(HI,xnγ) 1998De48,1992Wa07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

1998De48: ^{96}Zr(^{36}S,5nγ) E=150 MeV. Measured E_γ, Iγ, γγ, γγ(θ)(DCO) using the GASP spectrometer of 40 escape-suppressed HPGe detectors and an 80 segment BGO array, enriched target 85.25%.

1992Wa07: ^{117}Sn(^{13}C,3nγ) E=52,56,60 MeV, detector arrays with 20 Compton-suppressed HPGe detectors and 71 BGO detectors; γ, γγ coin, DCO ratios.

1977Gi05: ^{118}Sn(^{12}C,3nγ) E=52 MeV; γ, prompt and delayed γγ coin, γ(θ), excitation function, enriched target 95.8%.

1990Se05: ^{96}Zr(^{36}S,5nγ) E=150 MeV; Compton-suppressed Ge; γ, γγ coin, γ multiplicities.

1993Co09: ^{118}Sn(^{12}C,3nγ) E=52 MeV, a HPGe detector, a miniorange spectrometer; γ, ce; conversion coefficients.

The decay scheme and the band assignments are mainly from 1998De48 and 1992Wa07.

The levels at 838.9, 1435.0, 1807.8, 1961.8, 3342.7, 3786.1, 3983.2, 4532.7, 4769.1, 5795.1 keV proposed by (1977Gi05) are not put in decay scheme, because all the γ′s(259.6, 544.5, 596.3, 613, 657.6, 678.6, 767, 891.0, 911.6, 924, 983, 1010, 1026 keV) from which above levels were proposed, were not reported by any following experimental groups.

^{127}Ba Levels

1992Wa07 and 1998De48 assign the $5/2^+$ level at 81.1, and next $7/2^+$ level at 195.4. However, the previous reports, 1977Gi05 and 1990Se05, assign the $7/2^+$ level at 114 keV as band head, missing the 81.1 $5/2^+$ level. As all the levels having J^π higher than $7/2^+$ stand on this 195.4 $7/2^+$ level, the levels higher than $7/2^+$ in positive band reported by 1977Gi05 and 1990Se05 are by 81 keV lower than those reported by 1992Wa07 and 1998De48.

For levels in negative parity band, 1992Wa07 and 1998De48 assigned the $7/2^-$ level at 80.4. The next $9/2^-$ level is at 159.7. The $11/2^-$ level is assigned at 293.9. However, 1977Gi05 and 1990Se05 assigned the $11/2^-$ level at 134. Because of difference of band head energy, all the level energies in negative band reported by 1977Gi05 and 1990Se05 are by 160 keV lower than the corresponding levels reported by 1992Wa07 and 1998De48.

To make clear what groups have proposed what level, the following symbols were added for the comments for each level. G from 1977Gi05: S from 1990Se05: W from 1992Wa07: D from 1998De48. If only the level energy (not spin) is shown, symbol is given in parentheses.

E(level)[l]	Jπ[m]	$T_{1/2}$[n]	Comments
0.0[d]	$1/2^+$	12.7 min *4*	W,D.
56.1[c] *4*	$3/2^+$		W,D.
80.4[@] *8*	$7/2^-$	1.93 s *7*	W,D.
81.1[f] *8*	$5/2^+$		W,D.
159.7[#] *8*	$9/2^-$		(S),W,D.
195.4[g] *8*	$7/2^+$		G,S,W,D.
269.5[d] *4*	$(5/2^+)$		W,D.
293.9[@] *8*	$11/2^-$		G,S,W,D.
324.3[e] *8*	$7/2^+$		W,D.
375.0[c] *5*	$7/2^+$		W,D.
415.8[f] *8*	$9/2^+$		G,S,W,D.
579.5[#] *8*	$13/2^-$		G,S,W,D.
599.3[e] *13*	$9/2^+$		D.
669.0[g] *8*	$11/2^+$		G,S,W,D.
728.2[d] *9*	$(9/2^+)$		D.
777.1[@] *8*	$15/2^-$		G,S,W,D.
868.0[c] *7*	$11/2^+$		W,D.
877.0 *9*	$(11/2)^-$		G.
906.6[e] *9*	$(11/2^+)$		D.

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(HI,xnγ) 1998De48,1992Wa07 (continued)

^{127}Ba Levels (continued)

E(level)[l]	Jπ[m]	Comments
963.8[f] 8	13/2+	G,S,W,D.
1194.8[#] 8	17/2−	G,S,W,D.
1219.7[‡] 8	15/2−	W,D.
1230.6[e] 14	(13/2+)	D.
1291.4[g] 8	15/2+	G,S,W,D.
1421.7[@] 8	19/2−	G,S,W,D.
1519.8[c] 7	15/2+	W,D.
1654.5[f] 8	17/2+	G,S,W,D.
1777.7[‡] 8	19/2−	(S),W,D.
1966.9[#] 8	21/2−	S,W,D.
2043.3[g] 8	19/2+	G,S,W,D.
2196.1[@] 8	23/2−	G,S,W,D.
2244.3[c] 8	19/2+	W,D.
2305.1[c] 8	(19/2+)	(W),D.
2451.7[f] 8	21/2+	G,S,W,D.
2463.7[‡] 8	23/2−	(S),W,D.
2497.5[h] 8	21/2+	(S),W,D.
2737.4[i] 8	23/2+	(S),W,D.
2863.3[c] 13	(23/2+)	D.
2868.8[#] 9	25/2−	W,D.
2874.5[g] 8	23/2+	W,D.
2923.2 9	23/2+	W,D.
2998.2[h] 8	25/2+	(S),W,D.
3059.1[@] 9	27/2−	G,S,W,D.
3137.9[k] 8	25/2+	W,D.
3273.9[‡] 10	27/2−	(S),W,D.
3287.0[i] 8	27/2+	(S),W,D.
3400.7 9		(W),(D).
3482.0[j] 9	27/2+	W,D.
3518.2[a] 9	27/2−	S,W,D.
3622.1[h] 8	29/2+	W,(S),W,D.
3755.7[&] 9	29/2−	S,W,D.
3790.9[k] 8	29/2+	W,D.
3949.6[i] 8	31/2+	(S),W,D.
3956.9[b] 9	31/2−	S,W,D.
4102.4[a] 9	31/2−	S,W,D.
4217.2[‡] 11	(31/2−)	(S),W,D.
4226.3[j] 9	31/2+	W,D.
4365.1[h] 9	33/2+	W,D.
4408.0[&] 9	33/2−	S,W,D.
4578.5[k] 9	33/2+	W,D.
4745.8[i] 9	35/2+	(S),W,D.
4816.6[a] 9	35/2−	S,W,D.
4903.8[b] 10	(35/2−)	(S),W,D.
5131.3[j] 9	(35/2+)	W,D.
5213.3[&] 10	37/2−	S,W,D.
5228.1[h] 9	37/2+	W,D.

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(HI,xnγ) 1998De48,1992Wa07 (continued)

^{127}Ba Levels (continued)

E(level)[l]	Jπ[m]	Comments
5228.2‡ 15	(35/2−)	D.
5256.2† 15	(35/2−)	(S),(W),D.
5512.5[k] 12	(37/2+)	D.
5675.8[i] 9	39/2+	(S),W,D.
5741.5[a] 10	39/2−	S,W,D.
5920.7[b] 12	(39/2−)	D.
6203.2[h] 11	41/2+	D.
6221.9& 11	(41/2−)	S,(W),D.
6320.2‡ 18	(39/2−)	D.
6379.2† 18	(39/2−)	D.
6552.5[k] 13	(41/2+)	D.
6726.4[i] 11	43/2+	(S),(W),D.
6762.6[a] 12	(43/2−)	(S),(W),D.
7002.6[b] 12	(43/2−)	D.
7277.5[h] 12	(45/2+)	D.
7309.3& 12	(45/2−)	D.
7465.2‡ 21	(43/2−)	D.
7590.2† 21	(43/2−)	D.
7632.5[k] 16	(45/2+)	D.
7865.6[a] 12	(47/2−)	D.
7881.9[i] 13	(47/2+)	(S),(W),D.
8193.6[b] 16	(47/2−)	D.
8429.7[h] 14	(49/2+)	D.
8458.9& 13	(49/2−)	D.
8756.5[k] 19	(49/2+)	D.
8886.2† 23	(47/2−)	D.
9034.7[a] 14	(51/2−)	D.
9120.8[i] 14	(51/2+)	(S),D.
9440.6[b] 19	(51/2−)	D.
9617.8[h] 15	(53/2+)	D.
9677.0& 15	(53/2−)	D.
9967.5[k] 22	(53/2+)	D.
10192.2† 25	(51/2−)	D.
10257.3[a] 16	(55/2−)	D.
10440.8[i] 18	(55/2+)	D.
10776.6[b] 21	(55/2−)	D.
10822.8[h] 18	(57/2+)	D.
10952.2& 16	(57/2−)	D.
11266.5[k] 24	(57/2+)	D.
11499.3[a] 19	(59/2−)	D.
12086.8[h] 21	(61/2+)	D.
12273.2& 19	(61/2−)	D.
12817.3[a] 21	(63/2−)	D.
13476.8[h] 23	(65/2+)	D.

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(HI,xnγ) 1998De48,1992Wa07 (continued)

^{127}Ba Levels (continued)

† Band(A): Band built on the $(35/2^-)$ state.
‡ Band(B): $\nu h_{11/2}$, Ω=5/2 favored, α=−1/2. (Ω : The projection of particle angular momentum to the nuclear symmetry axis).
# Band(C): $\nu h_{11/2}$, Ω=7/2, α=+1/2.
@ Band(D): $\nu h_{11/2}$, Ω=7/2, α=−1/2.
& Band(E): $\nu h_{11/2}\pi h^2_{11/2}$, α=+1/2.
a Band(F): $\nu h_{11/2}\pi h^2_{11/2}$, α=−1/2.
b Band(G): Band built on the $27/2^-$ state, α=−1/2.
c Band(H): $\nu d_{3/2}$, Ω=1/2, α=−1/2.
d Band(I): $\nu d_{3/2}$, Ω=1/2, α=+1/2.
e Band(J): $\nu g_{7/2}$, Ω=7/2.
f Band(K): $\nu d_{5/2}$, Ω=5/2, α=+1/2.
g Band(L): $\nu d_{5/2}$, Ω=5/2, α=−1/2.
h Band(M): $\nu d_{5/2}\nu h^2_{11/2}\pi h^2_{11/2}$, α=+1/2.
i Band(N): $\nu d_{5/2}\nu h^2_{11/2}\pi h^2_{11/2}$, α=−1/2.
j Band(O): Band built on the $27/2^+$ state, α=−1/2.
k Band(P): Band built on the $25/2^+$ state, α=+1/2.
l From a least-squares fit to E_γ's.
m Proposed by 1998De48 based on DCO ratio, and expected band structure, unless otherwise noted. However, the values of each DCO are not reported by 1998De48. The cited DCO ratios(R) are from 1992Wa07. R is obtained by setting the detectors at 37 and 79 degrees. The authors′criteria to determine transition multipolarities are following: a stretched L=2 transition gives R=1.00: a stretched L=1,2 transition gives 0.25<R<1.25(with R=0.56 at zero mixing); and nonstretched L=1,2 transition gives 0.65<R<1.05. Therefore transitions with R<0.56 can be assigned as stretched dipole with no parity change. The configurations of the bands are based on the analysis using cranking model (1992Wa07,1998De48).
n From Adopted Levels.

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba)

E_γ †	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [b]	α [e]	Comments
56.2 *5*	1.5 *3*	56.1	3/2$^+$	0.0	1/2$^+$				
79.4 *2*	51 *3*	159.7	9/2$^-$	80.4	7/2$^-$	M1+E2	−0.16 *5*	1.97 *6*	α(K)=1.65 *3*; α(L)=0.255 *24*; α(M)=0.053 *6*; α(N+..)=0.0132 *13* α(N)=0.0114 *11*; α(O)=0.00170 *14*; α(P)=0.0001078 *17*
91.6 *5*	2.0 *4*	415.8	9/2$^+$	324.3	7/2$^+$				
105.4 *5*	≈1	375.0	7/2$^+$	269.5	(5/2$^+$)				
114.28‡ *9*	61 *3*	195.4	7/2$^+$	81.1	5/2$^+$	M1+E2	−0.09 *5*	0.680 *12*	α(K)=0.580 *9*; α(L)=0.079 *3*; α(M)=0.0164 *7*; α(N+..)=0.00411 *15* α(N)=0.00354 *13*; α(O)=0.000538 *17*; α(P)=3.81×10^{-5} *6*
117.2 *5*	1.2 *3*	3518.2	27/2$^-$	3400.7					
129.0 *5*	≈2	324.3	7/2$^+$	195.4	7/2$^+$				
134.28‡ *9*	152 *8*	293.9	11/2$^-$	159.7	9/2$^-$	M1+E2	−0.18 *3*	0.437	α(K)=0.371 *6*; α(L)=0.0525 *14*; α(M)=0.0109 *3*; α(N+..)=0.00272 *7* α(N)=0.00234 *7*; α(O)=0.000354 *9*; α(P)=2.42×10^{-5} *4* Mult.: from DCO, α(K)exp and K/L. α(K)exp=0.291 *67*, K/L=6.8 *22* (1993Co09). α(K)(M1)=0.371, α(K)(E2)=0.487, K/L=7.48.
145.7 *5*	1.8 *4*	4102.4	31/2$^-$	3956.9	31/2$^-$				E_γ: 143 in 1990Se05.
192.0 *5*	1.7 *4*	2497.5	21/2$^+$	2305.1	(19/2$^+$)				
197.45‡ *14*	59 *3*	777.1	15/2$^-$	579.5	13/2$^-$	M1+E2	−0.19 *5*	0.1491 *22*	α(K)=0.1273 *19*; α(L)=0.0173 *4*; α(M)=0.00358 *9*; α(N+..)=0.000898 *20* α(N)=0.000772 *18*; α(O)=0.0001175 *24*; α(P)=8.30×10^{-6} *12*
213.4 *5*	≈0.5	269.5	(5/2$^+$)	56.1	3/2$^+$				
213.5 *2*	23.0 *23*	293.9	11/2$^-$	80.4	7/2$^-$	(E2)		0.1380	α(K)=0.1081 *16*; α(L)=0.0237 *4*; α(M)=0.00505 *8*; α(N+..)=0.001217 *18* α(N)=0.001062 *16*; α(O)=0.0001489 *22*; α(P)=5.80×10^{-6} *9*
214.6 *5*	3.3 *7*	3137.9	25/2$^+$	2923.2	23/2$^+$				
220.35‡ *14*	86 *4*	415.8	9/2$^+$	195.4	7/2$^+$	M1+E2	−0.34 *5*	0.1115 *17*	α(K)=0.0947 *14*; α(L)=0.0133 *3*; α(M)=0.00276 *7*; α(N+..)=0.000690 *16* α(N)=0.000594 *14*; α(O)=8.98×10^{-5} *19*; α(P)=6.09×10^{-6} *9* Mult.: from DCO and α(K)exp. α(K)exp=0.078 *18* (1993Co09). α(K)(M1)=0.0954, α(K)(E2)=0.982.
226.80‡ *19*	19.0 *19*	1421.7	19/2$^-$	1194.8	17/2$^-$	M1+E2	−0.19 *7*	0.1022	α(K)=0.0874 *13*; α(L)=0.0118 *3*; α(M)=0.00243 *6*; α(N+..)=0.000609 *14* α(N)=0.000524 *12*; α(O)=7.99×10^{-5} *16*; α(P)=5.69×10^{-6} *9*
229.4 *5*	6.0 *12*	2196.1	23/2$^-$	1966.9	21/2$^-$				
237.5 *5*	17.0 *17*	3755.7	29/2$^-$	3518.2	27/2$^-$	M1+E2	−0.10 *4*	0.0900 *14*	α(K)=0.0772 *12*; α(L)=0.01023 *17*; α(M)=0.00211 *4*; α(N+..)=0.000529 *9* α(N)=0.000455 *8*; α(O)=6.96×10^{-5} *11*; α(P)=5.05×10^{-6} *8*
239.9 *5*	16.0 *16*	2737.4	23/2$^+$	2497.5	21/2$^+$	M1+E2	−0.16 *5*	0.0877 *14*	α(K)=0.0751 *12*; α(L)=0.01003 *18*; α(M)=0.00207 *4*; α(N+..)=0.000519 *10* α(N)=0.000446 *8*; α(O)=6.81×10^{-5} *12*; α(P)=4.90×10^{-6} *8*

$^{127}_{56}Ba_{71}$-5

(HI,xnγ) **1998De48,1992Wa07 (continued)**

$\gamma(^{127}Ba)$ (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [b]	α [e]	Comments
243.3 *5*	14.0 *14*	324.3	$7/2^+$	81.1	$5/2^+$	(E2)		0.0893 *14*	α(K)=0.0711 *11*; α(L)=0.01437 *23*; α(M)=0.00305 *5*; α(N+..)=0.000739 *12* α(N)=0.000644 *11*; α(O)=9.11×10^{-5} *15*; α(P)=3.90×10^{-6} *6*
253.0 *5*	3.0 *6*	2497.5	$21/2^+$	2244.3	$19/2^+$				
253.20[‡] *17*	33 *3*	669.0	$11/2^+$	415.8	$9/2^+$	M1+E2	−0.33 *8*	0.0761	α(K)=0.0648 *10*; α(L)=0.00894 *22*; α(M)=0.00185 *5*; α(N+..)=0.000462 *11* α(N)=0.000398 *10*; α(O)=6.03×10^{-5} *13*; α(P)=4.18×10^{-6} *7* Mult.: from DCO and α(K)exp. α(K)exp=0.094 *22* (1993Co09). α(K)(M1)=0.0658, α(K)(E2)=0.629. I_γ: I/I(473γ)=48/49 in 1977Gi05.
260.8 *2*	42 *4*	2998.2	$25/2^+$	2737.4	$23/2^+$	M1+E2	−0.11 *4*	0.0701	α(K)=0.0601 *9*; α(L)=0.00795 *12*; α(M)=0.001638 *25*; α(N+..)=0.000411 *6* α(N)=0.000353 *6*; α(O)=5.41×10^{-5} *8*; α(P)=3.93×10^{-6} *6*
263.5 *5*	17.0 *17*	3137.9	$25/2^+$	2874.5	$23/2^+$	M1+E2	−0.11 *6*	0.0682 *11*	α(K)=0.0585 *9*; α(L)=0.00773 *13*; α(M)=0.00159 *3*; α(N+..)=0.000400 *7* α(N)=0.000344 *6*; α(O)=5.26×10^{-5} *9*; α(P)=3.82×10^{-6} *6*
269.4 *5*	≈1	269.5	$(5/2^+)$	0.0	$1/2^+$				
275[#] *1*		599.3	$9/2^+$	324.3	$7/2^+$				
285.57[‡] *17*	91 *5*	579.5	$13/2^-$	293.9	$11/2^-$	M1+E2	−0.07 *5*	0.0552	α(K)=0.0473 *7*; α(L)=0.00622 *9*; α(M)=0.001280 *19*; α(N+..)=0.000322 *5* α(N)=0.000276 *4*; α(O)=4.23×10^{-5} *6*; α(P)=3.09×10^{-6} *5*
285.6 *2*	30 *3*	2737.4	$23/2^+$	2451.7	$21/2^+$	M1+E2	−0.18 *5*	0.0551	α(K)=0.0472 *7*; α(L)=0.00626 *10*; α(M)=0.001291 *20*; α(N+..)=0.000324 *5* α(N)=0.000278 *5*; α(O)=4.25×10^{-5} *7*; α(P)=3.07×10^{-6} *5*
288.8 *2*	60 *3*	3287.0	$27/2^+$	2998.2	$25/2^+$	M1+E2	−0.14 *4*	0.0535	α(K)=0.0459 *7*; α(L)=0.00606 *9*; α(M)=0.001248 *19*; α(N+..)=0.000313 *5* α(N)=0.000269 *4*; α(O)=4.12×10^{-5} *6*; α(P)=2.99×10^{-6} *5*
294.74[‡] *17*	38 *4*	963.8	$13/2^+$	669.0	$11/2^+$	M1+E2	−0.33 *4*	0.0505 *8*	α(K)=0.0431 *7*; α(L)=0.00585 *9*; α(M)=0.001207 *19*; α(N+..)=0.000302 *5* α(N)=0.000260 *4*; α(O)=3.95×10^{-5} *6*; α(P)=2.78×10^{-6} *5* Mult.: from DCO and α(K)exp. α(K)exp=0.033 *8* (1993Co09). α(K)(M1)=0.0411, α(K)(E2)=0.0390.
305.0 *5*	14.0 *14*	4408.0	$33/2^-$	4102.4	$31/2^-$	M1+E2	−0.12 *5*	0.0464	α(K)=0.0398 *6*; α(L)=0.00523 *8*; α(M)=0.001077 *17*; α(N+..)=0.000271 *4* α(N)=0.000232 *4*; α(O)=3.56×10^{-5} *6*; α(P)=2.59×10^{-6} *4*
309.2 *5*	8.0 *16*	3790.9	$29/2^+$	3482.0	$27/2^+$				
318.9 *5*	12.0 *12*	375.0	$7/2^+$	56.1	$3/2^+$	(E2)		0.0373	α(K)=0.0305 *5*; α(L)=0.00538 *8*; α(M)=0.001133 *17*; α(N+..)=0.000277 *5* α(N)=0.000240 *4*; α(O)=3.47×10^{-5} *6*; α(P)=1.74×10^{-6} *3*
324[#] *1*		1230.6	$(13/2^+)$	906.6	$(11/2^+)$				

$^{127}_{56}Ba_{71}$-6

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [b]	α [e]	Comments
327.50[‡] *17*	38 *4*	1291.4	15/2$^+$	963.8	13/2$^+$	*c*	*c*		
327.5 *2*	46 *5*	3949.6	31/2$^+$	3622.1	29/2$^+$	*c*	*c*		
334.4 *3*	21.0 *21*	415.8	9/2$^+$	81.1	5/2$^+$	*d*			
335.2 *2*	42 *4*	3622.1	29/2$^+$	3287.0	27/2$^+$	*d*			
344.4 *5*	10.0 *10*	3482.0	27/2$^+$	3137.9	25/2$^+$	M1+E2	−0.05 *5*	0.0339	α(K)=0.0291 *5*; α(L)=0.00379 *6*; α(M)=0.000780 *12*; α(N+..)=0.000196 *3* α(N)=0.0001684 *25*; α(O)=2.58×10^{-5} *4*; α(P)=1.89×10^{-6} *3*
346.6 *2*	22.0 *22*	4102.4	31/2$^-$	3755.7	29/2$^-$	M1+E2	−0.13 *5*	0.0332	α(K)=0.0285 *4*; α(L)=0.00373 *6*; α(M)=0.000769 *11*; α(N+..)=0.000193 *3* α(N)=0.0001658 *24*; α(O)=2.54×10^{-5} *4*; α(P)=1.86×10^{-6} *3*
351.9 *5*	4.0 *8*	4578.5	33/2$^+$	4226.3	31/2$^+$				
353[#] *1*		728.2	(9/2$^+$)	375.0	7/2$^+$				
363.10[‡] *18*	25.0 *25*	1654.5	17/2$^+$	1291.4	15/2$^+$	M1+E2	−0.25 *6*	0.0293 *5*	α(K)=0.0251 *4*; α(L)=0.00331 *5*; α(M)=0.000682 *10*; α(N+..)=0.0001712 *25* α(N)=0.0001471 *21*; α(O)=2.25×10^{-5} *4*; α(P)=1.63×10^{-6} *3*
380.7 *5*	8.0 *16*	4745.8	35/2$^+$	4365.1	33/2$^+$	M1+E2	−0.39 *12*	0.0256 *5*	α(K)=0.0219 *5*; α(L)=0.00292 *5*; α(M)=0.000603 *9*; α(N+..)=0.0001512 *22* α(N)=0.0001299 *19*; α(O)=1.98×10^{-5} *3*; α(P)=1.41×10^{-6} *4*
388.8 *2*	15.0 *15*	2043.3	19/2$^+$	1654.5	17/2$^+$	M1+E2	−0.40 *9*	0.0242 *5*	α(K)=0.0207 *4*; α(L)=0.00276 *4*; α(M)=0.000570 *8*; α(N+..)=0.0001429 *21* α(N)=0.0001228 *18*; α(O)=1.87×10^{-5} *3*; α(P)=1.33×10^{-6} *3*
396.4 *5*	11.0 *11*	5213.3	37/2$^-$	4816.6	35/2$^-$	M1+E2	−0.18 *6*	0.0235	α(K)=0.0202 *3*; α(L)=0.00263 *4*; α(M)=0.000541 *8*; α(N+..)=0.0001360 *20* α(N)=0.0001168 *17*; α(O)=1.79×10^{-5} *3*; α(P)=1.308×10^{-6} *21*
400.5 *5*	5.0 *10*	3137.9	25/2$^+$	2737.4	23/2$^+$				
408.4[‡] *3*	18.0 *18*	2451.7	21/2$^+$	2043.3	19/2$^+$	M1+E2	−0.14 *7*	0.0218 *4*	α(K)=0.0187 *3*; α(L)=0.00244 *4*; α(M)=0.000501 *7*; α(N+..)=0.0001260 *18* α(N)=0.0001082 *16*; α(O)=1.658×10^{-5} *24*; α(P)=1.216×10^{-6} *19*
408.6 *5*	10.0 *10*	4816.6	35/2$^-$	4408.0	33/2$^-$	M1+E2	−0.21 *7*	0.0217 *4*	α(K)=0.0186 *3*; α(L)=0.00243 *4*; α(M)=0.000500 *8*; α(N+..)=0.0001257 *19* α(N)=0.0001079 *16*; α(O)=1.653×10^{-5} *24*; α(P)=1.206×10^{-6} *21*
415.7 *5*	16.0 *16*	4365.1	33/2$^+$	3949.6	31/2$^+$	M1+E2	+0.07 *7*	0.0209	α(K)=0.0180 *3*; α(L)=0.00233 *4*; α(M)=0.000479 *7*; α(N+..)=0.0001204 *18* α(N)=0.0001034 *15*; α(O)=1.586×10^{-5} *23*; α(P)=1.168×10^{-6} *18* DCO ratio=0.63 *5*.
417.76[‡] *18*	37 *4*	1194.8	17/2$^-$	777.1	15/2$^-$	M1+E2	−0.18 *8*	0.0205 *4*	α(K)=0.0176 *3*; α(L)=0.00230 *4*; α(M)=0.000472 *7*; α(N+..)=0.0001187 *17* α(N)=0.0001020 *15*; α(O)=1.563×10^{-5} *23*; α(P)=1.144×10^{-6} *20*
419.80[‡] *18*	37 *4*	579.5	13/2$^-$	159.7	9/2$^-$	Q			
423.1 *5*	3.5 *7*	2874.5	23/2$^+$	2451.7	21/2$^+$				
432.4 *5*	4.0 *8*	2737.4	23/2$^+$	2305.1	(19/2$^+$)				

$^{127}_{56}Ba_{71}$-7

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[b]	α[e]	Comments
435.4 *5*	9.0 *18*	4226.3	31/2$^+$	3790.9	29/2$^+$				
442.6 *5*	5.0 *10*	1219.7	15/2$^-$	777.1	15/2$^-$				
447.6 *5*	3.0 *6*	5675.8	39/2$^+$	5228.1	37/2$^+$				
451.9 *5*	8.0 *16*	4408.0	33/2$^-$	3956.9	31/2$^-$	M1+E2	−0.18 *7*	0.0168 *3*	α(K)=0.01447 *23*; α(L)=0.00188 *3*; α(M)=0.000386 *6*; α(N+..)=9.70×10^{-5} *15* α(N)=8.33×10^{-5} *12*; α(O)=1.277×10^{-5} *19*; α(P)=9.37×10^{-7} *16*
452.2 *5*	6.0 *12*	868.0	11/2$^+$	415.8	9/2$^+$				
459[#] *1*		728.2	(9/2$^+$)	269.5	(5/2$^+$)				
459.1 *2*	21.0 *21*	3518.2	27/2$^-$	3059.1	27/2$^-$	M1+E2		0.0144 *19*	α(K)=0.0122 *18*; α(L)=0.00171 *10*; α(M)=0.000355 *18*; α(N+..)=8.8×10^{-5} *6* α(N)=7.6×10^{-5} *5*; α(O)=1.15×10^{-5} *9*; α(P)=7.7×10^{-7} *15* Mult.: DCO ratio=1.02 *6*.
473.70[‡] *19*	49 *5*	669.0	11/2$^+$	195.4	7/2$^+$	(E2)		0.01145	α(K)=0.00960 *14*; α(L)=0.001469 *21*; α(M)=0.000306 *5*; α(N+..)=7.56×10^{-5} *11* α(N)=6.54×10^{-5} *10*; α(O)=9.66×10^{-6} *14*; α(P)=5.75×10^{-7} *8*
480[#] *1*		6221.9	(41/2$^-$)	5741.5	39/2$^-$				
481.7 *5*	4.0 *8*	5228.1	37/2$^+$	4745.8	35/2$^+$				
483.26[‡] *19*	132 *7*	777.1	15/2$^-$	293.9	11/2$^-$	E2		0.01083	α(K)=0.00909 *13*; α(L)=0.001382 *20*; α(M)=0.000288 *4*; α(N+..)=7.11×10^{-5} *10* α(N)=6.15×10^{-5} *9*; α(O)=9.10×10^{-6} *13*; α(P)=5.45×10^{-7} *8* Mult.: from DCO and α(K)exp. α(K)exp=0.010 *2* (1993Co09). α(K)(M1)=0.0125, α(K)(E2)=0.0091.
492.9 *5*	12.0 *12*	868.0	11/2$^+$	375.0	7/2$^+$				
493.5 *5*	13.0 *13*	2737.4	23/2$^+$	2244.3	19/2$^+$				
496.5 *5*	3.0 *6*	2463.7	23/2$^-$	1966.9	21/2$^-$				
497[#] *1*		9617.8	(53/2$^+$)	9120.8	(51/2$^+$)				
500.5 *5*	14.0 *14*	2998.2	25/2$^+$	2497.5	21/2$^+$	(E2)		0.00983 *14*	α=0.00983 *14*; α(K)=0.00826 *12*; α(L)=0.001244 *18*; α(M)=0.000259 *4*; α(N+..)=6.40×10^{-5} *10* α(N)=5.53×10^{-5} *8*; α(O)=8.20×10^{-6} *12*; α(P)=4.97×10^{-7} *7*
504.2 *5*	7.0 *14*	3790.9	29/2$^+$	3287.0	27/2$^+$				
509.4 *5*	8.0 *16*	669.0	11/2$^+$	159.7	9/2$^-$				
523[#] *1*		6726.4	43/2$^+$	6203.2	41/2$^+$				
528.0 *5*	6.0 *12*	5741.5	39/2$^-$	5213.3	37/2$^-$	M1+E2	−0.27 *9*	0.01129 *22*	α(K)=0.00971 *19*; α(L)=0.001257 *21*; α(M)=0.000258 *5*; α(N+..)=6.49×10^{-5} *11* α(N)=5.58×10^{-5} *9*; α(O)=8.55×10^{-6} *15*; α(P)=6.27×10^{-7} *14*
528[#] *1*		6203.2	41/2$^+$	5675.8	39/2$^+$				
531.6 *5*	2.5 *5*	3400.7		2868.8	25/2$^-$				
532[#] *1*		906.6	(11/2$^+$)	375.0	7/2$^+$				
541[#] *1*		6762.6	(43/2$^-$)	6221.9	(41/2$^-$)				

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[b]	α[e]	Comments
543.9 *5*	5.0 *10*	868.0	11/2$^+$	324.3	7/2$^+$				
544.8 *5*	16.0 *16*	1966.9	21/2$^-$	1421.7	19/2$^-$	M1+E2	−0.16 *9*	0.01057 *18*	α(K)=0.00910 *16*; α(L)=0.001170 *18*; α(M)=0.000240 *4*; α(N+..)=6.05×10^{-5} *10* α(N)=5.19×10^{-5} *8*; α(O)=7.97×10^{-6} *13*; α(P)=5.88×10^{-7} *11*
545[#] *1*		5675.8	39/2$^+$	5131.3	(35/2$^+$)				
546.6 *5*	16.0 *16*	2998.2	25/2$^+$	2451.7	21/2$^+$				
547[#] *1*		7309.3	(45/2$^-$)	6762.6	(43/2$^-$)				
548.00[‡] *19*	49 *5*	963.8	13/2$^+$	415.8	9/2$^+$	(E2)		0.00768 *11*	α=0.00768 *11*; α(K)=0.00648 *9*; α(L)=0.000953 *14*; α(M)=0.000198 *3*; α(N+..)=4.90×10^{-5} *7* α(N)=4.23×10^{-5} *6*; α(O)=6.30×10^{-6} *9*; α(P)=3.93×10^{-7} *6*
548[#] *1*		8429.7	(49/2$^+$)	7881.9	(47/2$^+$)				
549.6 *2*	23.0 *23*	3287.0	27/2$^+$	2737.4	23/2$^+$				
551[#] *1*		7277.5	(45/2$^+$)	6726.4	43/2$^+$				
552.6 *5*	2.0 *4*	5131.3	(35/2$^+$)	4578.5	33/2$^+$				
555.7 *5*	4.0 *8*	1519.8	15/2$^+$	963.8	13/2$^+$				
556[#] *1*		7865.6	(47/2$^-$)	7309.3	(45/2$^-$)				
558.10[‡] *19*	25.0 *25*	1777.7	19/2$^-$	1219.7	15/2$^-$	(E2)		0.00732 *11*	α=0.00732 *11*; α(K)=0.00618 *9*; α(L)=0.000904 *13*; α(M)=0.000188 *3*; α(N+..)=4.65×10^{-5} *7* α(N)=4.02×10^{-5} *6*; α(O)=5.99×10^{-6} *9*; α(P)=3.75×10^{-7} *6*
574[#] *1*		4365.1	33/2$^+$	3790.9	29/2$^+$				
576[#] *1*		9034.7	(51/2$^-$)	8458.9	(49/2$^-$)				
580[#] *1*		10257.3	(55/2$^-$)	9677.0	(53/2$^-$)				
582[#] *1*		906.6	(11/2$^+$)	324.3	7/2$^+$				
582.7 *5*	18 *2*	1777.7	19/2$^-$	1194.8	17/2$^-$	M1+E2	−0.45 *10*	0.00860 *20*	α=0.00860 *20*; α(K)=0.00739 *18*; α(L)=0.000962 *19*; α(M)=0.000198 *4*; α(N+..)=4.97×10^{-5} *10* α(N)=4.27×10^{-5} *9*; α(O)=6.53×10^{-6} *14*; α(P)=4.74×10^{-7} *13*
583.0[@] *6*	53[@] *3*	877.0	(11/2)$^-$	293.9	11/2$^-$	(M1+E2)		0.0078 *13*	α=0.0078 *13*; α(K)=0.0066 *12*; α(L)=0.00090 *10*; α(M)=0.000185 *20*; α(N+..)=4.6×10^{-5} *6* α(N)=4.0×10^{-5} *5*; α(O)=6.0×10^{-6} *8*; α(P)=4.2×10^{-7} *9* Mult.: from A_2=−0.15 *7* and A_4=0.05 *11* (1977Gi05).
583.7 *5*	2.5 *5*	4102.4	31/2$^-$	3518.2	27/2$^-$				
589.9 *5*	5.0 *10*	2244.3	19/2$^+$	1654.5	17/2$^+$				
593[#] *1*		8458.9	(49/2$^-$)	7865.6	(47/2$^-$)				
604[#] *1*		7881.9	(47/2$^+$)	7277.5	(45/2$^+$)				
607.6 *5*	4.0 *8*	3482.0	27/2$^+$	2874.5	23/2$^+$				
615.22[‡] *19*	48 *5*	1194.8	17/2$^-$	579.5	13/2$^-$	(E2)		0.00568 *8*	α=0.00568 *8*; α(K)=0.00481 *7*; α(L)=0.000687 *10*; α(M)=0.0001425 *20*; α(N+..)=3.54×10^{-5} *5* α(N)=3.05×10^{-5} *5*; α(O)=4.57×10^{-6} *7*; α(P)=2.93×10^{-7} *5*
619[#] *1*		2863.3	(23/2$^+$)	2244.3	19/2$^+$				

$^{127}_{56}Ba_{71}$-9

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[b]	α[e]	Comments
622.31[‡] *19*	55 *6*	1291.4	15/2$^+$	669.0	11/2$^+$	(E2)		0.00551 *8*	α=0.00551 *8*; α(K)=0.00467 *7*; α(L)=0.000666 *10*; α(M)=0.0001381 *20*; α(N+..)=3.43×10^{-5} *5* α(N)=2.96×10^{-5} *5*; α(O)=4.43×10^{-6} *7*; α(P)=2.85×10^{-7} *4*
623.9 *2*	25.0 *25*	3622.1	29/2$^+$	2998.2	25/2$^+$				
628.7 *5*	4.0 *8*	4578.5	33/2$^+$	3949.6	31/2$^+$				
640.2[‡] *2*	26 *3*	1219.7	15/2$^-$	579.5	13/2$^-$	M1+E2	−0.36 *12*	0.00694 *18*	α=0.00694 *18*; α(K)=0.00597 *16*; α(L)=0.000769 *17*; α(M)=0.000158 *4*; α(N+..)=3.97×10^{-5} *9* α(N)=3.41×10^{-5} *8*; α(O)=5.23×10^{-6} *12*; α(P)=3.84×10^{-7} *11*
642[#] *1*		9677.0	(53/2$^-$)	9034.7	(51/2$^-$)				
644.45[‡] *19*	140 *7*	1421.7	19/2$^-$	777.1	15/2$^-$	(E2)		0.00505 *7*	α=0.00505 *7*; α(K)=0.00428 *6*; α(L)=0.000606 *9*; α(M)=0.0001255 *18*; α(N+..)=3.12×10^{-5} *5* α(N)=2.69×10^{-5} *4*; α(O)=4.03×10^{-6} *6*; α(P)=2.62×10^{-7} *4*
650.0 *5*	2.9 *6*	3518.2	27/2$^-$	2868.8	25/2$^-$				
650[#] *1*		5228.1	37/2$^+$	4578.5	33/2$^+$				
651.8 *2*	22.0 *20*	1519.8	15/2$^+$	868.0	11/2$^+$	(E2)		0.00490 *7*	α=0.00490 *7*; α(K)=0.00416 *6*; α(L)=0.000587 *9*; α(M)=0.0001217 *17*; α(N+..)=3.02×10^{-5} *5* α(N)=2.61×10^{-5} *4*; α(O)=3.91×10^{-6} *6*; α(P)=2.55×10^{-7} *4*
652.6 *5*	9.0 *18*	4408.0	33/2$^-$	3755.7	29/2$^-$	(E2)		0.00489 *7*	α=0.00489 *7*; α(K)=0.00415 *6*; α(L)=0.000585 *9*; α(M)=0.0001213 *18*; α(N+..)=3.01×10^{-5} *5* α(N)=2.60×10^{-5} *4*; α(O)=3.90×10^{-6} *6*; α(P)=2.54×10^{-7} *4* Mult.: DCO ratio=0.85 *8*.
652.8 *5*	6.0 *12*	3790.9	29/2$^+$	3137.9	25/2$^+$	(E2)		0.00488 *7*	α=0.00488 *7*; α(K)=0.00415 *6*; α(L)=0.000585 *9*; α(M)=0.0001212 *18*; α(N+..)=3.01×10^{-5} *5* α(N)=2.60×10^{-5} *4*; α(O)=3.90×10^{-6} *6*; α(P)=2.54×10^{-7} *4*
662.6 *2*	32 *3*	3949.6	31/2$^+$	3287.0	27/2$^+$	(E2)		0.00471 *7*	α=0.00471 *7*; α(K)=0.00400 *6*; α(L)=0.000562 *8*; α(M)=0.0001164 *17*; α(N+..)=2.89×10^{-5} *4* α(N)=2.49×10^{-5} *4*; α(O)=3.74×10^{-6} *6*; α(P)=2.45×10^{-7} *4*
669.8 *5*	6.0 *12*	963.8	13/2$^+$	293.9	11/2$^-$				
672.8 *5*	8.0 *16*	2868.8	25/2$^-$	2196.1	23/2$^-$				
686.0 *2*	22.0 *22*	2463.7	23/2$^-$	1777.7	19/2$^-$	(E2)		0.00432 *6*	α=0.00432 *6*; α(K)=0.00367 *6*; α(L)=0.000513 *8*; α(M)=0.0001061 *15*; α(N+..)=2.64×10^{-5} *4* α(N)=2.27×10^{-5} *4*; α(O)=3.42×10^{-6} *5*; α(P)=2.25×10^{-7} *4* Mult.: DCO ratio=0.80 *12*.
686.0 *5*	4.0 *8*	3137.9	25/2$^+$	2451.7	21/2$^+$				
690.9 *2*	70 *4*	1654.5	17/2$^+$	963.8	13/2$^+$	(E2)		0.00424 *6*	α=0.00424 *6*; α(K)=0.00361 *5*; α(L)=0.000503 *7*; α(M)=0.0001041 *15*; α(N+..)=2.59×10^{-5} *4* α(N)=2.23×10^{-5} *4*; α(O)=3.36×10^{-6} *5*; α(P)=2.22×10^{-7} *4* E_γ: 691.0 *7* for a composite peak in 1977Gi05.
691[#] *1*		9120.8	(51/2$^+$)	8429.7	(49/2$^+$)				
693.7 *5*	14.0 *14*	2737.4	23/2$^+$	2043.3	19/2$^+$				

$^{127}_{56}Ba_{71}$-10

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [b]	α [e]	Comments
695[#] *1*		10952.2	(57/2$^-$)	10257.3	(55/2$^-$)				
696.4 *5*	13.0 *13*	3755.7	29/2$^-$	3059.1	27/2$^-$	M1+E2	−0.29 *7*	0.00572 *11*	α=0.00572 *11*; α(K)=0.00493 *9*; α(L)=0.000631 *11*; α(M)=0.0001295 *22*; α(N+..)=3.26×10^{-5} *6* α(N)=2.80×10^{-5} *5*; α(O)=4.29×10^{-6} *8*; α(P)=3.17×10^{-7} *6*
711.9 *5*	7.0 *14*	1291.4	15/2$^+$	579.5	13/2$^-$				
714.3 *5*	4.0 *8*	4816.6	35/2$^-$	4102.4	31/2$^-$				
717.5[@] *7*	12.0[@] *12*	877.0	(11/2)$^-$	159.7	9/2$^-$	(E2)		0.00387 *6*	α=0.00387 *6*; α(K)=0.00330 *5*; α(L)=0.000456 *7*; α(M)=9.43×10^{-5} *14*; α(N+..)=2.35×10^{-5} *4* α(N)=2.02×10^{-5} *3*; α(O)=3.04×10^{-6} *5*; α(P)=2.03×10^{-7} *3* From A_2=0.43 *18* and A_4=−0.05 *28* (1977Gi05).
724.6 *5*	16.0 *16*	2244.3	19/2$^+$	1519.8	15/2$^+$	(E2)		0.00378 *6*	α=0.00378 *6*; α(K)=0.00322 *5*; α(L)=0.000444 *7*; α(M)=9.19×10^{-5} *13*; α(N+..)=2.29×10^{-5} *4* α(N)=1.97×10^{-5} *3*; α(O)=2.97×10^{-6} *5*; α(P)=1.98×10^{-7} *3*
725[#] *1*		7277.5	(45/2$^+$)	6552.5	(41/2$^+$)				
742.9 *5*	11.0 *11*	4365.1	33/2$^+$	3622.1	29/2$^+$	Q			
744.5 *5*	4.0 *8*	4226.3	31/2$^+$	3482.0	27/2$^+$				
751.92[‡] *19*	59 *3*	2043.3	19/2$^+$	1291.4	15/2$^+$	(E2)		0.00346 *5*	α=0.00346 *5*; α(K)=0.00295 *5*; α(L)=0.000404 *6*; α(M)=8.35×10^{-5} *12*; α(N+..)=2.08×10^{-5} *3* α(N)=1.79×10^{-5} *3*; α(O)=2.70×10^{-6} *4*; α(P)=1.82×10^{-7} *3*
770.7 *5*	3.0 *6*	2737.4	23/2$^+$	1966.9	21/2$^-$				
772.2 *2*	45 *5*	1966.9	21/2$^-$	1194.8	17/2$^-$	(E2)		0.00325 *5*	α=0.00325 *5*; α(K)=0.00277 *4*; α(L)=0.000378 *6*; α(M)=7.81×10^{-5} *11*; α(N+..)=1.95×10^{-5} *3* α(N)=1.676×10^{-5} *24*; α(O)=2.53×10^{-6} *4*; α(P)=1.707×10^{-7} *24*
774.3[&] *2*	115 *6*	2196.1	23/2$^-$	1421.7	19/2$^-$	(E2)		0.00323 *5*	α=0.00323 *5*; α(K)=0.00275 *4*; α(L)=0.000375 *6*; α(M)=7.75×10^{-5} *11*; α(N+..)=1.93×10^{-5} *3* α(N)=1.664×10^{-5} *24*; α(O)=2.51×10^{-6} *4*; α(P)=1.697×10^{-7} *24*
785.1 *5*	7.0 *14*	2305.1	(19/2$^+$)	1519.8	15/2$^+$				
787.7 *5*	7.0 *14*	4578.5	33/2$^+$	3790.9	29/2$^+$				
795.9 *5*	17.0 *17*	4745.8	35/2$^+$	3949.6	31/2$^+$				
797.20[‡] *19*	53 *3*	2451.7	21/2$^+$	1654.5	17/2$^+$	(E2)		0.00301 *5*	α=0.00301 *5*; α(K)=0.00257 *4*; α(L)=0.000349 *5*; α(M)=7.21×10^{-5} *10*; α(N+..)=1.80×10^{-5} *3* α(N)=1.547×10^{-5} *22*; α(O)=2.34×10^{-6} *4*; α(P)=1.587×10^{-7} *23*
805.6 *5*	15.0 *15*	5213.3	37/2$^-$	4408.0	33/2$^-$				
810.2 *5*	16.0 *16*	3273.9	27/2$^-$	2463.7	23/2$^-$				E_γ: 811 in 1990Se05.
831[#] *1*		2874.5	23/2$^+$	2043.3	19/2$^+$				
838[#] *1*		5741.5	39/2$^-$	4903.8	(35/2$^-$)				
843.11[‡] *19*	23.0 *23*	2497.5	21/2$^+$	1654.5	17/2$^+$	(E2)		0.00265 *4*	α=0.00265 *4*; α(K)=0.00226 *4*; α(L)=0.000304 *5*;

(HI,xnγ) 1998De48,1992Wa07 (continued)

γ(^{127}Ba) (continued)

E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	α [e]	Comments
								α(M)=6.27×10^{-5} *9*; α(N+..)=1.566×10^{-5} *22* α(N)=1.348×10^{-5} *19*; α(O)=2.04×10^{-6} *3*; α(P)=1.399×10^{-7} *20*
848.7 *5*	4.0 *8*	2043.3	19/2$^+$	1194.8	17/2$^-$			
859.1 *5*	9.0 *18*	4816.6	35/2$^-$	3956.9	31/2$^-$			
862.9[‡] *3*	97 *5*	3059.1	27/2$^-$	2196.1	23/2$^-$	(E2)	0.00251 *4*	α=0.00251 *4*; α(K)=0.00215 *3*; α(L)=0.000288 *4*; α(M)=5.93×10^{-5} *9*; α(N+..)=1.481×10^{-5} *21* α(N)=1.274×10^{-5} *18*; α(O)=1.93×10^{-6} *3*; α(P)=1.328×10^{-7} *19*
863[#] *1*		7865.6	(47/2$^-$)	7002.6	(43/2$^-$)			
863.2 *5*	5.0 *10*	5228.1	37/2$^+$	4365.1	33/2$^+$			
877.5 *5*	11.0 *10*	1654.5	17/2$^+$	777.1	15/2$^-$			
879.8 *5*	13.0 *13*	2923.2	23/2$^+$	2043.3	19/2$^+$			
887.0 *5*	15.0 *15*	3755.7	29/2$^-$	2868.8	25/2$^-$	(E2)	0.00236 *4*	α=0.00236 *4*; α(K)=0.00202 *3*; α(L)=0.000269 *4*; α(M)=5.55×10^{-5} *8*; α(N+..)=1.386×10^{-5} *20* α(N)=1.193×10^{-5} *17*; α(O)=1.81×10^{-6} *3*; α(P)=1.250×10^{-7} *18*
897.9 *2*	43 *4*	3956.9	31/2$^-$	3059.1	27/2$^-$	(E2)	0.00230 *4*	α=0.00230 *4*; α(K)=0.00197 *3*; α(L)=0.000262 *4*; α(M)=5.39×10^{-5} *8*; α(N+..)=1.347×10^{-5} *19* α(N)=1.159×10^{-5} *17*; α(O)=1.757×10^{-6} *25*; α(P)=1.217×10^{-7} *17*
903[#] *1*		2868.8	25/2$^-$	1966.9	21/2$^-$			
905.4 *5*	3.0 *6*	5131.3	(35/2$^+$)	4226.3	31/2$^+$			
925.0 *5*		5741.5	39/2$^-$	4816.6	35/2$^-$			
930.2 *5*	10.0 *10*	5675.8	39/2$^+$	4745.8	35/2$^+$			
934[#] *1*		5512.5	(37/2$^+$)	4578.5	33/2$^+$			
943.3 *5*	11.0 *11*	4217.2	(31/2$^-$)	3273.9	27/2$^-$			E_γ: 942 in 1990Se05.
947.0 *5*	10.0 *10*	4903.8	(35/2$^-$)	3956.9	31/2$^-$			
974[#] *1*		6203.2	41/2$^+$	5228.1	37/2$^+$			
1009[#] *1*		6221.9	(41/2$^-$)	5213.3	37/2$^-$			
1011[#] *1*		5228.2	(35/2$^-$)	4217.2	(31/2$^-$)			
1017[#] *1*		5920.7	(39/2$^-$)	4903.8	(35/2$^-$)			
1021[#] *1*		6762.6	(43/2$^-$)	5741.5	39/2$^-$			
1039[#] *1*		5256.2	(35/2$^-$)	4217.2	(31/2$^-$)			
1040[#] *1*		6552.5	(41/2$^+$)	5512.5	(37/2$^+$)			
1043.3 *5*	7.0 *14*	4102.4	31/2$^-$	3059.1	27/2$^-$			
1051[#] *1*		6726.4	43/2$^+$	5675.8	39/2$^+$			
1074[#] *1*		7277.5	(45/2$^+$)	6203.2	41/2$^+$			
1075.2 *5*	10.0 *10*	2497.5	21/2$^+$	1421.7	19/2$^-$			
1080[#] *1*		7632.5	(45/2$^+$)	6552.5	(41/2$^+$)			
1082[#] *1*		7002.6	(43/2$^-$)	5920.7	(39/2$^-$)			
1087[#] *1*		7309.3	(45/2$^-$)	6221.9	(41/2$^-$)			

$^{127}_{56}Ba_{71}$-12

(HI,xnγ) 1998De48,1992Wa07 (continued)

$\gamma(^{127}Ba)$ (continued)

E_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	E_γ [†]	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π
1092[#] *1*	6320.2	(39/2$^-$)	5228.2	(35/2$^-$)	1239[#] *1*		9120.8	(51/2$^+$)	7881.9	(47/2$^+$)
1103[#] *1*	7865.6	(47/2$^-$)	6762.6	(43/2$^-$)	1242[#] *1*		11499.3	(59/2$^-$)	10257.3	(55/2$^-$)
1123[#] *1*	6379.2	(39/2$^-$)	5256.2	(35/2$^-$)	1247[#] *1*		9440.6	(51/2$^-$)	8193.6	(47/2$^-$)
1124[#] *1*	8756.5	(49/2$^+$)	7632.5	(45/2$^+$)	1261[#] *1*		7002.6	(43/2$^-$)	5741.5	39/2$^-$
1145[#] *1*	7465.2	(43/2$^-$)	6320.2	(39/2$^-$)	1264[#] *1*		12086.8	(61/2$^+$)	10822.8	(57/2$^+$)
1150[#] *1*	8458.9	(49/2$^-$)	7309.3	(45/2$^-$)	1275[#] *1*		10952.2	(57/2$^-$)	9677.0	(53/2$^-$)
1152[#] *1*	8429.7	(49/2$^+$)	7277.5	(45/2$^+$)	1296[#] *1*		8886.2	(47/2$^-$)	7590.2	(43/2$^-$)
1156[#] *1*	7881.9	(47/2$^+$)	6726.4	43/2$^+$	1299[#] *1*		11266.5	(57/2$^+$)	9967.5	(53/2$^+$)
1169[#] *1*	9034.7	(51/2$^-$)	7865.6	(47/2$^-$)	1306[#] *1*		10192.2	(51/2$^-$)	8886.2	(47/2$^-$)
1188[#] *1*	9617.8	(53/2$^+$)	8429.7	(49/2$^+$)	1318[#] *1*		12817.3	(63/2$^-$)	11499.3	(59/2$^-$)
1191[#] *1*	8193.6	(47/2$^-$)	7002.6	(43/2$^-$)	1320[#] *1*		10440.8	(55/2$^+$)	9120.8	(51/2$^+$)
1205[#] *1*	10822.8	(57/2$^+$)	9617.8	(53/2$^+$)	1321[#] *1*		12273.2	(61/2$^-$)	10952.2	(57/2$^-$)
1211[#] *1*	7590.2	(43/2$^-$)	6379.2	(39/2$^-$)	1322 *1*	2.0 *5*	3518.2	27/2$^-$	2196.1	23/2$^-$
1211[#] *1*	9967.5	(53/2$^+$)	8756.5	(49/2$^+$)	1336[#] *1*		10776.6	(55/2$^-$)	9440.6	(51/2$^-$)
1218[#] *1*	9677.0	(53/2$^-$)	8458.9	(49/2$^-$)	1390[#] *1*		13476.8	(65/2$^+$)	12086.8	(61/2$^+$)
1223[#] *1*	10257.3	(55/2$^-$)	9034.7	(51/2$^-$)						

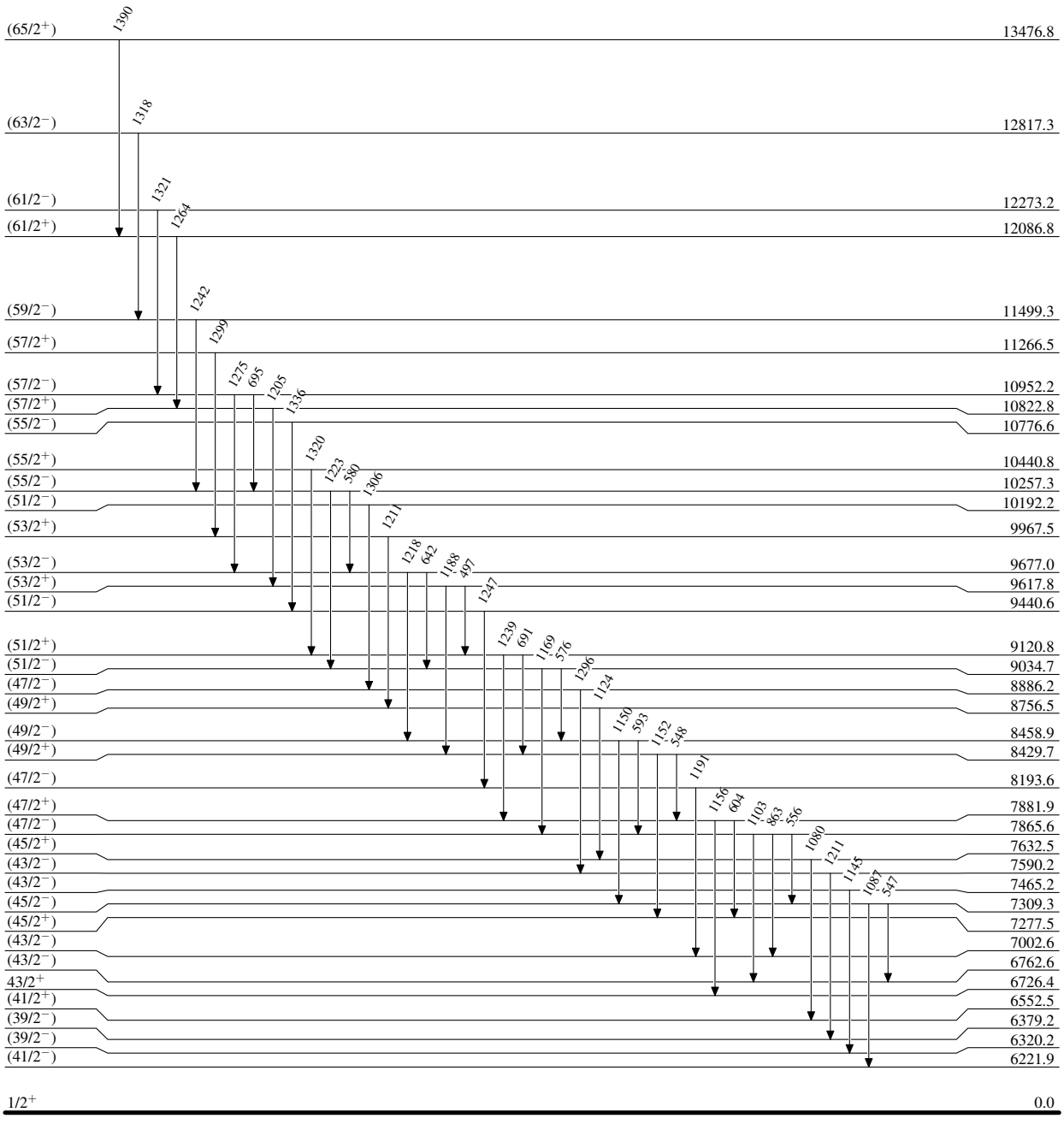
[†] From 1992Wa07, unless otherwise noted.
[‡] Weighted av of 1992Wa07 and 1977Gi05.
[#] Reported by 1998De48. Uncertainty assigned by the evaluators. Intensities are given only in the decay scheme, cannot be treated quantitively.
[@] Reported by 1977Gi05. Intensity is relative to I(483γ)=132.
[&] 771.9γ in 1977Gi05 seems to correspond to this γ.
[a] From 1992Wa07.
[b] From 1992Wa07. Values are from DCO ratio, and transitions with mult=D+Q and D are ΔJ=1, unless otherwise noted.
[c] Mult=D+Q with δ=−0.19 *7* for the 327.5 doublet.
[d] Mult=Q for 334.4γ+335.2γ.
[e] 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.

$^{127}_{56}Ba_{71}$-13

(HI,xnγ) 1998De48,1992Wa07

Level Scheme

Intensities: Relative I_γ



12.7 min *4*

$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07

Level Scheme (continued)

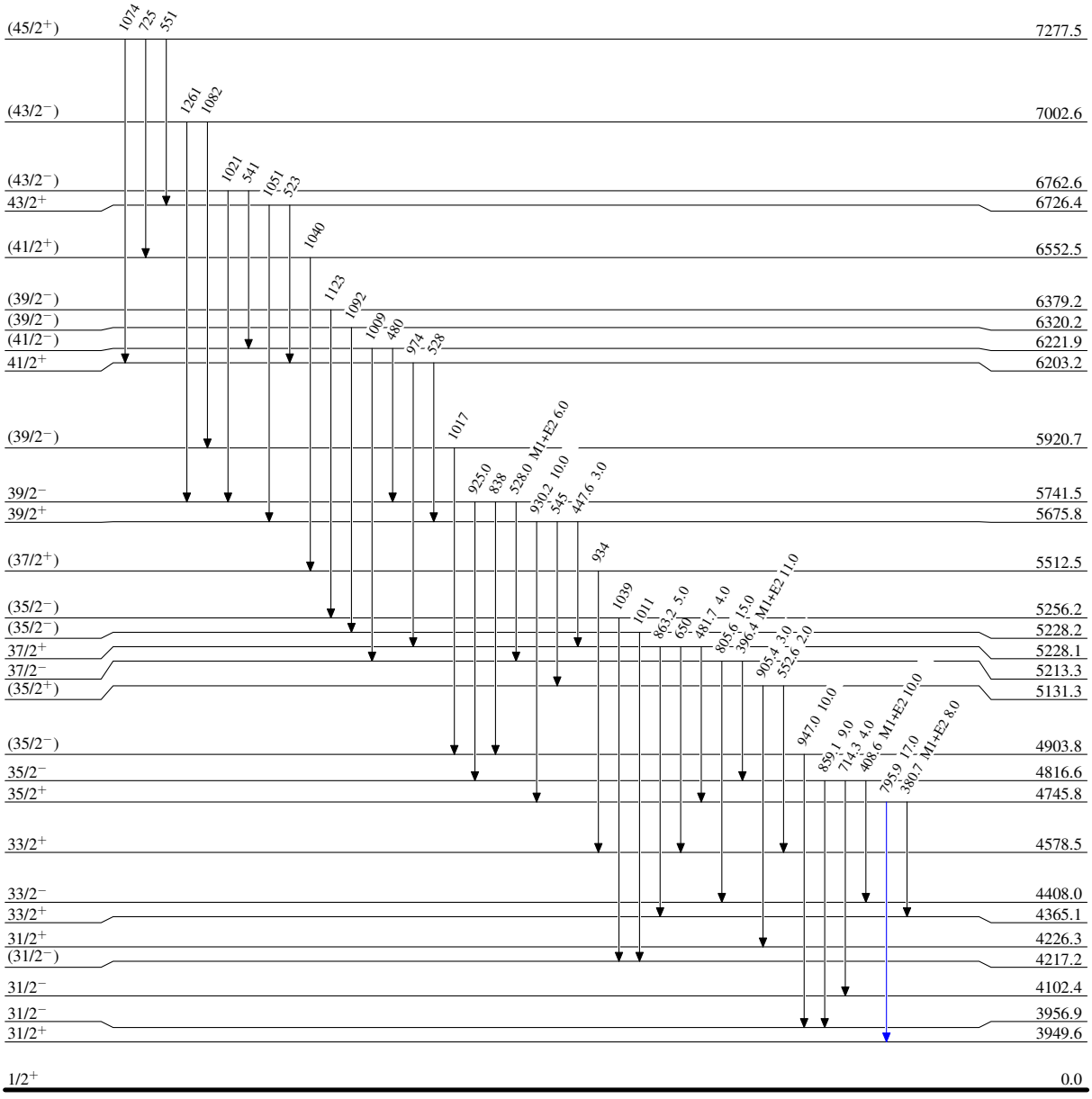
Intensities: Relative I_γ

Legend

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

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

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



$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07

Level Scheme (continued)

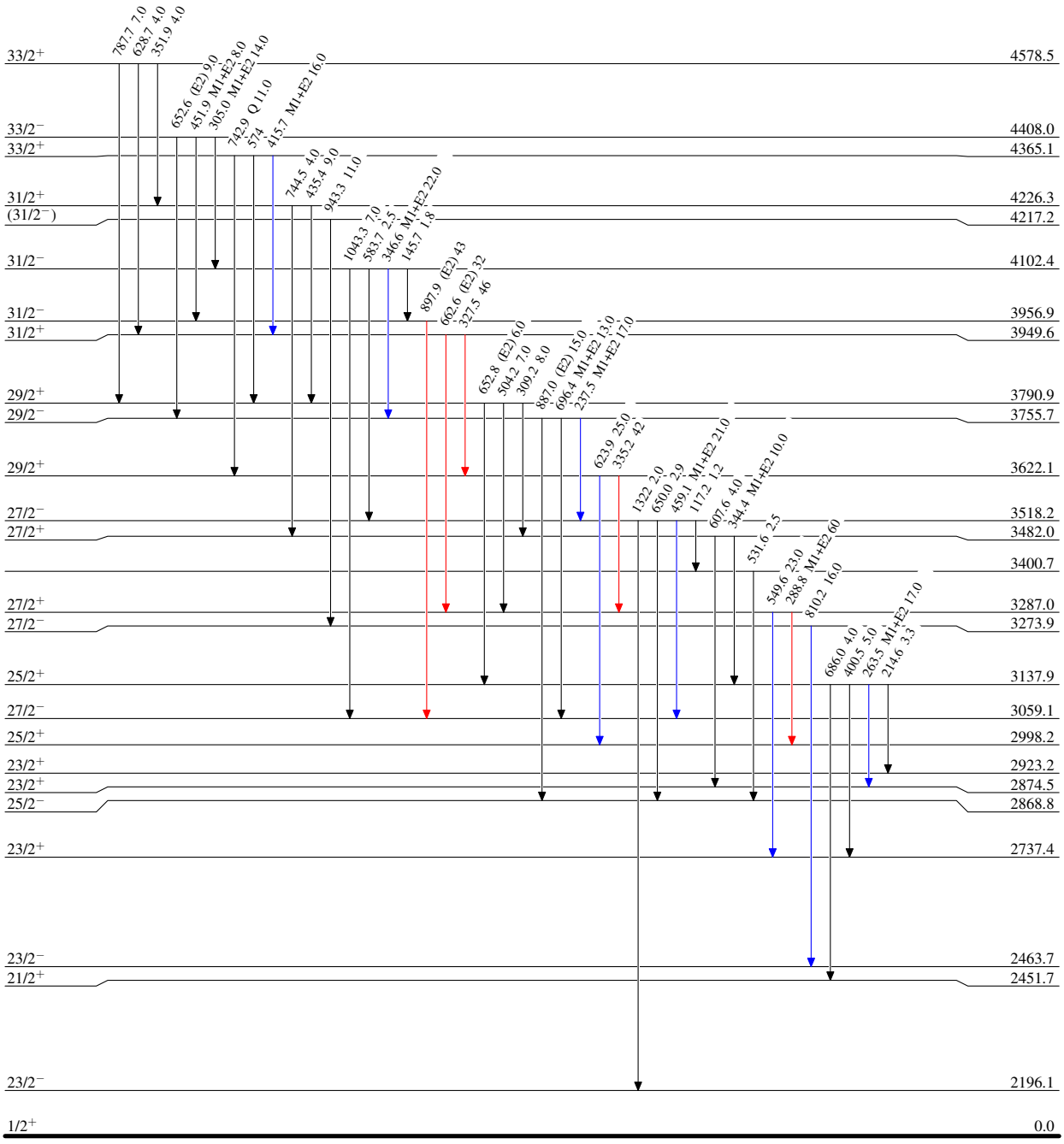
Intensities: Relative I_γ

Legend

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

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

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

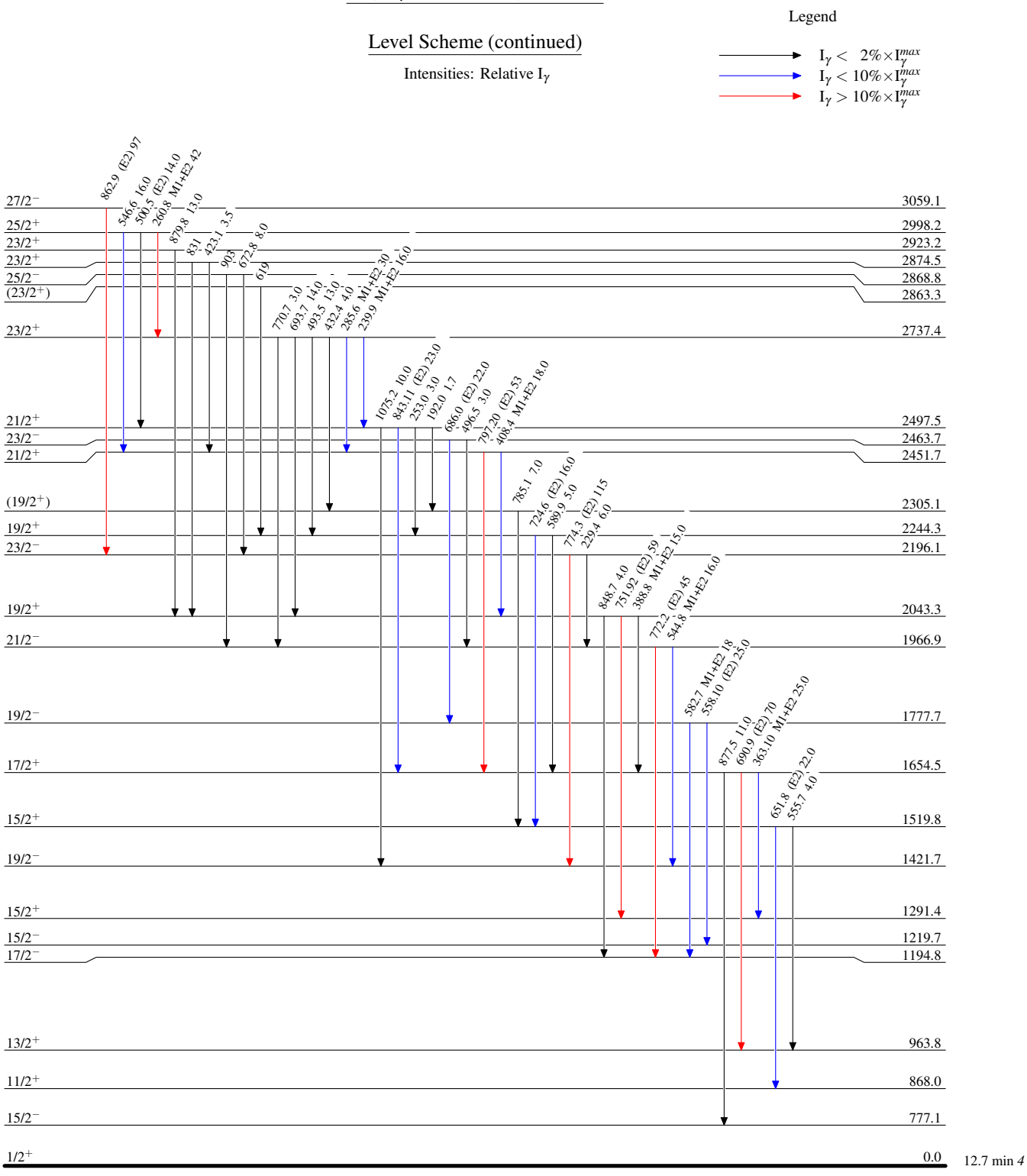


$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07

Level Scheme (continued)

Intensities: Relative I_γ



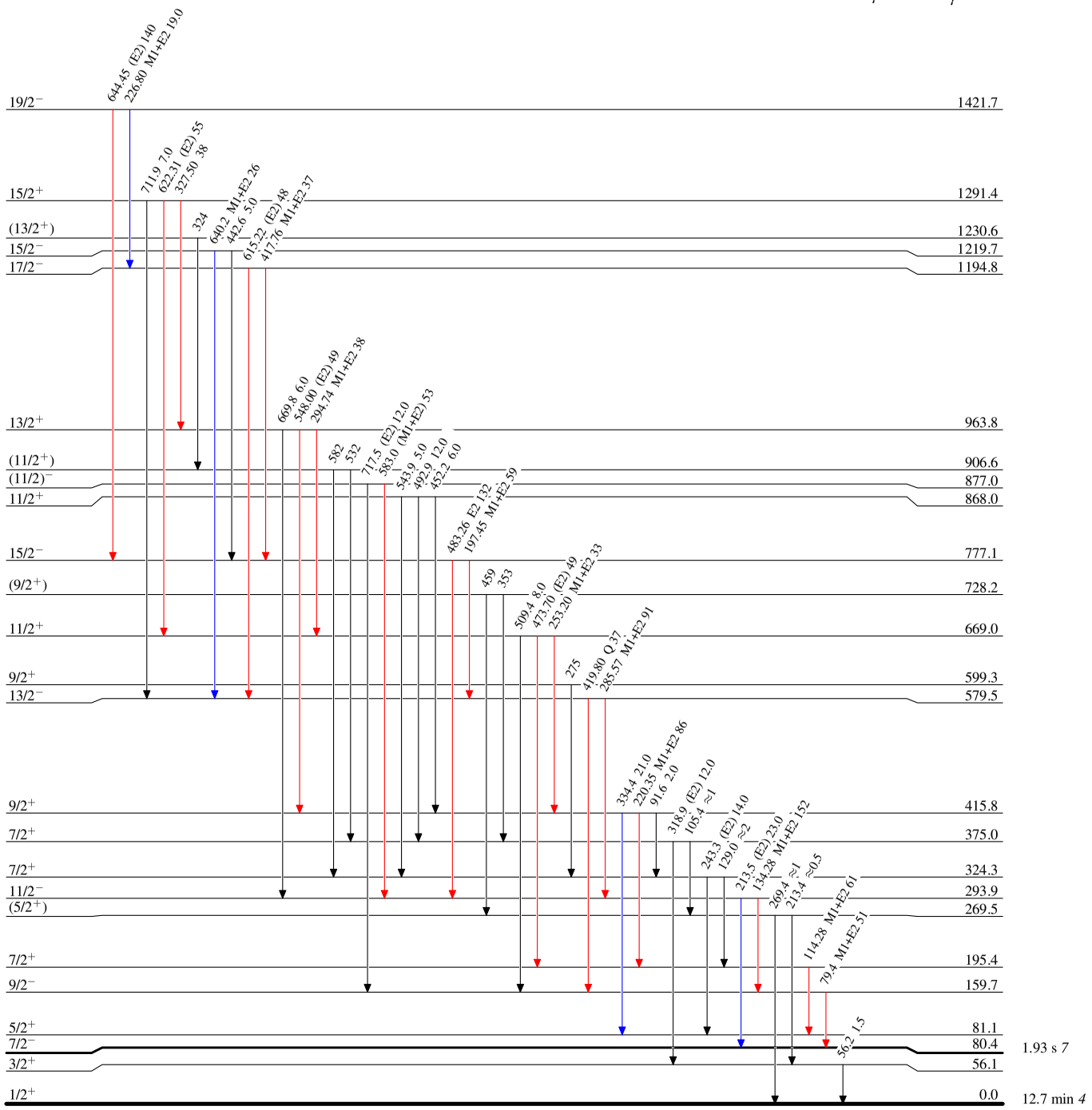
$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07

Level Scheme (continued)

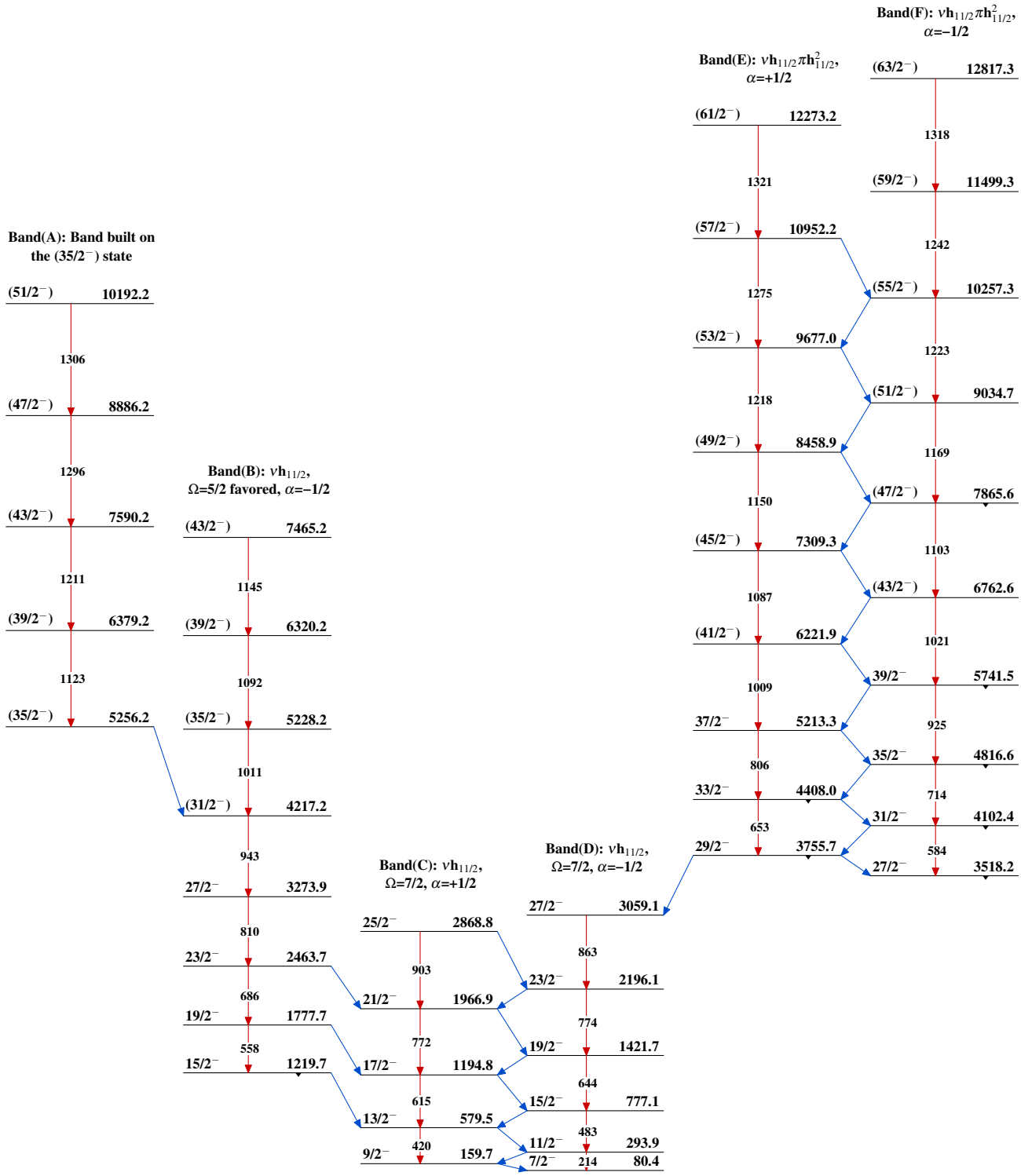
Intensities: Relative I_γ

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



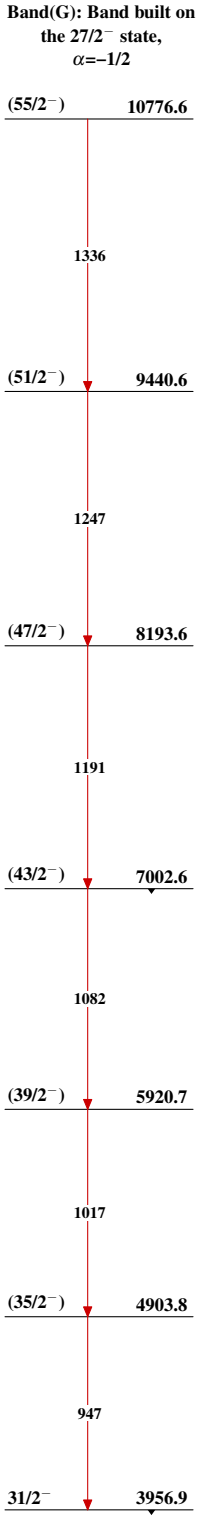
$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07



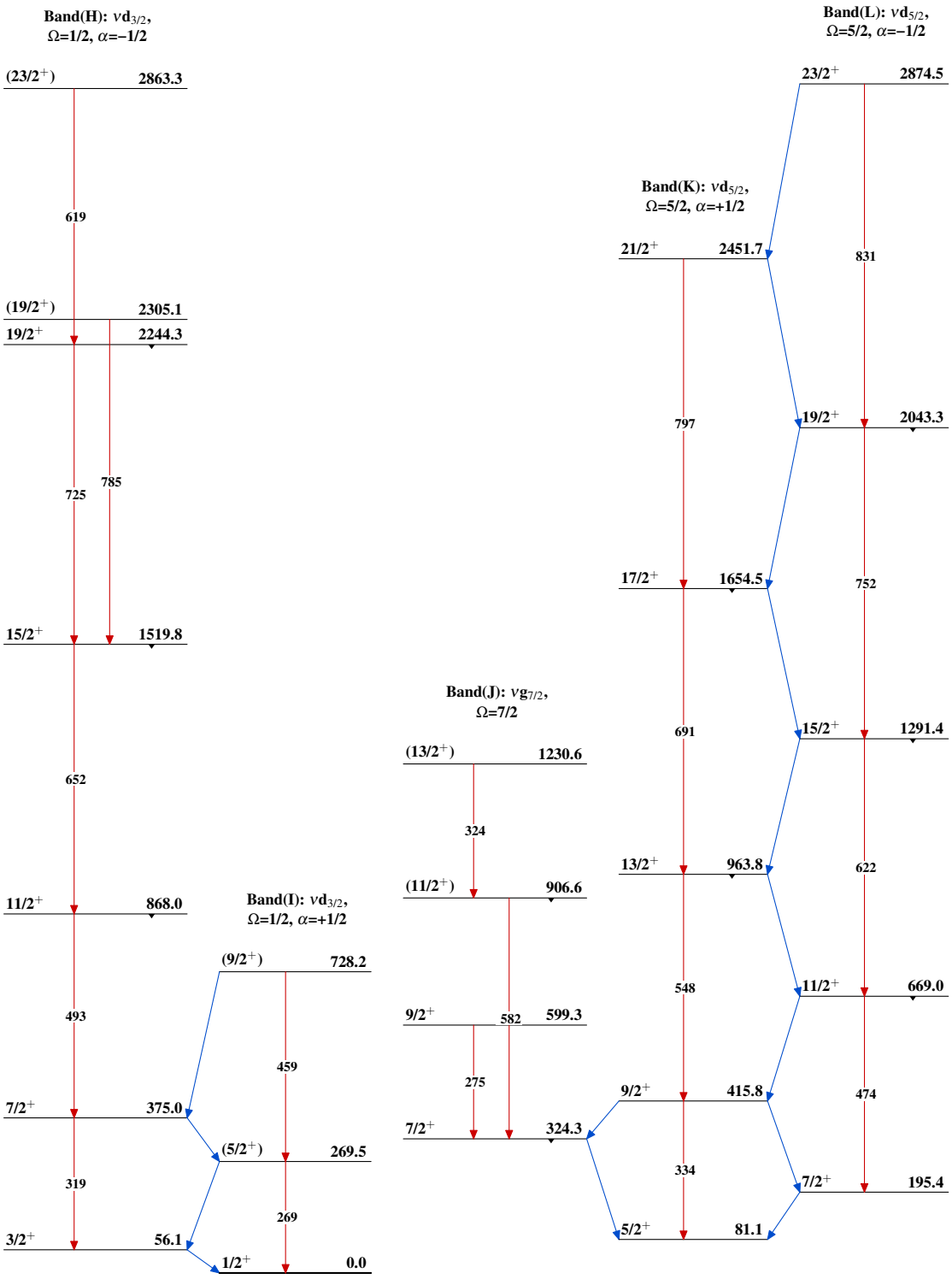
$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07 (continued)

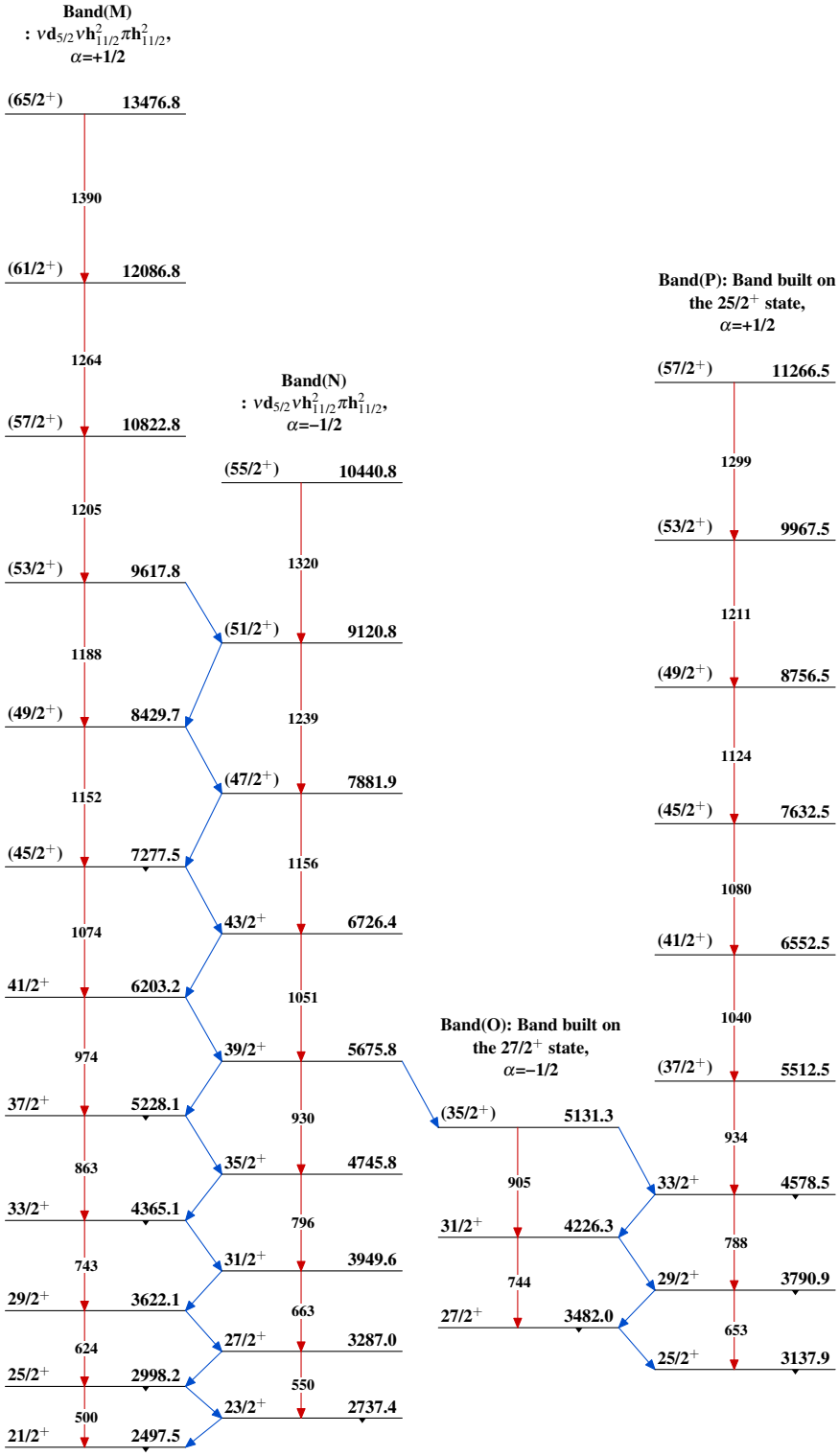


$^{127}_{56}Ba_{71}$

(HI,xnγ) 1998De48,1992Wa07 (continued)



(HI,xnγ) 1998De48,1992Wa07 (continued)



$^{127}_{56}Ba_{71}$