^{161}Ho ε decay 1984Vy01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 112,2497 (2011)	1-Jun-2011

Parent: ^{161}Ho: E=0; J^π=7/2$^-$; $T_{1/2}$=2.48 h *5*; Q(ε)=858.3 *22*; %ε decay=100.0

^{161}Ho-J^π: Additional information 1.

^{161}Ho-$T_{1/2}$: Additional information 2.

^{161}Ho-Q(ε): Additional information 3.

Additional information 4.

1965Ab04: ^{161}Ho from 660-MeV p spallation of Ta target with chemical separation. ce′s studied in magnetic spectrograph with source containing Er, Ho, and their daughters. γ spectra measured with NaI detector and Ho sample. α(K)exp values were normalized to the theoretical E2 value for the 175 γ, whose multipolarity was established from L subshell ratios.

1984Vy01: ^{161}Ho from 660-MeV p spallation of a Ta target with chemical and isotopic separation. γ′s were measured with Ge detectors and ce with magnetic spectrometers. X-γ coincidences were measured.

1987BaZB: deduce δ values for 25.6 and 77.4 gammas from L-subshell ratios measured using a magnetic β spectrograph.

^{161}Dy Levels

Data are from 1984Vy01, unless noted otherwise. Level structure is also known from the β^- decay of ^{161}Tb and reaction studies. Additional information 5.

E(level)[†]	J^π[‡]	$T_{1/2}$[#]	Comments
0[@]	5/2$^+$	stable	
25.656[&] *3*	5/2$^-$	28.6 ns *4*	$T_{1/2}$: weighted average of: 27.8 ns *15* (1969Ve05); 28.6 ns *5* (1978AlZC); and 29.0 ns *14* (1975VaYX). The 0.2 ns uncertainty from 1978AlZC was increased to 0.5 ns (see the comment on this point in the Adopted Levels data set).
43.806[@] *18*	7/2$^+$	0.99 ns *13*	$T_{1/2}$: from 1975VaYX. Others: 1.0 ns *2* (1978AlZC) and 0.76 ns (1981GrZV).
74.566[a] *8*	3/2$^-$		
100.41[@] *3*	9/2$^+$	0.1 ns	$T_{1/2}$: from 1981GrZV.
103.067[&] *14*	7/2$^-$	0.60 ns *4*	$T_{1/2}$: weighted average of 0.64 ns *3* (1978AlZC) and 0.55 ns *3* (1975VaYX); other: 0.61 ns (1981GrZV).
131.764[a] *9*	5/2$^-$	0.13 ns	$T_{1/2}$: from 1981GrZV.
184.23[@] *5*	11/2$^+$		
201.077[&] *19*	9/2$^-$	0.17 ns	$T_{1/2}$: from 1981GrZV; others:≤0.3 ns (1975VaYX,1978AlZC).
212.940[a] *24*	7/2$^-$	0.066 ns	$T_{1/2}$: from 1981GrZV.
314.77[a] *10*	9/2$^-$		
320.69[&] *6*	11/2$^-$	0.125 ns	$T_{1/2}$: from 1981GrZV. Additional information 6.
366.969[b] *11*	1/2$^-$		
451.34[b] *19*	5/2$^-$		
772.18 *10*	5/2$^+$,7/2,9/2$^+$		There is also a level reported at 772.7 keV, with J^π=1/2$^+$ (see the Adopted Levels). J^π: possible bandhead of 7/2[633]. If this is correct, then J^π=7/2$^+$.
790.70[c] *4*	5/2$^-$		

† From least-squares fit to γ energies.

‡ From Adopted Levels. In this data set, the values are based on the γ multipolarities, γ decay modes, and band-structure considerations.

Information given here is only from this decay mode. See Adopted Levels for results from all decay modes.

@ Band(A): ground-state band. configuration=5/2[642].

& Band(B): 5/2[523] band.

Continued on next page (footnotes at end of table)

^{161}Ho ε decay **1984Vy01** (continued)

^{161}Dy Levels (continued)

[a] Band(C): 3/2[521] band.
[b] Band(D): 1/2[521] band.
[c] Band(E): bandhead of the 5/2[512] band.

ε radiations

E(decay)	E(level)	Iε[†]	Log *ft*	Comments
(67.6 *22*)	790.70	0.048 *8*	5.17 *10*	εK=0.23 *6*; εL=0.56 *4*; εM+=0.206 *16*
(86.1 *22*)	772.18	0.0008 *3*	7.35 *17*	εK=0.48 *3*; εL=0.388 *19*; εM+=0.135 *8*
(543.5 *22*)	314.77	0.0082 *19*	8.45 *11*	εK=0.8154; εL=0.1420; εM+=0.04263
(645.4 *22*)	212.940	0.35 *7*	6.98 *9*	εK=0.8199; εL=0.1387; εM+=0.04147
(657.2 *22*)	201.077	1.8 *3*	6.29 *8*	εK=0.8203; εL=0.1384; εM+=0.04136
(726.5 *22*)	131.764	0.60 *20*	6.86 *15*	εK=0.8224; εL=0.1368; εM+=0.04080
(755.2 *22*)	103.067	19 *4*	5.39 *10*	εK=0.8232; εL=0.1362; εM+=0.04060 1993Mu17 measure εK(exp) (i.e.,P_K) to be 0.84 *4*, in good agreement with the theoretical value of 0.823.
(757.9 *22*)	100.41	0.117 *19*	7.61 *8*	εK=0.8233; εL=0.1361; εM+=0.04058
(814.5 *22*)	43.806	2.5 *9*	6.34 *16*	εK=0.8246; εL=0.1351; εM+=0.04023
(832.6 *22*)	25.656	76 *14*	4.88 *8*	εK=0.8250; εL=0.1349; εM+=0.04013 1993Mu17 measure εK(exp) (i.e., P_K) to be 0.814 *23*, in good agreement with the theoretical value of 0.825.

[†] Absolute intensity per 100 decays.

$\gamma(^{161}$Dy)

Iγ normalization: Iγ normalization by 1984Vy01 to give 100% feeding to the ground state, assuming no capture to the ground state. If the ε transition to the g.s. has log *ft*≥5.9, the deduced Iε is<10%.

Data are from 1984Vy01, unless noted otherwise.

E_γ [†]	I_γ [†‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [#]	δ [#]	α [a]	$I_{(\gamma+ce)}$ [&]	Comments
18.15 *5*		43.806	7/2$^+$	25.656	5/2$^-$	E1		5.93 *10*	24[@] *6*	ce(L)/(γ+ce)=0.668 *7*; ce(M)/(γ+ce)=0.151 *3*; ce(N+)/(γ+ce)=0.0364 *8* ce(N)/(γ+ce)=0.0327 *7*; ce(O)/(γ+ce)=0.00360 *8*; ce(P)/(γ+ce)=9.00×10^{-5} *19* I$_\gamma$: measured value is≤7 (1984Vy01). The value computed from I(ce) is 3.3 *9*.
25.655 *3*	7.0×10^2 *7*	25.656	5/2$^-$	0	5/2$^+$	E1		2.29		α(L)=1.79 *3*; α(M)=0.399 *6*; α(N+..)=0.0984 *14* α(N)=0.0877 *13*; α(O)=0.01035 *15*; α(P)=0.000297 *5*
28.68 *3*		131.764	5/2$^-$	103.067	7/2$^-$	M1+E2	0.036 *+8−10*	15.6 *5*	4.9[@] *8*	ce(L)/(γ+ce)=0.734 *15*; ce(M)/(γ+ce)=0.162 *7*; ce(N+)/(γ+ce)=0.0431 *18* ce(N)/(γ+ce)=0.0374 *16*; ce(O)/(γ+ce)=0.00540 *21*; ce(P)/(γ+ce)=0.000293 *10* I$_\gamma$: measured value is≤2 (1984Vy01). The value computed from I(ce) is 0.31 *5*. δ: this value is somewhat different from the value derived from %E2=0.25 *+15−11*, which is that reported by 1984Vy01 from L-subshell ratios.
43.80 *3*	10 *2*	43.806	7/2$^+$	0	5/2$^+$	M1+E2	0.216 *8*	7.7 *3*		M1/M3=1.65 *17*; M1/M2=1.91 *21*; L1/L2=1.8 *5* α(L)=5.95 *21*; α(M)=1.36 *5*; α(N+..)=0.352 *13* α(N)=0.310 *12*; α(O)=0.0409 *14*; α(P)=0.001340 *20* δ: 1984Vy01 report %E2=4.5 *2* from L- and M-subshell ratios. M1/M3,M1/M2,L1/L2: from 1984Vy01.
48.86 *2*	3.0 *9*	74.566	3/2$^-$	25.656	5/2$^-$	M1+E2	−0.056 *1*	3.20		α(L)=2.50 *4*; α(M)=0.552 *8*; α(N+..)=0.1468 *21* α(N)=0.1273 *18*; α(O)=0.0184 *3*; α(P)=0.001006 *15* Mult.: deduced penetration parameter is λ=+2.5 *23* (1982Bh07,1985Bh08). These authors derive δ^2=0.0036 *2* In their analysis.
56.64[b] *3*		100.41	9/2$^+$	43.806	7/2$^+$	M1+E2	0.22 *3*	12.91 *25*	4.0[@] *9*	ce(K)/(γ+ce)=0.715 *10*; ce(L)/(γ+ce)=0.166 *13*; ce(M)/(γ+ce)=0.038 *4*; ce(N+)/(γ+ce)=0.0098 *10* ce(N)/(γ+ce)=0.0086 *9*; ce(O)/(γ+ce)=0.00117 *10*; ce(P)/(γ+ce)=4.54×10^{-5} *12* I$_\gamma$: measured value is≤0.7 (1984Vy01). The value computed from I(ce) is 0.28 *6*. δ: computed by the evaluator from the L-subshell ratios of 1984Vy01. The listed δ value implies a

$^{161}_{66}$Dy$_{95}$-3

$\gamma(^{161}$Dy) (continued)

E_γ[†]	I_γ[†‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[a]	$I_{(\gamma+ce)}$[&]	Comments
										%E2 value somewhat different from that reported by these authors.
57.200 *5*	1.4 *3*	131.764	5/2⁻	74.566	3/2⁻	M1+E2	−0.187 *16*	12.39 *19*		α(K)=9.78 *15*; α(L)=2.03 *10*; α(M)=0.459 *23*; α(N+..)=0.120 *6* α(N)=0.105 *5*; α(O)=0.0145 *6*; α(P)=0.000619 *10* Mult.: deduced penetration parameter is λ=−5 *5* (1965Su04, 1966Su03, and 1983Hn01) from λ=−7 *+6−8* (1965Su04,1966Su03) and λ=−4.0 *42* (1983Hn01). Values of δ=−0.22 and δ=−0.20, respectively, were used In these authors′ analyses. δ: from L-subshell ratios, 1984Vy01 report %E2=3.2 *13*. This is somewhat different from that implied by δ^2=0.038 *11*, computed by the evaluator from their reported L-subshell ratios.
59.23 *30*	15.5 *13*	103.067	7/2⁻	43.806	7/2⁺	E1		1.221 *24*		α(K)=0.999 *19*; α(L)=0.173 *4*; α(M)=0.0381 *8*; α(N+..)=0.00975 *20* α(N)=0.00858 *18*; α(O)=0.001126 *23*; α(P)=4.32×10^{-5} *8* Mult.: from L-subshell ratios (1984Vy01).
69.29 *5*		201.077	9/2⁻	131.764	5/2⁻	(E2)		11.19	1.5[@] *4*	ce(K)/(γ+ce)=0.191 *4*; ce(L)/(γ+ce)=0.559 *7*; ce(M)/(γ+ce)=0.1343 *25*; ce(N+)/(γ+ce)=0.0336 *7* ce(N)/(γ+ce)=0.0300 *6*; ce(O)/(γ+ce)=0.00356 *7*; ce(P)/(γ+ce)=8.70×10^{-6} *17* I_γ: measured value is≤0.1 (1984Vy01). The value computed from I(ce) is 0.12 *4*.
74.577 *9*	3.0 *3*	74.566	3/2⁻	0	5/2⁺	E1		0.672		α(K)=0.556 *8*; α(L)=0.0909 *13*; α(M)=0.0200 *3*; α(N+..)=0.00514 *8* α(N)=0.00451 *7*; α(O)=0.000603 *9*; α(P)=2.46×10^{-5} *4* δ: δ=0.00 *3*; average of −0.006 *20* (1983Ri15), 0.06 *+3−6* (1966Su03), and +0.08 *10* (1971Kr19).
77.42 *4*	49 *4*	103.067	7/2⁻	25.656	5/2⁻	M1+E2	−1.050 *8*	6.15		α(K)=3.03 *5*; α(L)=2.41 *4*; α(M)=0.572 *9*; α(N+..)=0.1444 *22* α(N)=0.1285 *20*; α(O)=0.01569 *24*; α(P)=0.0001691 *25* L1/L2=0.368 *22*; L1/L3=0.35 *2*; L2/L3=0.95 *4* L1/L2,L1/L3,L2/L3: subshell ratios are from 1984Vy01. δ: from the L-subshell ratio data of 1984Vy01, the evaluator calculates δ^2=1.106 *21*, in agreement with their reported %E2=53.7 *43*. From the L-subshell ratios of 1987BaZB, the evaluator calculates δ^2=1.094 *36*, giving essentially the same %E2 value as that given by them. From the L-subshell ratios of 1965Ab04, the evaluator calculates δ^2=1.1 *7*. 1986GrZQ report %E2=48.0 *13*, but do not show the data from which this value was derived.
81.23 *4*	1.4 *2*	212.940	7/2⁻	131.764	5/2⁻	M1+E2	0.18 *3*	4.40		α(K)=3.60 *6*; α(L)=0.62 *3*; α(M)=0.139 *8*; α(N+..)=0.0368

$^{161}_{66}$Dy$_{95}$-4

^{161}Ho ε decay 1984Vy01 (continued)

γ(^{161}Dy) (continued)

E_γ[†]	I_γ[†‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[a]	$I_{(\gamma+ce)}$[&]	Comments
										19 α(N)=0.0320 *17*; α(O)=0.00454 *19*; α(P)=0.000224 *4* δ: from L-subshell ratios (1984Vy01).
83.83 *5*		184.23	$11/2^+$	100.41	$9/2^+$	M1+E2	−0.25 *7*	4.05 *8*	0.24[@] *6*	ce(K)/(γ+ce)=0.643 *6*; ce(L)/(γ+ce)=0.124 *14*; ce(M)/(γ+ce)=0.028 *4*; ce(N+)/(γ+ce)=0.0073 *10* ce(N)/(γ+ce)=0.0064 *9*; ce(O)/(γ+ce)=0.00089 *10*; ce(P)/(γ+ce)=3.97×10^{-5} *13* I_γ: measured value is≤0.25 (1984Vy01). The value computed from I(ce) is 0.05 *1*.
84.86[b] *5*		451.34	$5/2^-$	366.969	$1/2^-$					E_γ: the energy fit of this γ is poor and it is not reported in (n,γ). So, we show it as questionable here.
87.93 *3*	0.31 *15*	131.764	$5/2^-$	43.806	$7/2^+$	(E1)		0.435		α(K)=0.362 *5*; α(L)=0.0573 *8*; α(M)=0.01257 *18*; α(N+..)=0.00325 *5* α(N)=0.00285 *4*; α(O)=0.000385 *6*; α(P)=1.638×10^{-5} *23*
98.02 *2*	3.9 *3*	201.077	$9/2^-$	103.067	$7/2^-$	M1+E2	0.9 *2*	2.71 *6*		α(K)=1.71 *12*; α(L)=0.77 *13*; α(M)=0.18 *3*; α(N+..)=0.046 *8* α(N)=0.041 *7*; α(O)=0.0052 *8*; α(P)=9.5×10^{-5} *10* δ: computed by the evaluator from L1/L2=0.67 *20*, as reported by 1984Vy01. 1965Ab04 report L1/L2=0.65, which leads to δ=0.96.
100.39 *5*	≤1.4	100.41	$9/2^+$	0	$5/2^+$	(E2)		2.67		α(K)=1.112 *16*; α(L)=1.201 *17*; α(M)=0.287 *4*; α(N+..)=0.0723 *11* α(N)=0.0645 *10*; α(O)=0.00775 *11*; α(P)=4.61×10^{-5} *7* I_γ: value includes the contribution from the 100.64 G.
100.64 *5*	≤1.4	201.077	$9/2^-$	100.41	$9/2^+$	(E1)		0.303		α(K)=0.253 *4*; α(L)=0.0393 *6*; α(M)=0.00861 *13*; α(N+..)=0.00223 *4* α(N)=0.00196 *3*; α(O)=0.000267 *4*; α(P)=1.169×10^{-5} *17* I_γ: value includes the contribution from the 100.39 G.
102.0[b]		314.77	$9/2^-$	212.940	$7/2^-$					
103.05 *2*	100	103.067	$7/2^-$	0	$5/2^+$	E1		0.285		α(K)=0.238 *4*; α(L)=0.0368 *6*; α(M)=0.00806 *12*; α(N+..)=0.00209 *3* α(N)=0.00183 *3*; α(O)=0.000250 *4*; α(P)=1.102×10^{-5} *16*
106.23 *5*		131.764	$5/2^-$	25.656	$5/2^-$	M1+E2	−0.85 *35*	2.08 *5*	0.33[@] *6*	ce(K)/(γ+ce)=0.45 *3*; ce(L)/(γ+ce)=0.17 *4*; ce(M)/(γ+ce)=0.041 *12*; ce(N+)/(γ+ce)=0.010 *3* ce(N)/(γ+ce)=0.009 *3*; ce(O)/(γ+ce)=0.0012 *3*; ce(P)/(γ+ce)=2.5×10^{-5} *5* I_γ: measured value is≤0.25 (1984Vy01). The value computed from I(ce) is 0.11 *2*.
107.74[b] *5*	≤0.01	320.69	$11/2^-$	212.940	$7/2^-$					
109.83 *4*		212.940	$7/2^-$	103.067	$7/2^-$	(M1)		1.83	0.18[@] *6*	ce(K)/(γ+ce)=0.544 *5*; ce(L)/(γ+ce)=0.0800 *13*; ce(M)/(γ+ce)=0.0176 *3*; ce(N+)/(γ+ce)=0.00470 *8* ce(N)/(γ+ce)=0.00407 *7*; ce(O)/(γ+ce)=0.000595 *10*;

γ(^{161}Dy) (continued)

E_γ[†]	I_γ[†‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[a]	Comments
								ce(P)/(γ+ce)=3.39×10^{-5} *6* I_γ: measured value is≤0.038 (1984Vy01). The value computed from I(ce) is 0.06 *2*.
112.52 *5*	0.090 *15*	212.940	7/2$^-$	100.41	9/2$^+$	E1	0.225	α(K)=0.188 *3*; α(L)=0.0288 *4*; α(M)=0.00631 *9*; α(N+..)=0.001639 *23* α(N)=0.001434 *21*; α(O)=0.000197 *3*; α(P)=8.84×10^{-6} *13*
119.61 *5*	0.025 *8*	320.69	11/2$^-$	201.077	9/2$^-$	M1,E2	1.421 *25*	α(K)=1.0 *3*; α(L)=0.36 *19*; α(M)=0.08 *5*; α(N+..)=0.022 *12* α(N)=0.019 *10*; α(O)=0.0024 *11*; α(P)=5.3×10^{-5} *23*
131.8[b]	≤0.03	131.764	5/2$^-$	0	5/2$^+$			E_γ: placement doubtful, since J^π value requires E1, while the data suggest otherwise.
138.39 *5*	0.45 *4*	212.940	7/2$^-$	74.566	3/2$^-$	E2	0.836	α(K)=0.467 *7*; α(L)=0.285 *4*; α(M)=0.0676 *10*; α(N+..)=0.01709 *24* α(N)=0.01520 *22*; α(O)=0.00186 *3*; α(P)=2.04×10^{-5} *3*
140.4 *1*	≤0.06	184.23	11/2$^+$	43.806	7/2$^+$	[E2]	0.795	α(K)=0.448 *7*; α(L)=0.267 *4*; α(M)=0.0634 *10*; α(N+..)=0.01604 *23* α(N)=0.01427 *21*; α(O)=0.00175 *3*; α(P)=1.97×10^{-5} *3*
157.26 *6*	12.5 *10*	201.077	9/2$^-$	43.806	7/2$^+$	E1	0.0919	α(K)=0.0773 *11*; α(L)=0.01142 *16*; α(M)=0.00250 *4*; α(N+..)=0.000653 *10* α(N)=0.000570 *8*; α(O)=7.95×10^{-5} *12*; α(P)=3.80×10^{-6} *6*
175.42 *5*	11.1 *10*	201.077	9/2$^-$	25.656	5/2$^-$	E2	0.368	α(K)=0.234 *4*; α(L)=0.1030 *15*; α(M)=0.0243 *4*; α(N+..)=0.00617 *9* α(N)=0.00548 *8*; α(O)=0.000684 *10*; α(P)=1.082×10^{-5} *16*
183.0 *1*	0.21 *3*	314.77	9/2$^-$	131.764	5/2$^-$			
187.3 *2*	0.043 *7*	212.940	7/2$^-$	25.656	5/2$^-$	M1,E2	0.35 *6*	α(K)=0.27 *8*; α(L)=0.064 *15*; α(M)=0.015 *4*; α(N+..)=0.0038 *9* α(N)=0.0034 *9*; α(O)=0.00045 *8*; α(P)=1.5×10^{-5} *7*
212.80 *15*	0.024 *8*	212.940	7/2$^-$	0	5/2$^+$	E1	0.0413	α(K)=0.0349 *5*; α(L)=0.00504 *8*; α(M)=0.001101 *16*; α(N+..)=0.000290 *4* α(N)=0.000252 *4*; α(O)=3.56×10^{-5} *5*; α(P)=1.78×10^{-6} *3*
217.6[b] *1*	≤0.003	320.69	11/2$^-$	103.067	7/2$^-$	E2	0.179	α(K)=0.1236 *18*; α(L)=0.0427 *6*; α(M)=0.00998 *14*; α(N+..)=0.00255 *4* α(N)=0.00226 *4*; α(O)=0.000288 *4*; α(P)=6.01×10^{-6} *9* Mult.: 1984Vy01 report M1,E2. J^π assignments require E2.
238.40 *25*	0.018 *6*	451.34	5/2$^-$	212.940	7/2$^-$			
[x]252	≤0.005							
292.401 *7*		366.969	1/2$^-$	74.566	3/2$^-$			
319.6 *3*	0.017 *6*	451.34	5/2$^-$	131.764	5/2$^-$			
341.38 *5*		366.969	1/2$^-$	25.656	5/2$^-$			
348.2		451.34	5/2$^-$	103.067	7/2$^-$			E_γ: γ is in decay scheme, but not in γ list (1984Vy01).
376.5		451.34	5/2$^-$	74.566	3/2$^-$			E_γ: γ is in decay scheme, but not in γ list (1984Vy01).
425.8		451.34	5/2$^-$	25.656	5/2$^-$			E_γ: γ is in decay scheme, but not in γ list (1984Vy01).
577.9 *2*	0.013 *5*	790.70	5/2$^-$	212.940	7/2$^-$			
658.95 *10*	0.061 *7*	790.70	5/2$^-$	131.764	5/2$^-$	M1,E2	0.011 *4*	α(K)=0.009 *4*; α(L)=0.0014 *4*; α(M)=0.00031 *8*; α(N+..)=8.2×10^{-5} *21* α(N)=7.1×10^{-5} *18*; α(O)=1.0×10^{-5} *3*; α(P)=5.6×10^{-7} *21*
669.0[b] *3*	0.0030 *15*	772.18	5/2$^+$,7/2,9/2$^+$	103.067	7/2$^-$			
672.5 *3*	0.0045 *15*	772.18	5/2$^+$,7/2,9/2$^+$	100.41	9/2$^+$			
687.5 *1*	0.125 *10*	790.70	5/2$^-$	103.067	7/2$^-$	M1,E2	0.010 *4*	α(K)=0.008 *3*; α(L)=0.0013 *4*; α(M)=0.00028 *7*; α(N+..)=7.4×10^{-5} *19* α(N)=6.4×10^{-5} *16*; α(O)=9.3×10^{-6} *25*; α(P)=5.1×10^{-7} *18*

$\gamma(^{161}Dy)$ (continued)

E_γ[†]	I_γ[†‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[a]	Comments
716.09 *8*	0.096 *10*	790.70	5/2⁻	74.566	3/2⁻	M1,E2	0.009 *3*	α(K)=0.0077 *25*; α(L)=0.0011 *3*; α(M)=0.00025 *7*; α(N+..)=6.7×10⁻⁵ *17* α(N)=5.8×10⁻⁵ *15*; α(O)=8.4×10⁻⁶ *23*; α(P)=4.6×10⁻⁷ *16*
[x]728.2	≤0.025							
746.98 *5*	0.122 *12*	790.70	5/2⁻	43.806	7/2⁺	E1	0.00219	α(K)=0.00187 *3*; α(L)=0.000252 *4*; α(M)=5.47×10⁻⁵ *8*; α(N+..)=1.455×10⁻⁵ *21* α(N)=1.261×10⁻⁵ *18*; α(O)=1.84×10⁻⁶ *3*; α(P)=1.038×10⁻⁷ *15*
764.96 *8*	0.437 *35*	790.70	5/2⁻	25.656	5/2⁻	M1,E2	0.0078 *24*	α(K)=0.0066 *21*; α(L)=0.00096 *25*; α(M)=0.00021 *6*; α(N+..)=5.6×10⁻⁵ *15* α(N)=4.9×10⁻⁵ *13*; α(O)=7.1×10⁻⁶ *19*; α(P)=3.9×10⁻⁷ *14*
772.1 *1*	0.017 *6*	772.18	5/2⁺,7/2,9/2⁺	0	5/2⁺			
790.68 *8*	0.361 *30*	790.70	5/2⁻	0	5/2⁺	E1	0.00196	α(K)=0.001673 *24*; α(L)=0.000224 *4*; α(M)=4.87×10⁻⁵ *7*; α(N+..)=1.296×10⁻⁵ *19* α(N)=1.124×10⁻⁵ *16*; α(O)=1.636×10⁻⁶ *23*; α(P)=9.29×10⁻⁸ *13*

[†] From 1984Vy01. Others: 1965Ab04, 1965St08.

[‡] I(K x ray)=242×10¹ *17*.

[#] From the Adopted Gammas data set. The data types are α, L- and M-subshell ratios, γ(θ), and γγ(θ). See the Adopted Gammas data set for comments on specific cases.

[@] Computed by evaluator from electron intensities (1984Vy01) and conversion coefficients.

[&] For absolute intensity per 100 decays, multiply by 0.039 *6*.

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

[b] Placement of transition in the level scheme is uncertain.

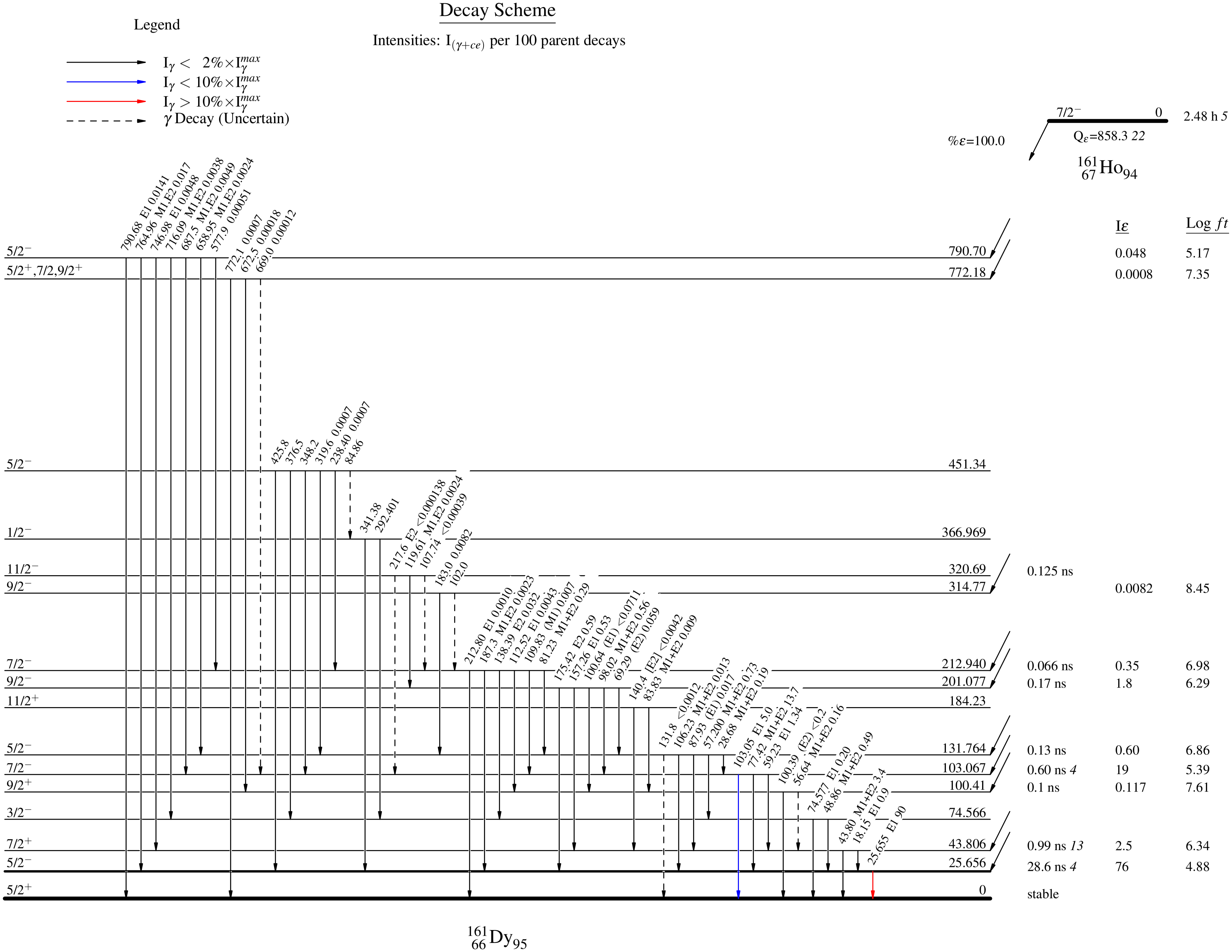
[x] γ ray not placed in level scheme.

$^{161}_{66}Dy_{95}$-7

^{161}Ho ε decay 1984Vy01

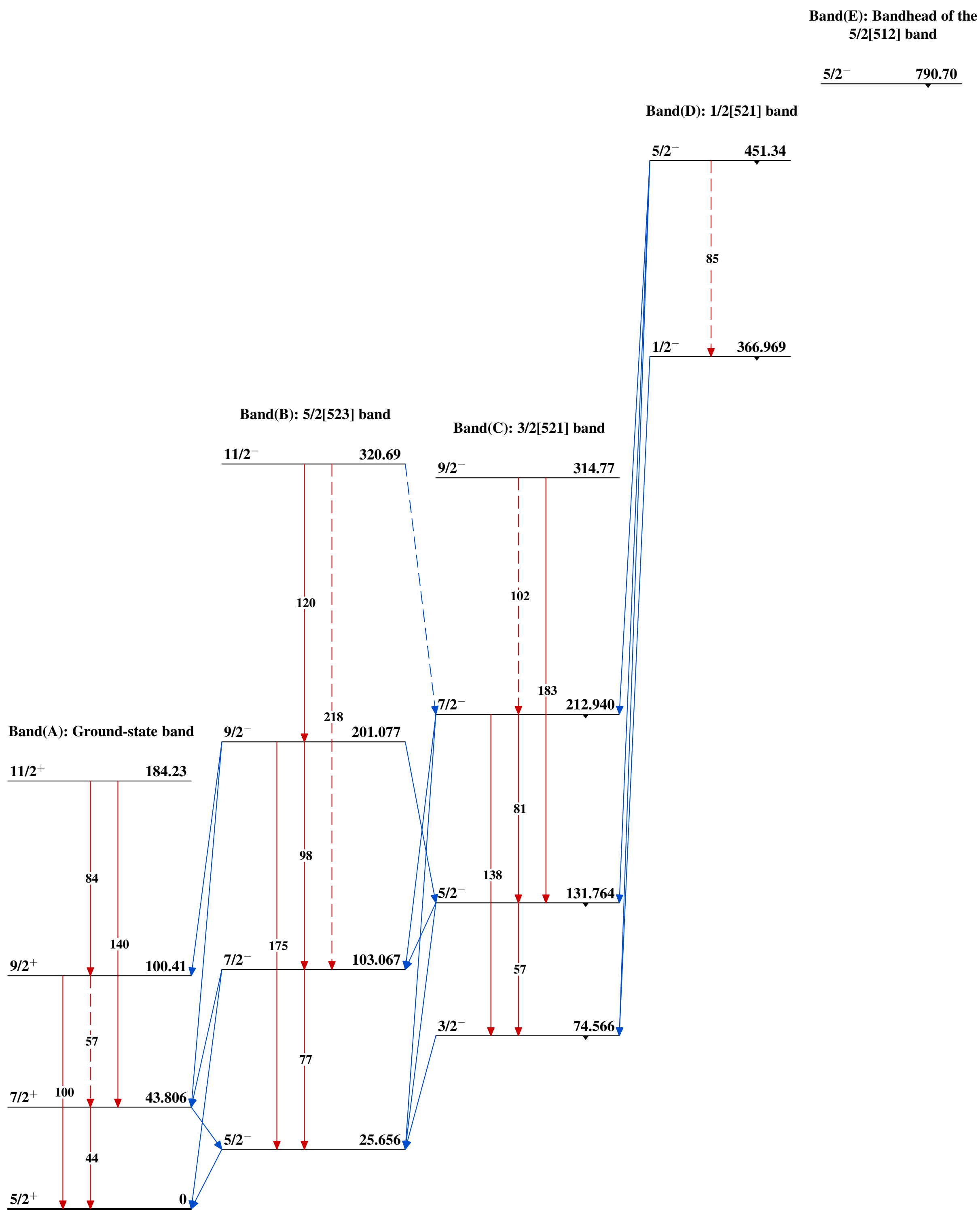
Decay Scheme

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



$^{161}_{66}Dy_{95}$-8

^{161}Ho ε decay 1984Vy01



$^{161}_{66}Dy_{95}$