55γ.
1307.97[@]	260[@] *30*	2536.97	1⁻	1228.84	0⁺			α(K)exp<0.016 (1988DzZW)
1312.9 *3*	700 *40*	1397.05	(3)⁻	84.262	2⁺			α(K)exp<0.013 (1988DzZW)
1313.03[@]	100[@] *10*	2947.84	1⁻	1634.84	(1⁺)			
1323.00 *20*	390 *30*	2748.08	1⁻	1425.24	(2)⁻	M1	0.00365 *6*	α=0.00365 *6*; α(K)=0.00306 *5*; α(L)=0.000438 *7*; α(M)=9.72×10⁻⁵

$^{170}_{70}Yb_{100}$-28

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								14; α(N+..)=5.51×10^{-5} *8* α(N)=2.28×10^{-5} *4*; α(O)=3.29×10^{-6} *5*; α(P)=1.80×10^{-7} *3*; α(IPF)=2.88×10^{-5} *4* α(K)exp=0.0036 *10* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1330.7[ha] *3*	80[h] *4*	2400.10	1$^-$	1069.36	0$^+$			α(K)exp<0.004 (1988DzZW) for doubly-placed γ.
1330.7[ha] *3*	80[h] *4*	2965.66	1$^+$	1634.84	(1$^+$)			α(K)exp<0.004 (1988DzZW) for doubly-placed γ.
1341.20 *10*	705×10^1 *20*	1425.24	(2)$^-$	84.262	2$^+$	(E1)	0.000972 *14*	α=0.000972 *14*; α(K)=0.000754 *11*; α(L)=0.0001021 *15*; α(M)=2.25×10^{-5} *4*; α(N+..)=9.37×10^{-5} α(N)=5.27×10^{-6} *8*; α(O)=7.54×10^{-7} *11*; α(P)=4.08×10^{-8} *6*; α(IPF)=8.77×10^{-5} *13* α(K)exp=0.00095 (1972Ca21); α(K)exp=0.00115 *9* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1350.5 *3*	128 *6*	2775.66	1$^-$	1425.24	(2)$^-$			α(K)exp=0.0005 *3* (1988DzZW)
1361.1 *3*	250 *25*	2667.19	1$^{(+)}$	1306.39	2$^+$	(E2)	0.00205 *3*	α=0.00205 *3*; α(K)=0.001695 *24*; α(L)=0.000251 *4*; α(M)=5.59×10^{-5} *8*; α(N+..)=4.61×10^{-5} *7* α(N)=1.309×10^{-5} *19*; α(O)=1.85×10^{-6} *3*; α(P)=9.54×10^{-8} *14*; α(IPF)=3.11×10^{-5} *5* α(K)exp<0.0018 (1988DzZW) Mult.: E1 or E2 from α(K)exp; Δπ=(No) from level scheme.
1364.60 *10*	10000	1364.53	1$^-$	0.0	0$^+$	E1	0.000960 *14*	α=0.000960 *14*; α(K)=0.000732 *11*; α(L)=9.90×10^{-5} *14*; α(M)=2.18×10^{-5} *3*; α(N+..)=0.0001079 α(N)=5.11×10^{-6} *8*; α(O)=7.32×10^{-7} *11*; α(P)=3.96×10^{-8} *6*; α(IPF)=0.0001020 *15* α(K)exp=0.00079 (1972Ca21); α(K)exp=0.00067 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)).
[x]1370.4 *3*	52.0 *25*							α(K)exp<0.004 (1988DzZW)
1373.50 *20*	370 *35*	2939.73	1$^-$	1566.38	0$^+$	E1	0.000957 *14*	α=0.000957 *14*; α(K)=0.000724 *11*; α(L)=9.79×10^{-5} *14*; α(M)=2.16×10^{-5} *3*; α(N+..)=0.0001135 α(N)=5.06×10^{-6} *7*; α(O)=7.24×10^{-7} *11*; α(P)=3.92×10^{-8} *6*; α(IPF)=0.0001076 *16* α(K)exp<0.0012 (1988DzZW)
1380.80 *20*	270 *35*	1658.06	(2)$^+$	277.44	4$^+$			α(K)exp=0.0020 *14* (1988DzZW)
1383.60 *20*	420 *15*	2748.08	1$^-$	1364.53	1$^-$			α(K)exp=0.0043 *11* (1988DzZW)
[x]1385.5 *3*	100 *5*							α(K)exp=0.005 *3* (1988DzZW)
[x]1393.2[d] *7*								
1395.03[@]	9.0×10^2[@] *10*	2929.60	1$^-$	1534.57	2$^+$			α(K)exp<0.010 (1988DzZW)
1395.65 *10*	490×10^1 *15*	1479.91	0$^+$	84.262	2$^+$	E2	0.00196 *3*	α=0.00196 *3*; α(K)=0.001617 *23*; α(L)=0.000238 *4*; α(M)=5.31×10^{-5} *8*; α(N+..)=5.41×10^{-5} *8* α(N)=1.243×10^{-5} *18*; α(O)=1.762×10^{-6} *25*; α(P)=9.10×10^{-8} *13*; α(IPF)=3.98×10^{-5} *6*

From ENSDF

$^{170}_{70}$Yb$_{100}$-29

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(K)exp<0.0017 (1988DzZW) α(K)exp=0.0016 (1972Ca21) for doublet dominated by this γ. A_2=+0.22 *15*, A_4=+0.92 *19* for 1396γ-84γ(θ) (1969PaZR).
1398.30 *20*	150 *30*	2536.97	1⁻	1138.55	2⁺			α(K)exp<0.004 (1988DzZW)
1403.79	450 *50*	2768.34	0⁻,1⁻	1364.53	1⁻	M1	0.00320 *5*	α=0.00320 *5*; α(K)=0.00266 *4*; α(L)=0.000379 *6*; α(M)=8.42×10^{-5} *12*; α(N+..)=7.60×10^{-5} *11* α(N)=1.98×10^{-5} *3*; α(O)=2.84×10^{-6} *4*; α(P)=1.561×10^{-7} *22*; α(IPF)=5.32×10^{-5} *8* α(K)exp=0.0053 *11* (1972Ca21, Iγ; 1968Ba54, I(ce)); exceeds α(K)(M1).
1405.15 *10*	565×10^1 *18*	2939.73	1⁻	1534.57	2⁺	E1	0.000945 *14*	α=0.000945 *14*; α(K)=0.000696 *10*; α(L)=9.40×10^{-5} *14*; α(M)=2.07×10^{-5} *3*; α(N+..)=0.0001340 α(N)=4.86×10^{-6} *7*; α(O)=6.95×10^{-7} *10*; α(P)=3.77×10^{-8} *6*; α(IPF)=0.0001284 *18* α(K)exp=0.00116 (1972Ca21); α(K)exp=0.00053 *9* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1410.4[a] *4*	285 *30*	3067.62	1⁻	1658.06	(2)⁺			α(K)exp=0.0013 *6* (1988DzZW)
1413.20 *20*	490 *35*	2947.84	1⁻	1534.57	2⁺			α(K)exp=0.0013 *4* (1988DzZW)
1418.7 *3*	70 *4*	2783.12	1⁺	1364.53	1⁻			α(K)exp=0.0043 *14* (1972Ca21, Iγ; 1968Ba54, I(ce)) indicates mult=M1; however, placement requires E1.
1426.72[@]	10.0×10^2[@] *10*	2496.20	1⁻	1069.36	0⁺	E1	0.000938 *14*	α=0.000938 *14*; α(K)=0.000678 *10*; α(L)=9.16×10^{-5} *13*; α(M)=2.02×10^{-5} *3*; α(N+..)=0.0001483 α(N)=4.73×10^{-6} *7*; α(O)=6.77×10^{-7} *10*; α(P)=3.67×10^{-8} *6*; α(IPF)=0.0001429 *20* α(K)exp=0.00097 *22* (1988DzZW)
1427.27[@]	730[@] *80*	2939.73	1⁻	1512.37	1⁻			α(K)exp=0.0037 *7* (1988DzZW)
1428.08 *10*	755×10^1 *25*	1512.37	1⁻	84.262	2⁺	E1	0.000938 *14*	α=0.000938 *14*; α(K)=0.000677 *10*; α(L)=9.14×10^{-5} *13*; α(M)=2.02×10^{-5} *3*; α(N+..)=0.0001492 α(N)=4.72×10^{-6} *7*; α(O)=6.76×10^{-7} *10*; α(P)=3.67×10^{-8} *6*; α(IPF)=0.0001438 *21* α(K)exp=0.00063 *7* (1988DzZW) other α(K)exp: 0.00091 (1972Ca21) for doublet.
1435.40 *20*	550 *20*	2947.84	1⁻	1512.37	1⁻	M1	0.00305 *5*	α=0.00305 *5*; α(K)=0.00252 *4*; α(L)=0.000359 *5*; α(M)=7.98×10^{-5} *12*; α(N+..)=8.60×10^{-5} *12* α(N)=1.87×10^{-5} *3*; α(O)=2.70×10^{-6} *4*; α(P)=1.479×10^{-7} *21*; α(IPF)=6.44×10^{-5} *9* α(K)exp=0.0026 *5* (1988DzZW)
1438.1 *3*	110 *5*	2667.19	1⁽⁺⁾	1228.84	0⁺	M1	0.00303 *5*	α=0.00303 *5*; α(K)=0.00251 *4*; α(L)=0.000357 *5*; α(M)=7.94×10^{-5} *12*; α(N+..)=8.69×10^{-5} *13* α(N)=1.86×10^{-5} *3*; α(O)=2.68×10^{-6} *4*; α(P)=1.473×10^{-7} *21*; α(IPF)=6.54×10^{-5} *10* α(K)exp=0.0038 *19* (1988DzZW)
[x]1445.1 *3*	80 *4*							α(K)exp<0.0036 (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-30

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1449.64[@]	300[@] *40*	2929.60	1⁻	1479.91	0⁺			
1450.20 *10*	3.50×10³ *10*	1534.57	2⁺	84.262	2⁺	E0+M1+E2		α(K)exp=0.0259 *10* (1988DzZW) other α(K)exp; 0.0275 for doublet dominated by 1450.2γ.
1455.25 *10*	2550 *75*	2819.77	0⁻,1⁻	1364.53	1⁻	E2(+M1)	0.0024 *6*	α=0.0024 *6*; α(K)=0.0020 *5*; α(L)=0.00028 *7*; α(M)=6.3×10⁻⁵ *15*; α(N+..)=8.1×10⁻⁵ *12* α(N)=1.5×10⁻⁵ *4*; α(O)=2.1×10⁻⁶ *5*; α(P)=1.1×10⁻⁷ *3*; α(IPF)=6.4×10⁻⁵ *8* α(K)exp≤0.0025 (1972Ca21); α(K)exp=0.00171 *16* (1988DzZW) Mult.: mixed multipolarity inconsistent with level scheme if J(2820)=0.
1457.12 *15*	380 *40*	2969.45	1⁻	1512.37	1⁻	(E2)	0.00183 *3*	α=0.00183 *3*; α(K)=0.001491 *21*; α(L)=0.000218 *3*; α(M)=4.86×10⁻⁵ *7*; α(N+..)=7.05×10⁻⁵ *10* α(N)=1.138×10⁻⁵ *16*; α(O)=1.616×10⁻⁶ *23*; α(P)=8.39×10⁻⁸ *12*; α(IPF)=5.74×10⁻⁵ *8* α(K)exp=0.0008 *5* (1988DzZW) Mult.: E1 or E2 from α(K)exp; Δπ=No from level scheme.
1459.85 *10*	2350 *75*	2939.73	1⁻	1479.91	0⁺	E1	0.000930 *13*	α=0.000930 *13*; α(K)=0.000652 *10*; α(L)=8.80×10⁻⁵ *13*; α(M)=1.94×10⁻⁵ *3*; α(N+..)=0.0001705 α(N)=4.54×10⁻⁶ *7*; α(O)=6.51×10⁻⁷ *10*; α(P)=3.54×10⁻⁸ *5*; α(IPF)=0.0001653 *24* α(K)exp=0.00060 *9* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1463.3 *3*	160 *20*	2975.32	1⁻	1512.37	1⁻	M1	0.00292 *4*	α=0.00292 *4*; α(K)=0.00241 *4*; α(L)=0.000343 *5*; α(M)=7.61×10⁻⁵ *11*; α(N+..)=9.56×10⁻⁵ *14* α(N)=1.79×10⁻⁵ *3*; α(O)=2.57×10⁻⁶ *4*; α(P)=1.413×10⁻⁷ *20*; α(IPF)=7.50×10⁻⁵ *11* α(K)exp=0.0028 *9* (1988DzZW)
1467.50[@]	150[@] *15*	2536.97	1⁻	1069.36	0⁺			α(K)exp=0.0019 *6* (1988DzZW)
1467.93[@]	200[@] *20*	2947.84	1⁻	1479.91	0⁺	E1	0.000928 *13*	α=0.000928 *13*; α(K)=0.000646 *9*; α(L)=8.72×10⁻⁵ *13*; α(M)=1.92×10⁻⁵ *3*; α(N+..)=0.0001760 *2* α(N)=4.50×10⁻⁶ *7*; α(O)=6.45×10⁻⁷ *9*; α(P)=3.50×10⁻⁸ *5*; α(IPF)=0.0001708 *24* α(K)exp<0.0005 (1988DzZW)
1469.10 *20*	200 *10*	2775.66	1⁻	1306.39	2⁺	E1	0.000928 *13*	α=0.000928 *13*; α(K)=0.000645 *9*; α(L)=8.70×10⁻⁵ *13*; α(M)=1.92×10⁻⁵ *3*; α(N+..)=0.0001768 *2* α(N)=4.50×10⁻⁶ *7*; α(O)=6.44×10⁻⁷ *9*; α(P)=3.50×10⁻⁸ *5*; α(IPF)=0.0001716 *24* α(K)exp<0.0005 (1988DzZW)
1479.9		1479.91	0⁺	0.0	0⁺	E0		α(K)exp≥3.26 (1972Ca21) ce(K)/ce=0.87. I(ce(K))/I(1396γ)=0.0133 from α(K)exp>3.26 if Iγ<20 (1972Ca21).
1482.15 *10*	1350 *50*	1566.38	0⁺	84.262	2⁺	(E2)	0.001780 *25*	α=0.001780 *25*; α(K)=0.001445 *21*; α(L)=0.000211 *3*; α(M)=4.70×10⁻⁵ *7*; α(N+..)=7.78×10⁻⁵ *11*

From ENSDF

$^{170}_{70}Yb_{100}$-31

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=1.100×10^{-5} *16*; α(O)=1.562×10^{-6} *22*; α(P)=8.13×10^{-8} *12*; α(IPF)=6.52×10^{-5} *10* α(K)exp=0.0021 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)) allows mult=E2,M1; M1 inconsistent with level scheme.
1486.0 *3*	100 *5*	2965.66	1$^+$	1479.91	0$^+$			α(K)exp<0.0029 (1988DzZW)
[x]1490.5 *3*	53 *3*							α(K)exp<0.005 (1988DzZW)
[x]1492.1[d] *6*								
1498.8 *3*	76 *4*	3065.36	1$^+$	1566.38	0$^+$			α(K)exp<0.004 (1988DzZW)
1503.9[h] *4*	20.0[h] *20*	2929.60	1$^-$	1425.24	(2)$^-$			α(K)exp<0.020 (1988DzZW) for doubly-placed γ.
1503.9[ha] *4*	20.0[h] *20*	3161.02	(1$^-$)	1658.06	(2)$^+$			α(K)exp<0.020 (1988DzZW) for doubly-placed γ.
1507.80 *20*	100 *15*	3042.46	1$^+$	1534.57	2$^+$			α(K)exp≤0.029 (1972Ca21); α(K)exp<0.003 (1988DzZW)
1512.50 *10*	553×10[1] *15*	1512.37	1$^-$	0.0	0$^+$	E1	0.000922 *13*	α=0.000922 *13*; α(K)=0.000614 *9*; α(L)=8.28×10^{-5} *12*; α(M)=1.83×10^{-5} *3*; α(N+..)=0.000207 *3* α(N)=4.28×10^{-6} *6*; α(O)=6.12×10^{-7} *9*; α(P)=3.33×10^{-8} *5*; α(IPF)=0.000202 *3* α(K)exp=0.00082 (1972Ca21); α(K)exp=0.00061 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1514.60 *20*	1220 *50*	2939.73	1$^-$	1425.24	(2)$^-$	M1	0.00272 *4*	α=0.00272 *4*; α(K)=0.00222 *4*; α(L)=0.000315 *5*; α(M)=7.01×10^{-5} *10*; α(N+..)=0.0001148 *16* α(N)=1.645×10^{-5} *23*; α(O)=2.37×10^{-6} *4*; α(P)=1.301×10^{-7} *19*; α(IPF)=9.59×10^{-5} *14* α(K)exp=0.0031 (1972Ca21); α(K)exp=0.00287 *25* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1518.9 *3*	130 *5*	2748.08	1$^-$	1228.84	0$^+$			α(K)exp=0.0009 *5* (1988DzZW)
1521.7 *3*	80 *20*	2667.19	1$^{(+)}$	1145.72	2$^+$	M1,E2	0.0022 *5*	α=0.0022 *5*; α(K)=0.0018 *4*; α(L)=0.00026 *6*; α(M)=5.7×10^{-5} *13*; α(N+..)=0.000104 *14* α(N)=1.3×10^{-5} *3*; α(O)=1.9×10^{-6} *5*; α(P)=1.0×10^{-7} *3*; α(IPF)=8.9×10^{-5} *11* α(K)exp=0.0026 *10* (1988DzZW)
1529.0 *3*	160 *15*	2667.19	1$^{(+)}$	1138.55	2$^+$			α(K)exp=0.0039 (1972Ca21); α(K)exp<0.0019 (1988DzZW)
1531.30 *20*	400 *15*	2956.55	1$^+$	1425.24	(2)$^-$			α(K)exp=0.0037 (1972Ca21) but<0.0014 (1988DzZW).
1534.55 *10*	2040 *60*	1534.57	2$^+$	0.0	0$^+$	E2	0.001689 *24*	α=0.001689 *24*; α(K)=0.001354 *19*; α(L)=0.000197 *3*; α(M)=4.38×10^{-5} *7*; α(N+..)=9.42×10^{-5} *14* α(N)=1.025×10^{-5} *15*; α(O)=1.457×10^{-6} *21*; α(P)=7.62×10^{-8} *11*; α(IPF)=8.25×10^{-5} *12* α(K)exp=0.00135 (1972Ca21); α(K)exp=0.00112 *10* (1988DzZW)
1540.4 *3*	190 *10*	2965.66	1$^+$	1425.24	(2)$^-$			α(K)exp<0.0016 (1988DzZW) Mult.: E1 or E2 from α(K)exp.
1549.92[@]	250[@] *25*	2975.32	1$^-$	1425.24	(2)$^-$			α(K)exp<0.0041 (1988DzZW)
1550.55 *10*	1000 *30*	1634.84	(1$^+$)	84.262	2$^+$	(M1)	0.00259 *4*	α=0.00259 *4*; α(K)=0.00210 *3*; α(L)=0.000298 *5*; α(M)=6.62×10^{-5} *10*; α(N+..)=0.0001297 *19*

From ENSDF

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=1.555×10^{-5} *22*; α(O)=2.24×10^{-6} *4*; α(P)=1.230×10^{-7} *18*; α(IPF)=0.0001118 *16* α(K)exp=0.0045 (1972Ca21); α(K)exp=0.0035 *6* (1988DzZW) Possible doublet (1972Ca21). α(K)exp implies E0 component.
1558.4[db] *3*		3070.52	0,1	1512.37	1$^-$			
[x]1560.3 *3*	28.5 *25*							α(K)exp<0.005 (1988DzZW)
1564.97[@]	200[@] *20*	2929.60	1$^-$	1364.53	1$^-$			α(K)exp<0.005 (1988DzZW)
1565.08[@]	450[@] *20*	3099.64	1$^{(-)}$	1534.57	2$^+$			α(K)exp<0.0021 (1988DzZW)
1566.4		1566.38	0$^+$	0.0	0$^+$	E0		α(K)exp≥0.166 (1972Ca21); α(K)exp>0.163 (1988DzZW) ce(K)/ce=0.87. I(ce(K))/I(1482γ)=0.0061 from α(K)exp>0.166 if Iγ<50 (1972Ca21).
1573.60 *25*	200 *10*	1658.06	(2)$^+$	84.262	2$^+$			α(K)exp=0.0019 *10* (1988DzZW)
1575.10 *20*	1120 *30*	2939.73	1$^-$	1364.53	1$^-$	M1	0.00251 *4*	α=0.00251 *4*; α(K)=0.00202 *3*; α(L)=0.000287 *4*; α(M)=6.38×10^{-5} *9*; α(N+..)=0.0001404 *20* α(N)=1.497×10^{-5} *21*; α(O)=2.16×10^{-6} *3*; α(P)=1.184×10^{-7} *17*; α(IPF)=0.0001232 *18* α(K)exp=0.0017 (1972Ca21); α(K)exp=0.00192 *13* (1988DzZW)
1583.3 *3*	130 *5*	2947.84	1$^-$	1364.53	1$^-$	M1	0.00249 *4*	α=0.00249 *4*; α(K)=0.00200 *3*; α(L)=0.000283 *4*; α(M)=6.30×10^{-5} *9*; α(N+..)=0.0001441 *21* α(N)=1.479×10^{-5} *21*; α(O)=2.13×10^{-6} *3*; α(P)=1.170×10^{-7} *17*; α(IPF)=0.0001270 *18* α(K)exp=0.0029 *9* (1988DzZW)
1585.8[ha] *4*	20.0[h] *20*	3065.36	1$^+$	1479.91	0$^+$			α(K)exp=0.007 *5* (1988DzZW) for doubly-placed γ.
1585.8[hbi] *4*	20.0[h] *20*	3423.2?	(0$^-$)	1838.2?	(2)$^+$			α(K)exp=0.007 *5* (1988DzZW) for doubly-placed γ.
[x]1588.5[d] *6*								
1592.05 *20*	310 *10*	2956.55	1$^+$	1364.53	1$^-$	(E1)	0.000921 *13*	α=0.000921 *13*; α(K)=0.000564 *8*; α(L)=7.58×10^{-5} *11*; α(M)=1.672×10^{-5} *24*; α(N+..)=0.000265 α(N)=3.92×10^{-6} *6*; α(O)=5.61×10^{-7} *8*; α(P)=3.06×10^{-8} *5*; α(IPF)=0.000260 *4* α(K)exp=0.0012 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E1, E2 from α(K)exp; Δπ=yes from level scheme.
1597.6 *3*	160 *10*	2667.19	1$^{(+)}$	1069.36	0$^+$	M1	0.00244 *4*	α=0.00244 *4*; α(K)=0.00195 *3*; α(L)=0.000277 *4*; α(M)=6.16×10^{-5} *9*; α(N+..)=0.0001505 *22* α(N)=1.447×10^{-5} *21*; α(O)=2.08×10^{-6} *3*; α(P)=1.145×10^{-7} *16*; α(IPF)=0.0001338 *19* α(K)exp=0.0030 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1601.2 *3*	260 *10*	2965.66	1$^+$	1364.53	1$^-$			α(K)exp=0.0015 *4* (1988DzZW) Mult.: M1,E2 from α(K)exp; placement requires E1.
1602.2 *3*	230 *10*	2748.08	1$^-$	1145.72	2$^+$	E1	0.000921 *13*	α=0.000921 *13*; α(K)=0.000558 *8*; α(L)=7.50×10^{-5} *11*; α(M)=1.654×10^{-5} *24*; α(N+..)=0.000272 α(N)=3.87×10^{-6} *6*; α(O)=5.55×10^{-7} *8*; α(P)=3.03×10^{-8} *5*;

From ENSDF

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(IPF)=0.000268 *4* α(K)exp<0.0005 (1988DzZW)
1603.8[gad] *5*		3115.58	1⁻	1512.37	1⁻			
1603.8[gad] *5*		3169.59	1⁻	1566.38	0⁺			
1609.40 *20*	480 *25*	2748.08	1⁻	1138.55	2⁺	E1	0.000922 *13*	α=0.000922 *13*; α(K)=0.000553 *8*; α(L)=7.44×10^{-5} *11*; α(M)=1.641×10^{-5} *23*; α(N+..)=0.000277 α(N)=3.84×10^{-6} *6*; α(O)=5.51×10^{-7} *8*; α(P)=3.00×10^{-8} *5*; α(IPF)=0.000273 *4* α(K)exp=0.00055 *17* (1988DzZW) α(K)exp for doublet: 0.0012 (1972Ca21), 0.00140 *10* (1972Ca21, Iγ; 1970Dz11, I(ce)); consistent with E1-M1 doublet.
1610.70 *15*	960 *50*	2975.32	1⁻	1364.53	1⁻	M1	0.00241 *4*	α=0.00241 *4*; α(K)=0.00192 *3*; α(L)=0.000272 *4*; α(M)=6.04×10^{-5} *9*; α(N+..)=0.0001565 *22* α(N)=1.419×10^{-5} *20*; α(O)=2.04×10^{-6} *3*; α(P)=1.123×10^{-7} *16*; α(IPF)=0.0001402 *20* α(K)exp=0.00175 *16* (1988DzZW) α(K)exp for doublet: 0.0012 (1972Ca21), 0.00140 *10* (1972Ca21, Iγ; 1970Dz11, I(ce)); consistent with E1-M1 doublet.
1614.7 *3*	82 *4*	3149.09	1⁻	1534.57	2⁺			α(K)exp=0.0012 *8* (1988DzZW)
1619.7 *3*	200 *10*	3099.64	1(−)	1479.91	0⁺			α(K)exp=0.0017 *8* (1972Ca21, Iγ; 1970Dz11, I(ce)) gives mult=M1,E2; 1988DzZW deduce α(K)exp=0.0012 *3*, too low for pure M1. adopted level scheme requires E1.
1630.5 *3*	220 *5*	3165.59	1⁻	1534.57	2⁺	(E1)	0.000923 *13*	α=0.000923 *13*; α(K)=0.000542 *8*; α(L)=7.28×10^{-5} *11*; α(M)=1.605×10^{-5} *23*; α(N+..)=0.000293 α(N)=3.76×10^{-6} *6*; α(O)=5.39×10^{-7} *8*; α(P)=2.94×10^{-8} *5*; α(IPF)=0.000289 *4* α(K)exp=0.0010 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E1,E2 from α(K)exp; not E2 from level scheme.
1633.3[h] *3*	115[h] *20*	2939.73	1⁻	1306.39	2⁺			α(K)exp<0.0010 (1988DzZW) for multiply-placed γ.
1633.3[ha] *3*	115[h] *20*	3146.03	1⁺	1512.37	1⁻			α(K)exp<0.0010 (1988DzZW) for multiply-placed γ.
1633.3[ha] *3*	115[h] *20*	3268.91	1(+)	1634.84	(1⁺)			α(K)exp<0.0010 (1988DzZW) for multiply-placed γ.
1633.3[ha] *3*	115[h] *20*	3291.82	1⁺	1658.06	(2)⁺			α(K)exp<0.0010 (1988DzZW) for multiply-placed γ.
1634.8 *3*	210 *8*	1634.84	(1⁺)	0.0	0⁺	(M1)	0.00234 *4*	α=0.00234 *4*; α(K)=0.00185 *3*; α(L)=0.000263 *4*; α(M)=5.83×10^{-5} *9*; α(N+..)=0.0001677 *24* α(N)=1.369×10^{-5} *20*; α(O)=1.97×10^{-6} *3*; α(P)=1.084×10^{-7} *16*; α(IPF)=0.0001519 *22* α(K)exp=0.00062 (1972Ca21), mult=E1; however, 1988DzZW deduce α(K)exp=0.0017 *3*, mult=M1(+E2). The evaluator favors the latter.
1636.9[ha] *3*	120[h] *4*	2783.12	1⁺	1145.72	2⁺			α(K)exp=0.0024 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1 for multiply-placed γ.
1636.9[h] *3*	120[h] *4*	3149.09	1⁻	1512.37	1⁻			α(K)exp=0.0024 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1 for multiply-placed γ.

From ENSDF

$^{170}_{70}Yb_{100}$-34

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1636.9[ha] *3*	120[h] *4*	3202.94	1^+	1566.38	0^+			α(K)exp=0.0024 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1 for multiply-placed γ.
1641.30 *20*	690 *20*	2947.84	1^-	1306.39	2^+	E1	0.000924 *13*	α=0.000924 *13*; α(K)=0.000536 *8*; α(L)=7.20×10^{-5} *10*; α(M)=1.587×10^{-5} *23*; α(N+..)=0.000301 α(N)=3.72×10^{-6} *6*; α(O)=5.33×10^{-7} *8*; α(P)=2.91×10^{-8} *4*; α(IPF)=0.000297 *5* α(K)exp=0.00071 *10* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1645.4[hb] *4*	43.0[h] *15*	3070.52	0,1	1425.24	$(2)^-$			α(K)exp=0.0030 *11* (1988DzZW) for doubly-placed γ. Other α(K)exp: 0.0037 *19* (1972Ca21, Iγ; 1970Dz11, I(ce)); however, 1970Dz11 do not report the 1648.8γ, so their 1646.2γ may be a doublet.
1645.4[h] *4*	43.0[h] *15*	3179.76	1^-	1534.57	2^+			α(K)exp=0.0030 *11* (1988DzZW) for doubly-placed γ. Other α(K)exp: 0.0037 *19* (1972Ca21, Iγ; 1970Dz11, I(ce)); however, 1970Dz11 do not report the 1648.8γ, so their 1646.2γ may be a doublet.
1648.7[ha] *3*	33.0[h] *25*	3161.02	(1^-)	1512.37	1^-			α(K)exp=0.0019 *11* (1988DzZW) for doubly-placed γ.
1648.7[ha] *3*	33.0[h] *25*	3366.40	1	1717.95	$(2)^-$			α(K)exp=0.0019 *11* (1988DzZW) for doubly-placed γ.
1651.4 *4*	68.0 *25*	3131.10	1^+	1479.91	0^+	(M1)	0.00230 *4*	α=0.00230 *4*; α(K)=0.00181 *3*; α(L)=0.000256 *4*; α(M)=5.69×10^{-5} *8*; α(N+..)=0.0001755 *25* α(N)=1.336×10^{-5} *19*; α(O)=1.92×10^{-6} *3*; α(P)=1.058×10^{-7} *15*; α(IPF)=0.0001601 *23* α(K)exp=0.0041 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: M1+E0+E2 from α(K)exp, but level scheme requires ΔJ=1.
1653.2 *4*	47.0 *25*	3165.59	1^-	1512.37	1^-	E2+M1+E0		α(K)exp=0.0045 *13* (1972Ca21, Iγ; 1970Dz11, I(ce)).
1659.9[da] *5*		2965.66	1^+	1306.39	2^+			
1662.8 *3*	143 *8*	2969.45	1^-	1306.39	2^+	(E1)	0.000927 *13*	α=0.000927 *13*; α(K)=0.000524 *8*; α(L)=7.04×10^{-5} *10*; α(M)=1.552×10^{-5} *22*; α(N+..)=0.000317 α(N)=3.64×10^{-6} *5*; α(O)=5.21×10^{-7} *8*; α(P)=2.85×10^{-8} *4*; α(IPF)=0.000313 *5* α(K)exp=0.0009 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E1 or E2 from α(K)exp; Δπ=yes from level scheme.
1667.1[ha] *4*	69[h] *4*	3146.03	1^+	1479.91	0^+			α(K)exp=0.0037 *12* (1988DzZW), mult=M1+E0+E2 for multiply-placed γ.
1667.1[h] *4*	69[h] *4*	3179.76	1^-	1512.37	1^-			α(K)exp=0.0068 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1+E0+E2 for multiply-placed γ.
1667.1[ha] *4*	69[h] *4*	3301.95	1^+	1634.84	(1^+)			α(K)exp=0.0068 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1+E0+E2 for multiply-placed γ.
1667.1[ha] *4*	69[h] *4*	3384.87	1^-	1717.95	$(2)^-$			α(K)exp=0.0068 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)), mult=M1+E0+E2 for multiply-placed γ.
1674.2 *3*	350 *10*	3186.66	(1^-)	1512.37	1^-	M1,E2	0.0019 *4*	α=0.0019 *4*; α(K)=0.0015 *3*; α(L)=0.00021 *5*; α(M)=4.6×10^{-5} *10*; α(N+..)=0.000166 *21* α(N)=1.08×10^{-5} *22*; α(O)=1.5×10^{-6} *4*; α(P)=8.4×10^{-8} *19*; α(IPF)=0.000153 *19* α(K)exp=0.0017 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)).

From ENSDF

$^{170}_{70}Yb_{100}$-35

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1678.60 *20*	500 *15*	2748.08	1⁻	1069.36	0⁺	E1	0.000929 *13*	α=0.000929 *13*; α(K)=0.000516 *8*; α(L)=6.93×10⁻⁵ *10*; α(M)=1.528×10⁻⁵ *22*; α(N+..)=0.000328 α(N)=3.58×10⁻⁶ *5*; α(O)=5.13×10⁻⁷ *8*; α(P)=2.80×10⁻⁸ *4*; α(IPF)=0.000324 *5* α(K)exp=0.00076 *8* (1988DzZW)
1682.7 *3*	120 *40*	3195.58	1⁻	1512.37	1⁻			α(K)exp=0.0010 *5* (1988DzZW)
1685.6 *3*	130 *15*	3165.59	1⁻	1479.91	0⁺			α(K)exp=0.0013 *4* (1988DzZW) Mult.: α(K)exp favors M1,E2; level scheme requires Δπ=yes.
[x]1687.9 *4*	50 *5*							α(K)exp=0.0029 *10* (1988DzZW)
1692.0[da] *4*		3258.18	1⁺	1566.38	0⁺			
1700.90[h] *20*	300[h] *10*	2929.60	1⁻	1228.84	0⁺			α(K)exp=0.00109 *16* (1988DzZW), mult=E2 for doubly-placed γ.
1700.90[ha] *20*	300[h] *10*	3065.36	1⁺	1364.53	1⁻			α(K)exp=0.00109 *16* (1988DzZW), mult=E2 for doubly-placed γ.
1700.90[ha] *20*	300[h] *10*	3213.27	1⁻	1512.37	1⁻			
1703.3[a] *3*	190 *6*	3067.62	1⁻	1364.53	1⁻	M1	0.00217 *3*	α=0.00217 *3*; α(K)=0.001679 *24*; α(L)=0.000238 *4*; α(M)=5.28×10⁻⁵ *8*; α(N+..)=0.000201 *3* α(N)=1.240×10⁻⁵ *18*; α(O)=1.79×10⁻⁶ *3*; α(P)=9.83×10⁻⁸ *14*; α(IPF)=0.000187 *3* α(K)exp=0.0019 *3* (1988DzZW)
1706.0[hb] *3*	105[h] *15*	3070.52	0,1	1364.53	1⁻			α(K)exp=0.0016 *6* (1988DzZW), mult=(M1,E2) for multiply-placed γ.
1706.0[h] *3*	105[h] *15*	3131.10	1⁺	1425.24	(2)⁻			α(K)exp=0.0016 *6* (1988DzZW), mult=(M1,E2) for multiply-placed γ.
1706.0[hbi] *3*	105[h] *15*	3423.2?	(0⁻)	1717.95	(2)⁻			α(K)exp=0.0016 *6* (1988DzZW), mult=(M1,E2) for multiply-placed γ.
[x]1709.9[d] *7*								
1714.4[ha] *4*	40[h] *8*	2783.12	1⁺	1069.36	0⁺			α(K)exp=0.0050 *17* (1988DzZW) for doubly-placed γ.
1714.4[h] *4*	40[h] *8*	2939.73	1⁻	1225.35	(3)⁺			α(K)exp=0.0050 *17* (1988DzZW) for doubly-placed γ.
1719.10 *20*	325 *10*	2947.84	1⁻	1228.84	0⁺	E1	0.000935 *13*	α=0.000935 *13*; α(K)=0.000496 *7*; α(L)=6.66×10⁻⁵ *10*; α(M)=1.467×10⁻⁵ *21*; α(N+..)=0.000358 α(N)=3.44×10⁻⁶ *5*; α(O)=4.93×10⁻⁷ *7*; α(P)=2.69×10⁻⁸ *4*; α(IPF)=0.000354 *5* α(K)exp=0.00075 *14* (1988DzZW)
[x]1723.8 *3*	60 *4*							α(K)exp=0.0036 *7* (1988DzZW) E_γ: may deexcite 2947 and/or 3149 level.
1731.3[h] *4*	21.0[h] *20*	2956.55	1⁺	1225.35	(3)⁺			α(K)exp=0.0052 *14* (1988DzZW) for doubly-placed γ.
1731.3[ha] *4*	21.0[h] *20*	3366.40	1	1634.84	(1⁺)			α(K)exp=0.0052 *14* (1988DzZW) for doubly-placed γ.
1734.4[da] *5*		3268.91	1(+)	1534.57	2⁺			
1736.6[h] *3*	87[h] *12*	2965.66	1⁺	1228.84	0⁺			α(K)exp=0.0030 *6* (1988DzZW) for doubly-placed γ.
1736.6[ha] *3*	87[h] *12*	3042.46	1⁺	1306.39	2⁺			α(K)exp=0.0030 *6* (1988DzZW) for doubly-placed γ.
1736.6[ha] *3*	87[h] *12*	3161.02	(1⁻)	1425.24	(2)⁻			
1740.7 *3*	180 *6*	3165.59	1⁻	1425.24	(2)⁻	E2(+M1)	0.0018 *4*	α=0.0018 *4*; α(K)=0.0013 *3*; α(L)=0.00019 *4*; α(M)=4.2×10⁻⁵ *8*;

From ENSDF

$^{170}_{70}Yb_{100}$-36

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N+..)=0.000196 *25* α(N)=9.9×10^{-6} *19*; α(O)=1.4×10^{-6} *3*; α(P)=7.7×10^{-8} *17*; α(IPF)=0.000185 *22* α(K)exp=0.00111 *20* (1988DzZW)
1746.3 *3*	68 *4*	2975.32	1$^-$	1228.84	0$^+$			α(K)exp=0.0019 *6* (1988DzZW) Mult.: M1(+E2) from α(K)exp, inconsistent with level scheme. α(K)exp too low for pure M2.
1747.8 *4*	25.0 *25*	3314.42	1	1566.38	0$^+$	(M1)	0.00208 *3*	α=0.00208 *3*; α(K)=0.001580 *23*; α(L)=0.000224 *4*; α(M)=4.96×10^{-5} *7*; α(N+..)=0.000224 *4* α(N)=1.166×10^{-5} *17*; α(O)=1.679×10^{-6} *24*; α(P)=9.24×10^{-8} *13*; α(IPF)=0.000211 *3* α(K)exp=0.0029 *12* (1988DzZW)
1753.9[bi] *3*	100 *5*	1838.2?	(2)$^+$	84.262	2$^+$	M1(+E2+E0)		α(K)exp=0.0030 *10* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1758.95 *20*	180 *6*	3065.36	1$^+$	1306.39	2$^+$	E2	0.001416 *20*	α=0.001416 *20*; α(K)=0.001053 *15*; α(L)=0.0001502 *21*; α(M)=3.34×10^{-5} *5*; α(N+..)=0.000180 α(N)=7.82×10^{-6} *11*; α(O)=1.115×10^{-6} *16*; α(P)=5.92×10^{-8} *9*; α(IPF)=0.0001711 *24* α(K)exp=0.00111 *16* (1988DzZW)
1761.4[ha] *3*	93[h] *12*	3067.62	1$^-$	1306.39	2$^+$			α(K)exp=0.0016 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1761.4[ha] *3*	93[h] *12*	3186.66	(1$^-$)	1425.24	(2)$^-$			α(K)exp=0.0016 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1761.4[ha] *3*	93[h] *12*	3274.17	1$^-$	1512.37	1$^-$			α(K)exp=0.0016 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1767.2[a] *3*	180 *10*	3301.95	1$^+$	1534.57	2$^+$	M1,E2	0.0017 *4*	α=0.0017 *4*; α(K)=0.00129 *25*; α(L)=0.00018 *4*; α(M)=4.1×10^{-5} *8*; α(N+..)=0.00021 *3* α(N)=9.6×10^{-6} *18*; α(O)=1.4×10^{-6} *3*; α(P)=7.4×10^{-8} *16*; α(IPF)=0.000198 *24* α(K)exp=0.0013 *4* (1988DzZW)
1770.4 *4*	25.0 *25*	3195.58	1$^-$	1425.24	(2)$^-$	M1	0.00203 *3*	α=0.00203 *3*; α(K)=0.001532 *22*; α(L)=0.000217 *3*; α(M)=4.81×10^{-5} *7*; α(N+..)=0.000236 *4* α(N)=1.131×10^{-5} *16*; α(O)=1.628×10^{-6} *23*; α(P)=8.96×10^{-8} *13*; α(IPF)=0.000223 *4* α(K)exp=0.0040 *15* (1988DzZW) Mult.: note that α(K)exp exceeds α(K)(M1) suggesting presence of E0 component, inconsistent with level scheme.
1776.1 *3*	575 *20*	3140.60	(1)	1364.53	1$^-$	M1	0.00202 *3*	α=0.00202 *3*; α(K)=0.001521 *22*; α(L)=0.000215 *3*; α(M)=4.78×10^{-5} *7*; α(N+..)=0.000240 *4* α(N)=1.122×10^{-5} *16*; α(O)=1.616×10^{-6} *23*; α(P)=8.89×10^{-8} *13*; α(IPF)=0.000227 *4* α(K)exp=0.00169 *12* (1988DzZW)
1778.8[h] *4*	54[h] *5*	3007.6	1$^-$	1228.84	0$^+$			α(K)exp=0.0013 *5* (1988DzZW) for doubly-placed γ.
1778.8[ha] *4*	54[h] *5*	3291.82	1$^+$	1512.37	1$^-$			α(K)exp=0.0013 *5* (1988DzZW) for doubly-placed γ.
1783.3[a] *4*	54 *5*	2929.60	1$^-$	1145.72	2$^+$			α(K)exp=0.0013 *7* (1988DzZW)
1784.7 *4*	88 *15*	3149.09	1$^-$	1364.53	1$^-$	M1(+E2)	0.0017 *3*	α=0.0017 *3*; α(K)=0.00126 *24*; α(L)=0.00018 *4*; α(M)=4.0×10^{-5} *8*; α(N+..)=0.00022 *3*

From ENSDF

$^{170}_{70}Yb_{100}$-37

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=9.3×10^{-6} *18*; α(O)=1.3×10^{-6} *3*; α(P)=7.3×10^{-8} *16*; α(IPF)=0.000207 *25* α(K)exp=0.0018 *6* (1988DzZW)
1791.7[a] *4*	78.0 *20*	2929.60	1$^-$	1138.55	2$^+$			α(K)exp=0.0013 *5* (1988DzZW)
1793.8 *3*	200 *10*	3099.64	1$^{(-)}$	1306.39	2$^+$	E1	0.000951 *14*	α=0.000951 *14*; α(K)=0.000462 *7*; α(L)=6.20×10^{-5} *9*; α(M)=1.366×10^{-5} *20*; α(N+..)=0.000413 *6* α(N)=3.20×10^{-6} *5*; α(O)=4.59×10^{-7} *7*; α(P)=2.51×10^{-8} *4*; α(IPF)=0.000409 *6* α(K)exp=0.00063 *12* (1988DzZW)
1796.3[a] *5*	40.0 *20*	3161.02	(1$^-$)	1364.53	1$^-$			α(K)exp=0.0011 *7* (1988DzZW)
1799.3[a] *5*	28.5 *20*	3366.40	1	1566.38	0$^+$			α(K)exp=0.0016 *10* (1988DzZW)
1802.25 *15*	350 *10*	2947.84	1$^-$	1145.72	2$^+$	E1	0.000953 *14*	α=0.000953 *14*; α(K)=0.000459 *7*; α(L)=6.15×10^{-5} *9*; α(M)=1.355×10^{-5} *19*; α(N+..)=0.000419 *6* α(N)=3.17×10^{-6} *5*; α(O)=4.55×10^{-7} *7*; α(P)=2.49×10^{-8} *4*; α(IPF)=0.000416 *6* α(K)exp=0.00067 *8* (1988DzZW)
1809.50 *15*	1720 *50*	2947.84	1$^-$	1138.55	2$^+$	E1	0.000955 *14*	α=0.000955 *14*; α(K)=0.000456 *7*; α(L)=6.11×10^{-5} *9*; α(M)=1.346×10^{-5} *19*; α(N+..)=0.000425 *6* α(N)=3.15×10^{-6} *5*; α(O)=4.52×10^{-7} *7*; α(P)=2.48×10^{-8} *4*; α(IPF)=0.000421 *6* α(K)exp=0.00059 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)). Other: 0.00025 (1972Ca21).
1818.8[a] *5*	47 *5*	2956.55	1$^+$	1138.55	2$^+$	M1	0.00195 *3*	α=0.00195 *3*; α(K)=0.001438 *21*; α(L)=0.000203 *3*; α(M)=4.51×10^{-5} *7*; α(N+..)=0.000263 *4* α(N)=1.060×10^{-5} *15*; α(O)=1.527×10^{-6} *22*; α(P)=8.41×10^{-8} *12*; α(IPF)=0.000250 *4* α(K)exp=0.0023 *8* (1988DzZW)
1820.7 *5*	35 *4*	2965.66	1$^+$	1145.72	2$^+$	M1	0.00195 *3*	α=0.00195 *3*; α(K)=0.001434 *21*; α(L)=0.000203 *3*; α(M)=4.50×10^{-5} *7*; α(N+..)=0.000264 *4* α(N)=1.057×10^{-5} *15*; α(O)=1.523×10^{-6} *22*; α(P)=8.38×10^{-8} *12*; α(IPF)=0.000252 *4* α(K)exp=0.0031 *11* (1988DzZW)
1824.6 *5*	68 *7*	3131.10	1$^+$	1306.39	2$^+$			α(K)exp=0.0005 *5* (1988DzZW)
[x]1830.1 *5*	43 *4*							α(K)exp=0.0030 *9* (1988DzZW)
1832.4[ha] *4*	53.0[h] *20*	3258.18	1$^+$	1425.24	(2)$^-$			α(K)exp=0.0015 *9* (1988DzZW) for doubly-placed γ.
1832.4[ha] *4*	53.0[h] *20*	3366.40	1	1534.57	2$^+$			α(K)exp=0.0015 *9* (1988DzZW) for doubly-placed γ.
1836.7[h] *5*	130[h] *13*	2975.32	1$^-$	1138.55	2$^+$			α(K)exp=0.0009 *4* (1988DzZW) for doubly-placed γ.
1836.7[ha] *5*	130[h] *13*	3065.36	1$^+$	1228.84	0$^+$			α(K)exp=0.0009 *4* (1988DzZW) for doubly-placed γ.
1838.2[hbi] *5*	94[h] *3*	1838.2?	(2)$^+$	0.0	0$^+$			α(K)exp=0.0018 *4* (1988DzZW) for multiply-placed γ.
1838.2[h] *5*	94[h] *3*	3067.62	1$^-$	1228.84	0$^+$			α(K)exp=0.0018 *4* (1988DzZW) for multiply-placed γ.
1838.2[ha] *5*	94[h] *3*	3202.94	1$^+$	1364.53	1$^-$			α(K)exp=0.0018 *4* (1988DzZW) for multiply-placed γ.

From ENSDF

$^{170}_{70}Yb_{100}$-38

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1842.8 *5*	115 *7*	3149.09	1⁻	1306.39	2⁺	(E1)	0.000964 *14*	α=0.000964 *14*; α(K)=0.000442 *7*; α(L)=5.93×10⁻⁵ *9*; α(M)=1.306×10⁻⁵ *19*; α(N+..)=0.000449 *7* α(N)=3.06×10⁻⁶ *5*; α(O)=4.39×10⁻⁷ *7*; α(P)=2.40×10⁻⁸ *4*; α(IPF)=0.000446 *7* α(K)exp=0.00075 *24* (1988DzZW) Mult.: E1,E2 from α(K)exp; not E2 from level scheme.
[x]1843.3 *3*	260 *30*					E1	0.000964 *14*	α(K)exp=0.00038 *11* (1988DzZW) α=0.000964 *14*; α(K)=0.000442 *7*; α(L)=5.92×10⁻⁵ *9*; α(M)=1.305×10⁻⁵ *19*; α(N+..)=0.000450 *7* α(N)=3.06×10⁻⁶ *5*; α(O)=4.39×10⁻⁷ *7*; α(P)=2.40×10⁻⁸ *4*; α(IPF)=0.000446 *7*
1847.7[da] *7*		3213.27	1⁻	1364.53	1⁻			
1855.0[a] *5*	35 *4*	3161.02	(1⁻)	1306.39	2⁺			α(K)exp=0.0021 *8* (1988DzZW)
1859.20 *20*	450 *70*	3165.59	1⁻	1306.39	2⁺		0.00113	α=0.00113; α(K)=0.00096 α(K)exp=0.00075 *14* (1988DzZW) other α(K)exp: 0.00087 (1972Ca21). Datum may be low; α(K)exp=0.0011 if intensities renormalized so α(K)exp(1972Ca21)=α(K)(E1) for 1860γ. However, mult=E1 required by decay scheme.
1860.30 *15*	1210 *50*	2929.60	1⁻	1069.36	0⁺	E1	0.000969 *14*	α=0.000969 *14*; α(K)=0.000436 *7*; α(L)=5.83×10⁻⁵ *9*; α(M)=1.285×10⁻⁵ *18*; α(N+..)=0.000462 *7* α(N)=3.01×10⁻⁶ *5*; α(O)=4.32×10⁻⁷ *6*; α(P)=2.37×10⁻⁸ *4*; α(IPF)=0.000459 *7* α(K)exp=0.00036 (1972Ca21); α(K)exp=0.00036 *5* (1988DzZW)
[x]1870.8 *3*	130 *15*							α(K)exp=0.0010 *4* (1988DzZW)
[x]1874.8 *5*	61 *3*							α(K)exp=0.0011 *4* (1988DzZW)
1876.2[a] *3*	325 *20*	3301.95	1⁺	1425.24	(2)⁻	E1	0.000974 *14*	α=0.000974 *14*; α(K)=0.000430 *6*; α(L)=5.75×10⁻⁵ *8*; α(M)=1.267×10⁻⁵ *18*; α(N+..)=0.000474 *7* α(N)=2.97×10⁻⁶ *5*; α(O)=4.26×10⁻⁷ *6*; α(P)=2.33×10⁻⁸ *4*; α(IPF)=0.000471 *7* α(K)exp=0.00032 *9* (1988DzZW)
1878.65 *15*	1230 *40*	2947.84	1⁻	1069.36	0⁺	E1	0.000975 *14*	α=0.000975 *14*; α(K)=0.000429 *6*; α(L)=5.74×10⁻⁵ *8*; α(M)=1.264×10⁻⁵ *18*; α(N+..)=0.000476 *7* α(N)=2.96×10⁻⁶ *5*; α(O)=4.25×10⁻⁷ *6*; α(P)=2.33×10⁻⁸ *4*; α(IPF)=0.000472 *7* α(K)exp=0.00052 *4* (1988DzZW)
1887.1[ha] *5*	75[h] *10*	2956.55	1⁺	1069.36	0⁺			α(K)exp=0.0021 *6* (1988DzZW) for multiply-placed γ.
1887.1[ha] *5*	75[h] *10*	3115.58	1⁻	1228.84	0⁺			α(K)exp=0.0021 *6* (1988DzZW) for multiply-placed γ.
1887.1[ha] *5*	75[h] *10*	3366.40	1	1479.91	0⁺			α(K)exp=0.0021 *6* (1988DzZW) for multiply-placed γ.
1888.7[ha] *5*	80[h] *4*	3195.58	1⁻	1306.39	2⁺			α(K)exp=0.0007 *3* (1988DzZW) for doubly-placed γ.
1888.7[ha] *5*	80[h] *4*	3314.42	1	1425.24	(2)⁻			α(K)exp=0.0007 *3* (1988DzZW) for doubly-placed γ.
1893.7[a] *5*	95 *5*	3258.18	1⁺	1364.53	1⁻			α(K)exp=0.0007 *6* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-39

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
1896.5[ha] *3*	123[h] *6*	2965.66	1^+	1069.36	0^+			α(K)exp=0.0015 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1896.5[ha] *3*	123[h] *6*	3042.46	1^+	1145.72	2^+			α(K)exp=0.0015 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1896.5[ha] *3*	123[h] *6*	3202.94	1^+	1306.39	2^+			α(K)exp=0.0015 *4* (1988DzZW), mult=M1 for multiply-placed γ.
1901.35 *15*	1320 *50*	1985.64	$1^-,2^-$	84.262	2^+	E1	0.000982 *14*	α=0.000982 *14*; α(K)=0.000421 *6*; α(L)=5.63×10^{-5} *8*; α(M)=1.240×10^{-5} *18*; α(N+..)=0.000492 *7* α(N)=2.90×10^{-6} *4*; α(O)=4.17×10^{-7} *6*; α(P)=2.28×10^{-8} *4*; α(IPF)=0.000489 *7* α(K)exp=0.00048 *17* (1972Ca21, Iγ; 1968Ba54, I(ce)).
1904.6[h] *5*	44.0[h] *20*	3042.46	1^+	1138.55	2^+			α(K)exp=0.0008 *4* (1988DzZW) for multiply-placed γ.
1904.6[ha] *5*	44.0[h] *20*	3268.91	$1^{(+)}$	1364.53	1^-			α(K)exp=0.0008 *4* (1988DzZW) for multiply-placed γ.
1904.6[ha] *5*	44.0[h] *20*	3384.87	1^-	1479.91	0^+			α(K)exp=0.0008 *4* (1988DzZW) for multiply-placed γ.
1909.7[a] *5*	45.0 *25*	3274.17	1^-	1364.53	1^-	M1,E2	0.0016 *3*	α=0.0016 *3*; α(K)=0.00109 *19*; α(L)=0.00015 *3*; α(M)=3.4×10^{-5} *6*; α(N+..)=0.00028 *4* α(N)=8.0×10^{-6} *14*; α(O)=1.16×10^{-6} *21*; α(P)=6.3×10^{-8} *12*; α(IPF)=0.00027 *4* α(K)exp=0.0014 *6* (1988DzZW)
1917.7[a] *5*	50.0 *25*	3146.03	1^+	1228.84	0^+			α(K)exp=0.0011 *4* (1988DzZW)
1920.7 *3*	210 *8*	3146.03	1^+	1225.35	$(3)^+$	(E2)	0.001302 *19*	α=0.001302 *19*; α(K)=0.000896 *13*; α(L)=0.0001267 *18*; α(M)=2.81×10^{-5} *4*; α(N+..)=0.000251 α(N)=6.59×10^{-6} *10*; α(O)=9.42×10^{-7} *14*; α(P)=5.03×10^{-8} *7*; α(IPF)=0.000243 *4* α(K)exp=0.00056 *26* (1988DzZW) Mult.: E1,E2 from α(K)exp; not E1 from level scheme.
1925.1[db] *7*		3070.52	0,1	1145.72	2^+			
1932.6[gbd] *7*		3070.52	0,1	1138.55	2^+			
1932.6[gad] *7*		3161.02	(1^-)	1228.84	0^+			
1936.9 *3*	475 *15*	3165.59	1^-	1228.84	0^+	E1	0.000993 *14*	α=0.000993 *14*; α(K)=0.000408 *6*; α(L)=5.46×10^{-5} *8*; α(M)=1.202×10^{-5} *17*; α(N+..)=0.000518 *8* α(N)=2.82×10^{-6} *4*; α(O)=4.04×10^{-7} *6*; α(P)=2.22×10^{-8} *4*; α(IPF)=0.000515 *8* α(K)exp=0.00053 *10* (1988DzZW) other α(K)exp: 0.00069 *15*, (1972Ca21, Iγ; 1968Ba54, I(ce)).
1954.0 *3*	360 *20*	3099.64	$1^{(-)}$	1145.72	2^+			α(K)exp=0.013 *7* (1988DzZW) other α(K)exp: 0.0023 *6* (1972Ca21, Iγ; 1973TeZT, I(ce)); α(K)exp≤0.0042 (1972Ca21). Mult.: (M1) from α(K)exp; however, level scheme requires E1.
1955.65 *15*	2.98×10^3 *10*	2039.85	1^+	84.262	2^+	M1+E2	0.00152 *24*	α=0.00152 *24*; α(K)=0.00104 *18*; α(L)=0.000147 *25*; α(M)=3.3×10^{-5} *6*; α(N+..)=0.00030 *4* α(N)=7.6×10^{-6} *13*; α(O)=1.10×10^{-6} *19*; α(P)=6.0×10^{-8} *11*; α(IPF)=0.00029 *4*

From ENSDF

$^{170}_{70}Yb_{100}$-40

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(K)exp=0.00112 *10* (1972Ca21, Iγ; 1973TeZT, I(ce)). Other: 0.00065 (1972Ca21).
1960.8 *3*	640 *20*	3099.64	1(−)	1138.55	2+	(E1)	0.001001 *14*	α=0.001001 *14*; α(K)=0.000400 *6*; α(L)=5.35×10^{-5} *8*; α(M)=1.178×10^{-5} *17*; α(N+..)=0.000535 *8* α(N)=2.76×10^{-6} *4*; α(O)=3.96×10^{-7} *6*; α(P)=2.17×10^{-8} *3*; α(IPF)=0.000532 *8* α(K)exp=0.00069 *11*, mult=E1,E2 (1972Ca21, Iγ; 1973TeZT, I(ce)). 1988DzZW adopt α(K)exp=0.00058 *9*, favoring E1.
1962.5[a] *3*	215 *7*	3268.91	1(+)	1306.39	2+	E2(+M1)	0.00152 *24*	α=0.00152 *24*; α(K)=0.00103 *18*; α(L)=0.000146 *25*; α(M)=3.2×10^{-5} *6*; α(N+..)=0.00031 *4* α(N)=7.6×10^{-6} *13*; α(O)=1.09×10^{-6} *19*; α(P)=5.9×10^{-8} *11*; α(IPF)=0.00030 *4* α(K)exp=0.00093 *23* (1972Ca21, Iγ; 1973TeZT, I(ce)).
1966.8 *5*	65 *5*	3195.58	1−	1228.84	0+			α(K)exp=0.0012 *5* (1972Ca21, Iγ; 1973TeZT, I(ce)). Mult.: E2,M1 from α(K)exp; inconsistent with adopted level scheme. Mult.: E2,M1 from α(K)exp; E2 inconsistent with log *ft* from 0+ in ε decay to 3196 level.
[x]1974.0 *3*	120 *4*					M1+E0+E2		α(K)exp=0.0035 *6* (1972Ca21, Iγ; 1973TeZT, I(ce)).
1977.4[ha] *5*	70[h] *15*	3115.58	1−	1138.55	2+			α(K)exp=0.0010 *4* (1972Ca21, Iγ; 1973TeZT, I(ce)) for doubly-placed γ.
1977.4[ha] *5*	70[h] *15*	3202.94	1+	1225.35	(3)+			α(K)exp=0.0010 *4* (1972Ca21, Iγ; 1973TeZT, I(ce)) for doubly-placed γ.
1983.9[a] *5*	57 *3*	3213.27	1−	1228.84	0+			α(K)exp=0.0018 *8* (1988DzZW)
1985.5[hb] *3*	170[h] *6*	1985.64	1−,2−	0.0	0+			α(K)exp=0.0007 *4* (1988DzZW) for multiply-placed γ.
1985.5[ha] *3*	170[h] *6*	3123.94	1−	1138.55	2+			α(K)exp=0.0007 *4* (1988DzZW) for multiply-placed γ.
1985.5[h] *3*	170[h] *6*	3131.10	1+	1145.72	2+			α(K)exp=0.0007 *4* (1988DzZW) for multiply-placed γ.
1985.5[ha] *3*	170[h] *6*	3291.82	1+	1306.39	2+			α(K)exp=0.0007 *4* (1988DzZW) for multiply-placed γ.
1992.7 *5*	40.0 *20*	3131.10	1+	1138.55	2+	E2,M1	0.00149 *23*	α=0.00149 *23*; α(K)=0.00100 *17*; α(L)=0.000141 *23*; α(M)=3.1×10^{-5} *5*; α(N+..)=0.00032 *4* α(N)=7.3×10^{-6} *12*; α(O)=1.05×10^{-6} *18*; α(P)=5.7×10^{-8} *11*; α(IPF)=0.00031 *4* α(K)exp=0.0018 *10* (1972Ca21, Iγ; 1973TeZT, I(ce)).
1995.8 *3*	180 *7*	3065.36	1+	1069.36	0+	(M1)	0.001718 *24*	α=0.001718 *24*; α(K)=0.001156 *17*; α(L)=0.0001631 *23*; α(M)=3.62×10^{-5} *5*; α(N+..)=0.000362 α(N)=8.50×10^{-6} *12*; α(O)=1.224×10^{-6} *18*; α(P)=6.75×10^{-8} *10*; α(IPF)=0.000352 *5* α(K)exp=0.0009 *3* (1972Ca21, Iγ; 1973TeZT, I(ce)). Mult.: E2,M1 from α(K)exp; adopted ΔJ<2 to 0+.
1998.4[ha] *5*	40[h] *10*	3067.62	1−	1069.36	0+			α(K)exp=0.0016 *7* (1972Ca21, Iγ; 1973TeZT, I(ce)), mult=E2,M1 for doubly-placed γ.
1998.4[hbi] *5*	40[h] *10*	3423.2?	(0−)	1425.24	(2)−			α(K)exp=0.0016 *7* (1972Ca21, Iγ; 1973TeZT, I(ce)), mult=E2,M1 for doubly-placed γ.

From ENSDF

$^{170}_{70}Yb_{100}$-41

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
2007.3[a] *5*	28 *4*	3146.03	1^+	1138.55	2^+	(E2)	0.001260 *18*	α=0.001260 *18*; α(K)=0.000827 *12*; α(L)=0.0001165 *17*; α(M)=2.58×10^{-5} *4*; α(N+..)=0.000290 α(N)=6.05×10^{-6} *9*; α(O)=8.66×10^{-7} *13*; α(P)=4.65×10^{-8} *7*; α(IPF)=0.000283 *4* α(K)exp<0.00084 (1988DzZW) Mult.: E1,E2 from α(K)exp; not E1 from level scheme.
2019.7 *3*	135 *10*	3165.59	1^-	1145.72	2^+	(E1)	0.001021 *15*	α=0.001021 *15*; α(K)=0.000381 *6*; α(L)=5.10×10^{-5} *8*; α(M)=1.122×10^{-5} *16*; α(N+..)=0.000577 *8* α(N)=2.63×10^{-6} *4*; α(O)=3.78×10^{-7} *6*; α(P)=2.07×10^{-8} *3*; α(IPF)=0.000574 *8* α(K)exp=0.00054 *20* (1988DzZW) Mult.: α(K)exp=0.00104 *21* (1972Ca21, Iγ; 1973TeZT, I(ce)) for 2019.0 *8* transition; significantly different from that adopted here from 1988DzZW.
[x]2025.8 *3*	125 *5*					E1	0.001023 *15*	α=0.001023 *15*; α(K)=0.000380 *6*; α(L)=5.07×10^{-5} *7*; α(M)=1.117×10^{-5} *16*; α(N+..)=0.000581 *9* α(N)=2.62×10^{-6} *4*; α(O)=3.76×10^{-7} *6*; α(P)=2.06×10^{-8} *3*; α(IPF)=0.000578 *8* α(K)exp<0.00034 (1988DzZW)
2027.2 *3*	365 *15*	3165.59	1^-	1138.55	2^+	(E1)	0.001023 *15*	α=0.001023 *15*; α(K)=0.000379 *6*; α(L)=5.06×10^{-5} *7*; α(M)=1.115×10^{-5} *16*; α(N+..)=0.000582 *9* α(N)=2.61×10^{-6} *4*; α(O)=3.75×10^{-7} *6*; α(P)=2.06×10^{-8} *3*; α(IPF)=0.000579 *9* α(K)exp=0.00041 *21* (1972Ca21, Iγ; 1973TeZT, I(ce)).
2030.15 *20*	640 *40*	3099.64	$1^{(-)}$	1069.36	0^+	E1	0.001024 *15*	α=0.001024 *15*; α(K)=0.000378 *6*; α(L)=5.05×10^{-5} *7*; α(M)=1.113×10^{-5} *16*; α(N+..)=0.000584 *9* α(N)=2.61×10^{-6} *4*; α(O)=3.74×10^{-7} *6*; α(P)=2.06×10^{-8} *3*; α(IPF)=0.000581 *9* α(K)exp=0.00026 *10* (1988DzZW) α(K)exp=0.00127 *19* (1972Ca21, Iγ; 1973TeZT, I(ce)) for 2029.4 *4* transition; that line may possibly be contaminated or misassigned to ^{170}Lu In ce data.
2031.70 *20*	815 *25*	2115.90	1^-	84.262	2^+	E1	0.001025 *15*	α=0.001025 *15*; α(K)=0.000378 *6*; α(L)=5.05×10^{-5} *7*; α(M)=1.111×10^{-5} *16*; α(N+..)=0.000585 *9* α(N)=2.60×10^{-6} *4*; α(O)=3.74×10^{-7} *6*; α(P)=2.05×10^{-8} *3*; α(IPF)=0.000582 *9* α(K)exp=0.00033 *12* (1972Ca21, Iγ; 1973TeZT, I(ce)).
2040.00 *15*	568×10[1] *20*	2039.85	1^+	0.0	0^+	M1	0.001676 *24*	α=0.001676 *24*; α(K)=0.001099 *16*; α(L)=0.0001548 *22*; α(M)=3.44×10^{-5} *5*; α(N+..)=0.000388 α(N)=8.07×10^{-6} *12*; α(O)=1.162×10^{-6} *17*; α(P)=6.41×10^{-8} *9*; α(IPF)=0.000379 *6* α(K)exp=0.00109 *7* (1972Ca21, Iγ; 1973TeZT, I(ce)). Other: α(K)exp≥0.00071 (1972Ca21).

From ENSDF

$^{170}_{70}Yb_{100}$-42

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
2041.88 *10*	1320×10[1] *40*	2126.14	1−	84.262	2+	E1	0.001028 *15*	α=0.001028 *15*; α(K)=0.000375 *6*; α(L)=5.00×10^{-5} *7*; α(M)=1.102×10^{-5} *16*; α(N+..)=0.000592 *9* α(N)=2.58×10^{-6} *4*; α(O)=3.71×10^{-7} *6*; α(P)=2.04×10^{-8} *3*; α(IPF)=0.000590 *9* α(K)exp=0.00043 *4* (1972Ca21, Iγ; 1973TeZT, I(ce)) for doublet. Other α(K)exp: 0.00030 (1972Ca21).
2046.5[a] *5*	58 *3*	3115.58	1−	1069.36	0+			α(K)exp<0.0022 (1988DzZW)
2054.4[a] *3*	280 *10*	3123.94	1−	1069.36	0+	E1	0.001033 *15*	α=0.001033 *15*; α(K)=0.000371 *6*; α(L)=4.96×10^{-5} *7*; α(M)=1.091×10^{-5} *16*; α(N+..)=0.000601 *9* α(N)=2.56×10^{-6} *4*; α(O)=3.67×10^{-7} *6*; α(P)=2.02×10^{-8} *3*; α(IPF)=0.000598 *9* α(K)exp=0.00039 *13* (1988DzZW) other α(K)exp: 0.0009 *4* (1972Ca21, Iγ; 1973TeZT, I(ce)) for 2053.2 *9* transition.
2057.1[h] *4*	86.0[h] *25*	3195.58	1−	1138.55	2+			α(K)exp=0.0011 *3* (1988DzZW) for doubly-placed γ.
2057.1[ha] *4*	86.0[h] *25*	3202.94	1+	1145.72	2+			α(K)exp=0.0011 *3* (1988DzZW) for doubly-placed γ.
2061.3 *5*	31.0 *15*	3131.10	1+	1069.36	0+	(M1)	0.001657 *24*	α=0.001657 *24*; α(K)=0.001072 *15*; α(L)=0.0001511 *22*; α(M)=3.35×10^{-5} *5*; α(N+..)=0.000400 α(N)=7.87×10^{-6} *11*; α(O)=1.134×10^{-6} *16*; α(P)=6.25×10^{-8} *9*; α(IPF)=0.000391 *6* α(K)exp=0.0022 *13* (1972Ca21, Iγ; 1973TeZT, I(ce)). Mult.: M1(+E2+E0) from α(K)exp; ΔJ=1 from level scheme.
2063.2[a] *3*	158 *5*	3291.82	1+	1228.84	0+	(M1)	0.001656 *24*	α=0.001656 *24*; α(K)=0.001070 *15*; α(L)=0.0001507 *22*; α(M)=3.34×10^{-5} *5*; α(N+..)=0.000402 α(N)=7.85×10^{-6} *11*; α(O)=1.131×10^{-6} *16*; α(P)=6.24×10^{-8} *9*; α(IPF)=0.000392 *6* α(K)exp=0.00089 *25* (1972Ca21, Iγ; 1973TeZT, I(ce)). Mult.: M1,E2 from α(K)exp; pure ΔJ=1 required by level scheme.
2086.4[a] *5*	45.0 *20*	3314.42	1	1228.84	0+			α(K)exp=0.0008 *6* (1988DzZW)
[x]2094.5 *5*	62 *3*							α(K)exp=0.0018 *9* (1988DzZW)
2096.3 *2*	310 *10*	3165.59	1−	1069.36	0+	E1	0.001048 *15*	α=0.001048 *15*; α(K)=0.000359 *5*; α(L)=4.80×10^{-5} *7*; α(M)=1.056×10^{-5} *15*; α(N+..)=0.000630 *9* α(N)=2.47×10^{-6} *4*; α(O)=3.55×10^{-7} *5*; α(P)=1.95×10^{-8} *3*; α(IPF)=0.000627 *9* α(K)exp=0.00044 *21* (1988DzZW) Mult.: other α(K)exp: 0.0014 *6* (1972Ca21, Iγ; 1973TeZT, I(ce)) for doublet.
2116.0[@]	350[@] *40*	2115.90	1−	0.0	0+	E1	0.001055 *15*	α=0.001055 *15*; α(K)=0.000354 *5*; α(L)=4.72×10^{-5} *7*; α(M)=1.040×10^{-5} *15*; α(N+..)=0.000644 *9* α(N)=2.44×10^{-6} *4*; α(O)=3.50×10^{-7} *5*; α(P)=1.92×10^{-8} *3*; α(IPF)=0.000641 *9*

From ENSDF

$^{170}_{70}Yb_{100}$-43

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(K)exp=0.00041 *14* (1988DzZW) Other α(K)exp: 0.00025 (1972Ca21) for doublet. Mult.: if this component were E2, α(K)exp=0.00046 would be expected for doublet.
2116.60 *15*	1100 *40*	2200.91	1⁻,2⁻	84.262	2⁺	E1	0.001056 *15*	α=0.001056 *15*; α(K)=0.000354 *5*; α(L)=4.72×10⁻⁵ *7*; α(M)=1.040×10⁻⁵ *15*; α(N+..)=0.000644 *9* α(N)=2.44×10⁻⁶ *4*; α(O)=3.50×10⁻⁷ *5*; α(P)=1.92×10⁻⁸ *3*; α(IPF)=0.000641 *9* α(K)exp=0.00036 *4* (1972Ca21, Iγ; 1973TeZT, I(ce)) for doublet dominated by this component. Other α(K)exp: 0.00025 (1972Ca21) for doublet.
2126.11 *10*	1110×10[1] *35*	2126.14	1⁻	0.0	0⁺	E1	0.001059 *15*	α=0.001059 *15*; α(K)=0.000351 *5*; α(L)=4.69×10⁻⁵ *7*; α(M)=1.032×10⁻⁵ *15*; α(N+..)=0.00065 *1* α(N)=2.42×10⁻⁶ *4*; α(O)=3.47×10⁻⁷ *5*; α(P)=1.91×10⁻⁸ *3*; α(IPF)=0.000648 *9* α(K)exp=0.000373 *17* (1972Ca21, Iγ; 1973TeZT, I(ce)). Other: 0.00024 (1972Ca21).
2143.5[a] *3*	160 *6*	3213.27	1⁻	1069.36	0⁺	E1	0.001066 *15*	α=0.001066 *15*; α(K)=0.000347 *5*; α(L)=4.63×10⁻⁵ *7*; α(M)=1.019×10⁻⁵ *15*; α(N+..)=0.00066 *1* α(N)=2.39×10⁻⁶ *4*; α(O)=3.43×10⁻⁷ *5*; α(P)=1.89×10⁻⁸ *3*; α(IPF)=0.000660 *10* α(K)exp=0.00048 *12* (1988DzZW)
[x]2148.5 *5*	75.0 *25*					M1+E2+E0		α(K)exp=0.0112 *7* (1988DzZW)
2152.9[a] *5*	43.0 *20*	3291.82	1⁺	1138.55	2⁺			α(K)exp=0.0009 *4* (1988DzZW)
2157.7[a] *5*	22.0 *10*	2436.01	(2,3)⁻	277.44	4⁺			α(K)exp=0.0025 *12* (1988DzZW)
[x]2165.7 *5*	29.0 *15*							α(K)exp=0.0012 *4* (1988DzZW)
[x]2178.0 *5*	42.0 *20*							α(K)exp=0.0022 *7* (1988DzZW)
2183.9 *5*	88 *5*	2268.08	1⁻	84.262	2⁺			α(K)exp=0.0011 *3* (1988DzZW)
2191.15 *15*	3.55×10[3] *10*	2275.49	1⁻	84.262	2⁺	E1	0.001084 *16*	α=0.001084 *16*; α(K)=0.000335 *5*; α(L)=4.46×10⁻⁵ *7*; α(M)=9.83×10⁻⁶ *14*; α(N+..)=0.000695 *10* α(N)=2.30×10⁻⁶ *4*; α(O)=3.31×10⁻⁷ *5*; α(P)=1.82×10⁻⁸ *3*; α(IPF)=0.000692 *10* α(K)exp=0.00039 *2* (1972Ca21, Iγ; 1968Ba54, I(ce)). Other: α(K)exp=0.00026 (1972Ca21).
2200.9[a] *3*	120 *5*	2200.91	1⁻,2⁻	0.0	0⁺			α(K)exp=0.00056 *18* (1988DzZW)
2205.3 *4*	76 *3*	2289.37	1⁺	84.262	2⁺			α(K)exp=0.0007 *3* (1988DzZW)
2219.4[da] *6*		3366.40	1	1145.72	2⁺			
[x]2223.9 *5*	35 *4*							α(K)exp=0.0010 *4* (1988DzZW)
2228.6[da] *3*		3366.40	1	1138.55	2⁺			
2232.7[a] *5*	35.0 *15*	3301.95	1⁺	1069.36	0⁺	M1	0.001543 *22*	α=0.001543 *22*; α(K)=0.000890 *13*; α(L)=0.0001251 *18*; α(M)=2.78×10⁻⁵ *4*; α(N+..)=0.000500 α(N)=6.52×10⁻⁶ *10*; α(O)=9.39×10⁻⁷ *14*; α(P)=5.19×10⁻⁸ *8*; α(IPF)=0.000492 *7* α(K)exp=0.0012 *3* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-44

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
2243.7[bi] *4*	72 *5*	2328.0?	(0⁺)	84.262	2⁺			α(K)exp=0.0008 *5* (1988DzZW)
2246.8[a] *5*	25.0 *15*	3384.87	1⁻	1138.55	2⁺			α(K)exp=0.0015 *8* (1988DzZW)
[x]2255.4 *6*	17.5 *15*							α(K)exp=0.0021 *10* (1988DzZW)
[x]2257.4 *4*	70.0 *25*							α(K)exp=0.00087 *21* (1988DzZW)
[x]2263.0[d] *4*								
[x]2266.8 *5*	36.0 *20*							α(K)exp=0.0013 *5* (1988DzZW)
2268.2 *3*	420 *12*	2268.08	1⁻	0.0	0⁺	E1	0.001115 *16*	α=0.001115 *16*; α(K)=0.000317 *5*; α(L)=4.22×10⁻⁵ *6*; α(M)=9.30×10⁻⁶ *13*; α(N+..)=0.000746 *11* α(N)=2.18×10⁻⁶ *3*; α(O)=3.13×10⁻⁷ *5*; α(P)=1.725×10⁻⁸ *25*; α(IPF)=0.000744 *11* α(K)exp=0.00039 *9* (1988DzZW)
2275.40 *10*	1940 *60*	2275.49	1⁻	0.0	0⁺	E1	0.001118 *16*	α=0.001118 *16*; α(K)=0.000316 *5*; α(L)=4.20×10⁻⁵ *6*; α(M)=9.25×10⁻⁶ *13*; α(N+..)=0.000751 *11* α(N)=2.17×10⁻⁶ *3*; α(O)=3.11×10⁻⁷ *5*; α(P)=1.716×10⁻⁸ *24*; α(IPF)=0.000748 *11* α(K)exp=0.00016 (1972Ca21); α(K)exp=0.00034 *4* (1988DzZW) α(K)exp from 1972Ca21 is low for E1 but similar to α(K)exp for 2364 and 2412 E1 transitions In 1972Ca21.
2279.9 *2*	425 *15*	2364.06	1⁻	84.262	2⁺	E1	0.001120 *16*	α=0.001120 *16*; α(K)=0.000315 *5*; α(L)=4.19×10⁻⁵ *6*; α(M)=9.22×10⁻⁶ *13* α(N)=2.16×10⁻⁶ *3*; α(O)=3.11×10⁻⁷ *5*; α(P)=1.711×10⁻⁸ *24*; α(IPF)=0.000751 *11* α(K)exp=0.00030 *7* (1988DzZW)
[x]2284.2 *5*	32 *10*							α(K)exp=0.0012 *6* (1988DzZW)
2289.2 *4*	95 *5*	2289.37	1⁺	0.0	0⁺	M1	0.001518 *22*	α=0.001518 *22*; α(K)=0.000840 *12*; α(L)=0.0001180 *17*; α(M)=2.62×10⁻⁵ *4*; α(N+..)=0.000533 α(N)=6.15×10⁻⁶ *9*; α(O)=8.86×10⁻⁷ *13*; α(P)=4.89×10⁻⁸ *7*; α(IPF)=0.000526 *8*
[x]2308.3[d] *8*								
2315.1[a] *4*	80 *4*	3384.87	1⁻	1069.36	0⁺	E1	0.001134 *16*	α=0.001134 *16*; α(K)=0.000307 *5*; α(L)=4.09×10⁻⁵ *6*; α(M)=9.00×10⁻⁶ *13*; α(N+..)=0.000777 *11* α(N)=2.11×10⁻⁶ *3*; α(O)=3.03×10⁻⁷ *5*; α(P)=1.670×10⁻⁸ *24*; α(IPF)=0.000774 *11* α(K)exp<0.00036 (1988DzZW)
2315.9 *2*	460 *15*	2400.10	1⁻	84.262	2⁺	E1	0.001134 *16*	α=0.001134 *16*; α(K)=0.000307 *5*; α(L)=4.08×10⁻⁵ *6*; α(M)=8.99×10⁻⁶ *13*; α(N+..)=0.000777 *11* α(N)=2.11×10⁻⁶ *3*; α(O)=3.03×10⁻⁷ *5*; α(P)=1.669×10⁻⁸ *24*; α(IPF)=0.000775 *11* α(K)exp=0.00022 *7* (1988DzZW) Other α(K)exp: 0.00051 (1972Ca21) for doublet dominated by this transition.
[x]2325.0 *4*	70 *5*							α(K)exp=0.0006 *4* (1988DzZW)
2327.5[dbi] *3*		2328.0?	(0⁺)	0.0	0⁺	E0		Mult.: observed In ce spectrum but absent In γ spectrum.

From ENSDF

$^{170}_{70}Yb_{100}$-45

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
[x]2330.6 *6*	13.0 *15*							α(K)exp<0.0017 (1988DzZW)
[x]2333.9 *5*	24.0 *20*							α(K)exp<0.0009 (1988DzZW)
2344.9 *5*	100 *4*	2429.05	$1^+,2^+$	84.262	2^+	M1	0.001497 *21*	α=0.001497 *21*; α(K)=0.000795 *12*; α(L)=0.0001116 *16*; α(M)=2.47×10^{-5} *4*; α(N+..)=0.000566 α(N)=5.81×10^{-6} *9*; α(O)=8.37×10^{-7} *12*; α(P)=4.63×10^{-8} *7*; α(IPF)=0.000559 *8* α(K)exp=0.00058 *21* (1988DzZW)
2352.3[a] *5*	110 *4*	2436.01	$(2,3)^-$	84.262	2^+	E1	0.001149 *16*	α=0.001149 *16*; α(K)=0.000300 *5*; α(L)=3.98×10^{-5} *6*; α(M)=8.77×10^{-6} *13*; α(N+..)=0.000801 *12* α(N)=2.06×10^{-6} *3*; α(O)=2.95×10^{-7} *5*; α(P)=1.629×10^{-8} *23*; α(IPF)=0.000799 *12* α(K)exp=0.00029 *16* (1988DzZW)
2364.10 *15*	3.24×10^3 *10*	2364.06	1^-	0.0	0^+	E1	0.001154 *17*	α=0.001154 *17*; α(K)=0.000297 *5*; α(L)=3.95×10^{-5} *6*; α(M)=8.70×10^{-6} *13*; α(N+..)=0.000809 *12* α(N)=2.04×10^{-6} *3*; α(O)=2.93×10^{-7} *5*; α(P)=1.616×10^{-8} *23*; α(IPF)=0.000806 *12* α(K)exp=0.000373 *22* (1972Ca21, Iγ; 1968Ba54, I(ce)). Other: α(K)exp=0.00017 (1972Ca21).
[x]2398.1 *3*	100 *20*							α(K)exp=0.00047 *25* (1988DzZW)
2400.15 *20*	905 *30*	2400.10	1^-	0.0	0^+	E1	0.001169 *17*	α=0.001169 *17*; α(K)=0.000290 *4*; α(L)=3.86×10^{-5} *6*; α(M)=8.49×10^{-6} *12*; α(N+..)=0.000831 *12* α(N)=1.99×10^{-6} *3*; α(O)=2.86×10^{-7} *4*; α(P)=1.578×10^{-8} *22*; α(IPF)=0.000829 *12* α(K)exp=0.00030 (1972Ca21); α(K)exp=0.00040 *3* (1988DzZW)
2411.90 *15*	1790 *60*	2496.20	1^-	84.262	2^+	E1	0.001174 *17*	α=0.001174 *17*; α(K)=0.000288 *4*; α(L)=3.83×10^{-5} *6*; α(M)=8.43×10^{-6} *12*; α(N+..)=0.000839 *12* α(N)=1.98×10^{-6} *3*; α(O)=2.84×10^{-7} *4*; α(P)=1.567×10^{-8} *22*; α(IPF)=0.000836 *12* α(K)exp=0.00033 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00016 (1972Ca21).
[x]2419.9 *5*	43 *7*							α(K)exp<0.00065 (1988DzZW)
[x]2424.4 *3*	270 *10*					M1	0.001475 *21*	α=0.001475 *21*; α(K)=0.000736 *11*; α(L)=0.0001032 *15*; α(M)=2.29×10^{-5} *4*; α(N+..)=0.000612 α(N)=5.37×10^{-6} *8*; α(O)=7.74×10^{-7} *11*; α(P)=4.28×10^{-8} *6*; α(IPF)=0.000606 *9* α(K)exp=0.00111 *15* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2429.0 *4*	105 *10*	2429.05	$1^+,2^+$	0.0	0^+	(M1,E2)	0.00132 *15*	α=0.00132 *15*; α(K)=0.00066 *8*; α(L)=9.2×10^{-5} *11*; α(M)=2.04×10^{-5} *24*; α(N+..)=0.00055 *7* α(N)=4.8×10^{-6} *6*; α(O)=6.9×10^{-7} *9*; α(P)=3.8×10^{-8} *5*; α(IPF)=0.00055 *7* α(K)exp=0.0007 *3* (1988DzZW)
2438.6 *3*	230 *10*	2523.07	1^+	84.262	2^+	M1	0.001471 *21*	α=0.001471 *21*; α(K)=0.000726 *11*; α(L)=0.0001018 *15*; α(M)=2.26×10^{-5} *4*; α(N+..)=0.000621

From ENSDF

$^{170}_{70}Yb_{100}$-46

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=5.30×10^{-6} *8*; α(O)=7.64×10^{-7} *11*; α(P)=4.22×10^{-8} *6*; α(IPF)=0.000615 *9*
								α(K)exp≈0.00117 *22* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00076 (1972Ca21).
2452.7 *3*	300 *10*	2536.97	1$^-$	84.262	2$^+$			α(K)exp=0.00057 *17* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E2,M1 from α(K)exp is inconsistent with placement.
[x]2459.9 *5*	27.0 *25*							α(K)exp<0.0019 (1988DzZW)
2496.15 *15*	1650 *50*	2496.20	1$^-$	0.0	0$^+$	E1	0.001208 *17*	α=0.001208 *17*; α(K)=0.000273 *4*; α(L)=3.63×10^{-5} *5*; α(M)=7.98×10^{-6} *12*; α(N+..)=0.000891 *13*
								α(N)=1.87×10^{-6} *3*; α(O)=2.69×10^{-7} *4*; α(P)=1.485×10^{-8} *21*; α(IPF)=0.000889 *13*
								α(K)exp=0.00033 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00014 (1972Ca21).
2523.0 *3*	300 *10*	2523.07	1$^+$	0.0	0$^+$	M1	0.001455 *21*	α=0.001455 *21*; α(K)=0.000672 *10*; α(L)=9.40×10^{-5} *14*; α(M)=2.08×10^{-5} *3*; α(N+..)=0.000669 *1*
								α(N)=4.90×10^{-6} *7*; α(O)=7.06×10^{-7} *10*; α(P)=3.90×10^{-8} *6*; α(IPF)=0.000663 *10*
								α(K)exp=0.00091 *7* (1972Ca21, Iγ; 1970Dz11, I(ce)).
[x]2534.0 *6*	18 *6*							α(K)exp<0.0005 (1988DzZW)
2536.9 *4*	140 *10*	2536.97	1$^-$	0.0	0$^+$	E1	0.001225 *18*	α=0.001225 *18*; α(K)=0.000266 *4*; α(L)=3.54×10^{-5} *5*; α(M)=7.78×10^{-6} *11*; α(N+..)=0.000916 *13*
								α(N)=1.82×10^{-6} *3*; α(O)=2.62×10^{-7} *4*; α(P)=1.448×10^{-8} *21*; α(IPF)=0.000913 *13*
								α(K)exp=0.00038 *9* (1988DzZW)
[x]2542.8 *6*	25.0 *25*							α(K)exp=0.00065 *23* (1988DzZW)
[x]2546.1 *6*	15.0 *15*							α(K)exp=0.0018 *9* (1988DzZW)
[x]2558.0 *5*	80 *5*							α(K)exp=0.0012 *5* (1988DzZW)
[x]2561.1 *6*	30 *3*					E1	0.001235 *18*	α(K)exp<0.00024 (1988DzZW)
								α=0.001235 *18*; α(K)=0.000262 *4*; α(L)=3.48×10^{-5} *5*; α(M)=7.67×10^{-6} *11*; α(N+..)=0.000930 *13*
								α(N)=1.80×10^{-6} *3*; α(O)=2.58×10^{-7} *4*; α(P)=1.427×10^{-8} *20*; α(IPF)=0.000928 *13*
[x]2575.3 *7*	60 *30*							α(K)exp<0.0011 (1988DzZW)
2576.8 *4*	170 *30*	2661.02	1$^+$	84.262	2$^+$	M1,E2	0.00131 *14*	α=0.00131 *14*; α(K)=0.00058 *6*; α(L)=8.1×10^{-5} *9*; α(M)=1.80×10^{-5} *19*; α(N+..)=0.00063 *8*
								α(N)=4.2×10^{-6} *5*; α(O)=6.1×10^{-7} *7*; α(P)=3.3×10^{-8} *4*; α(IPF)=0.00062 *8*
								α(K)exp=0.00071 *18* (1988DzZW)
2582.9 *3*	310 *10*	2667.19	1$^{(+)}$	84.262	2$^+$			α(K)exp=0.00021 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E1 from α(K)exp is inconsistent with this placement.
[x]2589.3[d] *8*								
[x]2599.0 *5*	70 *7*					(E1)	0.001251 *18*	α=0.001251 *18*; α(K)=0.000257 *4*; α(L)=3.40×10^{-5} *5*; α(M)=7.49×10^{-6} *11*; α(N+..)=0.000953 *14*
								α(N)=1.756×10^{-6} *25*; α(O)=2.52×10^{-7} *4*; α(P)=1.395×10^{-8} *20*;

From ENSDF

$^{170}_{70}Yb_{100}$-47

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(IPF)=0.000951 *14* α(K)exp=0.00031 *16* (1972Ca21, Iγ; 1970Dz11, I(ce)).
[x]2637.0 *6*	19.0 *20*							α(K)exp<0.0016 (1988DzZW)
[x]2642.1 *4*	190 *10*							α(K)exp=0.00057 *15* (1988DzZW)
[x]2652.0 *4*	45 *5*							α(K)exp=0.0018 *5* (1988DzZW)
[x]2653.0 *6*	80 *8*					E1	0.001275 *18*	α(K)exp<0.00030 (1988DzZW) α=0.001275 *18*; α(K)=0.000249 *4*; α(L)=3.30×10^{-5} *5*; α(M)=7.25×10^{-6} *11*; α(N+..)=0.000986 *14* α(N)=1.700×10^{-6} *24*; α(O)=2.45×10^{-7} *4*; α(P)=1.352×10^{-8} *19*; α(IPF)=0.000985 *14*
2661.0 *3*	500 *30*	2661.02	1$^+$	0.0	0$^+$	(M1)	0.001443 *21*	α=0.001443 *21*; α(K)=0.000594 *9*; α(L)=8.31×10^{-5} *12*; α(M)=1.84×10^{-5} *3*; α(N+..)=0.000747 *11* α(N)=4.33×10^{-6} *6*; α(O)=6.24×10^{-7} *9*; α(P)=3.45×10^{-8} *5*; α(IPF)=0.000742 *11* α(K)exp=0.00060 *14* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other α(K)exp: 0.00037 (1972Ca21). Mult.: M1,E2 from α(K)exp; E2 inconsistent with log *ft* from 0$^+$ in ε decay to 2661 level.
2663.95 *20*	2.73×10^3 *10*	2748.08	1$^-$	84.262	2$^+$	E1	0.001280 *18*	α=0.001280 *18*; α(K)=0.000247 *4*; α(L)=3.28×10^{-5} *5*; α(M)=7.21×10^{-6} *10*; α(N+..)=0.000993 *14* α(N)=1.689×10^{-6} *24*; α(O)=2.43×10^{-7} *4*; α(P)=1.343×10^{-8} *19*; α(IPF)=0.000991 *14* α(K)exp=0.00025 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00014 (1972Ca21).
2667.4 *5*	180 *12*	2667.19	1$^{(+)}$	0.0	0$^+$		0.00073	α=0.00073; α(K)=0.00062 α(K)exp=0.00060 (1972Ca21), mult=M1, but α(K)exp<0.00028 adopted In 1988DzZW implying mult=E1. Level scheme implies M1.
[x]2677.3 *7*	15.0 *15*							α(K)exp<0.0020 (1988DzZW)
[x]2680.3 *7*	17.0 *17*							α(K)exp<0.0018 (1988DzZW)
2691.45 *20*	495×10^1 *20*	2775.66	1$^-$	84.262	2$^+$	E1	0.001292 *18*	α=0.001292 *18*; α(K)=0.000243 *4*; α(L)=3.22×10^{-5} *5*; α(M)=7.09×10^{-6} *10*; α(N+..)=0.001010 *15* α(N)=1.662×10^{-6} *24*; α(O)=2.39×10^{-7} *4*; α(P)=1.322×10^{-8} *19*; α(IPF)=0.001008 *15* α(K)exp=0.000263 *14* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00011 (1972Ca21).
2698.8 *3*	1320 *50*	2783.12	1$^+$	84.262	2$^+$	M1	0.001442 *21*	α=0.001442 *21*; α(K)=0.000576 *8*; α(L)=8.04×10^{-5} *12*; α(M)=1.783×10^{-5} *25*; α(N+..)=0.000768 α(N)=4.19×10^{-6} *6*; α(O)=6.04×10^{-7} *9*; α(P)=3.34×10^{-8} *5*; α(IPF)=0.000763 *11* α(K)exp=0.00061 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00032 (1972Ca21).
[x]2718.3 *6*	35 *4*							α(K)exp<0.0014 (1988DzZW)
[x]2720.9 *5*	95 *5*					E1	0.001305 *19*	α(K)exp<0.00030 (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-48

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α=0.001305 *19*; α(K)=0.000239 *4*; α(L)=3.17×10^{-5} *5*; α(M)=6.97×10^{-6} *10*; α(N+..)=0.001027 *15* α(N)=1.634×10^{-6} *23*; α(O)=2.35×10^{-7} *4*; α(P)=1.300×10^{-8} *19*; α(IPF)=0.001025 *15*
x2726.6 *6*	25.0 *25*							α(K)exp<0.0013 (1988DzZW)
x2729.3 *7*	20.0 *20*							α(K)exp<0.0008 (1988DzZW)
2735.6 *6*	55 *5*	2819.77	0$^-$,1$^-$	84.262	2$^+$	(M2)	0.00194 *3*	α=0.00194 *3*; α(K)=0.001238 *18*; α(L)=0.0001774 *25*; α(M)=3.95×10^{-5} *6*; α(N+..)=0.000481 *7* α(N)=9.27×10^{-6} *13*; α(O)=1.335×10^{-6} *19*; α(P)=7.34×10^{-8} *11*; α(IPF)=0.000470 *7* α(K)exp=0.0014 *5* (1988DzZW) Mult.: M1(+E2+E0) or M2 from α(K)exp; Δπ=yes from level scheme.
x2737.2 *4*	125 *20*							α(K)exp=0.00054 *18* (1988DzZW)
2748.15 *20*	463×10^1 *20*	2748.08	1$^-$	0.0	0$^+$	E1	0.001317 *19*	α=0.001317 *19*; α(K)=0.000235 *4*; α(L)=3.12×10^{-5} *5*; α(M)=6.87×10^{-6} *10*; α(N+..)=0.001043 *15* α(N)=1.609×10^{-6} *23*; α(O)=2.32×10^{-7} *4*; α(P)=1.281×10^{-8} *18*; α(IPF)=0.001041 *15* α(K)exp=0.000263 *24* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00015 (1972Ca21).
2775.7[a] *3*	245 *10*	2775.66	1$^-$	0.0	0$^+$			α(K)exp=0.00037 *19* (1988DzZW)
2783.00 *20*	2.24×10^3 *10*	2783.12	1$^+$	0.0	0$^+$	M1	0.001442 *21*	α=0.001442 *21*; α(K)=0.000537 *8*; α(L)=7.49×10^{-5} *11*; α(M)=1.661×10^{-5} *24*; α(N+..)=0.000814 α(N)=3.90×10^{-6} *6*; α(O)=5.62×10^{-7} *8*; α(P)=3.11×10^{-8} *5*; α(IPF)=0.000810 *12* α(K)exp=0.00061 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other α(K)exp: 0.00032 (1972Ca21).
x2793.1 *7*	26.0 *25*							α(K)exp≈0.0012 (1972Ca21, Iγ; 1970Dz11, I(ce)).
x2802.7[d] *8*								
x2805.0 *6*	65.0 *25*					(E1)	0.001340 *19*	α(K)exp≤0.00015 (1988DzZW) α=0.001340 *19*; α(K)=0.000228 *4*; α(L)=3.02×10^{-5} *5*; α(M)=6.65×10^{-6} *10*; α(N+..)=0.001074 *15* α(N)=1.559×10^{-6} *22*; α(O)=2.24×10^{-7} *4*; α(P)=1.241×10^{-8} *18*; α(IPF)=0.001073 *15*
x2813.7 *6*	45 *5*							α(K)exp=0.0010 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)).
x2819.9[dc] *9*								I(ce(K))/I(1450ce(K))=0.00025 *15* (1988DzZW), but see additional comment on this transition.
x2823.4[d] *7*								
2845.30 *20*	372×10^1 *20*	2929.60	1$^-$	84.262	2$^+$	E1	0.001354 *19*	α=0.001354 *19*; α(K)=0.000223 *4*; α(L)=2.96×10^{-5} *5*; α(M)=6.51×10^{-6} *10*; α(N+..)=0.001095 *16* α(N)=1.525×10^{-6} *22*; α(O)=2.19×10^{-7} *3*; α(P)=1.215×10^{-8} *17*; α(IPF)=0.001093 *16* α(K)exp=0.00027 *2* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00014 (1972Ca21).

From ENSDF

$^{170}_{70}Yb_{100}$-49

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
[x]2849.5 *3*	460 *40*					E1	0.001356 *19*	α=0.001356 *19*; α(K)=0.000223 *4*; α(L)=2.95×10^{-5} *5*; α(M)=6.49×10^{-6} *9*; α(N+..)=0.001097 *16* α(N)=1.522×10^{-6} *22*; α(O)=2.19×10^{-7} *3*; α(P)=1.212×10^{-8} *17*; α(IPF)=0.001095 *16* α(K)exp=0.00029 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other: α(K)exp=0.00027 (1972Ca21).
2855.4 *3*	710 *30*	2939.73	1$^-$	84.262	2$^+$	E1	0.001358 *19*	α=0.001358 *19*; α(K)=0.000222 *4*; α(L)=2.94×10^{-5} *5*; α(M)=6.47×10^{-6} *9*; α(N+..)=0.001100 *16* α(N)=1.517×10^{-6} *22*; α(O)=2.18×10^{-7} *3*; α(P)=1.208×10^{-8} *17*; α(IPF)=0.001098 *16* α(K)exp=0.00031 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)). Other α(K)exp: 0.00014 (1972Ca21).
2863.6 *3*	287 *10*	2947.84	1$^-$	84.262	2$^+$	E1	0.001361 *19*	α=0.001361 *19*; α(K)=0.000221 *3*; α(L)=2.93×10^{-5} *5*; α(M)=6.44×10^{-6} *9*; α(N+..)=0.001104 *16* α(N)=1.510×10^{-6} *22*; α(O)=2.17×10^{-7} *3*; α(P)=1.203×10^{-8} *17*; α(IPF)=0.001102 *16* α(K)exp=0.00024 *10* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2872.5 *4*	168 *8*	2956.55	1$^+$	84.262	2$^+$	M1	0.001447 *21*	α=0.001447 *21*; α(K)=0.000500 *7*; α(L)=6.97×10^{-5} *10*; α(M)=1.544×10^{-5} *22*; α(N+..)=0.000863 α(N)=3.63×10^{-6} *5*; α(O)=5.23×10^{-7} *8*; α(P)=2.90×10^{-8} *4*; α(IPF)=0.000858 *12* α(K)exp=0.00058 *7* (1988DzZW) α(K)exp adopted In 1988DzZW supported by α(K)exp=0.00063 *18* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2881.40 *20*	1630 *75*	2965.66	1$^+$	84.262	2$^+$	M1	0.001448 *21*	α=0.001448 *21*; α(K)=0.000496 *7*; α(L)=6.92×10^{-5} *10*; α(M)=1.533×10^{-5} *22*; α(N+..)=0.000867 α(N)=3.60×10^{-6} *5*; α(O)=5.19×10^{-7} *8*; α(P)=2.88×10^{-8} *4*; α(IPF)=0.000863 *12* α(K)exp=0.00062 *4* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2885.1 *3*	650 *25*	2969.45	1$^-$	84.262	2$^+$	(E1)	0.001369 *20*	α=0.001369 *20*; α(K)=0.000219 *3*; α(L)=2.90×10^{-5} *4*; α(M)=6.37×10^{-6} *9*; α(N+..)=0.001115 *16* α(N)=1.493×10^{-6} *21*; α(O)=2.15×10^{-7} *3*; α(P)=1.189×10^{-8} *17*; α(IPF)=0.001113 *16* α(K)exp=0.00031 *9* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E1 or E2 from α(K)exp; Δπ=yes from level scheme.
[x]2897.6 *5*	100 *7*							α(K)exp<0.00033 (1988DzZW)
2923.3 *3*	400 *20*	3007.6	1$^-$	84.262	2$^+$	E1	0.001382 *20*	α=0.001382 *20*; α(K)=0.000214 *3*; α(L)=2.84×10^{-5} *4*; α(M)=6.24×10^{-6} *9*; α(N+..)=0.001133 *16* α(N)=1.463×10^{-6} *21*; α(O)=2.10×10^{-7} *3*; α(P)=1.166×10^{-8} *17*; α(IPF)=0.001131 *16* α(K)exp=0.00023 *8* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2929.50 *20*	1300 *65*	2929.60	1$^-$	0.0	0$^+$	E1	0.001384 *20*	α=0.001384 *20*; α(K)=0.000214 *3*; α(L)=2.83×10^{-5} *4*; α(M)=6.22×10^{-6} *9*; α(N+..)=0.001136 *16* α(N)=1.458×10^{-6} *21*; α(O)=2.10×10^{-7} *3*; α(P)=1.162×10^{-8} *17*; α(IPF)=0.001134 *16* α(K)exp=0.00027 *3* (1972Ca21, Iγ; 1970Dz11, I(ce)).

From ENSDF

$^{170}_{70}Yb_{100}$-50

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
2939.65 *20*	335×10[1] *20*	2939.73	1⁻	0.0	0⁺	E1	0.001388 *20*	α=0.001388 *20*; α(K)=0.000213 *3*; α(L)=2.81×10^{-5} *4*; α(M)=6.19×10^{-6} *9*; α(N+..)=0.001141 *16* α(N)=1.450×10^{-6} *21*; α(O)=2.09×10^{-7} *3*; α(P)=1.156×10^{-8} *17*; α(IPF)=0.001139 *16* α(K)exp=0.00025 *2* (1972Ca21, Iγ; 1970Dz11, I(ce)).
2947.80 *20*	1290 *65*	2947.84	1⁻	0.0	0⁺	E1	0.001391 *20*	α=0.001391 *20*; α(K)=0.000212 *3*; α(L)=2.80×10^{-5} *4*; α(M)=6.16×10^{-6} *9*; α(N+..)=0.001145 *16* α(N)=1.444×10^{-6} *21*; α(O)=2.08×10^{-7} *3*; α(P)=1.151×10^{-8} *17*; α(IPF)=0.001143 *16* α(K)exp=0.00026 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)).
[x]2953.1 *5*	75 *15*							α(K)exp=0.0006 *4* (1988DzZW)
2956.6 *4*	190 *6*	2956.55	1⁺	0.0	0⁺	(M1)	0.001455 *21*	α=0.001455 *21*; α(K)=0.000468 *7*; α(L)=6.52×10^{-5} *10*; α(M)=1.445×10^{-5} *21*; α(N+..)=0.000907 α(N)=3.39×10^{-6} *5*; α(O)=4.89×10^{-7} *7*; α(P)=2.71×10^{-8} *4*; α(IPF)=0.000903 *13* α(K)exp=0.0007 *3* (1988DzZW)
2958.1 *4*	100 *5*	3042.46	1⁺	84.262	2⁺			α(K)exp=0.0008 *4* (1988DzZW)
2965.6 *2*	279×10[1] *15*	2965.66	1⁺	0.0	0⁺	M1	0.001456 *21*	α=0.001456 *21*; α(K)=0.000465 *7*; α(L)=6.48×10^{-5} *9*; α(M)=1.435×10^{-5} *20*; α(N+..)=0.000912 *1* α(N)=3.37×10^{-6} *5*; α(O)=4.86×10^{-7} *7*; α(P)=2.69×10^{-8} *4*; α(IPF)=0.000908 *13* α(K)exp=0.00048 *3* (1988DzZW)
2969.7[a] *5*	60 *7*	2969.45	1⁻	0.0	0⁺			α(K)exp<0.0006 (1988DzZW)
[x]2973.8[d] *8*								
2976.4[da] *11*		2975.32	1⁻	0.0	0⁺			
2981.5[a] *5*	70 *7*	3065.36	1⁺	84.262	2⁺			α(K)exp=0.0016 *3* (1988DzZW)
2983.1 *4*	170 *10*	3067.62	1⁻	84.262	2⁺			α(K)exp=0.00098 *15* (1988DzZW) Mult.: α(K)exp implies mult=M2 or M1+E2+E0, neither of which is consistent with level scheme.
2985.9[b] *4*	120 *8*	3070.52	0,1	84.262	2⁺			α(K)exp=0.0010 *9* (1988DzZW)
3007.5[h] *3*	305[h] *15*	3007.6	1⁻	0.0	0⁺			α(K)exp=0.00038 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)). Mult.: E2(+M1) from α(K)exp for doubly-placed γ is inconsistent with this 1⁻ to 0⁺ placement and also with alternative placement from 3092 level.
3007.5[ha] *3*	305[h] *15*	3091.93	1	84.262	2⁺			α(K)exp=0.00038 *6* (1972Ca21, Iγ; 1968Ba54, I(ce)) for doubly-placed γ; however, E2(+M1) from α(K)exp is inconsistent with this placement and also with alternative placement from 3008 level.
3015.1 *3*	550 *25*	3099.64	1(−)	84.262	2⁺	E1	0.001417 *20*	α=0.001417 *20*; α(K)=0.000205 *3*; α(L)=2.71×10^{-5} *4*; α(M)=5.95×10^{-6} *9*; α(N+..)=0.001180 *17* α(N)=1.395×10^{-6} *20*; α(O)=2.01×10^{-7} *3*; α(P)=1.113×10^{-8} *16*; α(IPF)=0.001178 *17* α(K)exp=0.00026 *7* (1988DzZW)
[x]3018.5 *6*	32 *3*							α(K)exp<0.0006 (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-51

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
3030.95 *20*	286×10[1] *15*	3115.58	1⁻	84.262	2⁺	E1	0.001424 *20*	α=0.001424 *20*; α(K)=0.000203 *3*; α(L)=2.68×10^{-5} *4*; α(M)=5.91×10^{-6} *9*; α(N+..)=0.001188 *17* α(N)=1.384×10^{-6} *20*; α(O)=1.99×10^{-7} *3*; α(P)=1.104×10^{-8} *16*; α(IPF)=0.001187 *17* α(K)exp=0.000210 *18* (1972Ca21, Iγ; 1968Ba54, I(ce)).
[x]3036.9 *3*	460 *20*					E1	0.001427 *20*	α(K)exp=0.00014 *4* (1988DzZW) α=0.001427 *20*; α(K)=0.000202 *3*; α(L)=2.68×10^{-5} *4*; α(M)=5.89×10^{-6} *9*; α(N+..)=0.001192 *17* α(N)=1.380×10^{-6} *20*; α(O)=1.99×10^{-7} *3*; α(P)=1.101×10^{-8} *16*; α(IPF)=0.001190 *17*
3042.8 *4*	150 *8*	3042.46	1⁺	0.0	0⁺	M1	0.001465 *21*	α=0.001465 *21*; α(K)=0.000439 *7*; α(L)=6.11×10^{-5} *9*; α(M)=1.353×10^{-5} *19*; α(N+..)=0.000952 *1* α(N)=3.18×10^{-6} *5*; α(O)=4.58×10^{-7} *7*; α(P)=2.54×10^{-8} *4*; α(IPF)=0.000948 *14* α(K)exp=0.00055 *11* (1988DzZW)
3046.9 *5*	75 *8*	3131.10	1⁺	84.262	2⁺	(M1)	0.001466 *21*	α=0.001466 *21*; α(K)=0.000437 *7*; α(L)=6.09×10^{-5} *9*; α(M)=1.349×10^{-5} *19*; α(N+..)=0.000954 *1* α(N)=3.17×10^{-6} *5*; α(O)=4.57×10^{-7} *7*; α(P)=2.53×10^{-8} *4*; α(IPF)=0.000951 *14* α(K)exp=0.00082 *26* (1988DzZW) Mult.: α(K)exp exceeds α(K)(M1) significantly; level scheme inconsistent with M1+E0 or M2.
[x]3053.1 *3*	240 *20*							α(K)exp=0.00037 *8* (1988DzZW)
3062.1 *3*	230 *20*	3146.03	1⁺	84.262	2⁺	M1,E2	0.00135 *13*	α=0.00135 *13*; α(K)=0.000411 *23*; α(L)=5.7×10^{-5} *4*; α(M)=1.25×10^{-5} *8*; α(N+..)=0.00087 *10* α(N)=2.94×10^{-6} *20*; α(O)=4.2×10^{-7} *3*; α(P)=2.34×10^{-8} *17*; α(IPF)=0.00086 *10* α(K)exp=0.00051 *12* (1988DzZW)
3064.8 *3*	560 *25*	3149.09	1⁻	84.262	2⁺	E1	0.001439 *21*	α=0.001439 *21*; α(K)=0.000200 *3*; α(L)=2.64×10^{-5} *4*; α(M)=5.81×10^{-6} *9*; α(N+..)=0.001207 *17* α(N)=1.361×10^{-6} *19*; α(O)=1.96×10^{-7} *3*; α(P)=1.086×10^{-8} *16*; α(IPF)=0.001206 *17* α(K)exp=0.00021 *6* (1988DzZW)
3067.0 *3*	260 *20*	3067.62	1⁻	0.0	0⁺			α(K)exp=0.00038 *11* (1988DzZW)
3076.8[da] *11*		3161.02	(1⁻)	84.262	2⁺			
3085.4 *6*	33.0 *20*	3169.59	1⁻	84.262	2⁺			α(K)exp<0.0008 (1988DzZW)
3091.9[a] *3*	340 *20*	3091.93	1	0.0	0⁺			α(K)exp=0.00033 *5* (1988DzZW) Mult.: E2(+M1) or E1+M2 from α(K)exp; adopted level scheme requires pure ΔJ=1.
3095.50 *20*	720 *40*	3179.76	1⁻	84.262	2⁺	E1	0.001453 *21*	α=0.001453 *21*; α(K)=0.000197 *3*; α(L)=2.60×10^{-5} *4*; α(M)=5.72×10^{-6} *8*; α(N+..)=0.001224 *18*

From ENSDF

$^{170}_{70}Yb_{100}$-52

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
								α(N)=1.340×10^{-6} *19*; α(O)=1.93×10^{-7} *3*; α(P)=1.069×10^{-8} *15*; α(IPF)=0.001223 *18* α(K)exp=0.000246 *24* (1988DzZW)
3099.55 *25*	430 *25*	3099.64	1$^{(-)}$	0.0	0$^+$		0.00051	α=0.00051; α(K)=0.00044 α(K)exp=0.00036 *4* (1988DzZW) Mult.: E2 from α(K)exp; inconsistent with adopted level scheme.
3102.1 *6*	33 *3*	3186.66	(1$^-$)	84.262	2$^+$			α(K)exp<0.00043 (1988DzZW)
3111.5 *3*	390 *20*	3195.58	1$^-$	84.262	2$^+$	(E1)	0.001460 *21*	α=0.001460 *21*; α(K)=0.000195 *3*; α(L)=2.58×10^{-5} *4*; α(M)=5.67×10^{-6} *8*; α(N+..)=0.001233 *18* α(N)=1.330×10^{-6} *19*; α(O)=1.91×10^{-7} *3*; α(P)=1.061×10^{-8} *15*; α(IPF)=0.001232 *18* α(K)exp=0.00023 *6* (1988DzZW) other α(K)exp: 0.00031 *5* (1972Ca21, Iγ; 1968Ba54, I(ce)).
3115.20 *25*	1620 *80*	3115.58	1$^-$	0.0	0$^+$	E1	0.001462 *21*	α=0.001462 *21*; α(K)=0.000195 *3*; α(L)=2.57×10^{-5} *4*; α(M)=5.66×10^{-6} *8*; α(N+..)=0.001236 *18* α(N)=1.327×10^{-6} *19*; α(O)=1.91×10^{-7} *3*; α(P)=1.059×10^{-8} *15*; α(IPF)=0.001234 *18* α(K)exp=0.000222 *12* (1972Ca21, Iγ; 1968Ba54, I(ce)).
3119.2[a] *6*	45 *15*	3202.94	1$^+$	84.262	2$^+$			α(K)exp=0.00032 *25* (1988DzZW)
3123.0[a] *6*	42 *4*	3123.94	1$^-$	0.0	0$^+$			α(K)exp=0.00030 *19* (1988DzZW)
3128.1[a] *5*	90 *9*	3213.27	1$^-$	84.262	2$^+$	E1	0.001468 *21*	α=0.001468 *21*; α(K)=0.000194 *3*; α(L)=2.56×10^{-5} *4*; α(M)=5.63×10^{-6} *8*; α(N+..)=0.001243 *18* α(N)=1.319×10^{-6} *19*; α(O)=1.90×10^{-7} *3*; α(P)=1.053×10^{-8} *15*; α(IPF)=0.001241 *18* α(K)exp=0.00012 *6* (1988DzZW)
3130.9 *7*	25 *4*	3131.10	1$^+$	0.0	0$^+$	(M1)	0.001479 *21*	α=0.001479 *21*; α(K)=0.000411 *6*; α(L)=5.72×10^{-5} *8*; α(M)=1.268×10^{-5} *18*; α(N+..)=0.000998 *1* α(N)=2.98×10^{-6} *5*; α(O)=4.29×10^{-7} *6*; α(P)=2.38×10^{-8} *4*; α(IPF)=0.000994 *14* α(K)exp=0.00058 *20* (1988DzZW) Mult.: M1(+E2) from α(K)exp; E2 component inconsistent with level scheme.
3139.6[a] *8*	6.5 *15*	3140.60	(1)	0.0	0$^+$			α(K)exp<0.0006 (1988DzZW)
3146.1 *4*	250 *20*	3146.03	1$^+$	0.0	0$^+$	(M1)	0.001482 *21*	α=0.001482 *21*; α(K)=0.000407 *6*; α(L)=5.66×10^{-5} *8*; α(M)=1.254×10^{-5} *18*; α(N+..)=0.001006 *1* α(N)=2.94×10^{-6} *5*; α(O)=4.25×10^{-7} *6*; α(P)=2.35×10^{-8} *4*; α(IPF)=0.001002 *14* α(K)exp=0.00039 *9* (1988DzZW) Mult.: M1,E2 from α(K)exp; not E2 from level scheme.
3149.4 *4*	225 *20*	3149.09	1$^-$	0.0	0$^+$	E1	0.001477 *21*	α=0.001477 *21*; α(K)=0.000192 *3*; α(L)=2.53×10^{-5} *4*; α(M)=5.57×10^{-6} *8*; α(N+..)=0.001255 *18* α(N)=1.305×10^{-6} *19*; α(O)=1.88×10^{-7} *3*; α(P)=1.042×10^{-8} *15*; α(IPF)=0.001253 *18* α(K)exp=0.00022 *7* (1988DzZW)
[x]3157.0 *8*	9.0 *10*							α(K)exp<0.0005 (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-53

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ[†]	I_γ[‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
3161.1[a] *5*	100 *10*	3161.02	(1⁻)	0.0	0⁺	(E1)	0.001482 *21*	α=0.001482 *21*; α(K)=0.000191 *3*; α(L)=2.52×10⁻⁵ *4*; α(M)=5.54×10⁻⁶ *8*; α(N+..)=0.001261 *18* α(N)=1.298×10⁻⁶ *19*; α(O)=1.87×10⁻⁷ *3*; α(P)=1.036×10⁻⁸ *15*; α(IPF)=0.001259 *18* α(K)exp=0.00021 *11* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3165.3 *4*	220 *20*	3165.59	1⁻	0.0	0⁺	E1	0.001484 *21*	α=0.001484 *21*; α(K)=0.000190 *3*; α(L)=2.51×10⁻⁵ *4*; α(M)=5.53×10⁻⁶ *8*; α(N+..)=0.001263 *18* α(N)=1.295×10⁻⁶ *19*; α(O)=1.86×10⁻⁷ *3*; α(P)=1.034×10⁻⁸ *15*; α(IPF)=0.001262 *18* α(K)exp=0.00018 *5* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3169.6 *8*	10.0 *15*	3169.59	1⁻	0.0	0⁺			α(K)exp≤0.0005 (1988DzZW)
3173.4[a] *7*	30 *3*	3258.18	1⁺	84.262	2⁺	M1	0.001487 *21*	α=0.001487 *21*; α(K)=0.000399 *6*; α(L)=5.55×10⁻⁵ *8*; α(M)=1.229×10⁻⁵ *18*; α(N+..)=0.001020 *1* α(N)=2.89×10⁻⁶ *4*; α(O)=4.16×10⁻⁷ *6*; α(P)=2.31×10⁻⁸ *4*; α(IPF)=0.001016 *15* α(K)exp=0.00054 *11* (1988DzZW)
3179.8[a] *7*	38 *4*	3179.76	1⁻	0.0	0⁺			α(K)exp=0.00043 *17* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3183.6[a] *5*	140 *14*	3268.91	1⁽⁺⁾	84.262	2⁺	M1	0.001488 *21*	α=0.001488 *21*; α(K)=0.000396 *6*; α(L)=5.51×10⁻⁵ *8*; α(M)=1.221×10⁻⁵ *17*; α(N+..)=0.001025 *1* α(N)=2.87×10⁻⁶ *4*; α(O)=4.13×10⁻⁷ *6*; α(P)=2.29×10⁻⁸ *4*; α(IPF)=0.001022 *15* α(K)exp=0.00059 *8* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3190.3 *5*	125 *12*	3274.17	1⁻	84.262	2⁺	E1	0.001495 *21*	α=0.001495 *21*; α(K)=0.000188 *3*; α(L)=2.48×10⁻⁵ *4*; α(M)=5.46×10⁻⁶ *8*; α(N+..)=0.001276 *18* α(N)=1.280×10⁻⁶ *18*; α(O)=1.84×10⁻⁷ *3*; α(P)=1.022×10⁻⁸ *15*; α(IPF)=0.001275 *18* α(K)exp=0.00016 *8* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3195.3 *4*	200 *20*	3195.58	1⁻	0.0	0⁺	(E1)	0.001497 *21*	α=0.001497 *21*; α(K)=0.000188 *3*; α(L)=2.48×10⁻⁵ *4*; α(M)=5.45×10⁻⁶ *8*; α(N+..)=0.001279 *18* α(N)=1.277×10⁻⁶ *18*; α(O)=1.84×10⁻⁷ *3*; α(P)=1.020×10⁻⁸ *15*; α(IPF)=0.001278 *18* α(K)exp=0.00024 *3* (1988DzZW) Other α(K)exp: 0.00027 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)); value is midway between those expected for E1 and E2, suggesting that line might be complex. Adopted Δπ=yes.
3202.4[a] *5*	150 *15*	3202.94	1⁺	0.0	0⁺	M1	0.001492 *21*	α=0.001492 *21*; α(K)=0.000391 *6*; α(L)=5.44×10⁻⁵ *8*; α(M)=1.204×10⁻⁵ *17*; α(N+..)=0.001034 *1* α(N)=2.83×10⁻⁶ *4*; α(O)=4.08×10⁻⁷ *6*; α(P)=2.26×10⁻⁸ *4*; α(IPF)=0.001031 *15* α(K)exp=0.00059 *10* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3206.8[a] *8*	30 *3*	3291.82	1⁺	84.262	2⁺	M1,E2	0.00137 *13*	α=0.00137 *13*; α(K)=0.000374 *17*; α(L)=5.2×10⁻⁵ *3*; α(M)=1.14×10⁻⁵ *7*; α(N+..)=0.00093 *11* α(N)=2.68×10⁻⁶ *15*; α(O)=3.86×10⁻⁷ *22*; α(P)=2.13×10⁻⁸ *13*; α(IPF)=0.00093 *11* α(K)exp=0.00057 *24* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3212.2[a] *8*	15.0 *15*	3213.27	1⁻	0.0	0⁺			α(K)exp=0.00048 *24* (1988DzZW)
3218.4 *9*	5.0 *10*	3301.95	1⁺	84.262	2⁺			α(K)exp=0.0013 *8* (1988DzZW)

From ENSDF

$^{170}_{70}Yb_{100}$-54

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

E_γ [†]	I_γ [‡e]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[f]	Comments
3229.5 *8*	15.0 *15*	3314.42	1	84.262	2+	E1	0.001510 *22*	α=0.001510 *22*; α(K)=0.000185 *3*; α(L)=2.44×10^{-5} *4*; α(M)=5.36×10^{-6} *8*; α(N+..)=0.001296 *19* α(N)=1.257×10^{-6} *18*; α(O)=1.81×10^{-7} *3*; α(P)=1.004×10^{-8} *14*; α(IPF)=0.001295 *19* α(K)exp<0.00020 (1988DzZW)
[x]3255.9 *7*	30 *3*					M1,E2	0.00138 *13*	α(K)exp=0.00042 *7* (1988DzZW) α=0.00138 *13*; α(K)=0.000363 *15*; α(L)=5.00×10^{-5} *25*; α(M)=1.11×10^{-5} *6*; α(N+..)=0.00096 *11* α(N)=2.60×10^{-6} *14*; α(O)=3.74×10^{-7} *20*; α(P)=2.07×10^{-8} *12*; α(IPF)=0.00095 *11*
3258.2[a] *8*	25.0 *25*	3258.18	1+	0.0	0+	M1,E2	0.00138 *13*	α=0.00138 *13*; α(K)=0.000363 *15*; α(L)=4.99×10^{-5} *25*; α(M)=1.10×10^{-5} *6*; α(N+..)=0.00096 *11* α(N)=2.59×10^{-6} *14*; α(O)=3.73×10^{-7} *20*; α(P)=2.06×10^{-8} *12*; α(IPF)=0.00095 *11* α(K)exp=0.00036 *11* (1988DzZW)
3274.2 *5*	100 *10*	3274.17	1−	0.0	0+	E1	0.001527 *22*	α=0.001527 *22*; α(K)=0.000181 *3*; α(L)=2.39×10^{-5} *4*; α(M)=5.25×10^{-6} *8*; α(N+..)=0.001317 *19* α(N)=1.231×10^{-6} *18*; α(O)=1.772×10^{-7} *25*; α(P)=9.83×10^{-9} *14*; α(IPF)=0.001315 *19* α(K)exp=0.00021 *6* (1972Ca21, Iγ; 1970Dz11, I(ce)).
3282.1[a] *8*	5.0 *10*	3366.40	1	84.262	2+	E1,E2		α(K)exp<0.00035 (1988DzZW)
3291.4 *7*	10.0 *10*	3291.82	1+	0.0	0+			α(K)exp<0.00016 (1988DzZW) Mult.: E1 from α(K)exp; level scheme requires M1.
3302.4 *7*	26.0 *25*	3301.95	1+	0.0	0+	(M1)	0.001512 *22*	α=0.001512 *22*; α(K)=0.000365 *6*; α(L)=5.07×10^{-5} *8*; α(M)=1.123×10^{-5} *16*; α(N+..)=0.001085 *1* α(N)=2.64×10^{-6} *4*; α(O)=3.80×10^{-7} *6*; α(P)=2.11×10^{-8} *3*; α(IPF)=0.001082 *16* α(K)exp=0.00035 *12* (1972Ca21, Iγ; 1970Dz11, I(ce)). Mult.: E2,M1 from α(K)exp; ΔJ<2 from log *ft*.
3314.1 *7*	28 *3*	3314.42	1	0.0	0+	(M1)	0.001515 *22*	α=0.001515 *22*; α(K)=0.000362 *5*; α(L)=5.03×10^{-5} *7*; α(M)=1.114×10^{-5} *16*; α(N+..)=0.001091 *1* α(N)=2.62×10^{-6} *4*; α(O)=3.77×10^{-7} *6*; α(P)=2.09×10^{-8} *3*; α(IPF)=0.001088 *16* α(K)exp=0.00043 *11* (1972Ca21, Iγ; 1968Ba54, I(ce)). Mult.: M1,E2 from α(K)exp; ΔJ<2 from log *ft*.
3338.9[bi] *8*	4.0 *10*	3423.2?	(0−)	84.262	2+	(M2)	0.001642 *23*	α=0.001642 *23*; α(K)=0.000783 *11*; α(L)=0.0001111 *16*; α(M)=2.47×10^{-5} *4*; α(N+..)=0.000723 α(N)=5.80×10^{-6} *9*; α(O)=8.35×10^{-7} *12*; α(P)=4.61×10^{-8} *7*; α(IPF)=0.000716 *10* Mult.: α(K)exp=0.0011 *4* (1972Ca21, Iγ; 1968Ba54, I(ce)), mult=M1+E2+E0 or M2; ε feeding of parent level favors the latter.
3385.0[a] *8*	4.0 *10*	3384.87	1−	0.0	0+			

[†] From 1972Ca21, except As noted.

From ENSDF

$^{170}_{70}Yb_{100}$-55

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11 (continued)

γ(^{170}Yb) (continued)

‡ Relative photon intensities, normalized so Iγ(1365γ)=10000. The data are taken from 1972Ca21; data from 1971Bo09 are in satisfactory agreement with these.
# From α(K)exp, except As noted. However, see general comment above concerning α(K)exp data.
@ Member of multiplet unresolved in singles. E from authors′ level energy difference; Iγ from γγ coin data (1972Ca21).
& From L3:M1:M2:M3:(M4+M5):N1:N2:N3:O1:(O2+O3)=4.00 *6*: 0.0731 *6*:0.970 *7*:1.0:0.0204 *4*:0.0163 *11*:0.229 *3*:0.236 *3*:0.0093 *8*: 0.0558 *18* (1980Bu28). Other conversion coefficient data: 1977Ka30, 1969Bo10, 1960Ha18. α(K)exp>0.65 from adopted Iγ and I(ce(K)) In 1960Ha18.
a Placement from 1988DzZW.
b Placement from 1990Gr19.
c Postulated to be an M0 transition (1988Gr29) connecting the 2819.6 level to the 0$^+$ g.s. not observed by 1993Ku09 In ce spectrum (<2×10^{-8} electrons per ^{170}Lu decay) or In internal pair spectrum. Evaluator considers there to be insufficient evidence to place this transition As suggested by 1988Gr29 and 1990Gr19; In fact, its very existence In ^{170}Yb ε decay seems questionable.
d Quoted from 1988DzZW; observed In ce spectrum only.
e For absolute intensity per 100 decays, multiply by 0.000447 *18*.
f Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
g Multiply placed.
h Multiply placed with undivided intensity.
i Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

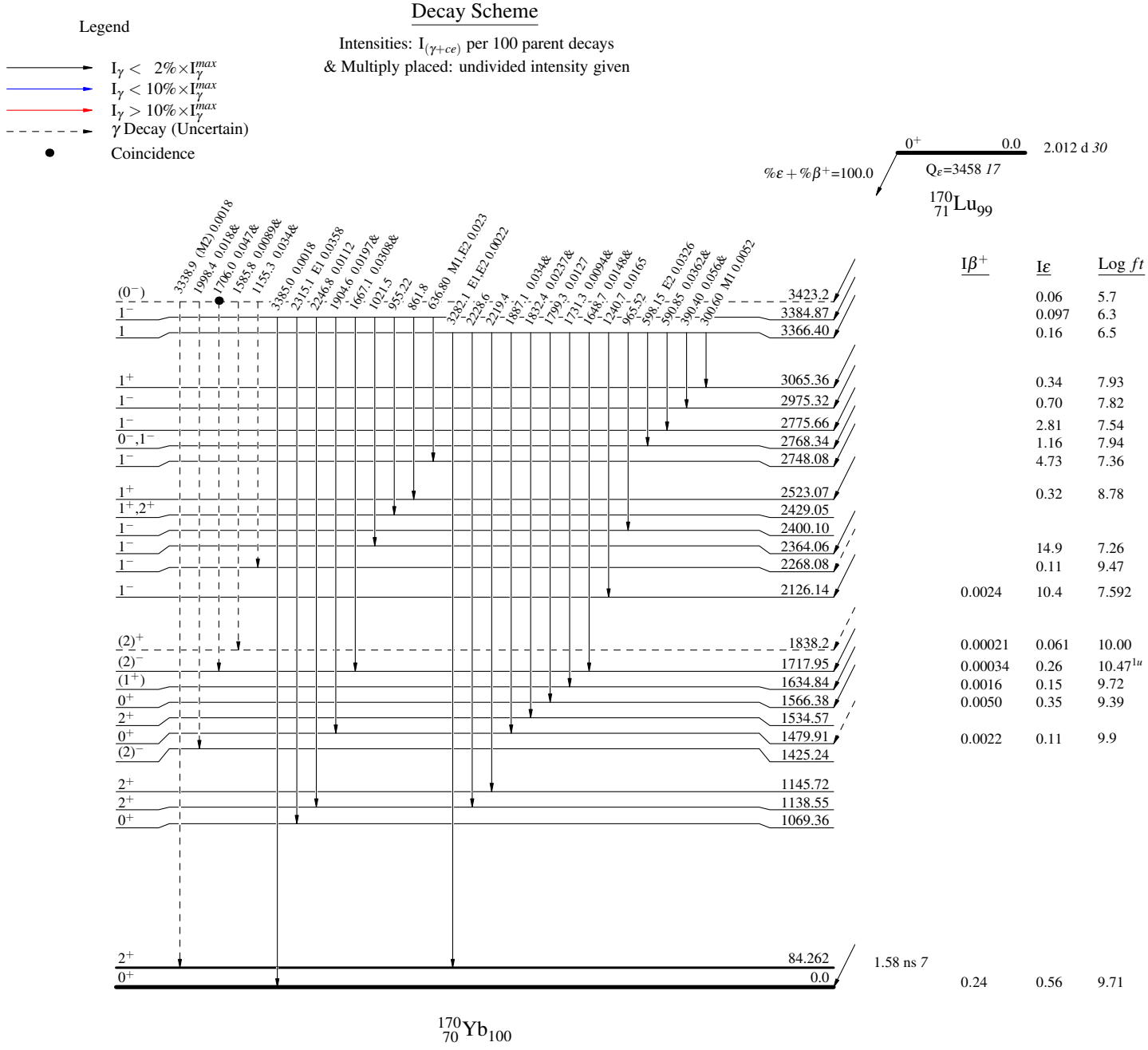
From ENSDF

$^{170}_{70}Yb_{100}$-56

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme

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



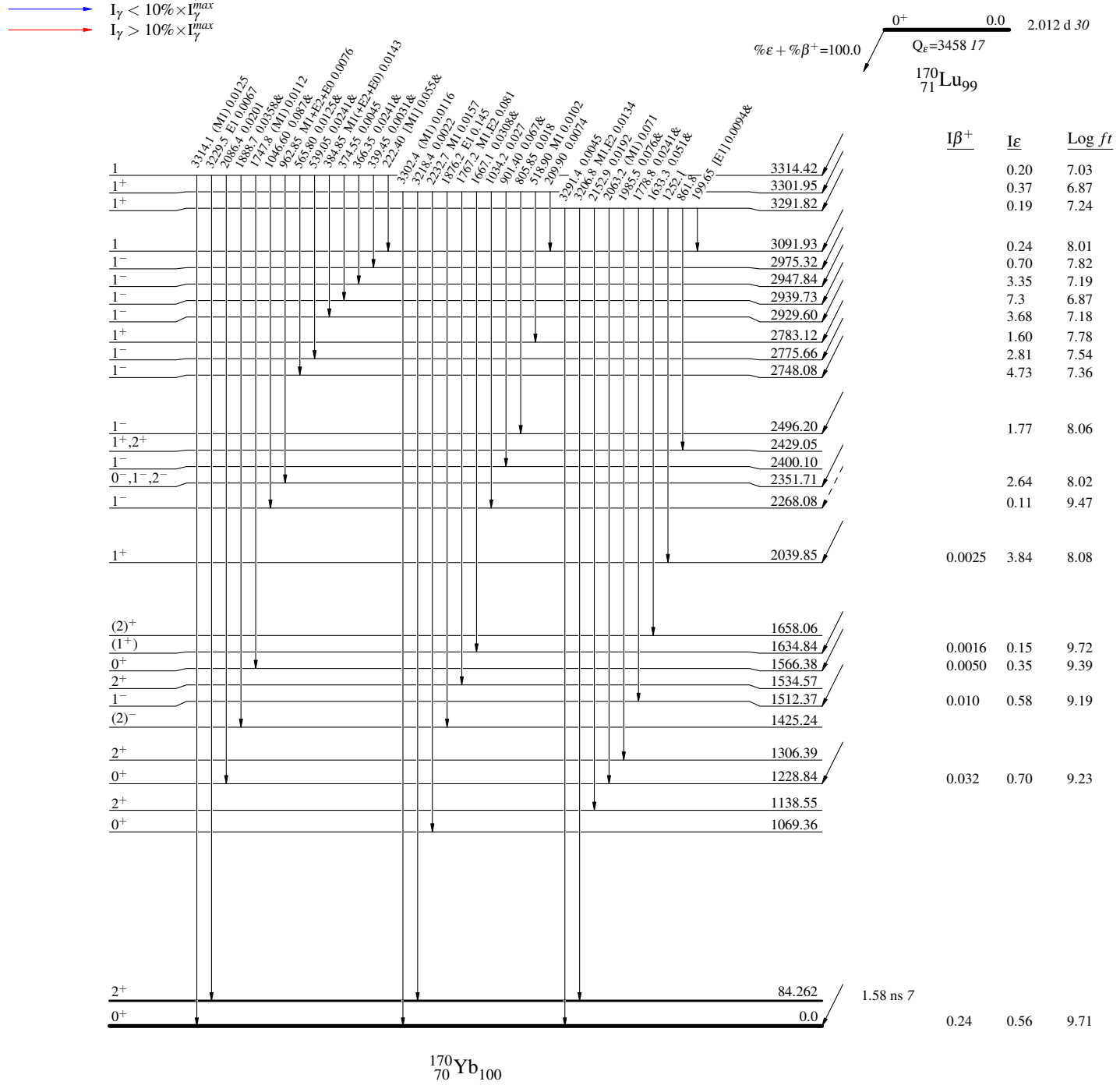
	Iβ+	Iε	Log *ft*
(0−) 3423.2		0.06	5.7
1− 3384.87		0.097	6.3
1 3366.40		0.16	6.5
1+ 3065.36		0.34	7.93
1− 2975.32		0.70	7.82
1− 2775.66		2.81	7.54
0−,1− 2768.34		1.16	7.94
1− 2748.08		4.73	7.36
1+ 2523.07		0.32	8.78
1+,2+ 2429.05			
1− 2400.10			
1− 2364.06		14.9	7.26
1− 2268.08		0.11	9.47
1− 2126.14	0.0024	10.4	7.592
(2)+ 1838.2	0.00021	0.061	10.00
(2)− 1717.95	0.00034	0.26	10.47[1u]
(1+) 1634.84	0.0016	0.15	9.72
0+ 1566.38	0.0050	0.35	9.39
2+ 1534.57			
0+ 1479.91	0.0022	0.11	9.9
(2)− 1425.24			
2+ 1145.72			
2+ 1138.55			
0+ 1069.36			
2+ 84.262			
0+ 0.0	0.24	0.56	9.71

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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

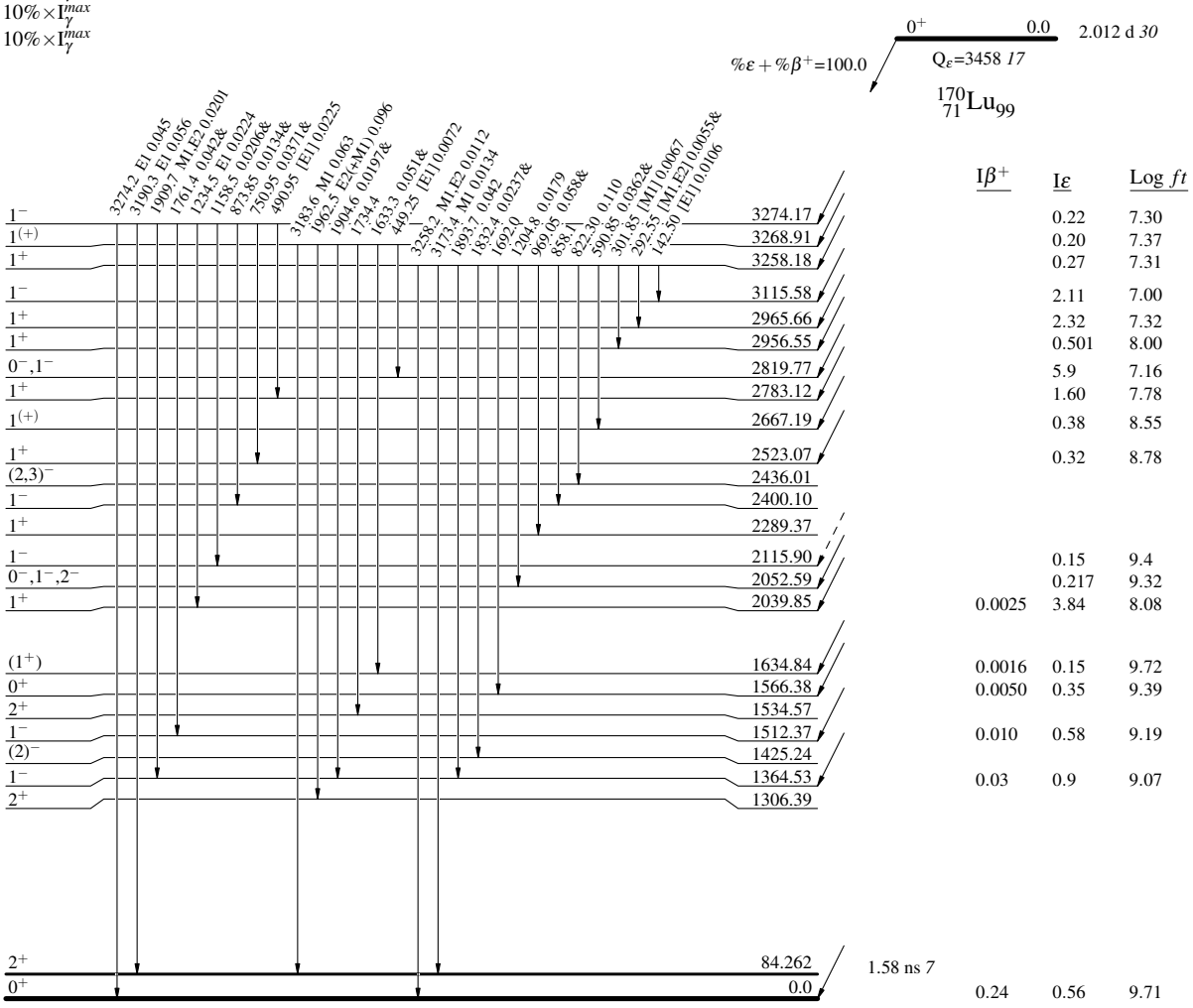


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



	Iβ+	Iε	Log *ft*
1− 3274.17		0.22	7.30
1(+) 3268.91		0.20	7.37
1+ 3258.18		0.27	7.31
1− 3115.58		2.11	7.00
1+ 2965.66		2.32	7.32
1+ 2956.55		0.501	8.00
0−,1− 2819.77		5.9	7.16
1+ 2783.12		1.60	7.78
1(+) 2667.19		0.38	8.55
1+ 2523.07		0.32	8.78
(2,3)− 2436.01			
1− 2400.10			
1+ 2289.37			
1− 2115.90		0.15	9.4
0−,1−,2− 2052.59		0.217	9.32
1+ 2039.85	0.0025	3.84	8.08
(1+) 1634.84	0.0016	0.15	9.72
0+ 1566.38	0.0050	0.35	9.39
2+ 1534.57			
1− 1512.37	0.010	0.58	9.19
(2)− 1425.24			
1− 1364.53	0.03	0.9	9.07
2+ 1306.39			
2+ 84.262			
0+ 0.0	0.24	0.56	9.71

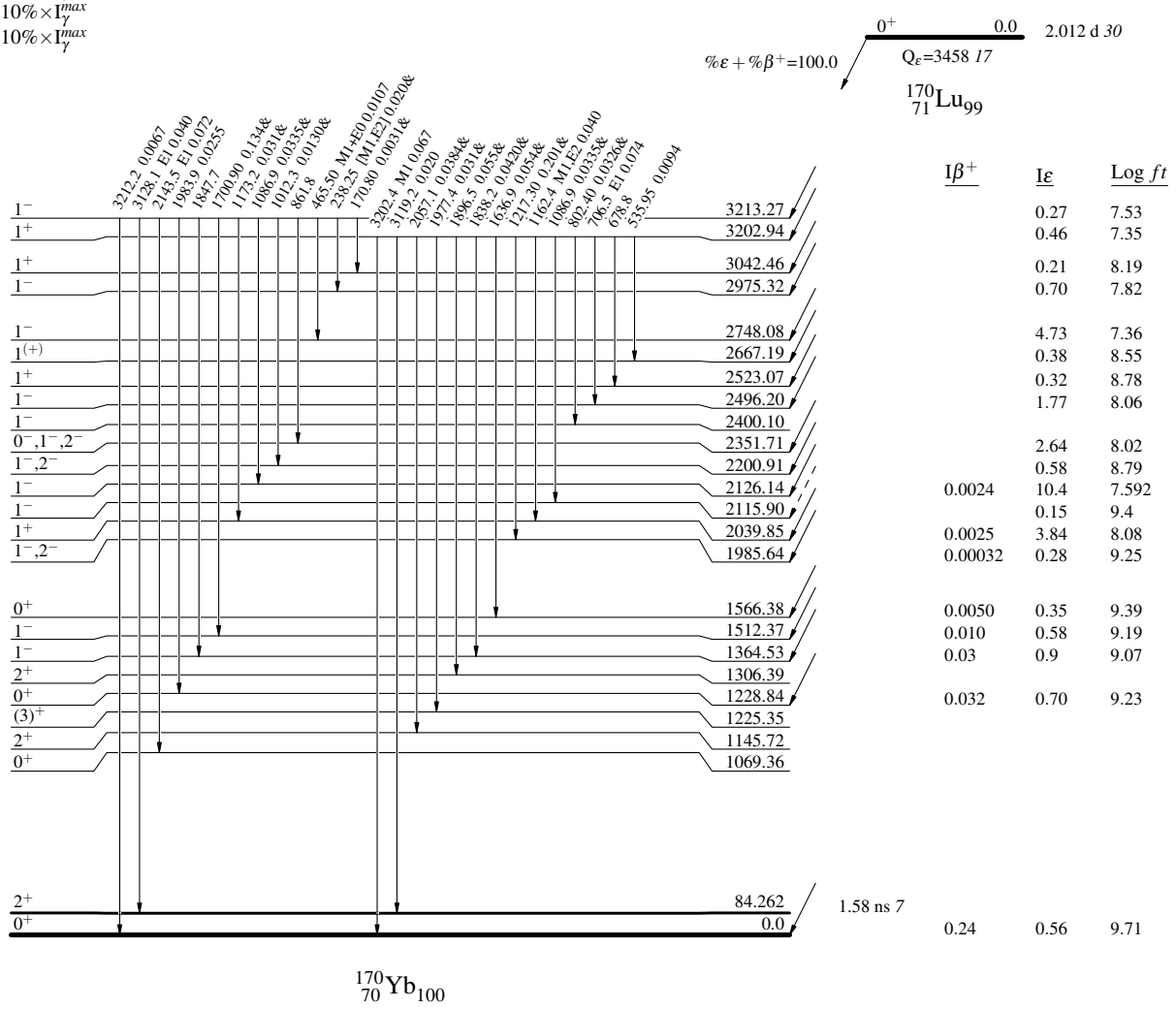
$^{170}_{70}Yb_{100}$

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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

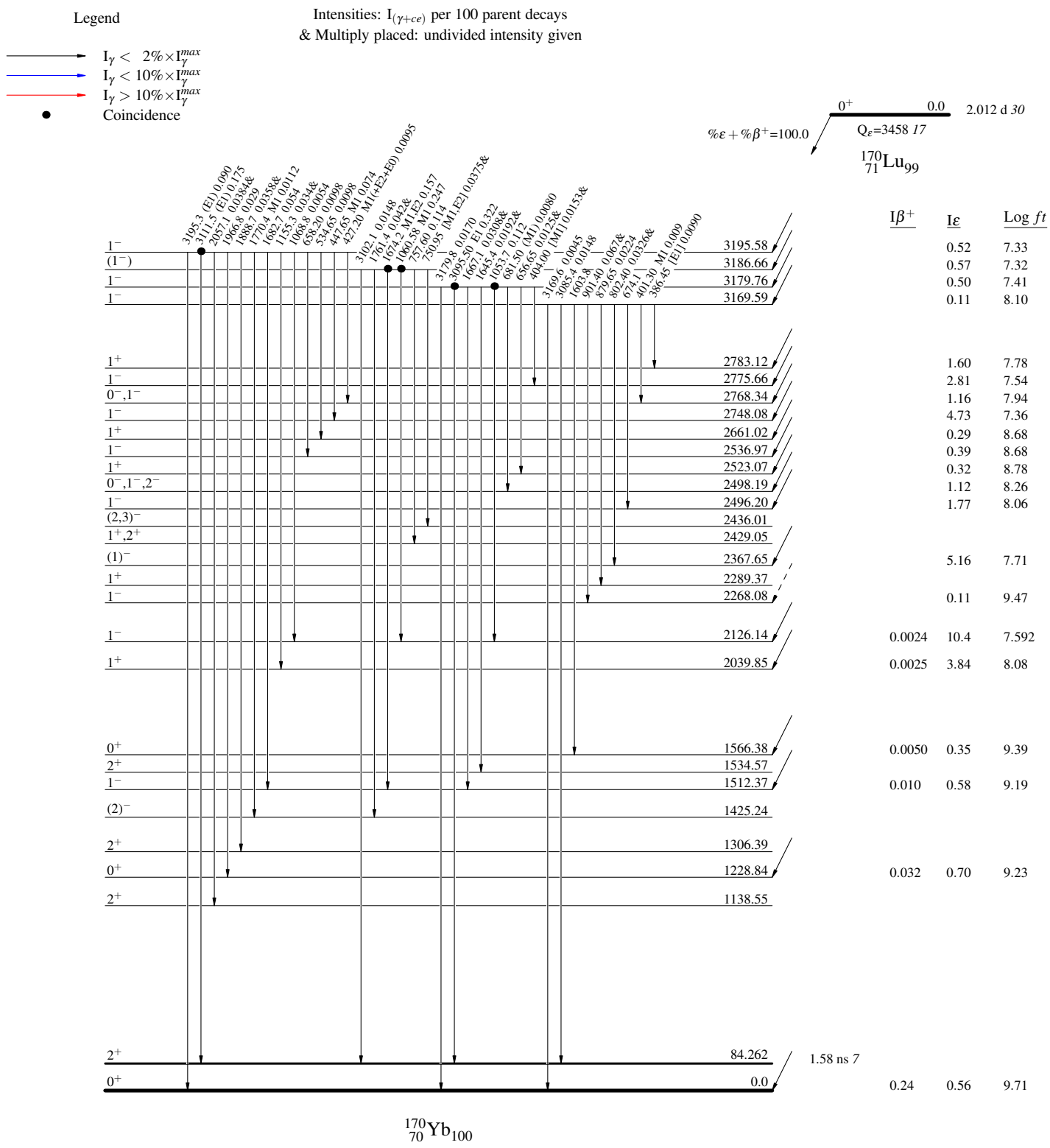


	Iβ+	Iε	Log *ft*
3213.27		0.27	7.53
3202.94		0.46	7.35
3042.46		0.21	8.19
2975.32		0.70	7.82
2748.08		4.73	7.36
2667.19		0.38	8.55
2523.07		0.32	8.78
2496.20		1.77	8.06
2400.10			
2351.71		2.64	8.02
2200.91		0.58	8.79
2126.14	0.0024	10.4	7.592
2115.90		0.15	9.4
2039.85	0.0025	3.84	8.08
1985.64	0.00032	0.28	9.25
1566.38	0.0050	0.35	9.39
1512.37	0.010	0.58	9.19
1364.53	0.03	0.9	9.07
1306.39			
1228.84	0.032	0.70	9.23
1225.35			
1145.72			
1069.36			
84.262			
0.0	0.24	0.56	9.71

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

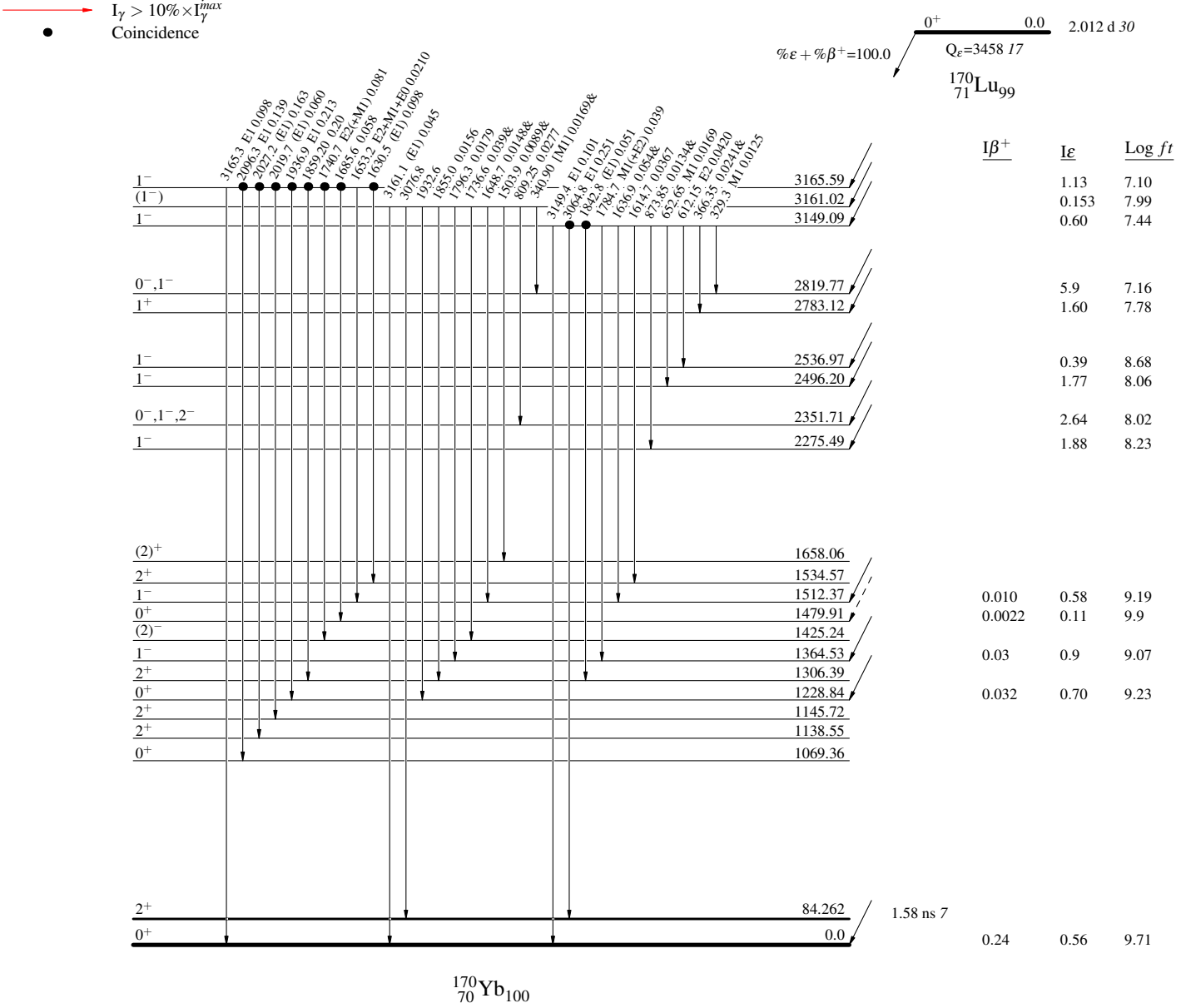


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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

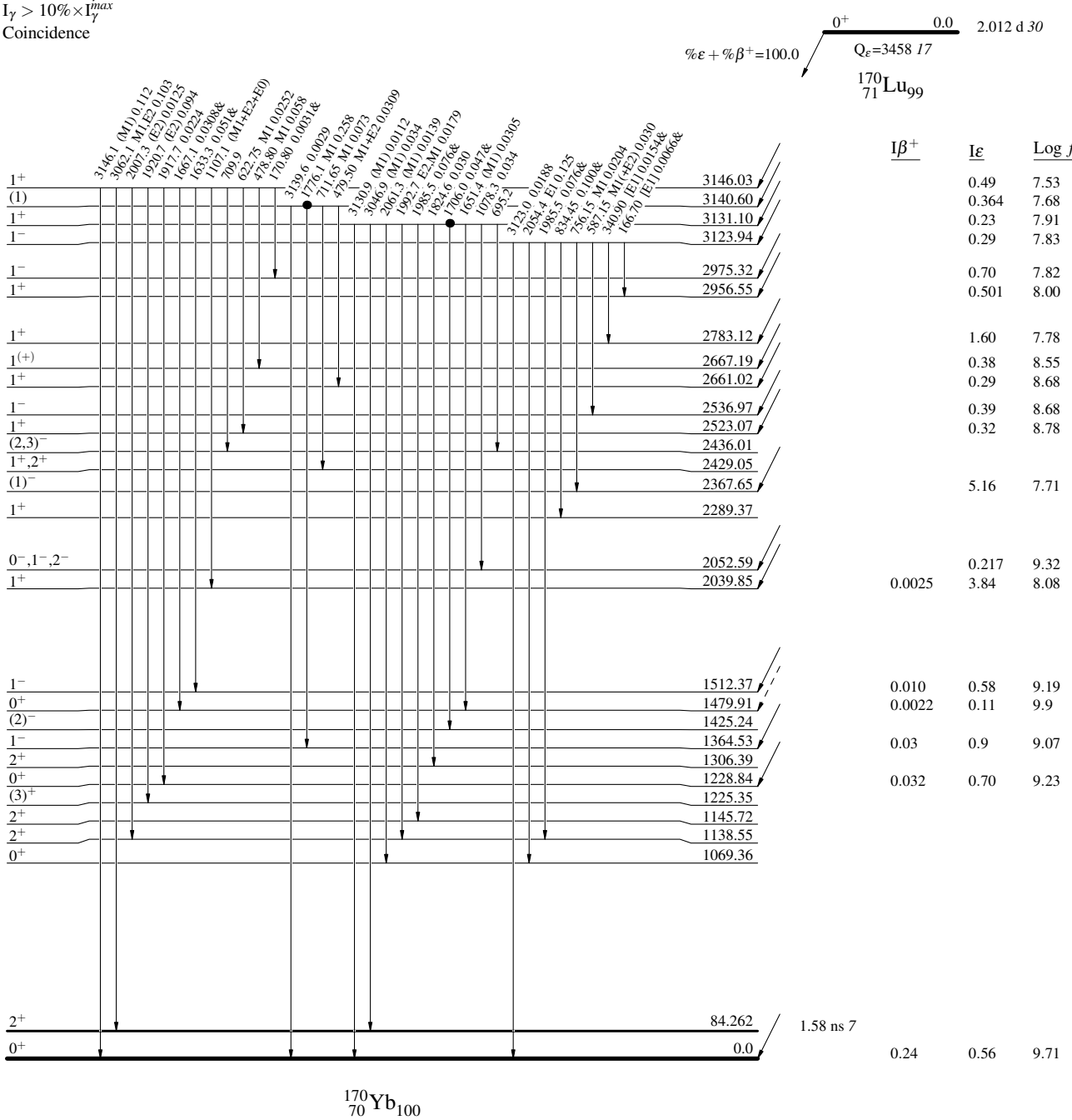


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



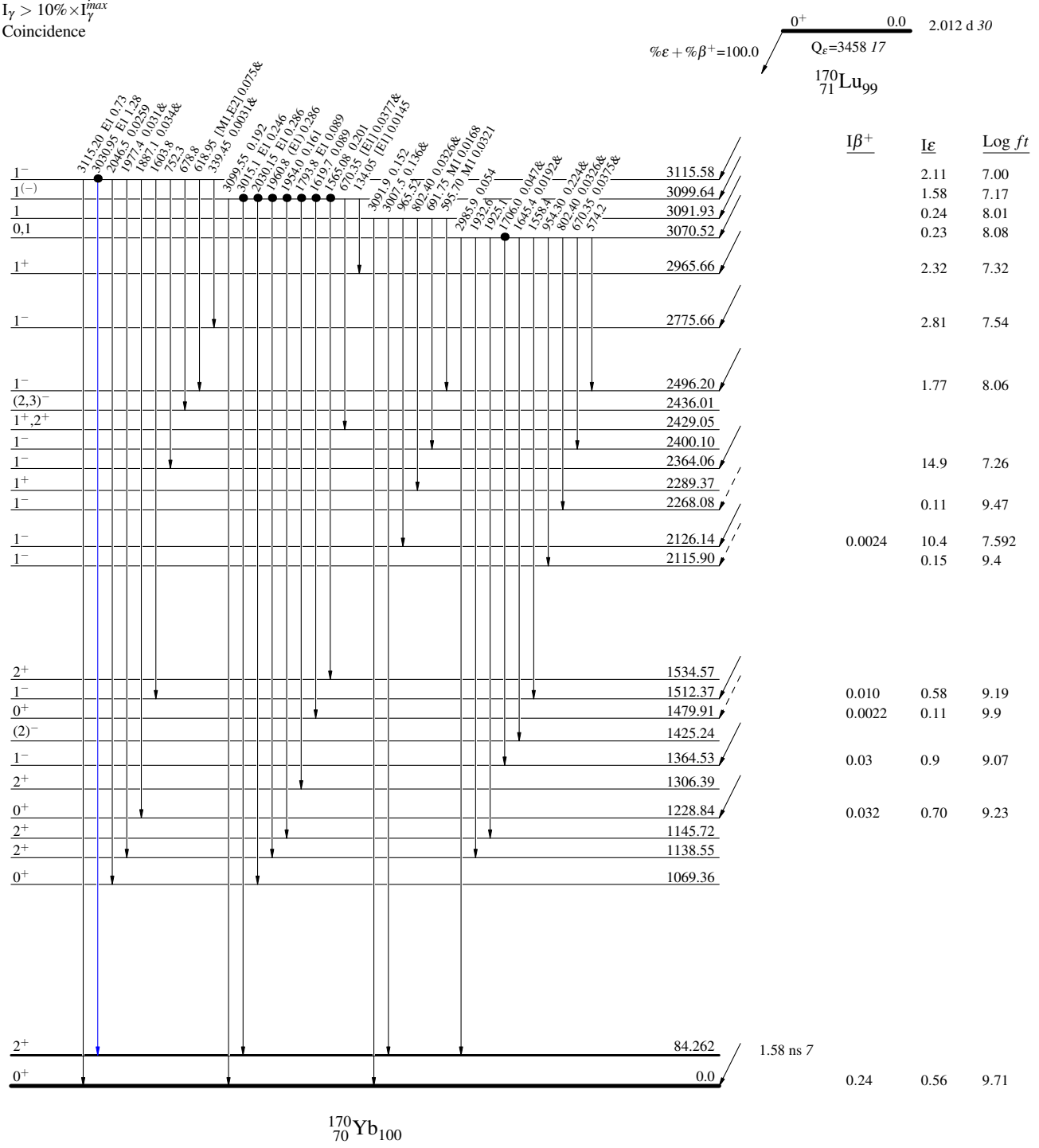
	Iβ+	Iε	Log *ft*
3146.03		0.49	7.53
3140.60		0.364	7.68
3131.10		0.23	7.91
3123.94		0.29	7.83
2975.32		0.70	7.82
2956.55		0.501	8.00
2783.12		1.60	7.78
2667.19		0.38	8.55
2661.02		0.29	8.68
2536.97		0.39	8.68
2523.07		0.32	8.78
2436.01			
2429.05			
2367.65		5.16	7.71
2289.37			
2052.59		0.217	9.32
2039.85	0.0025	3.84	8.08
1512.37	0.010	0.58	9.19
1479.91	0.0022	0.11	9.9
1425.24			
1364.53	0.03	0.9	9.07
1306.39			
1228.84	0.032	0.70	9.23
1225.35			
1145.72			
1138.55			
1069.36			
84.262			
0.0	0.24	0.56	9.71

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



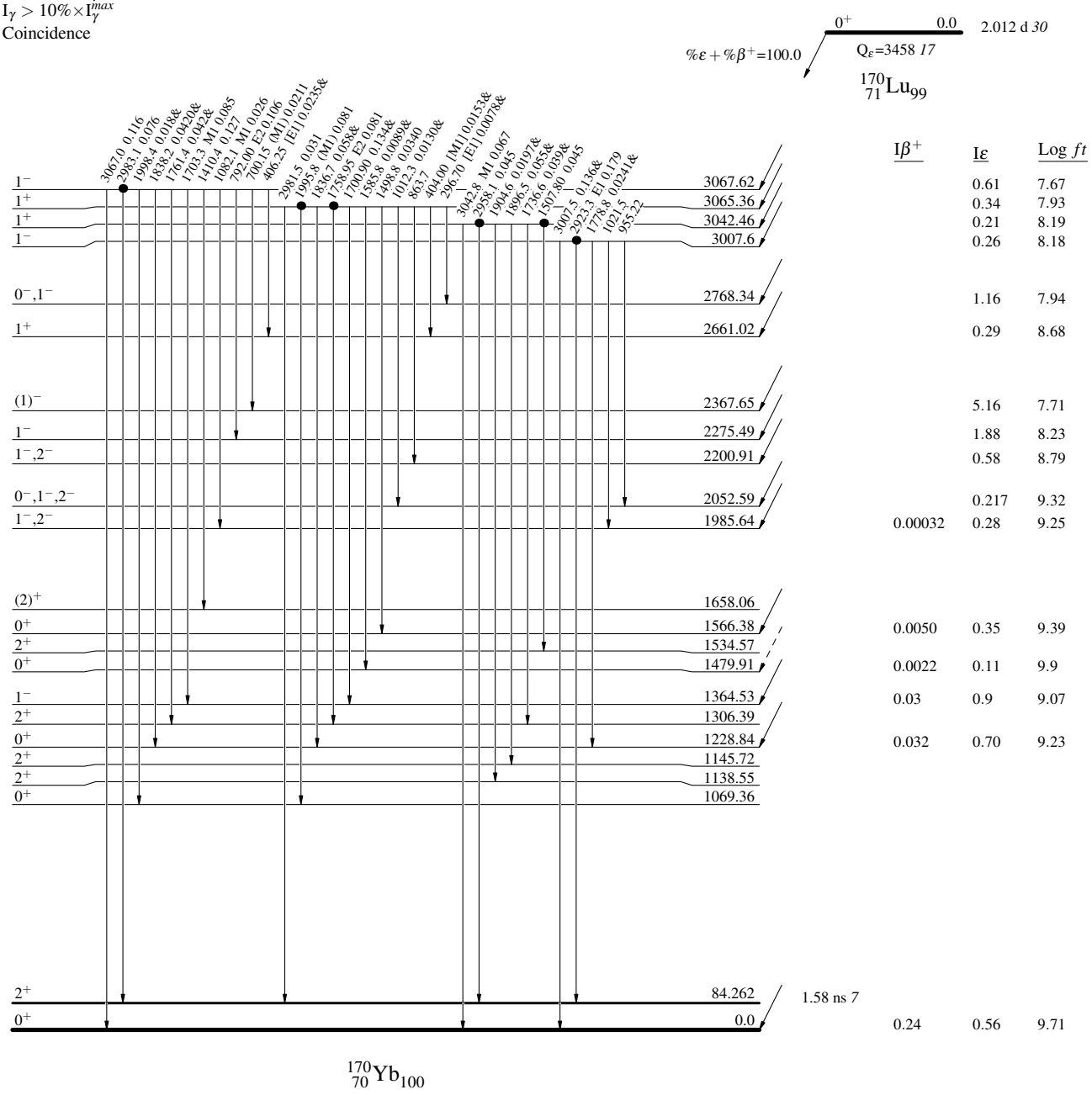
$^{170}_{70}Yb_{100}$

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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

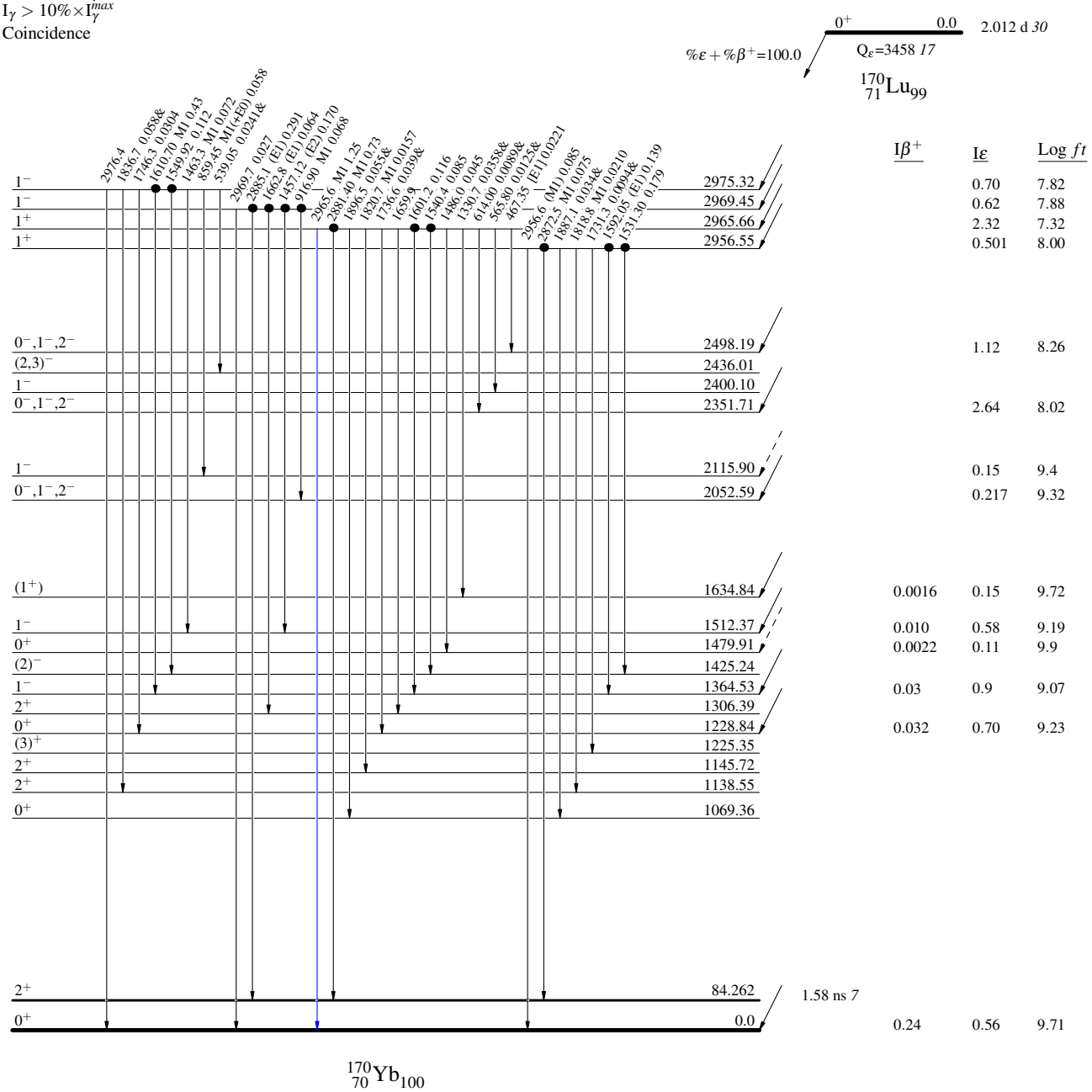


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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

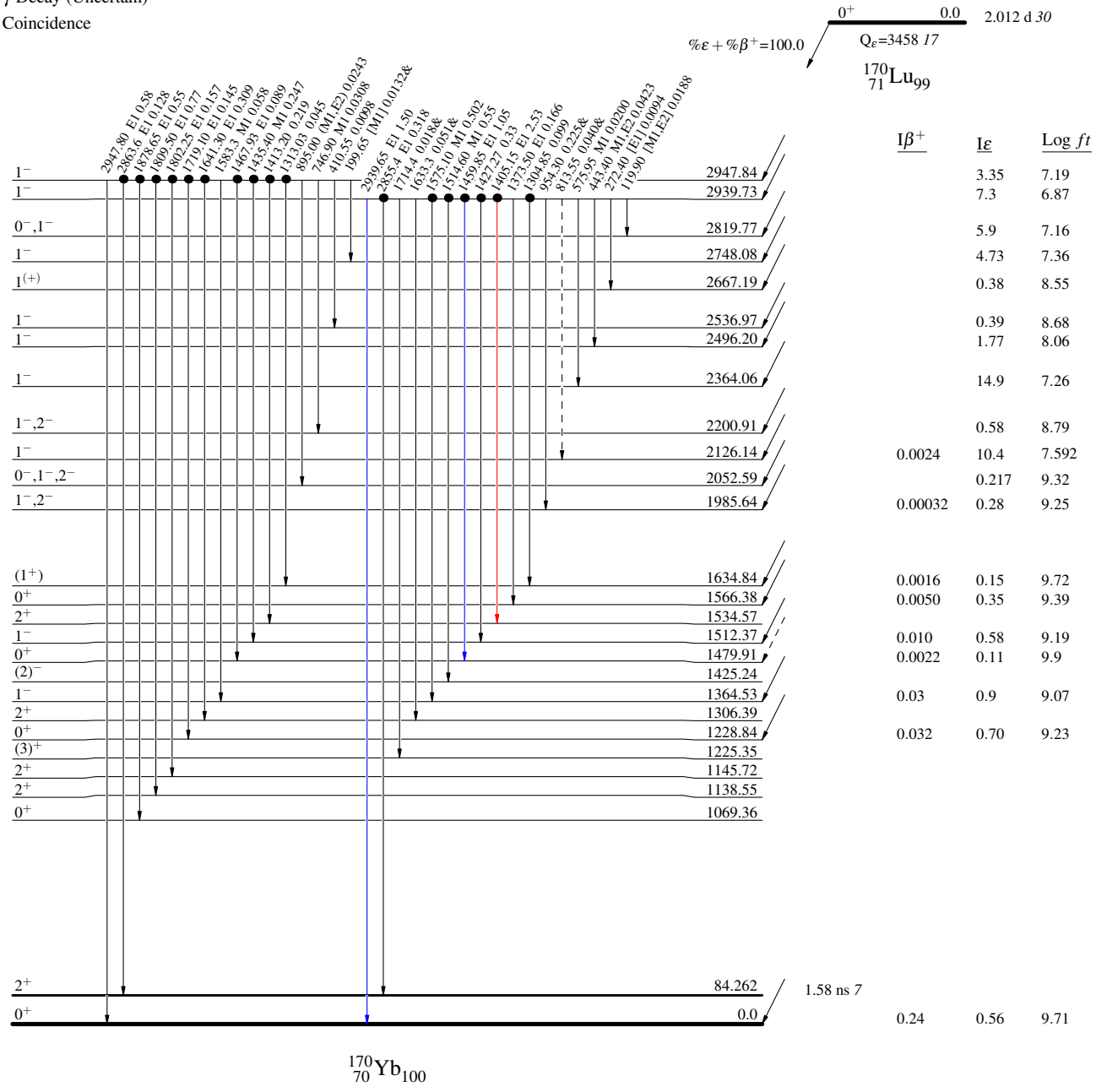


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



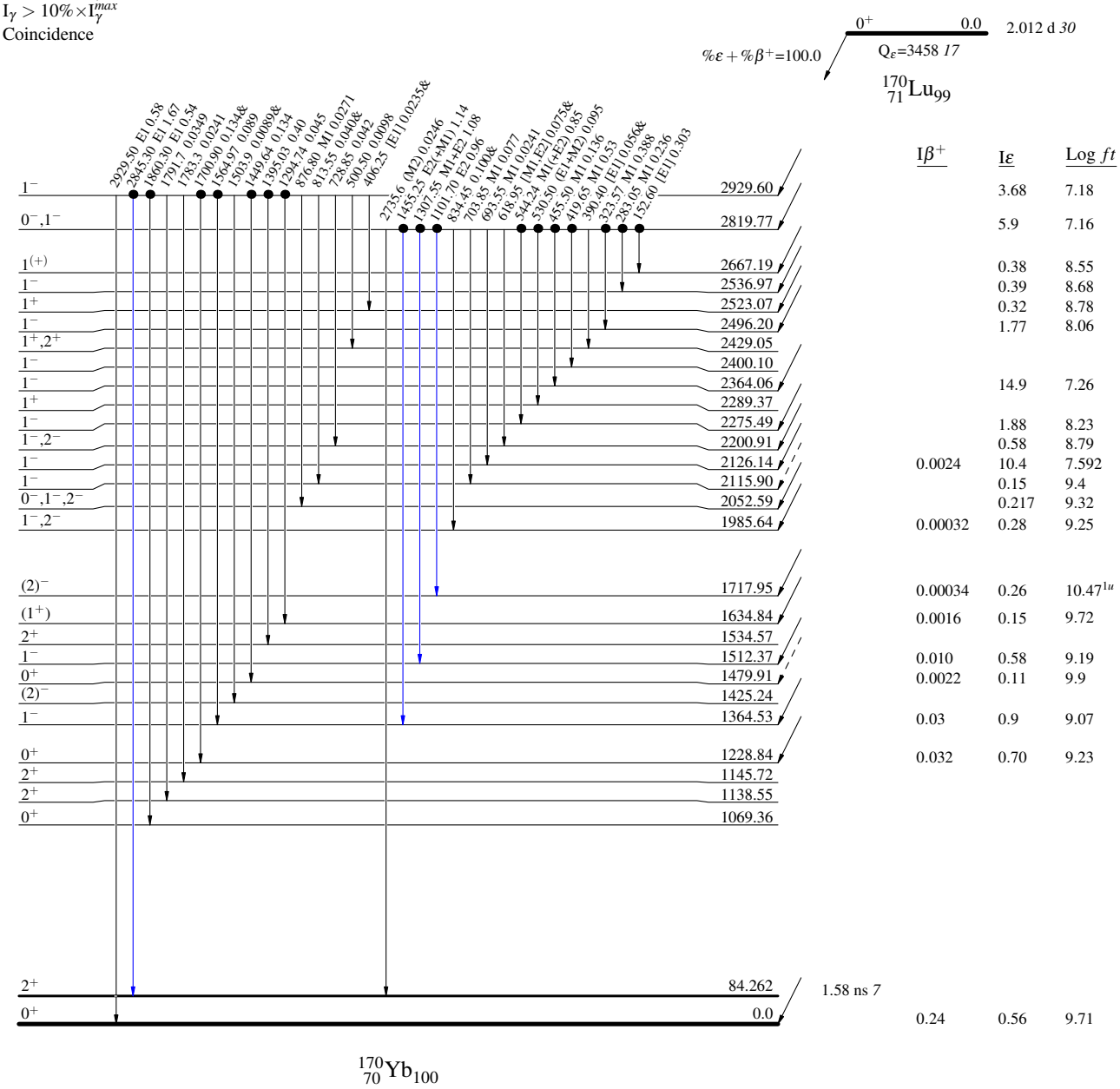
	Iβ+	Iε	Log ft
2947.84		3.35	7.19
2939.73		7.3	6.87
2819.77		5.9	7.16
2748.08		4.73	7.36
2667.19		0.38	8.55
2536.97		0.39	8.68
2496.20		1.77	8.06
2364.06		14.9	7.26
2200.91		0.58	8.79
2126.14	0.0024	10.4	7.592
2052.59		0.217	9.32
1985.64	0.00032	0.28	9.25
1634.84	0.0016	0.15	9.72
1566.38	0.0050	0.35	9.39
1512.37	0.010	0.58	9.19
1479.91	0.0022	0.11	9.9
1364.53	0.03	0.9	9.07
1228.84	0.032	0.70	9.23
84.262			
0.0	0.24	0.56	9.71

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

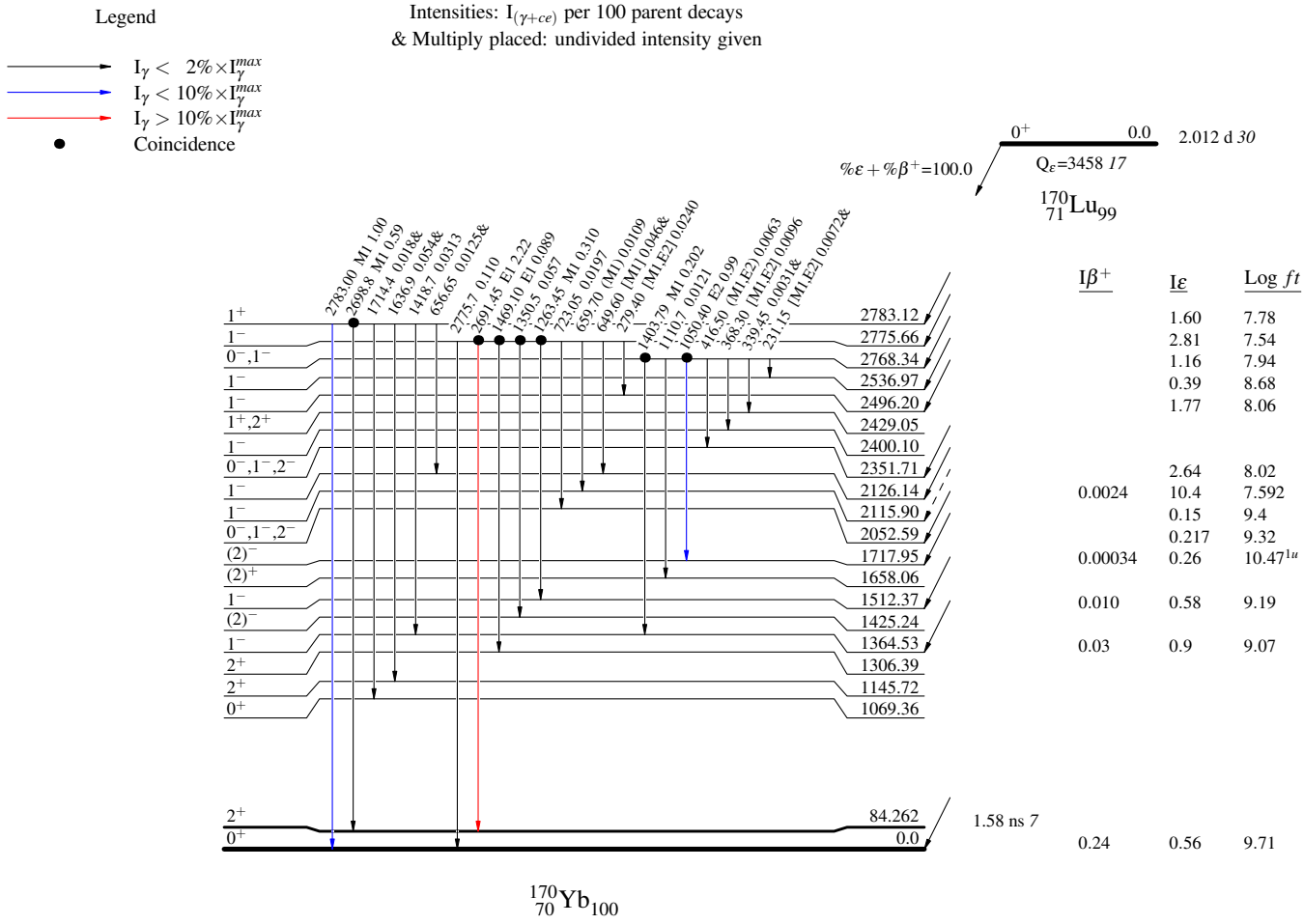
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
Coincidence



^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

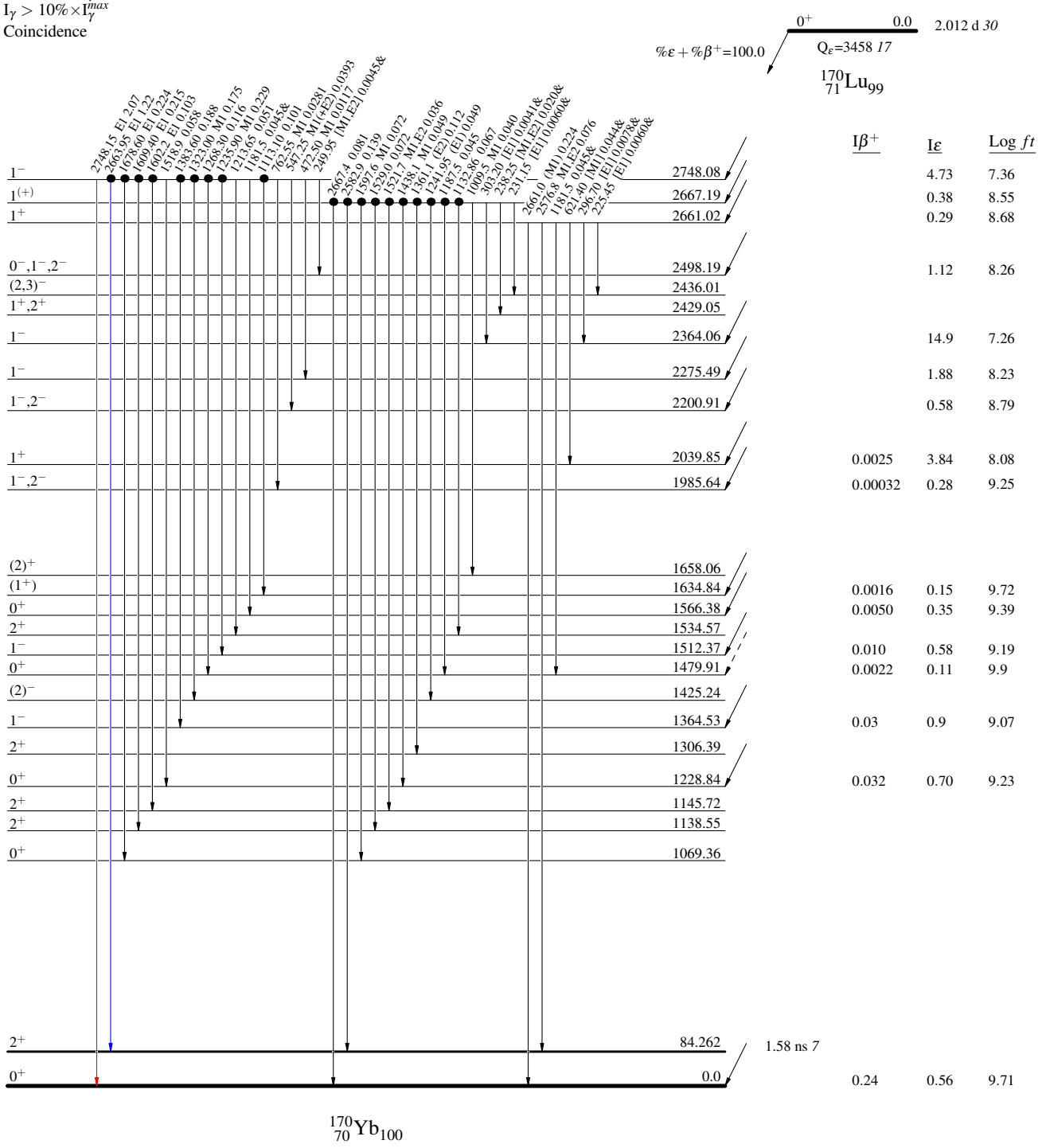


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



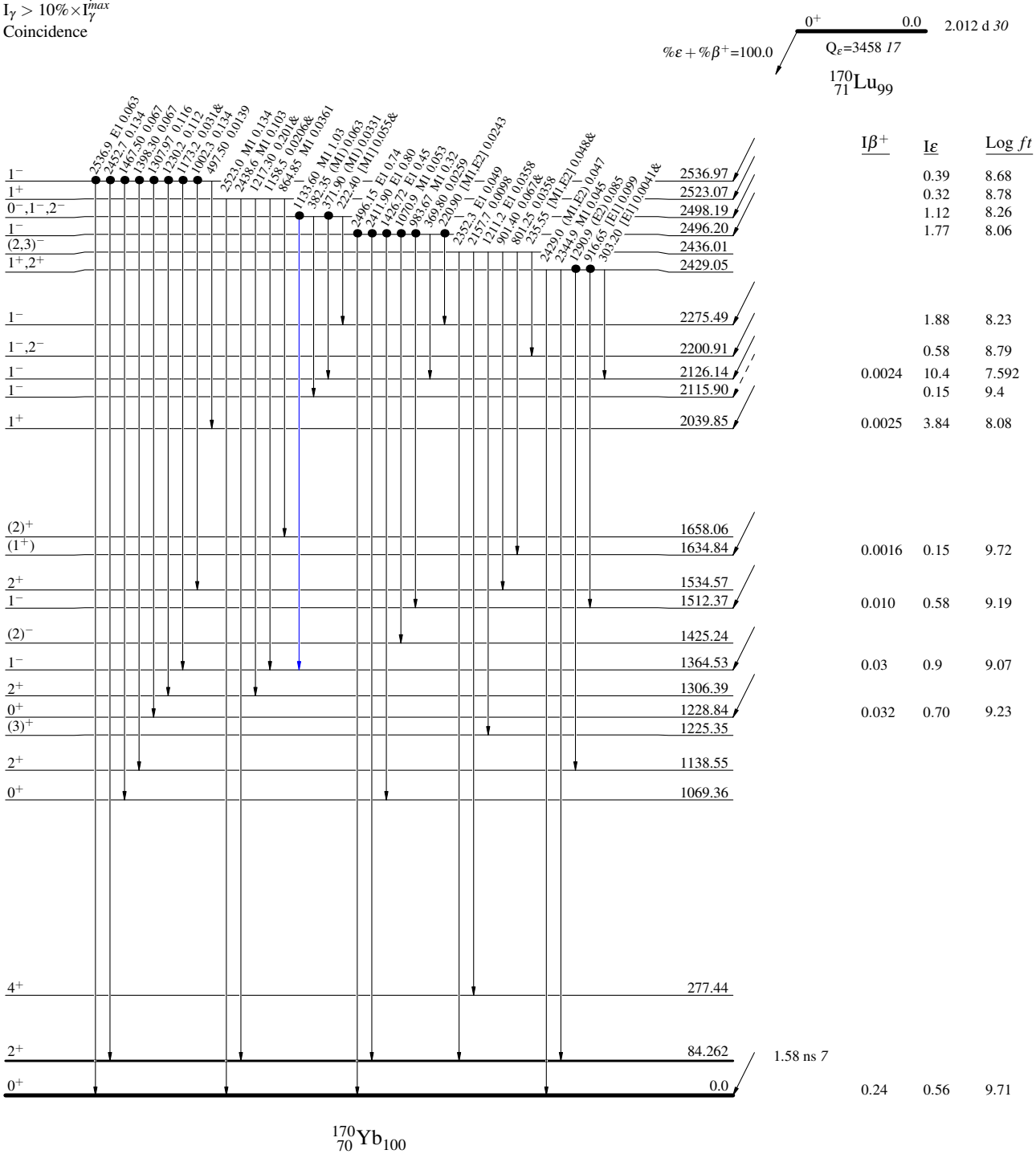
$^{170}_{70}Yb_{100}$

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



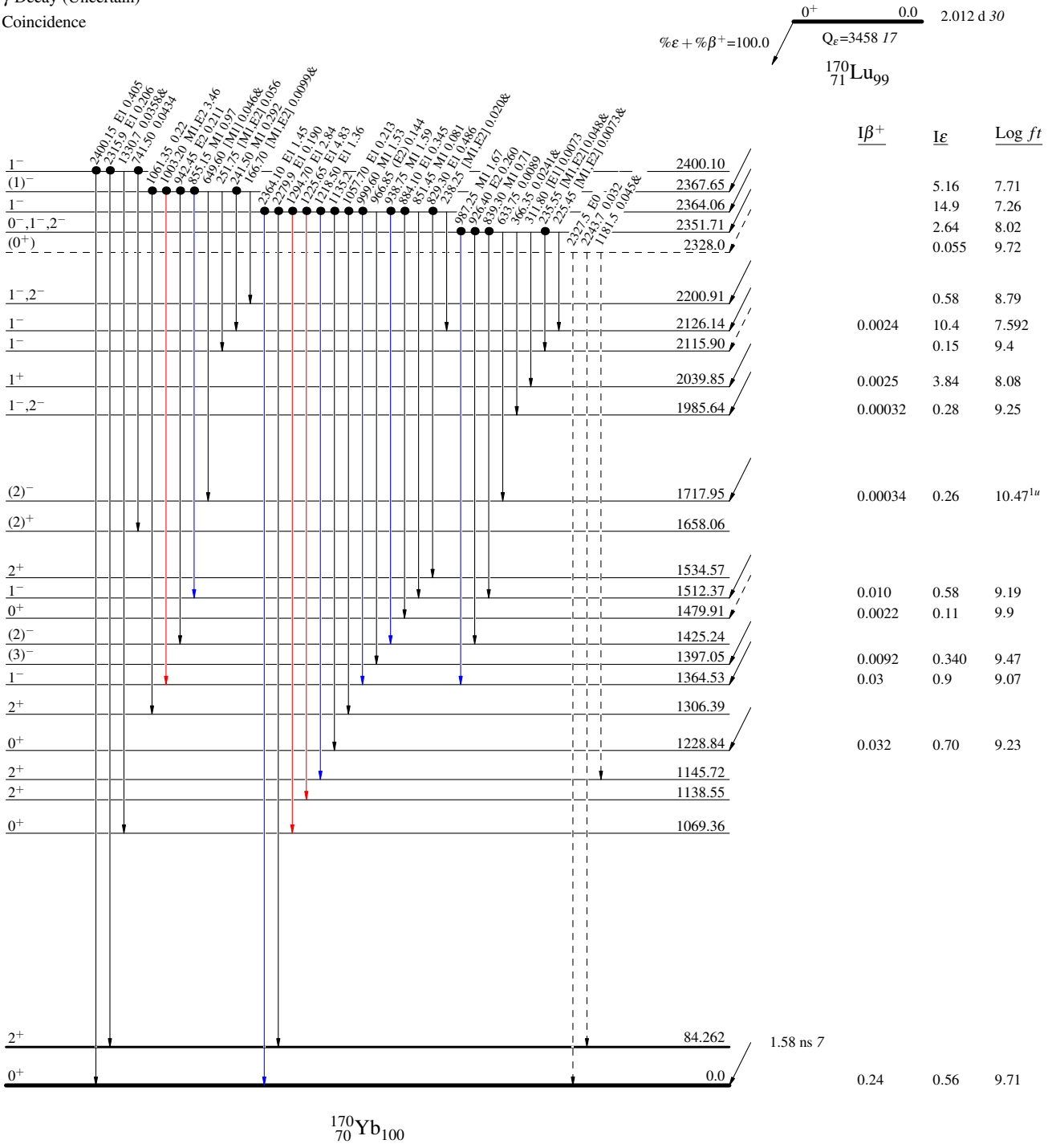
	Iβ+	Iε	Log ft
2536.97		0.39	8.68
2523.07		0.32	8.78
2498.19		1.12	8.26
2496.20		1.77	8.06
2436.01			
2429.05			
2275.49		1.88	8.23
2200.91		0.58	8.79
2126.14	0.0024	10.4	7.592
2115.90		0.15	9.4
2039.85	0.0025	3.84	8.08
1658.06			
1634.84	0.0016	0.15	9.72
1534.57			
1512.37	0.010	0.58	9.19
1425.24			
1364.53	0.03	0.9	9.07
1306.39			
1228.84	0.032	0.70	9.23
1225.35			
1138.55			
1069.36			
277.44			
84.262			
0.0	0.24	0.56	9.71

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



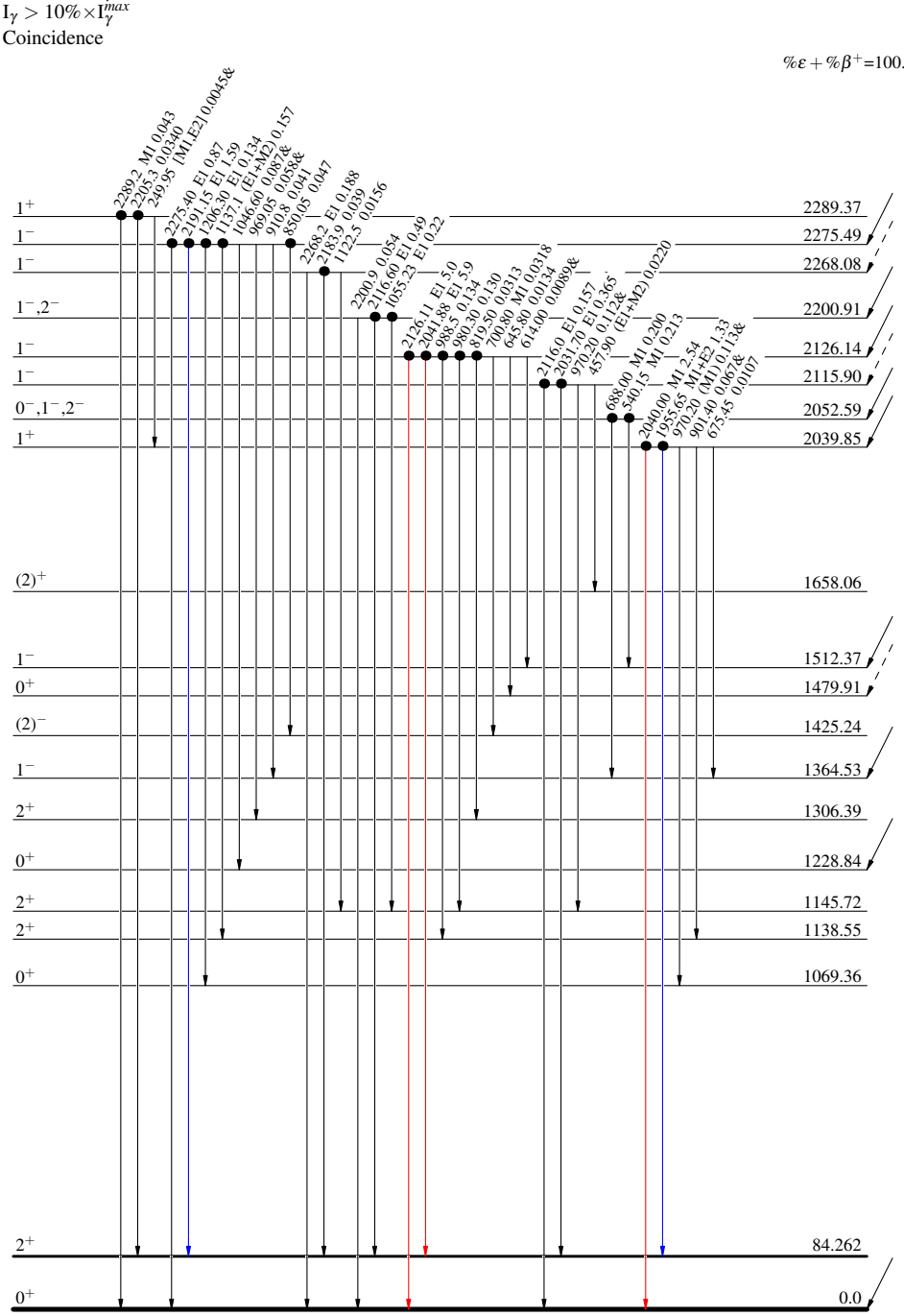
$^{170}_{70}Yb_{100}$

^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

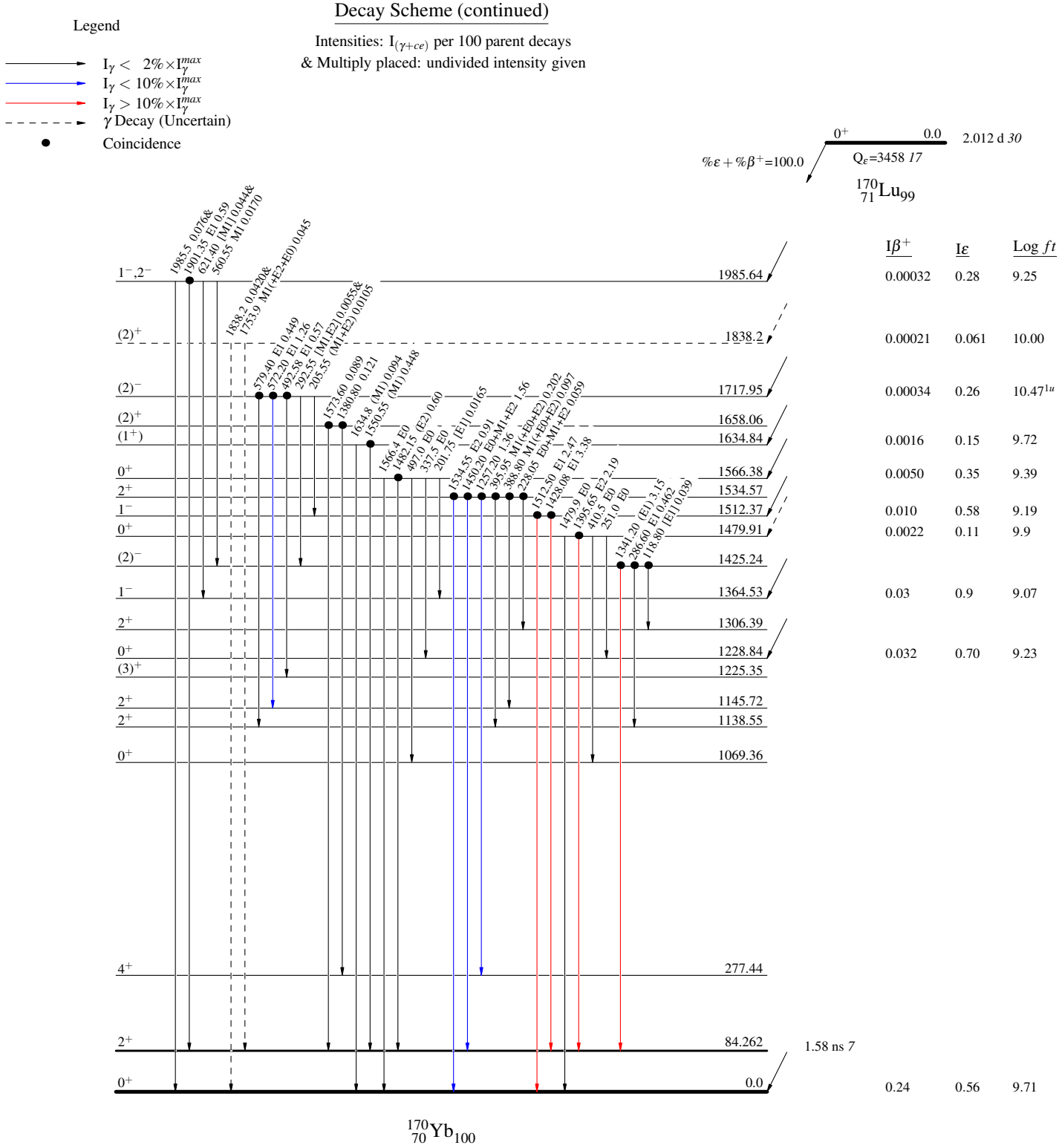
Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence



^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

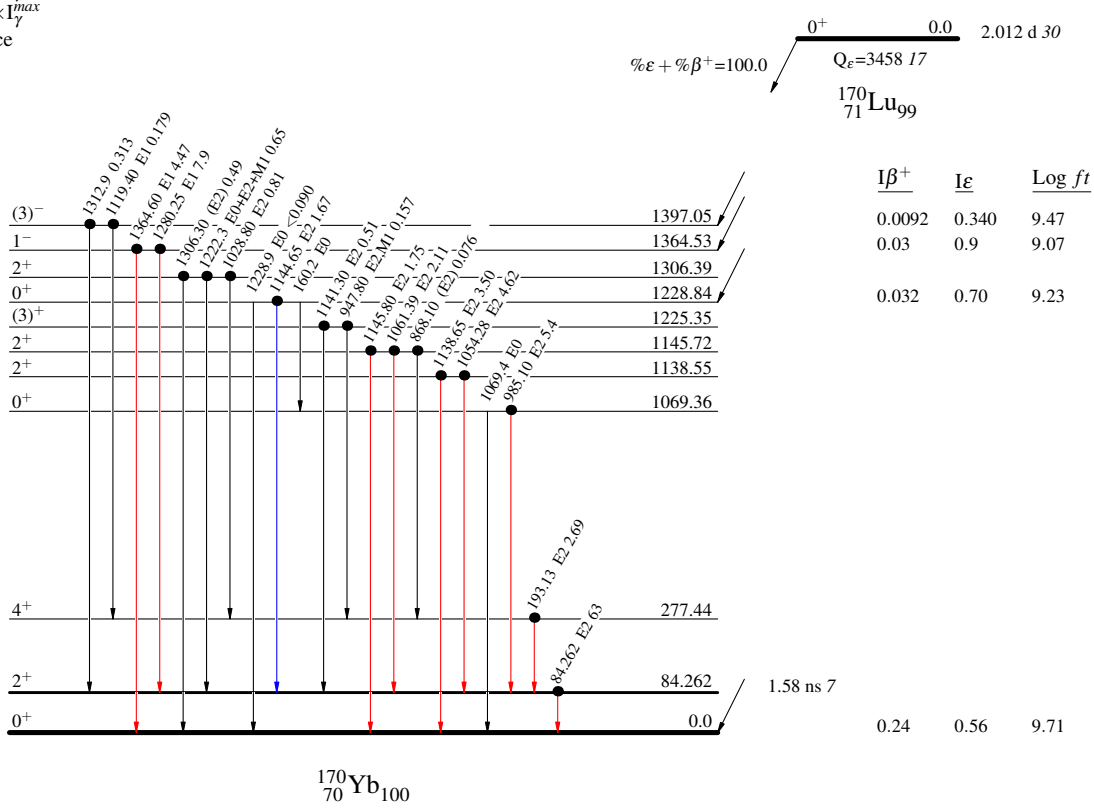


^{170}Lu ε decay 1990AbZT,1972Ca21,1970Dz11

Decay Scheme (continued)

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

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



	Iβ+	Iε	Log ft
1397.05	0.0092	0.340	9.47
1364.53	0.03	0.9	9.07
1306.39			
1228.84	0.032	0.70	9.23
1225.35			
1145.72			
1138.55			
1069.36			
277.44			
84.262			
0.0	0.24	0.56	9.71