^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	08-Dec-2015

2000Ho16: E(^{18}O)=93 MeV. Measured Eγ, Iγ, $\gamma\gamma$, and $\gamma\gamma(\theta)$(DCO), γ(t) using the GASP array, containing 40 Compton-suppressed large volume Ge detectors, and a multiplicity filter of 80 BGO elements. Target=2 mg/cm^2 Tb foil backed with a 2 mg/cm^2 evaporated Bi layer. Deduced high-spin levels, J, π, multipolarities by DCO data, bands. This experiment was carried out at Legnaro accelerator facility.

In a second experiment at TANDAR accelerator facility, ^{165}Ho(^{12}C,5nγ),E(^{12}C)=79 MeV was used to search for isomers and determine multipolarities through conversion electron measurements, and delayed electron spectrum using a high resolution Ge planar detector, an 11 NaI(T1) element multiplicity filter and a Si(Li) detector coupled to a mini-orange spectrometer. Previous work from the same group is reported by 1988Kr19, see a separate dataset from this experiment.

^{172}Ta Levels

B(M1)/B(E2) values are from 2000Ho16 deduced assuming pure M1 for the J+1 to J transition in the band.

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[@]	Comments
0.0[p]	(3$^+$)		
3.0?	(+)		
91.5[p] 3	(5$^+$)		
93.2[n] 3	(4$^-$)	7 ns 2	
164.2[q] 7	(4$^+$)		
172.6[o] 4	(5$^-$)		
265.2[p] 5	(7$^+$)		
274.8[n] 4	(6$^-$)		B(M1)/B(E2)=0.26 5.
325.5[q] 6	(6$^+$)		
400.5[o] 5	(7$^-$)		B(M1)/B(E2)=0.28 5.
520.5[p] 5	(9$^+$)		
548.2[n] 5	(8$^-$)		B(M1)/B(E2)=0.29 4.
573.8[q] 5	(8$^+$)		
717.3[o] 5	(9$^-$)		B(M1)/B(E2)=0.28 4.
851.4[p] 6	(11$^+$)		
902.4[q] 6	(10$^+$)		
906.5[n] 5	(10$^-$)		B(M1)/B(E2)=0.25 4.
1113.7[o] 5	(11$^-$)		B(M1)/B(E2)=0.28 5.
1249.5[p] 7	(13$^+$)		
1303.9[q] 6	(12$^+$)		
1338.1[n] 5	(12$^-$)		B(M1)/B(E2)=0.25 4.
1574.9[o] 6	(13$^-$)		B(M1)/B(E2)=0.29 5.
1705.6[p] 8	(15$^+$)		
1777.2[q] 7	(14$^+$)		
1829.1[n] 6	(14$^-$)		B(M1)/B(E2)=0.30 5.
2089.2[o] 6	(15$^-$)		
2214.1[p] 8	(17$^+$)		
2321.5[q] 8	(16$^+$)		
2371.2[n] 6	(16$^-$)		
2655.4[o] 6	(17$^-$)		
2774.1[p] 9	(19$^+$)		
2959.9[n] 6	(18$^-$)		
3265.0[o] 7	(19$^-$)		
3388.4[p] 9	(21$^+$)		

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^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

^{172}Ta Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$@	Comments
3603.9[n] 7	(20⁻)		
3937.0[o] 7	(21⁻)		
4059.7[p] 10	(23⁺)		
4788.8[p] 10	(25⁺)		
5574.8[p] 11	(27⁺)		
6414.8[p] 11	(29⁺)		
7304.8[p] 12	(31⁺)		
0.0+x[&]	(4⁻)		Additional information 1.
23.7+x 6	(5⁻,6⁻)		
36.63+x[a] 24	(5⁻)		
73.0+x 5	(6⁺)	50 ns 2	
90.74+x[&] 24	(6⁻)		
151.1+x[m] 5	(7⁺)		
164.7+x[a] 3	(7⁻)		B(M1)/B(E2)=0.46 12.
166.6+x[k] 5	(7⁺)#		
251.4+x[&] 3	(8⁻)		B(M1)/B(E2)=0.42 8.
253.0+x[g] 5	(7⁺)	37 ns 3	
265.0+x[l] 5	(8⁺)		B(M1)/B(E2)=0.37 7.
278.1+x[b] 4	(8⁻)		
287.7+x[j] 5	(8⁺)		
293.3+x[i] 6	(5⁺)		
368.5+x[a] 4	(9⁻)		B(M1)/B(E2)=0.27 4.
389.4+x[c] 5	(9⁻)		
404.1+x[m] 5	(9⁺)		B(M1)/B(E2)=0.29 6.
407.5+x[h] 6	(6⁺)		
423.0+x[f] 5	(8⁺)		
435.4+x[k] 5	(9⁺)#		B(M1)/B(E2)=0.62 12.
487.3+x[&] 4	(10⁻)		B(M1)/B(E2)=0.31 5.
526.7+x[b] 5	(10⁻)		B(M1)/B(E2)=4.8 10.
540.9+x[i] 6	(7⁺)		
567.7+x[l] 5	(10⁺)		B(M1)/B(E2)=0.16 2.
608.4+x[j] 5	(10⁺)		B(M1)/B(E2)=0.50 8.
613.1+x[g] 5	(9⁺)		B(M1)/B(E2)=0.91 22.
656.8+x[a] 4	(11⁻)		B(M1)/B(E2)=0.26 4.
689.4+x[c] 5	(11⁻)		B(M1)/B(E2)=0.94 13.
702.8+x[h] 6	(8⁺)		
755.9+x[m] 5	(11⁺)		B(M1)/B(E2)=0.09 1.
805.1+x[k] 5	(11⁺)#		B(M1)/B(E2)=0.42 6.
807.4+x[&] 4	(12⁻)		B(M1)/B(E2)=0.23 4.
821.3+x[f] 6	(10⁺)		B(M1)/B(E2)=0.81 16.
877.9+x[b] 5	(12⁻)		B(M1)/B(E2)=1.40 21.
890.4+x[i] 6	(9⁺)		
966.7+x[l] 5	(12⁺)		B(M1)/B(E2)=0.14 3.
1025.0+x[j] 5	(12⁺)		B(M1)/B(E2)=0.34 5.
1033.6+x[a] 5	(13⁻)		B(M1)/B(E2)=0.26 3.
1043.4+x[g] 6	(11⁺)		B(M1)/B(E2)=0.70 14.
1058.8+x[e] 6	J1		
1090.1+x[c] 5	(13⁻)		B(M1)/B(E2)=1.16 19.
1103.3+x[h] 6	(10⁺)		

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^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

^{172}Ta Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
1198.2+x[m] 5	(13$^+$)	B(M1)/B(E2)=0.12 *2*.
1216.8+x[&] 5	(14$^-$)	B(M1)/B(E2)=0.25 *4*.
1258.3+x[e] 7	J1+1	
1264.1+x[k] 5	(13$^+$)[#]	B(M1)/B(E2)=0.45 *10*.
1281.0+x[f] 6	(12$^+$)	B(M1)/B(E2)=0.55 *10*.
1326.1+x[b] 6	(14$^-$)	B(M1)/B(E2)=1.18 *17*.
1340.9+x[i] 7	(11$^+$)	
1450.3+x[l] 5	(14$^+$)	
1490.6+x[e] 7	J1+2	B(M1)/B(E2)=1.26 *29*.
1497.1+x[a] 5	(15$^-$)	B(M1)/B(E2)=0.29 *4*.
1525.7+x[j] 6	(14$^+$)	B(M1)/B(E2)=0.30 *5*.
1537.3+x[g] 6	(13$^+$)	
1583.7+x[c] 6	(15$^-$)	B(M1)/B(E2)=1.01 *15*.
1602.4+x[h] 7	(12$^+$)	
1715.2+x[&] 5	(16$^-$)	B(M1)/B(E2)=0.17 *3*.
1719.0+x[m] 5	(15$^+$)	B(M1)/B(E2)=0.16 *3*.
1735.5+x[e] 7	J1+3	B(M1)/B(E2)=1.37 *25*.
1779.7+x[f] 6	(14$^+$)	
1800.2+x[k] 6	(15$^+$)[#]	B(M1)/B(E2)=0.27 *5*.
1841.6+x[d] 6	J2	
1861.5+x[b] 6	(16$^-$)	B(M1)/B(E2)=1.33 *27*.
1886.5+x[i] 7	(13$^+$)	
2005.8+x[l] 5	(16$^+$)	B(M1)/B(E2)=0.17 *3*.
2009.9+x[e] 7	J1+4	B(M1)/B(E2)=0.85 *15*.
2039.8+x[d] 7	J2+1	
2042.5+x[a] 5	(17$^-$)	
2097.9+x[j] 6	(16$^+$)	
2160.7+x[c] 6	(17$^-$)	B(M1)/B(E2)=1.26 *21*.
2192.4+x[h] 7	(14$^+$)	
2293.9+x[e] 7	J1+5	B(M1)/B(E2)=1.54 *28*.
2295.5+x[d] 7	J2+3	
2299.4+x[&] 5	(18$^-$)	
2299.9+x[f] 7	(16$^+$)	
2307.1+x[m] 6	(17$^+$)	B(M1)/B(E2)=0.14 *3*.
2399.9+x[k] 6	(17$^+$)[#]	
2473.1+x[b] 6	(18$^-$)	B(M1)/B(E2)=1.08 *19*.
2523.4+x[i] 7	(15$^+$)	
2590.3+x[d] 7	J2+4	B(M1)/B(E2)=0.94 *19*.
2595.9+x[e] 7	J1+6	
2622.5+x[l] 6	(18$^+$)	B(M1)/B(E2)=0.14 *3*.
2663.3+x[a] 6	(19$^-$)	
2723.3+x[j] 6	(18$^+$)	
2810.4+x[c] 6	(19$^-$)	B(M1)/B(E2)=0.86 *18*.
2915.1+x[d] 7	J2+5	B(M1)/B(E2)=5.2 *11*.
2951.2+x[m] 6	(19$^+$)	
2963.9+x[&] 6	(20$^-$)	
3046.3+x[k] 7	(19$^+$)[#]	
3149.3+x[b] 7	(20$^-$)	

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^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

^{172}Ta Levels (continued)

E(level)†	Jπ‡	Comments
3264.3+x[d] 8	J2+6	B(M1)/B(E2)=5.2 *10*.
3286.7+x[l] 6	(20$^+$)	
3344.5+x[j] 7	(20$^+$)	
3353.9+x[a] 6	(21$^-$)	
3521.5+x[c] 7	(21$^-$)	
3623.9+x[m] 6	(21$^+$)	
3630.0+x[d] 8	J2+7	
3703.4+x[&] 7	(22$^-$)	
3877.7+x[b] 7	(22$^-$)	
3951.1+x[l] 6	(22$^+$)	
4016.3+x[d] 8	J2+8	
4108.2+x[a] 7	(23$^-$)	
4273.4+x[c] 7	(23$^-$)	
4282.6+x[m] 7	(23$^+$)	
4512.3+x[&] 7	(24$^-$)	
4618.4+x[b] 7	(24$^-$)	
4622.8+x[l] 7	(24$^+$)	
4921.5+x[a] 7	(25$^-$)	
4978.9+x[m] 8	(25$^+$)	
5001.7+x[c] 7	(25$^-$)	
5334.4+x[b] 8	(26$^-$)	
5350.3+x[l] 8	(26$^+$)	
5386.8+x[&] 8	(26$^-$)	
5741.2+x[c] 8	(27$^-$)	
0.0+y[r]	J3	Additional information 2.
108.45+y[r] 24	J3+1	
238.16+y[r] 24	J3+2	B(M1)/B(E2)=0.58 *14*.
380.5+y[r] 3	J3+3	B(M1)/B(E2)=0.28 *5*.
540.3+y[r] 3	J3+4	B(M1)/B(E2)=0.40 *7*.
715.3+y[r] 4	J3+5	B(M1)/B(E2)=0.25 *4*.
897.4+y[r] 4	J3+6	B(M1)/B(E2)=0.32 *6*.
1098.9+y[r] 4	J3+7	B(M1)/B(E2)=0.24 *4*.
1311.3+y[r] 5	J3+8	B(M1)/B(E2)=0.29 *5*.
1533.4+y[r] 5	J3+9	B(M1)/B(E2)=0.22 *4*.
1768.9+y[r] 5	J3+10	B(M1)/B(E2)=0.35 *7*.
2015.6+y[r] 5	J3+11	B(M1)/B(E2)=0.18 *3*.
2274.5+y[r] 5	J3+12	B(M1)/B(E2)=0.46 *11*.
2542.0+y[r] 6	J3+13	
2822.5+y[r] 6	J3+14	
3107.6+y[r] 6	J3+15	
3410.0+y[r] 7	J3+16	
3713.5+y[r] 7	J3+17	
4037.5+y[r] 8	J3+18	
4369.7+y[r] 8	J3+19	

† From least-squares fit to Eγ values.

‡ As proposed by 2000Ho16 based on multipolarities and ΔJ values from their $\gamma\gamma(\theta)$(DCO) data, band structures and decay

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^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

^{172}Ta Levels (continued)

pattern. Some of the multipolarities are from γ-intensity balances and conversion data.

[#] Negative parity shown in Figure 1.

[@] From γ(t) (2000Ho16).

[&] Band(A): π1/2[541]$\otimes\nu$7/2[633],α=0.

[a] Band(a): π1/2[541]$\otimes\nu$7/2[633],α=1.

[b] Band(B): π9/2[514]$\otimes\nu$7/2[633],α=0.

[c] Band(b): π9/2[514]$\otimes\nu$7/2[633],α=1.

[d] Band(C): Possible four-quasiparticle band #1.

[e] Band(D): Possible four-quasiparticle band #2.

[f] Band(E): π9/2[514]$\otimes\nu$5/2[512],α=0.

[g] Band(e): π9/2[514]$\otimes\nu$5/2[512],α=1.

[h] Band(F): π9/2[514]$\otimes\nu$1/2[521],α=0.

[i] Band(f): π9/2[514]$\otimes\nu$1/2[521],α=1.

[j] Band(G): π7/2[404]$\otimes\nu$7/2[633],α=0.

[k] Band(g): π7/2[404]$\otimes\nu$7/2[633],α=1. Negative parity shown in figure 1 of 2000Ho16 seems a misprint.

[l] Band(H): π5/2[402]$\otimes\nu$7/2[633],α=0.

[m] Band(h): π5/2[402]$\otimes\nu$7/2[633],α=1.

[n] Band(I): (4^-) band, α=0. Configuration=π7/2[404]$\otimes\nu$1/2[521] or π5/2[402]$\otimes\nu$1/2[521].

[o] Band(i): (4^-) band,α=1. Configuration=π7/2[404]$\otimes\nu$1/2[521] or π5/2[402]$\otimes\nu$1/2[521].

[p] Band(J): π1/2[541]$\otimes\nu$1/2[521],α=1. Favored band.

[q] Band(j): π1/2[541]$\otimes\nu$1/2[521],α=0. Unfavored band.

[r] Band(K): Possible negative-parity band. Configuration=π5/2[402]$\otimes\nu$1/2[521] or π5/2[402]$\otimes\nu$5/2[512].

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$

DCO ratios are for 34.6° and 90° geometry, for which expected values are ≈1 for stretched quadrupole and ≈0.6 for stretched dipole transitions when gated on stretched quadrupole transitions.

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.	α[‡]	Comments
91.5	(5$^+$)	91.5 *3*		0.0	(3$^+$)			DCO=1.68 *21*
93.2	(4$^-$)	90.3[#] *3*		3.0?	($^+$)	(E1)	0.477 *8*	α(exp)≤0.98
		93.2 *3*		0.0	(3$^+$)	(E1)	0.440 *8*	α(exp)≤1.95
172.6	(5$^-$)	79.5 *3*		93.2	(4$^-$)			
265.2	(7$^+$)	173.7 *3*		91.5	(5$^+$)			DCO=1.21 *8*
274.8	(6$^-$)	102.3 *3*	100	172.6	(5$^-$)	(M1(+E2))		DCO=0.86 *10*
		181.5 *3*	50 *9*	93.2	(4$^-$)	(E2)	0.413	DCO=0.89 *11*
325.5	(6$^+$)	161.3 *3*		164.2	(4$^+$)			DCO=1.91 *19*
400.5	(7$^-$)	125.6 *3*	100	274.8	(6$^-$)			DCO=0.63 *10*
		228.0 *3*	78 *13*	172.6	(5$^-$)			DCO=0.87 *6*
520.5	(9$^+$)	255.2 *3*		265.2	(7$^+$)			DCO=0.99 *5*
548.2	(8$^-$)	147.7 *3*	87 *14*	400.5	(7$^-$)			DCO=0.75 *12*
		273.3 *3*	100	274.8	(6$^-$)			DCO=0.95 *5*
573.8	(8$^+$)	248.3 *3*		325.5	(6$^+$)			DCO=0.96 *4*
		308.8[#] *3*		265.2	(7$^+$)			
717.3	(9$^-$)	169.0 *3*	61 *10*	548.2	(8$^-$)			
		316.9 *3*	100	400.5	(7$^-$)			DCO=1.00 *3*
851.4	(11$^+$)	330.9 *3*		520.5	(9$^+$)			DCO=1.00 *8*
902.4	(10$^+$)	328.7 *3*		573.8	(8$^+$)			DCO=0.86 *6*
		381.7 *3*		520.5	(9$^+$)			
906.5	(10$^-$)	189.3 *3*	42 *7*	717.3	(9$^-$)			DCO=0.79 *6*
		358.3 *3*	100	548.2	(8$^-$)			DCO=1.04 *12*
1113.7	(11$^-$)	207.1 *3*	36 *7*	906.5	(10$^-$)			
		396.4 *3*	100	717.3	(9$^-$)			DCO=0.98 *5*
1249.5	(13$^+$)	398.1 *3*		851.4	(11$^+$)			DCO=0.96 *8*
1303.9	(12$^+$)	401.5 *3*		902.4	(10$^+$)			DCO=0.99 *7*
1338.1	(12$^-$)	224.2 *3*	27 *7*	1113.7	(11$^-$)			
		431.6 *3*	100	906.5	(10$^-$)			DCO=1.03 *16*
1574.9	(13$^-$)	236.7 *3*	26 *5*	1338.1	(12$^-$)			
		461.3 *3*	100	1113.7	(11$^-$)			DCO=0.97 *8*
1705.6	(15$^+$)	456.1 *3*		1249.5	(13$^+$)			DCO=0.93 *5*
1777.2	(14$^+$)	473.3 *3*		1303.9	(12$^+$)			DCO=1.05 *11*
1829.1	(14$^-$)	254.4 *3*	25 *4*	1574.9	(13$^-$)			
		491.0 *3*	100	1338.1	(12$^-$)			DCO=1.08 *6*
2089.2	(15$^-$)	260.0 *3*		1829.1	(14$^-$)			
		514.2 *3*		1574.9	(13$^-$)			DCO=0.98 *6*
2214.1	(17$^+$)	508.4 *3*		1705.6	(15$^+$)			DCO=0.97 *5*
2321.5	(16$^+$)	544.3 *3*		1777.2	(14$^+$)			DCO=1.43 *3*

$^{172}_{73}Ta_{99}$-6

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.	δ	α[‡]	Comments
2371.2	(16$^-$)	282.1 *3*		2089.2	(15$^-$)				
		542.2 *3*		1829.1	(14$^-$)				DCO=1.12 *16*
2655.4	(17$^-$)	284.2 *3*		2371.2	(16$^-$)				
		566.0 *3*		2089.2	(15$^-$)				DCO=1.03 *8*
2774.1	(19$^+$)	560.0 *3*		2214.1	(17$^+$)				DCO=0.96 *6*
2959.9	(18$^-$)	304.4 *3*		2655.4	(17$^-$)				
		588.9 *3*		2371.2	(16$^-$)				DCO=1.17 *7*
3265.0	(19$^-$)	305.2 *3*		2959.9	(18$^-$)				
		609.5 *3*		2655.4	(17$^-$)				
3388.4	(21$^+$)	614.3 *3*		2774.1	(19$^+$)				DCO=0.90 *8*
3603.9	(20$^-$)	644.0 *3*		2959.9	(18$^-$)				
3937.0	(21$^-$)	672.0 *3*		3265.0	(19$^-$)				
4059.7	(23$^+$)	671.3 *3*		3388.4	(21$^+$)				DCO=0.86 *7*
4788.8	(25$^+$)	729.1 *3*		4059.7	(23$^+$)				DCO=0.90 *11*
5574.8	(27$^+$)	786.0 *3*		4788.8	(25$^+$)				
6414.8	(29$^+$)	840.0 *3*		5574.8	(27$^+$)				
7304.8	(31$^+$)	890.0 *3*		6414.8	(29$^+$)				
36.63+x	(5$^-$)	36.7 *3*		0.0+x	(4$^-$)				
73.0+x	(6$^+$)	49.3 *3*	100	23.7+x	(5$^-$,6$^-$)	(E1)		0.470 *11*	Mult.: δ(M2/E1)=1.3 *9* from α(exp)=0.43 to 2.18, but RUL(M1)=1 requires δ<0.005. 2000Ho16 give E1.
90.74+x	(6$^-$)	54.2 *3*		36.63+x	(5$^-$)				
		90.7 *3*		0.0+x	(4$^-$)				
151.1+x	(7$^+$)	77.8 *3*		73.0+x	(6$^+$)				DCO=1.29 *9*
164.7+x	(7$^-$)	73.9 *3*	100	90.74+x	(6$^-$)	(M1(+E2))			
		128.0 *3*	13 *3*	36.63+x	(5$^-$)	(E2)		1.44	
166.6+x	(7$^+$)	93.5 *3*		73.0+x	(6$^+$)	(M1(+E2))			
251.4+x	(8$^-$)	86.7 *3*	100	164.7+x	(7$^-$)				
		160.7 *3*	28 *6*	90.74+x	(6$^-$)				DCO=1.05 *13*
253.0+x	(7$^+$)	180.2 *3*		73.0+x	(6$^+$)	M1+E2	1.2 *4*	0.59 *8*	α(K)exp=0.42 *10*; α(L)exp=0.04 *3*; α(exp)=1.1 *+8−9* α(exp)=0.22 to 1.9.
265.0+x	(8$^+$)	98.6 *3*		166.6+x	(7$^+$)				
		113.8 *3*	100	151.1+x	(7$^+$)				DCO=1.94 *32*
		192.3 *3*	33 *7*	73.0+x	(6$^+$)				
278.1+x	(8$^-$)	25.3 *3*		253.0+x	(7$^+$)	(E1)		2.94 *11*	α(exp)=1.6 to 6.7.
		111.4 *3*		166.6+x	(7$^+$)	(E1)		0.277 *5*	α(exp)≤1.68
		113.5 *3*		164.7+x	(7$^-$)	M1		3.03 *5*	α(L)exp=0.57 *17* α(exp)=2.37 to 5.66.
287.7+x	(8$^+$)	121.1 *3*		166.6+x	(7$^+$)				DCO=1.18 *17*
		136.5 *3*		151.1+x	(7$^+$)				
		214.7 *3*		73.0+x	(6$^+$)				
293.3+x	(5$^+$)	220.4 *3*		73.0+x	(6$^+$)	(M1+E2)	1.0 *7*	0.34 *11*	α(exp)=0.30 to 1.67.
368.5+x	(9$^-$)	117.1 *3*	100	251.4+x	(8$^-$)				DCO=0.59 *4*
		203.8 *3*	55 *9*	164.7+x	(7$^-$)				DCO=0.98 *5*

$^{172}_{73}Ta_{99}$-7

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.	δ	α[‡]	Comments
389.4+x	(9$^-$)	111.1 *3*		278.1+x	(8$^-$)	(M1(+E2))			DCO=1.30 *14*
		138 *1*		251.4+x	(8$^-$)				
404.1+x	(9$^+$)	116.3 *3*		287.7+x	(8$^+$)				
		139.3 *3*	100	265.0+x	(8$^+$)				DCO=1.51 *22*
		252.7 *3*	92 *19*	151.1+x	(7$^+$)				
407.5+x	(6$^+$)	114.2 *3*		293.3+x	(5$^+$)	(M1(+E2))			
		334 *1*		73.0+x	(6$^+$)				
423.0+x	(8$^+$)	170.2 *3*		253.0+x	(7$^+$)	(M1(+E2))			
435.4+x	(9$^+$)	148.0 *3*	100	287.7+x	(8$^+$)				DCO=1.08 *23*
		170.5 *3*		265.0+x	(8$^+$)				
		268.8 *3*	48 *10*	166.6+x	(7$^+$)				DCO=0.76 *13*
487.3+x	(10$^-$)	118.9 *3*	100	368.5+x	(9$^-$)				DCO=0.59 *3*
		236.0 *3*	98 *15*	251.4+x	(8$^-$)				DCO=1.00 *3*
526.7+x	(10$^-$)	137.2 *3*	100	389.4+x	(9$^-$)				DCO=1.13 *14*
		248.7 *3*	5 *1*	278.1+x	(8$^-$)				
540.9+x	(7$^+$)	133.5 *3*		407.5+x	(6$^+$)				
		247.5 *3*		293.3+x	(5$^+$)				
567.7+x	(10$^+$)	131.7 *3*		435.4+x	(9$^+$)				
		163.6 *3*	38 *6*	404.1+x	(9$^+$)				DCO=1.22 *10*
		303.1 *3*	100	265.0+x	(8$^+$)				DCO=1.02 *9*
608.4+x	(10$^+$)	173.6 *3*	100	435.4+x	(9$^+$)				DCO=1.22 *20*
		203.7 *3*	89 *14*	404.1+x	(9$^+$)				
		320.4 *3*		287.7+x	(8$^+$)				DCO=1.14 *7*
613.1+x	(9$^+$)	190.5 *3*	100	423.0+x	(8$^+$)				DCO=1.06 *11*
		359.9 *3*	66 *11*	253.0+x	(7$^+$)				
656.8+x	(11$^-$)	169.5 *3*	92 *14*	487.3+x	(10$^-$)	(M1+E2)	−0.30 *5*	0.936	DCO=0.41 *2* Mult.,δ: from DCO (2000Ho16).
		288.3 *3*	100	368.5+x	(9$^-$)				DCO=0.99 *7*
689.4+x	(11$^-$)	162.8 *3*	100	526.7+x	(10$^-$)	(M1+E2)	+0.45 *8*	1.01 *3*	DCO=0.98 *6* Mult.,δ: from DCO (2000Ho16).
		300.0 *3*	42 *6*	389.4+x	(9$^-$)				DCO=0.93 *10*
702.8+x	(8$^+$)	162.0 *3*		540.9+x	(7$^+$)	(M1+E2)	>+0.38	0.8 *2*	DCO=1.07 *16* Mult.,δ: from DCO (2000Ho16).
		295.3 *3*		407.5+x	(6$^+$)				
755.9+x	(11$^+$)	147.3 *3*		608.4+x	(10$^+$)				
		188.0 *3*	16 *2*	567.7+x	(10$^+$)				DCO=1.27 *7*
		352.2 *3*	100	404.1+x	(9$^+$)				DCO=1.15 *21*
805.1+x	(11$^+$)	196.4 *3*	67 *10*	608.4+x	(10$^+$)				DCO=1.09 *13*
		369.8 *3*	100	435.4+x	(9$^+$)				DCO=1.05 *14*
807.4+x	(12$^-$)	150.7 *3*	33.2 *5*	656.8+x	(11$^-$)				DCO=0.51 *6*
		320.1 *3*	100	487.3+x	(10$^-$)				DCO=1.11 *9*
821.3+x	(10$^+$)	208.6 *3*	100	613.1+x	(9$^+$)	(M1+E2)	+0.30 *18*	0.52 *3*	DCO=0.84 *16* Mult.,δ: from DCO (2000Ho16).
		398.3 *3*	97 *19*	423.0+x	(8$^+$)				DCO=1.21 *12*

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Comments
877.9+x	(12$^-$)	188.5 *3*	100	689.4+x	(11$^-$)	DCO=0.95 *6*
		351.3 *3*	40 *6*	526.7+x	(10$^-$)	DCO=1.15 *20*
890.4+x	(9$^+$)	187.5 *3*		702.8+x	(8$^+$)	DCO=1.31 *22*
		349.5 *3*		540.9+x	(7$^+$)	
966.7+x	(12$^+$)	159.3 *3*	100	807.4+x	(12$^-$)	
		210.9 *3*	19 *4*	755.9+x	(11$^+$)	DCO=1.00 *6*
		398.9 *3*		567.7+x	(10$^+$)	DCO=1.12 *10*
1025.0+x	(12$^+$)	219.8 *3*	41 *6*	805.1+x	(11$^+$)	DCO=0.98 *19*
		416.7 *3*	100	608.4+x	(10$^+$)	DCO=0.90 *10*
1033.6+x	(13$^-$)	226.2 *3*	58 *7*	807.4+x	(12$^-$)	DCO=0.39 *3*
		376.7 *3*	100	656.8+x	(11$^-$)	DCO=1.01 *10*
1043.4+x	(11$^+$)	222.4 *3*	93 *19*	821.3+x	(10$^+$)	
		430.0 *3*	100	613.1+x	(9$^+$)	DCO=1.03 *10*
1058.8+x	J1	180.9 *3*		877.9+x	(12$^-$)	
1090.1+x	(13$^-$)	212.3 *3*	100	877.9+x	(12$^-$)	DCO=0.88 *5*
		400.6 *3*	64 *10*	689.4+x	(11$^-$)	DCO=1.19 *18*
1103.3+x	(10$^+$)	213.2 *3*		890.4+x	(9$^+$)	
		400.6 *3*		702.8+x	(8$^+$)	
1198.2+x	(13$^+$)	231.8 *3*	13 *2*	966.7+x	(12$^+$)	DCO=0.98 *11*
		442.4 *3*	100	755.9+x	(11$^+$)	DCO=1.07 *6*
1216.8+x	(14$^-$)	183.3 *3*	19 *3*	1033.6+x	(13$^-$)	DCO=0.46 *7*
		409.3 *3*	100	807.4+x	(12$^-$)	DCO=1.05 *7*
1258.3+x	J1+1	199.3 *3*		1058.8+x	J1	
1264.1+x	(13$^+$)	239.3 *3*	43 *9*	1025.0+x	(12$^+$)	DCO=0.92 *10*
		459.1 *3*	100	805.1+x	(11$^+$)	DCO=0.99 *10*
1281.0+x	(12$^+$)	237.6 *3*	52 *10*	1043.4+x	(11$^+$)	
		459.6 *3*	100	821.3+x	(10$^+$)	DCO=0.93 *5*
1326.1+x	(14$^-$)	236.1 *3*	100	1090.1+x	(13$^-$)	DCO=0.81 *5*
		448.1 *3*	94 *10*	877.9+x	(12$^-$)	I_γ: from average of branching ratios.
1340.9+x	(11$^+$)	237.4 *3*		1103.3+x	(10$^+$)	
		450.0 *3*		890.4+x	(9$^+$)	
1450.3+x	(14$^+$)	252.7 *3*		1198.2+x	(13$^+$)	
		483.1 *3*		966.7+x	(12$^+$)	DCO=1.13 *13*
1490.6+x	J1+2	232.3 *3*	100	1258.3+x	J1+1	
		432.0 *3*	66 *15*	1058.8+x	J1	
1497.1+x	(15$^-$)	280.5 *3*	43 *6*	1216.8+x	(14$^-$)	DCO=0.50 *15*
		463.5 *3*	100	1033.6+x	(13$^-$)	DCO=1.05 *5*
1525.7+x	(14$^+$)	261.6 *3*	24 *4*	1264.1+x	(13$^+$)	DCO=0.80 *6*
		500.4 *3*	100	1025.0+x	(12$^+$)	DCO=0.99 *10*
1537.3+x	(13$^+$)	256.5 *3*		1281.0+x	(12$^+$)	DCO=0.78 *8*
		494.0 *3*		1043.4+x	(11$^+$)	
1583.7+x	(15$^-$)	257.9 *3*	87 *12*	1326.1+x	(14$^-$)	DCO=0.81 *14*

$^{172}_{73}Ta_{99}$-9

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.	δ	α[‡]	Comments
1583.7+x	(15$^-$)	493.5 *3*	100	1090.1+x	(13$^-$)				DCO=1.07 *18*
1602.4+x	(12$^+$)	261.6 *3*		1340.9+x	(11$^+$)				
		499.7 *3*		1103.3+x	(10$^+$)				
1715.2+x	(16$^-$)	218.2 *3*	8.1 *1*	1497.1+x	(15$^-$)				DCO=0.46 *5*
		498.4 *3*	100	1216.8+x	(14$^-$)				DCO=1.02 *10*
1719.0+x	(15$^+$)	268.7 *3*	12 *2*	1450.3+x	(14$^+$)	(M1+E2)	+0.36 *10*	0.254 *11*	DCO=0.92 *9* Mult.,δ: from DCO (2000Ho16).
		520.7 *3*	100	1198.2+x	(13$^+$)				DCO=1.03 *10*
1735.5+x	J1+3	244.6 *3*	100	1490.6+x	J1+2				
		477.1 *3*	86 *15*	1258.3+x	J1+1				
1779.7+x	(14$^+$)	242.6 *3*		1537.3+x	(13$^+$)				
		498.5 *3*		1281.0+x	(12$^+$)				DCO=1.10 *11*
1800.2+x	(15$^+$)	274.2 *3*	18 *4*	1525.7+x	(14$^+$)				DCO=0.67 *7*
		536.4 *3*	100	1264.1+x	(13$^+$)				DCO=1.09 *7*
1841.6+x	J2	963.7 *3*		877.9+x	(12$^-$)				
1861.5+x	(16$^-$)	277.8 *3*	94 *17*	1583.7+x	(15$^-$)				DCO=0.76 *8*
		535.3 *3*	100	1326.1+x	(14$^-$)				DCO=1.14 *22*
1886.5+x	(13$^+$)	284.8 *3*		1602.4+x	(12$^+$)				
		545.0 *3*		1340.9+x	(11$^+$)				
2005.8+x	(16$^+$)	287.1 *3*	11 *2*	1719.0+x	(15$^+$)				DCO=0.94 *9*
		555.7 *3*	100	1450.3+x	(14$^+$)				DCO=1.04 *5*
2009.9+x	J1+4	274.4 *3*	68 *12*	1735.5+x	J1+3				
		519.7 *3*	100	1490.6+x	J1+2				
2039.8+x	J2+1	198.2 *3*		1841.6+x	J2				
2042.5+x	(17$^-$)	327.4 *3*		1715.2+x	(16$^-$)				DCO=0.42 *6*
		545.3 *3*		1497.1+x	(15$^-$)				DCO=1.04 *3*
2097.9+x	(16$^+$)	297.6 *3*		1800.2+x	(15$^+$)				DCO=0.65 *7*
		572.2 *3*		1525.7+x	(14$^+$)				DCO=1.09 *16*
2160.7+x	(17$^-$)	299.3 *3*	76 *13*	1861.5+x	(16$^-$)				DCO=0.93 *10*
		577.0 *3*	100	1583.7+x	(15$^-$)				DCO=0.98 *7*
2192.4+x	(14$^+$)	305.7 *3*		1886.5+x	(13$^+$)				
		590.0 *3*		1602.4+x	(12$^+$)				
2293.9+x	J1+5	284.3 *3*	94 *17*	2009.9+x	J1+4				
		558.0 *3*	100	1735.5+x	J1+3				
2295.5+x	J2+3	255.6 *3*		2039.8+x	J2+1				
2299.4+x	(18$^-$)	256.9 *3*		2042.5+x	(17$^-$)				
		584.2 *3*		1715.2+x	(16$^-$)				DCO=1.00 *8*
2299.9+x	(16$^+$)	520.2 *3*		1779.7+x	(14$^+$)				
2307.1+x	(17$^+$)	301.4 *3*	8 *2*	2005.8+x	(16$^+$)				
		587.6 *3*	100	1719.0+x	(15$^+$)				DCO=1.05 *10*
2399.9+x	(17$^+$)	302.0 *3*		2097.9+x	(16$^+$)				DCO=0.85 *14*
		599.7 *3*		1800.2+x	(15$^+$)				DCO=0.82 *9*
2473.1+x	(18$^-$)	312.3 *3*	56 *10*	2160.7+x	(17$^-$)				DCO=0.71 *13*

$^{172}_{73}Ta_{99}$-10

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Comments
2473.1+x	(18$^-$)	611.5 *3*	100	1861.5+x	(16$^-$)	DCO=1.00 *11*
2523.4+x	(15$^+$)	331.0 *3*		2192.4+x	(14$^+$)	
		637.0 *3*		1886.5+x	(13$^+$)	
2590.3+x	J2+4	294.7 *3*	100	2295.5+x	J2+3	
		550.5 *3*	17 *4*	2039.8+x	J2+1	
2595.9+x	J1+6	302.0 *3*		2293.9+x	J1+5	
		586.0 *3*		2009.9+x	J1+4	
2622.5+x	(18$^+$)	316.2 *3*	7 *1*	2307.1+x	(17$^+$)	DCO=1.07 *23*
		616.9 *3*	100	2005.8+x	(16$^+$)	DCO=0.96 *5*
2663.3+x	(19$^-$)	364.0 *3*		2299.4+x	(18$^-$)	
		620.7 *3*		2042.5+x	(17$^-$)	DCO=0.96 *8*
2723.3+x	(18$^+$)	323.5 *3*		2399.9+x	(17$^+$)	
		625.3 *3*		2097.9+x	(16$^+$)	DCO=1.04 *3*
2810.4+x	(19$^-$)	337.2 *3*	41 *9*	2473.1+x	(18$^-$)	DCO=0.65 *9*
		649.9 *3*	100	2160.7+x	(17$^-$)	DCO=1.02 *7*
2915.1+x	J2+5	324.9 *3*	100	2590.3+x	J2+4	
		619.6 *3*	35 *7*	2295.5+x	J2+3	
2951.2+x	(19$^+$)	329.7 *3*		2622.5+x	(18$^+$)	DCO=0.96 *5*
		643.2 *3*		2307.1+x	(17$^+$)	DCO=0.93 *5*
2963.9+x	(20$^-$)	300.4 *3*		2663.3+x	(19$^-$)	
		664.6 *3*		2299.4+x	(18$^-$)	DCO=0.97 *8*
3046.3+x	(19$^+$)	646.4 *3*		2399.9+x	(17$^+$)	DCO=1.01 *10*
3149.3+x	(20$^-$)	339.0 *3*		2810.4+x	(19$^-$)	DCO=0.66 *9*
		676.2 *3*		2473.1+x	(18$^-$)	DCO=1.03 *9*
3264.3+x	J2+6	349.3 *3*	100	2915.1+x	J2+5	
		674.0 *3*	44 *9*	2590.3+x	J2+4	
3286.7+x	(20$^+$)	335.0 *3*		2951.2+x	(19$^+$)	
		664.2 *3*		2622.5+x	(18$^+$)	DCO=1.02 *17*
3344.5+x	(20$^+$)	621.2 *3*		2723.3+x	(18$^+$)	DCO=1.04 *7*
3353.9+x	(21$^-$)	389.8 *3*		2963.9+x	(20$^-$)	
		690.7 *3*		2663.3+x	(19$^-$)	DCO=0.89 *6*
3521.5+x	(21$^-$)	372.4 *3*		3149.3+x	(20$^-$)	DCO=1.19 *12*
		711.0 *3*		2810.4+x	(19$^-$)	DCO=1.03 *14*
3623.9+x	(21$^+$)	337.0 *3*		3286.7+x	(20$^+$)	
		673.2 *3*		2951.2+x	(19$^+$)	
3630.0+x	J2+7	365.8 *3*		3264.3+x	J2+6	
		714.7 *3*		2915.1+x	J2+5	
3703.4+x	(22$^-$)	739.5 *3*		2963.9+x	(20$^-$)	DCO=0.89 *9*
3877.7+x	(22$^-$)	356.7 *3*		3521.5+x	(21$^-$)	DCO=0.68 *7*
		728.2 *3*		3149.3+x	(20$^-$)	DCO=1.00 *17*
3951.1+x	(22$^+$)	327.5 *3*		3623.9+x	(21$^+$)	
		664.0 *3*		3286.7+x	(20$^+$)	
4016.3+x	J2+8	386.3 *3*		3630.0+x	J2+7	

$^{172}_{73}Ta_{99}$-11

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

$\gamma(^{172}Ta)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Comments
4016.3+x	J2+8	752.0 *3*		3264.3+x	J2+6	
4108.2+x	(23$^-$)	754.3 *3*		3353.9+x	(21$^-$)	DCO=0.91 *11*
4273.4+x	(23$^-$)	395.9 *3*		3877.7+x	(22$^-$)	
		751.7 *3*		3521.5+x	(21$^-$)	DCO=1.03 *15*
4282.6+x	(23$^+$)	658.7 *3*		3623.9+x	(21$^+$)	DCO=0.97 *7*
4512.3+x	(24$^-$)	808.9 *3*		3703.4+x	(22$^-$)	DCO=0.83 *2*
4618.4+x	(24$^-$)	345.1 *3*		4273.4+x	(23$^-$)	
		740.6 *3*		3877.7+x	(22$^-$)	
4622.8+x	(24$^+$)	671.7 *3*		3951.1+x	(22$^+$)	
4921.5+x	(25$^-$)	813.3 *3*		4108.2+x	(23$^-$)	
4978.9+x	(25$^+$)	696.3 *3*		4282.6+x	(23$^+$)	
5001.7+x	(25$^-$)	383.3 *3*		4618.4+x	(24$^-$)	
		728.3 *3*		4273.4+x	(23$^-$)	
5334.4+x	(26$^-$)	716.0 *3*		4618.4+x	(24$^-$)	
5350.3+x	(26$^+$)	727.5 *3*		4622.8+x	(24$^+$)	
5386.8+x	(26$^-$)	874.5 *3*		4512.3+x	(24$^-$)	
5741.2+x	(27$^-$)	739.5 *3*		5001.7+x	(25$^-$)	
108.45+y	J3+1	108.6 *3*		0.0+y	J3	
238.16+y	J3+2	129.9 *3*	100	108.45+y	J3+1	
		238.0 *3*	42 *10*	0.0+y	J3	
380.5+y	J3+3	142.3 *3*	79 *15*	238.16+y	J3+2	DCO=0.95 *4*
		272.0 *3*	100	108.45+y	J3+1	DCO=1.16 *17*
540.3+y	J3+4	159.8 *3*	93 *16*	380.5+y	J3+3	DCO=1.17 *10*
		302.2 *3*	100	238.16+y	J3+2	DCO=0.96 *4*
715.3+y	J3+5	175.1 *3*	46 *7*	540.3+y	J3+4	DCO=1.29 *34*
		334.7 *3*	100	380.5+y	J3+3	DCO=0.96 *9*
897.4+y	J3+6	182.3 *3*	48 *9*	715.3+y	J3+5	DCO=0.81 *15*
		357.0 *3*	100	540.3+y	J3+4	DCO=1.00 *10*
1098.9+y	J3+7	201.5 *3*	34 *6*	897.4+y	J3+6	DCO=0.85 *10*
		383.6 *3*	100	715.3+y	J3+5	DCO=0.88 *4*
1311.3+y	J3+8	212.5 *3*	33 *6*	1098.9+y	J3+7	DCO=1.10 *15*
		414.0 *3*	100	897.4+y	J3+6	DCO=1.14 *10*
1533.4+y	J3+9	222.1 *3*	23 *4*	1311.3+y	J3+8	DCO=0.74 *10*
		434.4 *3*	100	1098.9+y	J3+7	DCO=1.06 *11*
1768.9+y	J3+10	235.5 *3*	33 *6*	1533.4+y	J3+9	DCO=1.04 *10*
		457.7 *3*	100	1311.3+y	J3+8	DCO=1.11 *25*
2015.6+y	J3+11	246.8 *3*	15 *3*	1768.9+y	J3+10	DCO=0.80 *6*
		482.0 *3*	100	1533.4+y	J3+9	DCO=1.11 *6*
2274.5+y	J3+12	259.0 *3*	35 *8*	2015.6+y	J3+11	DCO=0.85 *10*
		505.6 *3*	100	1768.9+y	J3+10	DCO=1.05 *9*
2542.0+y	J3+13	267.5 *3*		2274.5+y	J3+12	
		526.4 *3*		2015.6+y	J3+11	DCO=1.13 *15*
2822.5+y	J3+14	548.0 *3*		2274.5+y	J3+12	DCO=1.18 *20*
3107.6+y	J3+15	565.6 *3*		2542.0+y	J3+13	DCO=0.97 *13*

$^{172}_{73}Ta_{99}$-12

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)

γ(^{172}Ta) (continued)

E_i(level)	J_i^π	E_γ [†]	E_f	J_f^π	Comments
3410.0+y	J3+16	587.5 *3*	2822.5+y	J3+14	DCO=1.05 *10*
3713.5+y	J3+17	605.9 *3*	3107.6+y	J3+15	DCO=0.86 *10*
4037.5+y	J3+18	627.5 *3*	3410.0+y	J3+16	DCO=1.53 *25*
4369.7+y	J3+19	656.2 *3*	3713.5+y	J3+17	

[†] Primarily from ^{159}Tb(^{18}O,5nγ) reaction. Uncertainty of 0.3 keV assigned to each Eγ value, based on a general comment by 2000Ho16 that the uncertainty is from 0.1 to 0.3 keV.

[‡] 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.

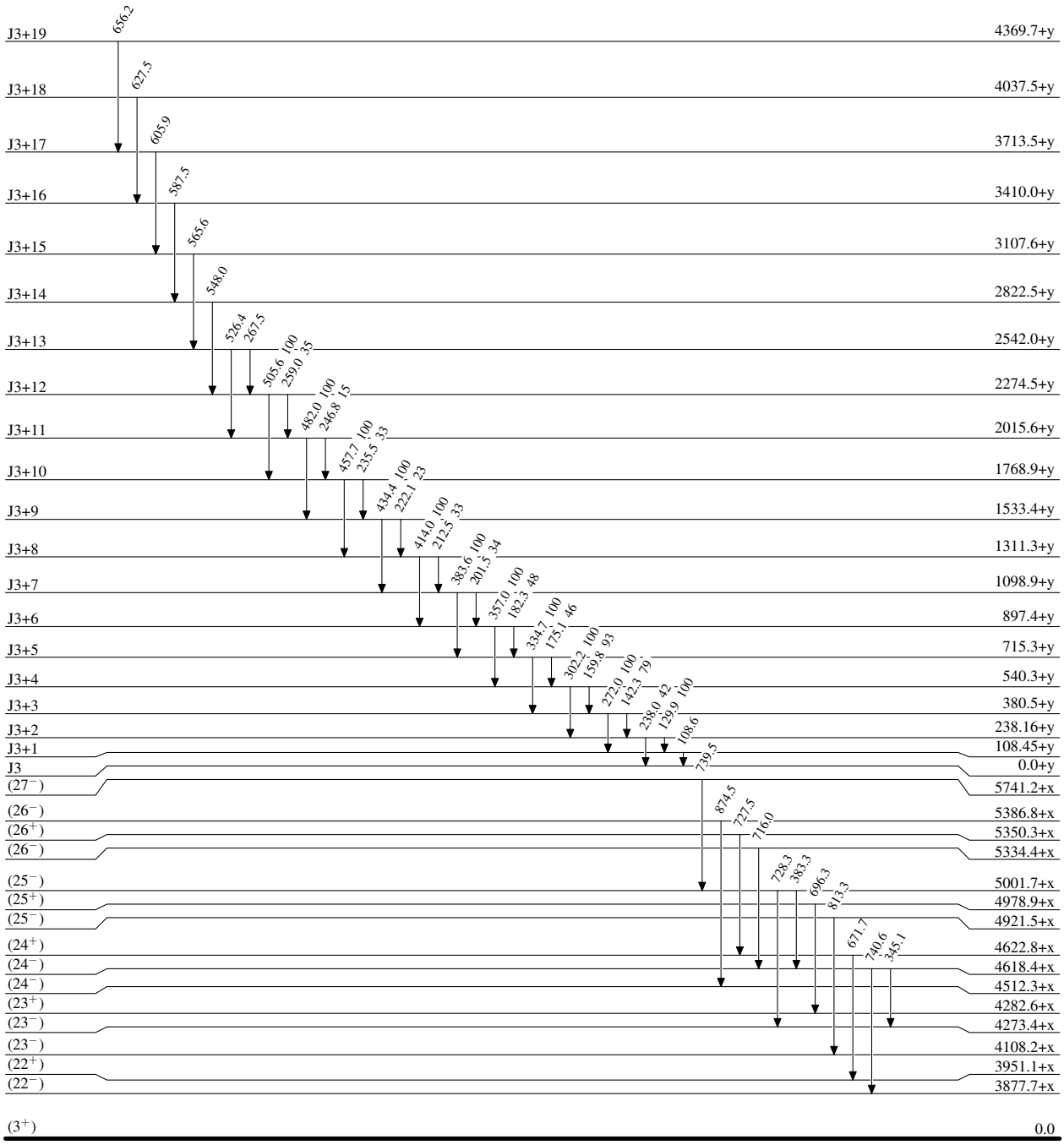
[#] Placement of transition in the level scheme is uncertain.

$^{172}_{73}Ta_{99}$-13

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) **2000Ho16**

Level Scheme

Intensities: Relative photon branching from each level

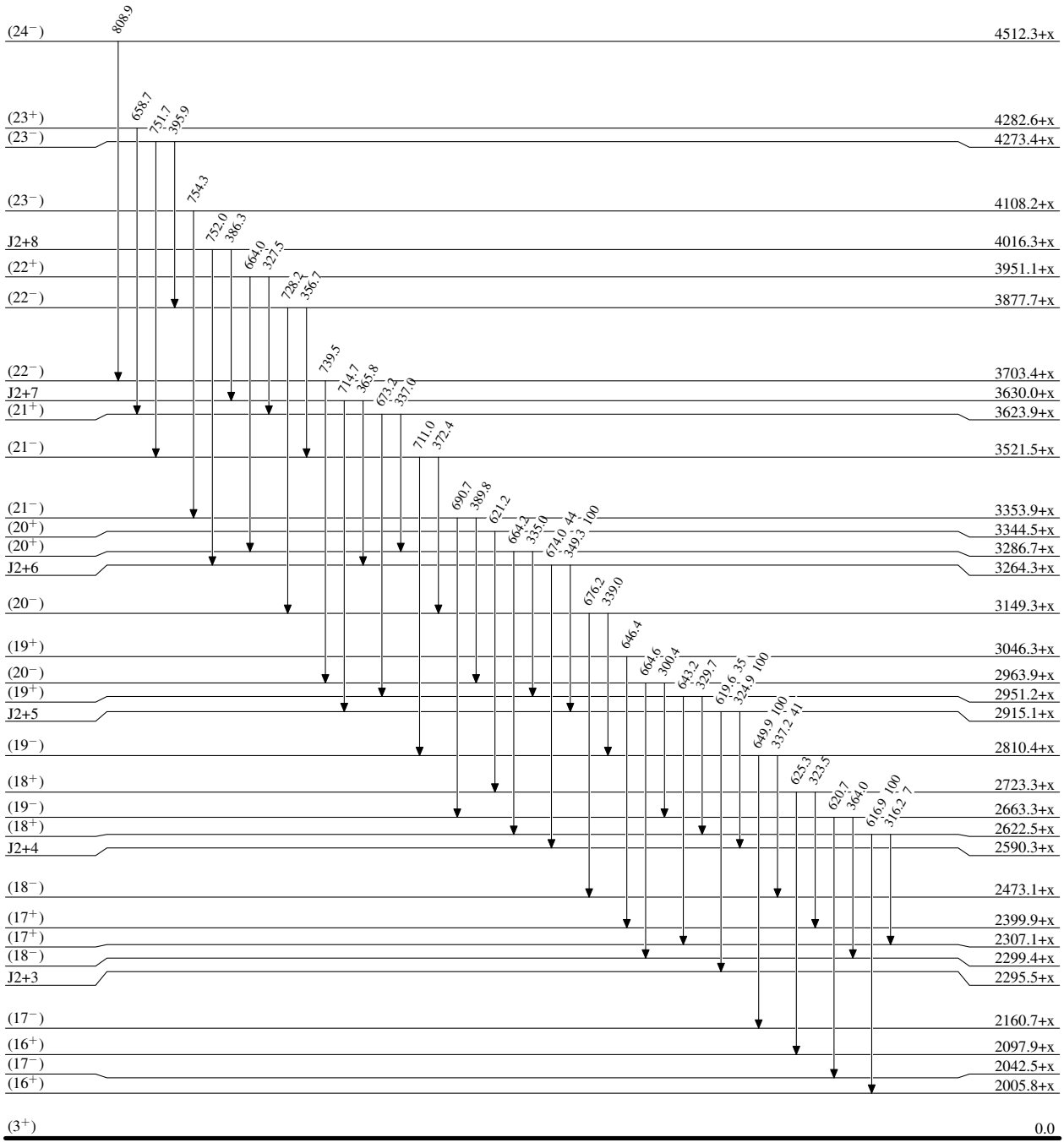


$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) **2000Ho16**

Level Scheme (continued)

Intensities: Relative photon branching from each level

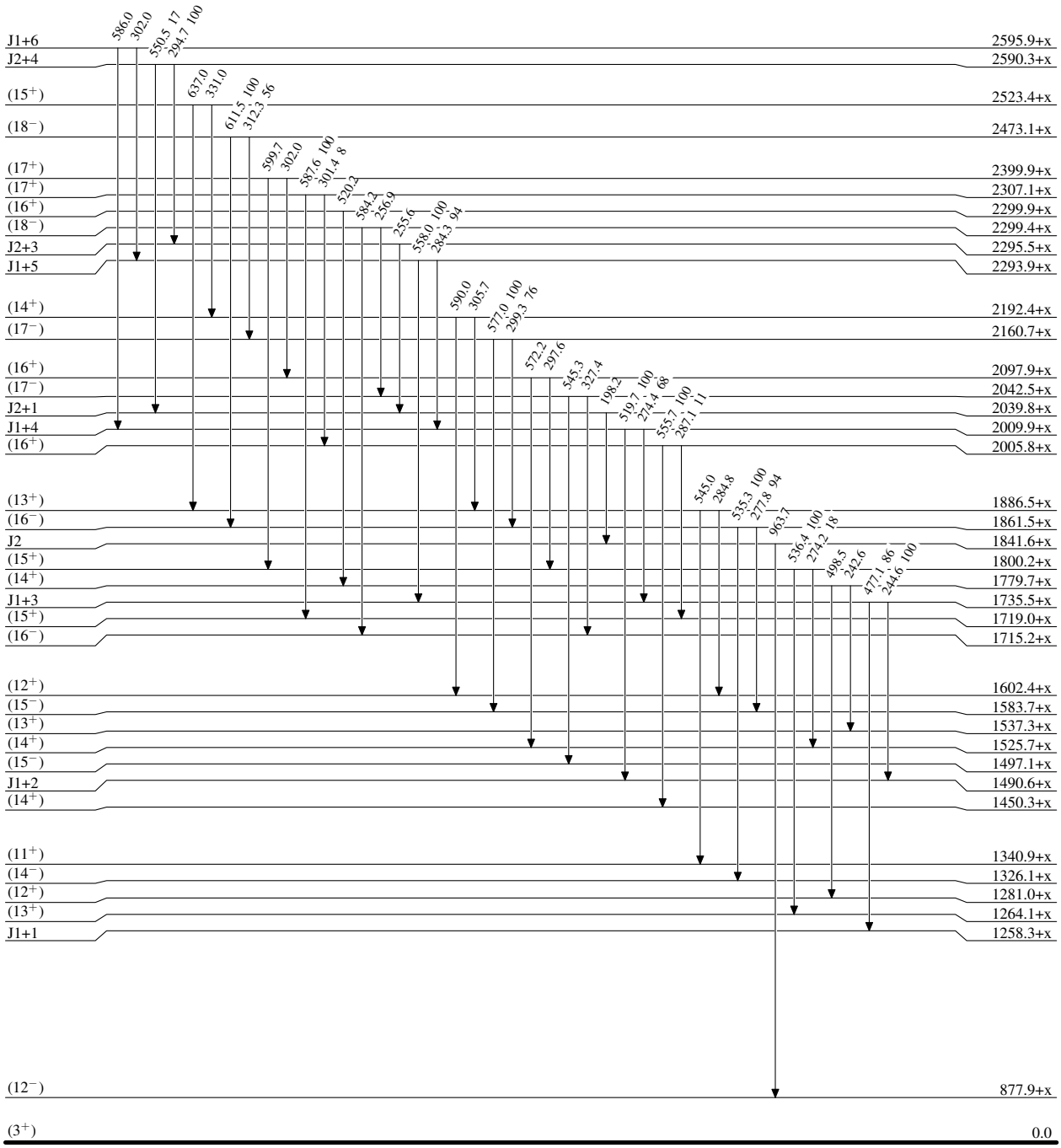


$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) **2000Ho16**

Level Scheme (continued)

Intensities: Relative photon branching from each level

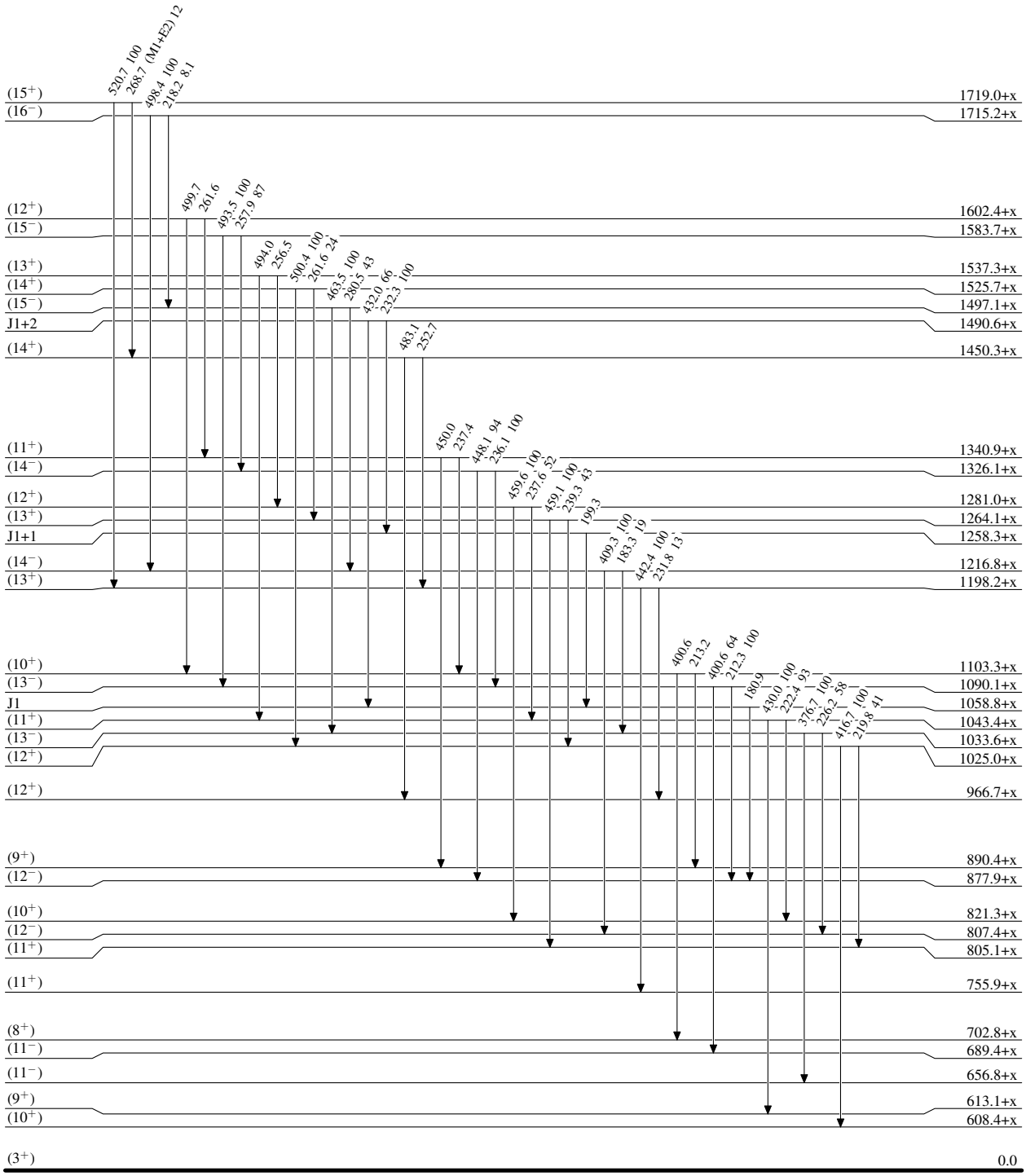


$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16

Level Scheme (continued)

Intensities: Relative photon branching from each level

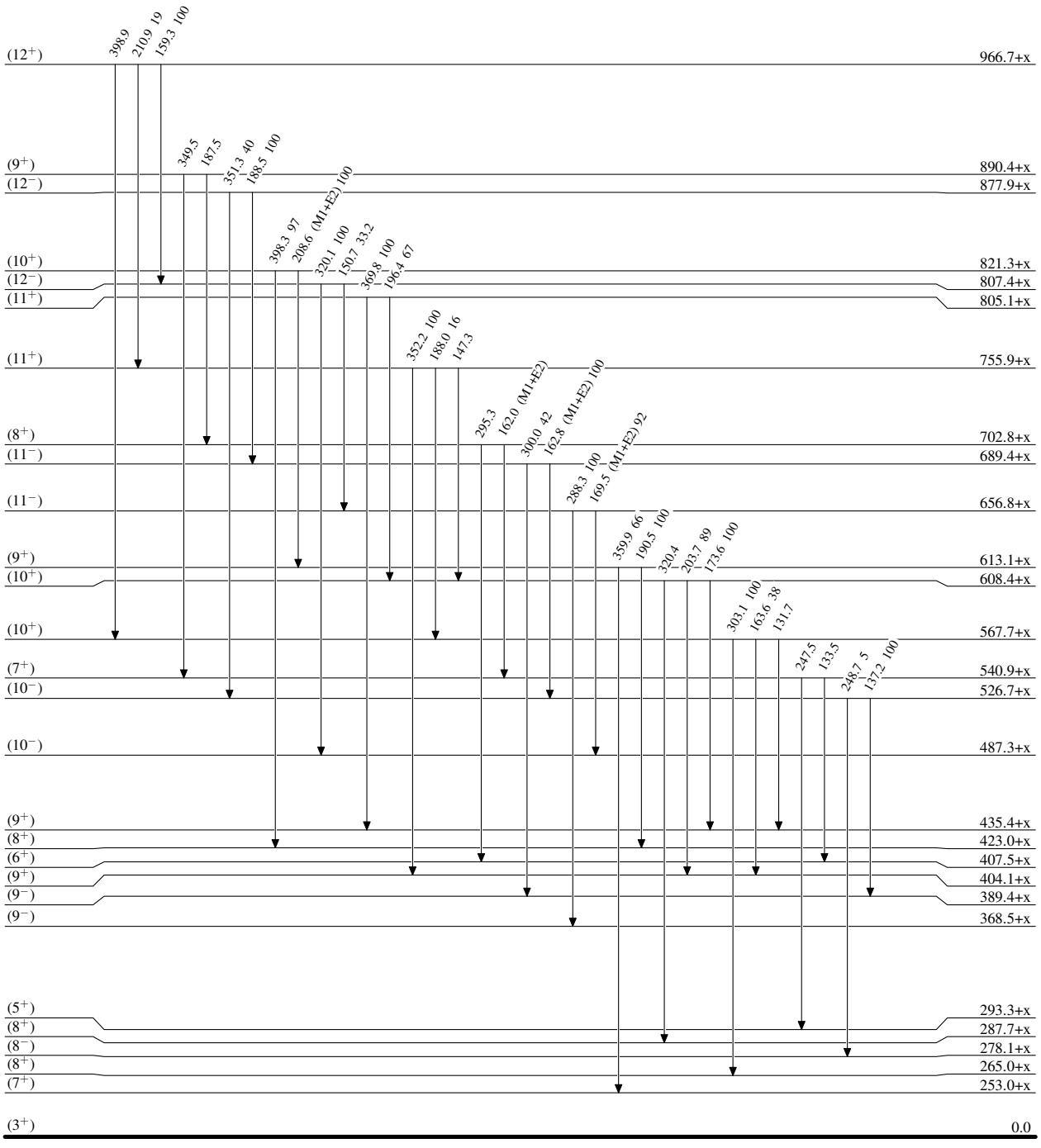


$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) **2000Ho16**

Level Scheme (continued)

Intensities: Relative photon branching from each level

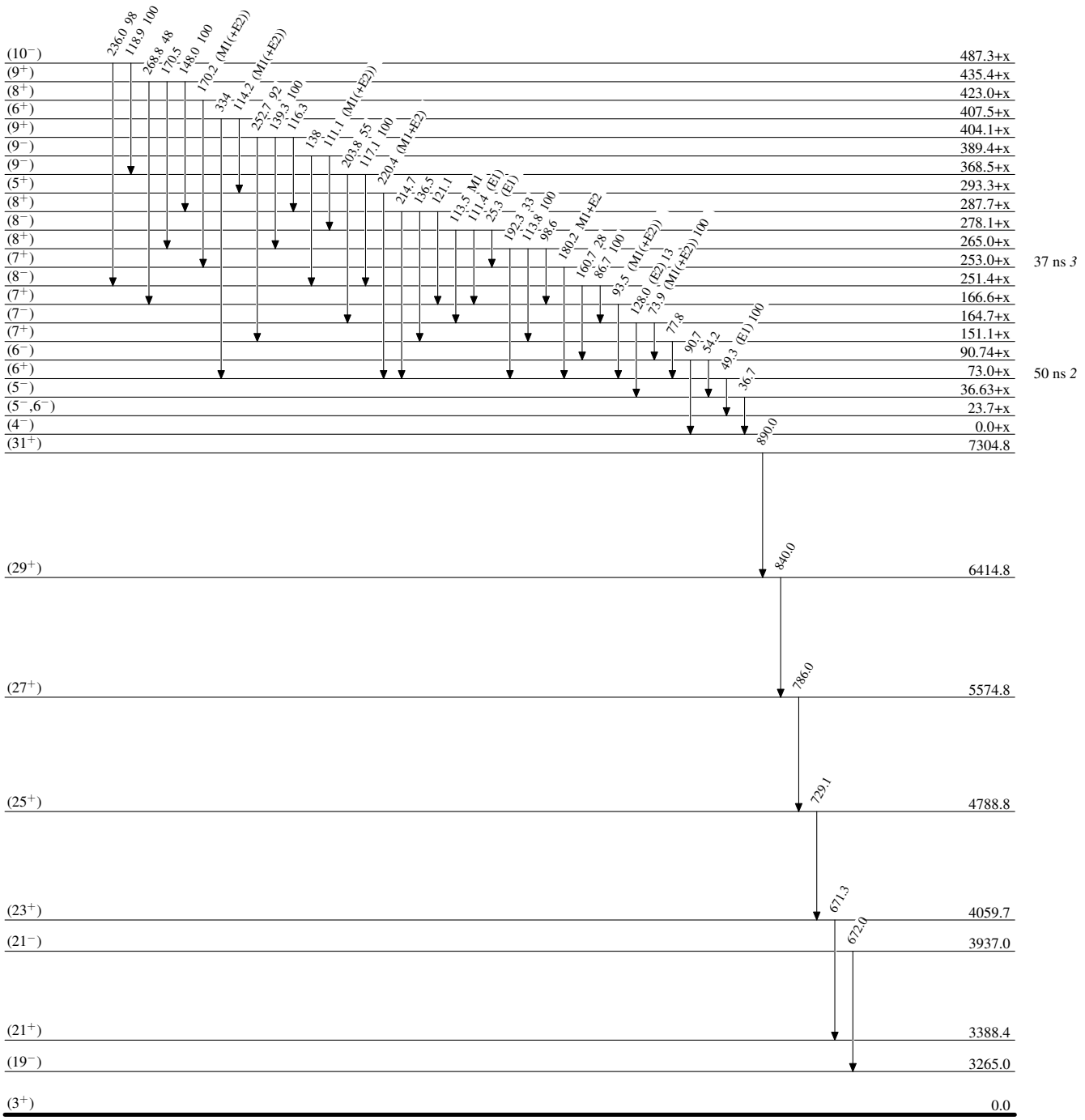


$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) **2000Ho16**

Level Scheme (continued)

Intensities: Relative photon branching from each level



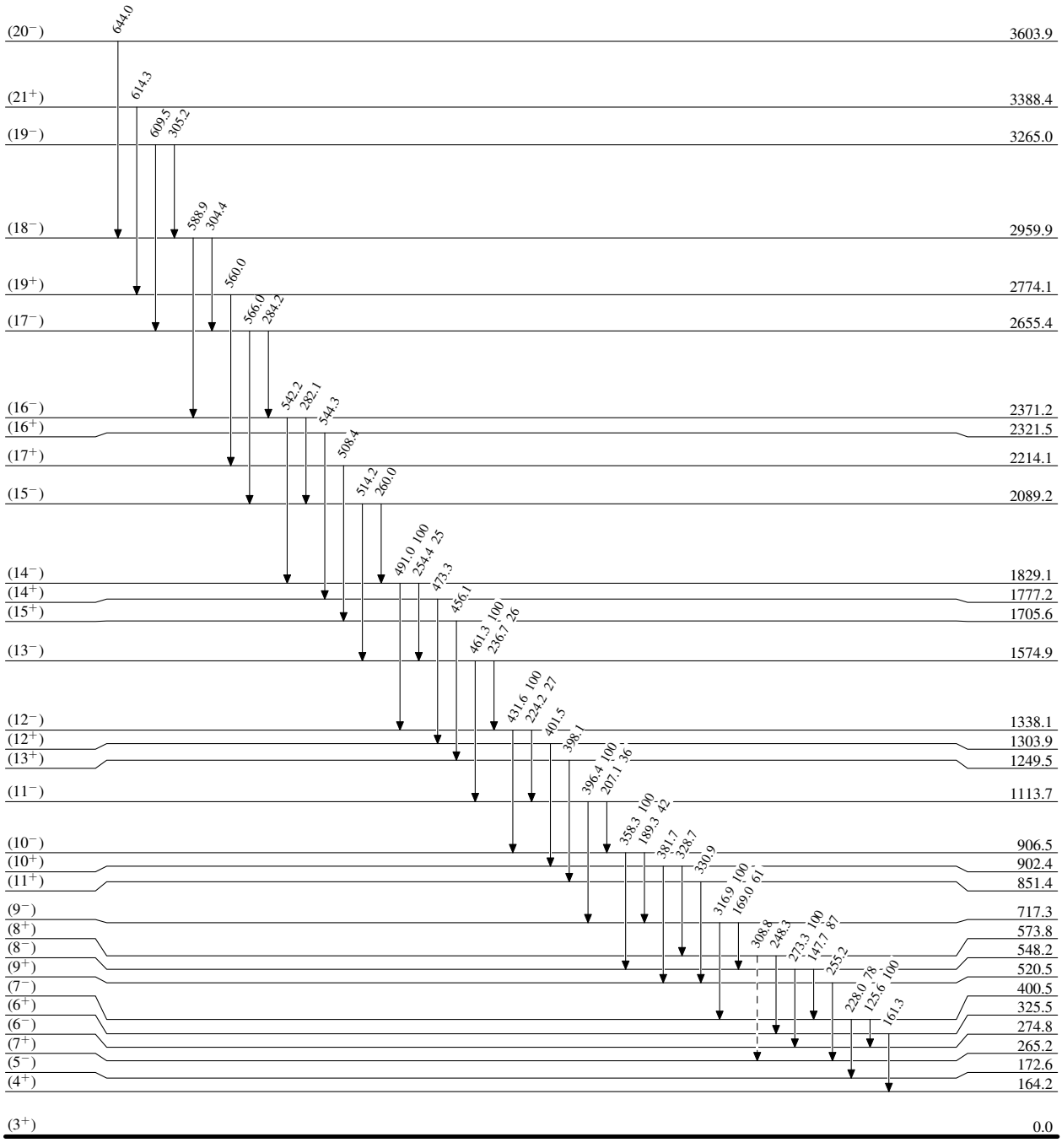
$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



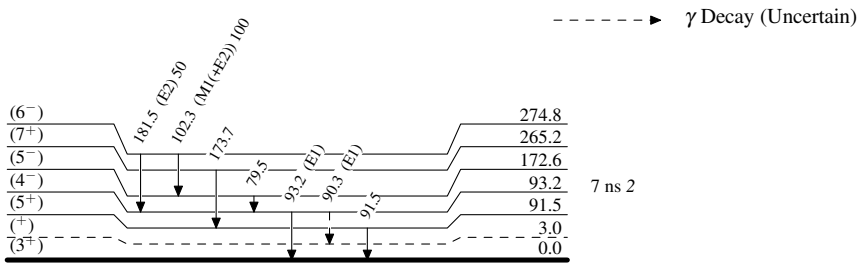
$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16

Legend

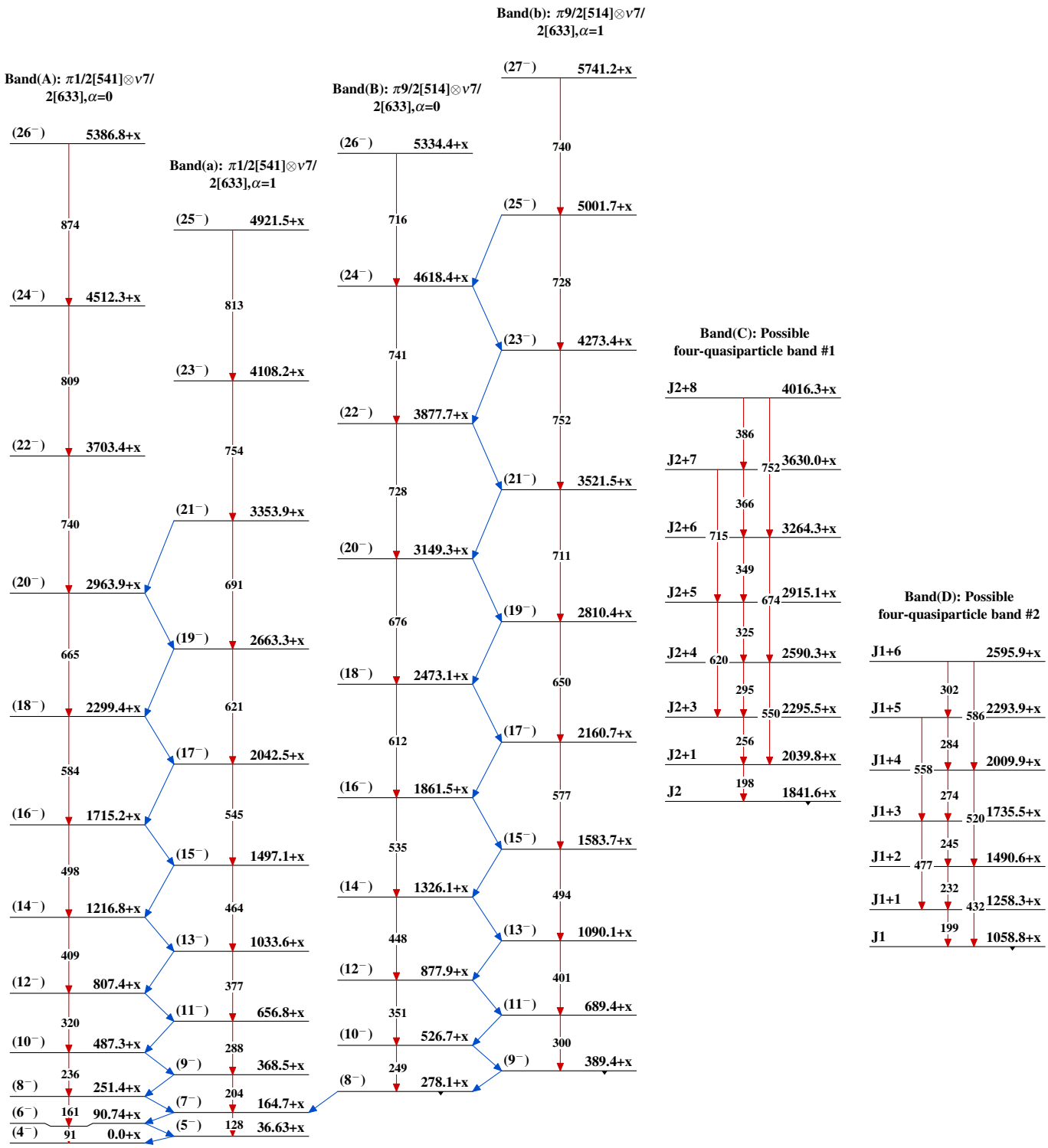
Level Scheme (continued)

Intensities: Relative photon branching from each level



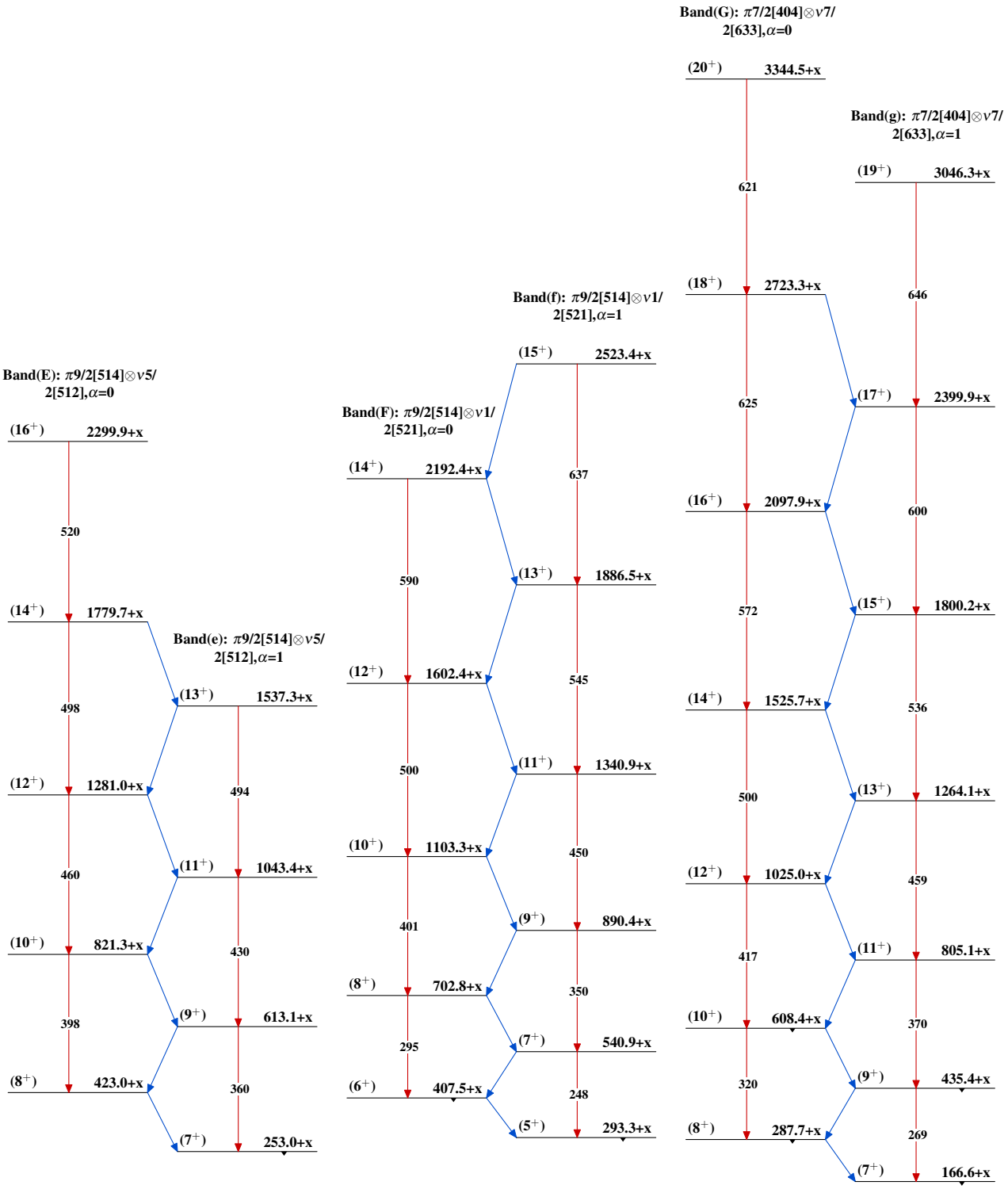
$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16



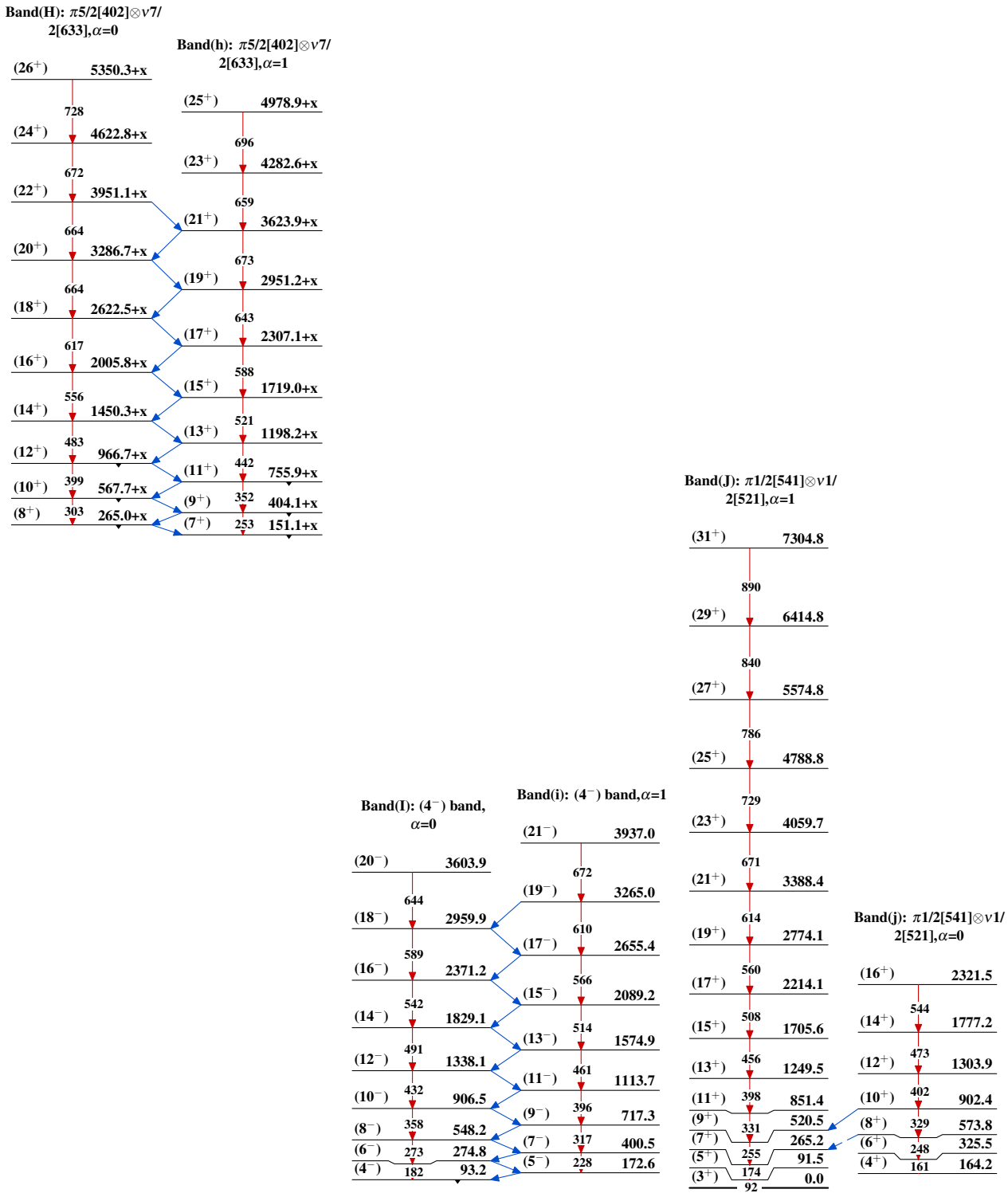
$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)



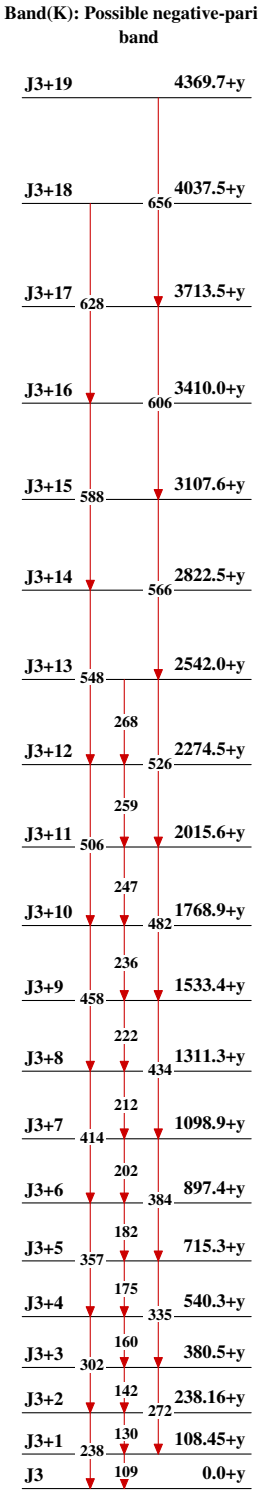
$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)



$^{172}_{73}Ta_{99}$

^{159}Tb(^{18}O,5nγ),^{165}Ho(^{12}C,5nγ) 2000Ho16 (continued)



$^{172}_{73}Ta_{99}$