^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Others: 1997Gu10, 2001Gu31, 2006KuZW.

2003Gu23 (supersedes 1997Gu10): ^{186}W(^{11}B,6nγ) E=84, 86 MeV. Enrichment not given (target 99.79% enriched ^{186}W, 2006KuZW). Measured Eγ, $\gamma\gamma$, $\gamma(\theta)$, γ(lin pol), ce using EUROGAM II array of 30 HPGe detectors and 24 Clover detectors. Conversion electrons were measured with Orsay electron spectrometer.

1997Pe26: ^{176}Yb(^{19}F,4nγ) E=88, 2 ns pulsed beam; TDPAC, γ-ray multiplicity filtering and time start from a 4π 74-BaF_2 detector array, stop from beam monitor, event selection by 2 HPGe detectors at 135° in a plane perpendicular to magnetic field.

2007Ok05: Target ^{186}W (thickness 300 μg/cm^2) bombarded by ^{11}B beam, E=68 MeV, at the ESTU Tandem accelerator, Yale University. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO), γ(lin pol) using the YRAST Ball array of seven Clover Ge detectors, 16 single Ge detectors and three LEPs detectors. Reaction cross section=470 mb.

All data are from 2003Gu23, unless otherwise stated; experimental conversion coefficients were renormalized assuming α(K)(301.5γ)=0.270 for M1 (theory).

^{191}Au Levels

Quasiparticle labels:
A: $\nu i_{13/2}$, α=+1/2.
B: $\nu i_{13/2}$, α=−1/2.
C: $\nu i_{13/2}$, α=+1/2.
F: $\nu h_{9/2}$, α=+1/2.
e: $\pi h_{11/2}$, α=−1/2.

E(level)[†]	J$^\pi$[@]	$T_{1/2}$[a]	Comments
0.0[‡]	3/2$^+$	3.18 h *8*	
11.5[‡] *3*	(1/2$^+$)	15.5 ns *15*	
252.45[‡] *19*	(5/2)$^+$		
266.2[b] *7*	11/2$^-$	0.92 s *11*	
540.6[k] *8*	9/2$^-$		
686.5[b] *7*	15/2$^-$		
897.4[l] *10*	11/2$^-$[&]		
912.0[k] *10*	13/2$^-$		
1351.7[l] *10*	15/2$^-$[&]		
1411.7[b] *7*	19/2$^-$		
1431.9[k] *11*	17/2$^-$		
1921.6[l] *11*	19/2$^-$[&]		
1991.2[j] *8*	21/2$^+$		
2033.6[k] *11*	21/2$^-$		
2080.3 *8*	23/2$^+$		E(level): This is the intermediate level of the cascade 207.5γ-(88.9γ), not connected to the scheme otherwise; hence E(level)=2198.5 is also possible for opposite cascade.
2159.4[j] *8*	25/2$^+$	0.96 ns *10*	
2187.2[b] *8*	23/2$^-$		
2287.7 *8*	25/2$^+$		
2423.4 *8*	27/2$^+$		
2447.2[b] *8*	27/2$^-$	0.89 ns *9*	

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^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

^{191}Au Levels (continued)

E(level)[†]	J$^{\pi}$[@]	T$_{1/2}$[a]	Comments
2490.4[i] 9	31/2$^+$	402 ns 20	g=0.42 3 (1997Pe26) T$_{1/2}$: from 1997Pe26. $\pi h_{11/2}^{-1}\nu i_{13/2}^{-2}$.
2503.3[d] 8	31/2$^-$	6 ns 2	T$_{1/2}$: From 1997Pe26, γ-γ delayed coincidence measurements.
2545.6[l] 11	23/2$^-$[&]		
2671.4[j] 8	29/2$^+$		
2689.3[k] 12	25/2$^-$[&]		
2804.7[e] 8	33/2$^-$		
2881.8[d] 8	35/2$^-$		
2927.3[k] 15	29/2$^-$[&]		
2998.8[i] 9	35/2$^+$		
3009.1[c] 9	35/2$^-$		
3255.3[k] 17	33/2$^-$[&]		
3258.0[j] 9	33/2$^+$		
3281.0[e] 8	37/2$^-$		
3374.0[d] 8	39/2$^-$		
3430.3[k] 18	37/2$^-$[&]		
3494.4[n] 9	37/2$^+$		
3658.3[k] 18	41/2$^-$[&]		
3737.9[c] 9	39/2$^-$		
3789.0[m] 9	39/2$^-$		
3811.6[i] 9	39/2$^+$		
3905.7[j] 9	37/2$^+$		
4032.8[m] 9	43/2$^-$		
4063.1 9			
4114.3[d] 9	43/2$^-$		E(level): This is the intermediate level of the cascade 828.3γ-740.2γ-, not connected to the level scheme otherwise; hence E(level)=4203.6 is also possible if opposite.
4156.3[j] 9	(39/2)		
4181.3 9	41/2$^+$		
4276.2 9	41/2$^+$		
4290.2[n] 9	41/2$^+$		
4406.0[c] 9	43/2$^-$		
4406.9[j] 10	(41/2)		
4421.2[i] 9	43/2$^+$		
4453.9 9	43/2$^+$		
4479.2 9			
4479.7[g] 9	45/2$^-$		
4683.4[j] 10	(43/2)		
4689.3[i] 9	47/2$^+$		
4747.7 9	47/2$^-$		
4767.1 9	47/2$^+$		
4818.5[m] 9	47/2$^-$		
4942.9[d] 9	47/2$^-$		
4953.1 9	47/2$^-$		
5083.1[c] 9	47/2$^-$		
5141.6 9	49/2$^+$		
5171.1 10			
5202.4 9	51/2$^+$		
5243.7[g] 9	49/2$^-$		

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^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

^{191}Au Levels (continued)

E(level)†	Jπ@	E(level)†	Jπ@	E(level)†	Jπ@	E(level)†	Jπ@
5351.8[m] 9	51/2−	6034.2[d] 9	55/2−	6881.9[d] 9	59/2−	7884.9[m] 10	67/2−
5394.5[h] 9	53/2+	6034.8 9	55/2+	6900.7[h] 9	61/2+	8143.8 11	
5397.3 9	51/2+	6097.9[g] 9	53/2−	6945.8[f] 10	(59/2−)	8244.4 10	
5456.1[d] 9	51/2−	6211.8[f] 9	55/2−	7007.1[g] 9	61/2−	8485.7[g] 11	69/2−
5580.3 9	51/2	6284.4[m] 9	55/2−	7057.1[m] 9	63/2−	8547.1[h] 10	69/2+
5646.2 9	51/2−	6384.7 9	55/2−	7276.8 10		8904.2[m] 11	71/2−
5763.6[f] 9	51/2−	6540.9 9		7566.4[g] 9	65/2−	9093.8 11	71/2−
5831.1 9		6623.4 11		7752.3 10		9527.2[h] 11	73/2+
5999.1[h] 9	57/2+	6653.0[g] 9	57/2−	7787.5[f] 11	(63/2−)	(9667[#])	
6014.2 10	55/2+	6660.0[m] 9	59/2−	7809.1[h] 10	65/2+	9946.8[m] 12	(75/2−)
6027.4 10	(55/2+)	6830.0 9		7829.9[d] 10	(63/2−)	10752.2[h] 12	(77/2+)

† From least-squares fit to gamma-ray energies, assuming ΔEγ=±0.5 keV if uncertainty not given.
‡ From Adopted Levels.
# Not adopted, single, weak γ-ray with uncertain placement.
@ From 2003Gu23 (Fig. 1), except where otherwise noted, based on γ multipolarity − determined from angular distributions, linear polarization anisotropy, and α measurements.
& From 2007Ok05, based on γ multipolarity − determined from DCO and POL measurements.
[a] From Adopted Levels, unless otherwise noted (in comments).
[b] Band(A): $\pi h_{11/2}$, α=−1/2.
[c] Band(B): Band based on 35/2−: configuration eBC.
[d] Band(C): Band based on 31/2−: configuration eAB.
[e] Band(D): Band based on 33/2−: configuration eAC.
[f] Seq.(J): Based on 51/2−, 5763 level.
[g] Seq.(K): Based on 45/2−, 4479 level.
[h] Band(E): Band based on 53/2+.
[i] Band(F): Band based on 31/2+: configuration eBF.
[j] Seq.(L): Based on 21/2+: configuration $\pi h^{-1}_{11/2}\otimes\nu i^{-1}_{13/2}\nu(p_{3/2},f_{5/2})$.
[k] Band(G): Band based on 9/2−, α=+1/2 Data for this band for J>21/2 were extracted from the level scheme given in Fig. 1 of 2003Gu23 and are not listed in paper′s tables.
[l] Band(H): Band based on 9/2−, α=−1/2.
[m] Seq.(M): Based on 39/2-, 5-qp state : configuration $\pi h^{-1}_{11/2}\otimes\nu i^{-2}_{13/2}\nu h^{-1}_{9/2}\nu(p_{3/2},f_{5/2})$.
[n] Band(I): Band based on 37/2+; configuration eAF.

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[d]	α[e]	Comments
11.2[‡] *6*		11.5	$(1/2^+)$	0.0	$3/2^+$				
13.7[‡] *6*		266.2	$11/2^-$	252.45	$(5/2)^+$	(E3)		1.2×10^7 *4*	α(L)=5.6×10^6 *17*; α(M)=4.5×10^6 *15* α(N)=1.2×10^6 *4*; α(O)=1.7×10^5 *6*; α(P)=51 *13* Mult.: from adopted gammas.
56.2 *3*		2503.3	$31/2^-$	2447.2	$27/2^-$				α_{L2}/α_{L3}=0.82 *20*. Mult.: E1,E2 from α(L2)exp/α(L3)exp; (E2) from ^{191}Ir(α,4nγ).
67.0 *3*		2490.4	$31/2^+$	2423.4	$27/2^+$	(E2)		30.4 *8*	α(L)=22.8 *6*; α(M)=5.92 *15* α(N)=1.45 *4*; α(O)=0.232 *6*; α(P)=0.000304 *6* α_{L2}/α_{L3}<2. Mult.: (E1,E2) from α(L2)exp/α(L3)exp.
77.2 *3*		2881.8	$35/2^-$	2804.7	$33/2^-$	M1		2.76 *5*	α(L)exp=2.4 *7* α(L)=2.12 *4*; α(M)=0.493 *9* α(N)=0.1228 *22*; α(O)=0.0226 *4*; α(P)=0.001523 *28*
(89.1)		2080.3	$23/2^+$	1991.2	$21/2^+$				E_γ: from level energy difference; 88.9 in adopted dataset, and 89.3 in 2003Gu23.
92.9 *2*	5 *1*	3374.0	$39/2^-$	3281.0	$37/2^-$	M1		8.95 *14*	A_2=−0.40 *4*; A_4=+0.13 *8* α(L)exp=1.2 *4* α(K)=7.34 *11*; α(L)=1.240 *19*; α(M)=0.288 *4* α(N)=0.0717 *11*; α(O)=0.01319 *20*; α(P)=0.000890 *14*
128.3 *3*	0.19 *4*	2287.7	$25/2^+$	2159.4	$25/2^+$	D(+Q)[&]			A_2=−0.4 *1*; A_4=+0.07 *8*
130.7 *3*	3.3 *8*	4421.2	$43/2^+$	4290.2	$41/2^+$	M1+E2[&]	1.01 *17*	2.56 *16*	A_2=−0.45 *4*; A_4=+0.15 *8* α(K)exp=1.6 *2* α(K)=1.60 *23*; α(L)=0.73 *5*; α(M)=0.183 *15* α(N)=0.045 *4*; α(O)=0.0076 *5*; α(P)=0.000189 *28*
159.5 *2*	2.5 *4*	2447.2	$27/2^-$	2287.7	$25/2^+$	E1[&]		0.1272 *18*	A_2=−0.38 *4*; A_4=+0.18 *8* α(K)=0.1036 *15*; α(L)=0.01812 *26*; α(M)=0.00421 *6* α(N)=0.001034 *15*; α(O)=0.0001813 *26*; α(P)=9.11×10^{-6} *13* Mult.: ΔJ=1 from $\gamma(\theta)$ and $\Delta\pi$=yes from intensity balance (2003Gu23).
168.2 *3*	11 *2*	2159.4	$25/2^+$	1991.2	$21/2^+$	E2		0.688 *11*	A_2=+0.12 *4*; A_4=+0.04 *8* α(K)exp=0.33 *2* α(K)=0.258 *4*; α(L)=0.323 *5*; α(M)=0.0834 *13* α(N)=0.02054 *33*; α(O)=0.00333 *5*; α(P)=2.63×10^{-5} *4* Mult.,δ: From intensity flow in the level scheme, which requires stretched E2; mult=M1+E2 with δ=3.8 *+7−5* from α(K)exp.
175.0[#] *5*	4.1[#] *1*	3430.3	$37/2^-$	3255.3	$33/2^-$	E2[#]		0.597 *10*	DCO=1.0 *3* (2007Ok05) α(K)=0.235 *4*; α(L)=0.272 *5*; α(M)=0.0701 *13*

$^{191}_{79}Au_{112}$-4

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[d]	α[e]	Comments
									α(N)=0.01727 *32*; α(O)=0.00281 *5*; α(P)=2.39×10^{-5} *4* POL=+0.20 *14* (2007Ok05).
177.9 *3*	2.2 *5*	4453.9	43/2$^+$	4276.2	41/2$^+$	D(+Q)[&]			A_2=−0.28 *4*; A_4=+0.12 *8*
192.2 *2*	12 *2*	5394.5	53/2$^+$	5202.4	51/2$^+$	M1[&]		1.136 *16*	A_2=−0.21 *4*; A_4=−0.02 *8* α(K)exp=1.1 *6* α(K)=0.933 *13*; α(L)=0.1554 *22*; α(M)=0.0360 *5* α(N)=0.00898 *13*; α(O)=0.001651 *24*; α(P)=0.0001116 *16*
204.3 *3*	2.0 *4*	3009.1	35/2$^-$	2804.7	33/2$^-$	M1+E2[&]	0.6 *5*	0.80 *17*	A_2=−0.11 *8*; A_4=+0.07 *8* α(K)exp=0.60 *7* α(K)=0.62 *18*; α(L)=0.1335 *34*; α(M)=0.0319 *17* α(N)=0.0079 *4*; α(O)=0.001408 *28*; α(P)=7.3×10^{-5} *22*
207.5 *3*	2.4 *8*	2287.7	25/2$^+$	2080.3	23/2$^+$	M1+E2[&]	0.59 *16*	0.77 *6*	A_2=−0.16 *4*; A_4=−0.03 *8* α(K)exp=0.60 *6* α(K)=0.60 *6*; α(L)=0.1270 *20*; α(M)=0.0303 *7* α(N)=0.00752 *16*; α(O)=0.001340 *20*; α(P)=7.1×10^{-5} *8*
210.0 *4*	1.0 *3*	4689.3	47/2$^+$	4479.2					
228.0[#] *5*	0.9[#] *1*	3658.3	41/2$^-$	3430.3	37/2$^-$	E2[#]		0.241 *4*	DCO=1.05 *17* (2007Ok05) α(K)=0.1226 *18*; α(L)=0.0893 *15*; α(M)=0.0228 *4* α(N)=0.00563 *9*; α(O)=0.000926 *15*; α(P)=1.268×10^{-5} *19* E_γ: Other: 228 (2003Gu23 – From Fig. 1; not in Table I).
235.3 *4*	0.6 *2*	4689.3	47/2$^+$	4453.9	43/2$^+$				
238.0[#] *8*	12.5[#] *4*	2927.3	29/2$^-$	2689.3	25/2$^-$	E2[#]		0.210 *4*	DCO=1.04 *21* (2007Ok05) α(K)=0.1102 *18*; α(L)=0.0751 *15*; α(M)=0.0191 *4* α(N)=0.00472 *9*; α(O)=0.000778 *15*; α(P)=1.145×10^{-5} *18* E_γ: Other: 238 (2003Gu23 – From Fig. 1; not in Table I). POL=+0.10 *15* (2007Ok05).
240.0 *3*	0.4 *1*	4421.2	43/2$^+$	4181.3	41/2$^+$	D[&]			A_2=−0.4 *1*; A_4=+0.05 *8*
240.9[‡] *2*		252.45	(5/2)$^+$	11.5	(1/2$^+$)				
243.8 *2*	14 *2*	4032.8	43/2$^-$	3789.0	39/2$^-$	E2[b]		0.1942 *28*	A_2=+0.22 *4*; A_4=−0.14 *8* α(K)exp=0.081 *25* α(K)=0.1038 *15*; α(L)=0.0681 *10*; α(M)=0.01735 *25* α(N)=0.00428 *6*; α(O)=0.000707 *10*; α(P)=1.081×10^{-5} *15* POL=+0.146 *13*.
248.0 *3*	1.4 *4*	2671.4	29/2$^+$	2423.4	27/2$^+$				
250.6[f] *3*	1.3[f] *4*	4156.3	(39/2)	3905.7	37/2$^+$	(D(+Q))[a]			A_2=−0.21 *4*; A_4=+0.02 *8* A_2, A_4 for a multiply placed γ.
250.6[f] *3*	1.3[f] *4*	4406.9	(41/2)	4156.3	(39/2)	(D(+Q))[a]			A_2=−0.21 *4*; A_4=+0.02 *8* A_2, A_4 for a multiply placed γ.

$^{191}_{79}Au_{112}$-5

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[d]	α[e]	Comments
252.5[‡] *2*		252.45	$(5/2)^+$	0.0	$3/2^+$				
252.8 *3*	0.7 *3*	5394.5	$53/2^+$	5141.6	$49/2^+$	(E2)		0.1731 *25*	A_2=+0.30 *4*; A_4=+0.16 *8* α(K)=0.0948 *14*; α(L)=0.0590 *9*; α(M)=0.01499 *22* α(N)=0.00370 *5*; α(O)=0.000612 *9*; α(P)=9.92×10^{-6} *14* Mult.: Q(+D) from $\gamma(\theta)$; deduced (E2) from decay scheme characteristics, see comment on J for 5141.2 level in adopted data set.
260.0 *2*	53 *3*	2447.2	$27/2^-$	2187.2	$23/2^-$	(E2)[c]		0.1584 *23*	A_2=+0.26 *4*; A_4=−0.12 *8* α(K)exp=0.17 *1* α(K)=0.0884 *12*; α(L)=0.0528 *8*; α(M)=0.01340 *19* α(N)=0.00331 *5*; α(O)=0.000548 *8*; α(P)=9.28×10^{-6} *13* Mult.: stretched Q from $\gamma(\theta)$ disagrees with M1+E2 from α(K)exp; level scheme requires E2.
264.0 *3*	9 *1*	2423.4	$27/2^+$	2159.4	$25/2^+$	M1+E2[&]	0.69 *21*	0.37 *4*	A_2=−0.12 *4*; A_4=−0.09 *8* α(K)exp=0.29 *4* α(K)=0.29 *4*; α(L)=0.0595 *21*; α(M)=0.0141 *4* α(N)=0.00351 *9*; α(O)=0.000628 *24*; α(P)=3.4×10^{-5} *5*
268.0 *2*	44 *3*	4689.3	$47/2^+$	4421.2	$43/2^+$	E2[b]		0.1441 *20*	A_2=+0.31 *4*; A_4=−0.06 *8* α(K)exp=0.092 *8* α(K)=0.0820 *12*; α(L)=0.0468 *7*; α(M)=0.01188 *17* α(N)=0.00293 *4*; α(O)=0.000486 *7*; α(P)=8.63×10^{-6} *12*
271.9 *3*	3.0 *5*	3281.0	$37/2^-$	3009.1	$35/2^-$	M1[&]		0.434 *6*	A_2=−0.09 *4*; A_4=+0.01 *8* α(K)exp=0.36 *6* α(K)=0.357 *5*; α(L)=0.0591 *8*; α(M)=0.01370 *20* α(N)=0.00341 *5*; α(O)=0.000628 *9*; α(P)=4.25×10^{-5} *6*
272.5 *3*	2.8 *5*	4453.9	$43/2^+$	4181.3	$41/2^+$	D(+Q)[&]			A_2=−0.2 *1*; A_4=+0.09 *8*
274.2 *3*	0.4 *1*	4063.1		3789.0	$39/2^-$				
274.4[#] *5*		540.6	$9/2^-$	266.2	$11/2^-$				E_γ: Other: 274 (2003Gu23 – From Fig. 1; not in Table I).
275.2 *2*	7 *1*	6660.0	$59/2^-$	6384.7	$55/2^-$	E2[b]		0.1328 *19*	A_2=+0.24 *4*; A_4=−0.26 *8* α(K)=0.0768 *11*; α(L)=0.0423 *6*; α(M)=0.01070 *15* α(N)=0.00264 *4*; α(O)=0.000439 *6*; α(P)=8.11×10^{-6} *11* POL=+0.145 *13*.
275.4 *3*	0.4 *1*	4181.3	$41/2^+$	3905.7	$37/2^+$				
276.5 *3*	1.4 *8*	4683.4	(43/2)	4406.9	(41/2)	D[&]			A_2=−0.16 *4*; A_4=−0.07 *8*
288.0 *3*	2.7 *7*	2447.2	$27/2^-$	2159.4	$25/2^+$	E1[&]		0.0296 *4*	A_2=−0.2 *1*; A_4=−0.01 *8* α(K)exp=0.019 *16* α(K)=0.02445 *35*; α(L)=0.00400 *6*; α(M)=0.000924 *13* α(N)=0.0002282 *32*; α(O)=4.08×10^{-5} *6*; α(P)=2.315×10^{-6} *33*
291.2 *4*	0.2 *1*	5243.7	$49/2^-$	4953.1	$47/2^-$				

$^{191}_{79}Au_{112}$-6

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[d]	α[e]	Comments
301.5 *2*	42 *2*	2804.7	33/2$^-$	2503.3	31/2$^-$	(M1)		0.328 *5*	α(K)exp=0.286 A_2=−0.08 *4*; A_4=−0.03 *8* α(K)=0.270 *4*; α(L)=0.0445 *6*; α(M)=0.01031 *15* α(N)=0.00257 *4*; α(O)=0.000472 *7*; α(P)=3.20×10^{-5} *5* Mult.: From experimental α(K). Normalized value 0.286 for M1 in 2003Gu23.
313.3 *2*	5 *1*	4767.1	47/2$^+$	4453.9	43/2$^+$	Q[b]			A_2=+0.31 *4*; A_4=−0.11 *8*
317.5 *3*	5 *1*	3811.6	39/2$^+$	3494.4	37/2$^+$	M1(+E2)[&]	0.4 *2*	0.257 *25*	A_2=−0.16 *4*; A_4=−0.09 *8* α(K)exp=0.208 *19* α(K)=0.209 *23*; α(L)=0.0367 *19*; α(M)=0.0086 *4* α(N)=0.00213 *9*; α(O)=0.000389 *20*; α(P)=2.48×10^{-5} *28* POL=−0.077 *6*.
328.0[#] *8*	9.1[#] *3*	3255.3	33/2$^-$	2927.3	29/2$^-$	E2[#]		0.0788 *12*	DCO=1.1 *4* (2007Ok05) α(K)=0.0499 *8*; α(L)=0.0218 *4*; α(M)=0.00547 *9* α(N)=0.001352 *23*; α(O)=0.000227 *4*; α(P)=5.38×10^{-6} *8* E_γ: Other: 328 (2003Gu23 – From Fig. 1; not in table I). POL=+0.07 *11* (2007Ok05).
347.1 *3*	3.6 *8*	7007.1	61/2$^-$	6660.0	59/2$^-$	M1		0.2236 *32*	A_2=+0.03 *4*; A_4=0.00 *8* α(K)=0.1842 *26*; α(L)=0.0303 *4*; α(M)=0.00701 *10* α(N)=0.001747 *25*; α(O)=0.000321 *5*; α(P)=2.181×10^{-5} *31* POL=−0.116 *17*.
354.1 *3*	1.9 *4*	7007.1	61/2$^-$	6653.0	57/2$^-$	E2[b]		0.0635 *9*	A_2=+0.26 *4*; A_4=−0.03 *8* α(K)=0.0416 *6*; α(L)=0.01656 *24*; α(M)=0.00414 *6* α(N)=0.001022 *15*; α(O)=0.0001726 *25*; α(P)=4.51×10^{-6} *6* POL=+0.081 *15*.
357.0[#] *5*	44.0[#] *4*	897.4	11/2$^-$	540.6	9/2$^-$	M1+E2[#]		0.13 *7*	DCO=0.73 *14* (2007Ok05) α(K)=0.11 *7*; α(L)=0.022 *6*; α(M)=0.0053 *12* α(N)=0.00131 *31*; α(O)=2.3×10^{-4} *7*; α(P)=1.2×10^{-5} *8* POL=−0.22 *9* (2007Ok05).
358.3 *4*	1.6 *3*	4421.2	43/2$^+$	4063.1					
369.6 *3*	2.9 *4*	4181.3	41/2$^+$	3811.6	39/2$^+$	D[&]			A_2=−0.16 *4*; A_4=−0.09 *8*
371.3[#] *5*	100[#]	912.0	13/2$^-$	540.6	9/2$^-$	E2[#]		0.0557 *8*	α(K)=0.0371 *5*; α(L)=0.01402 *21*; α(M)=0.00349 *5* α(N)=0.000863 *13*; α(O)=0.0001462 *22*; α(P)=4.05×10^{-6} *6* E_γ: Other: 371 (2003Gu23 – From Fig. 1; not in table I).
372.7 *4*	0.8 *3*	4406.0	43/2$^-$	4032.8	43/2$^-$				A_2=+0.18 *8*; A_4=−0.22 *8* A_2, A_4 for 372.7γ+372.8γ doublet.
372.8 *4*	1.0 *4*	5456.1	51/2$^-$	5083.1	47/2$^-$				A_2=+0.18 *8*; A_4=−0.22 *8* A_2, A_4 for doublet.
375.6 *4*	1.0 *4*	6660.0	59/2$^-$	6284.4	55/2$^-$	Q[b]			A_2=+0.26 *4*; A_4=−0.37 *8*

$^{191}_{79}Au_{112}$-7

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[e]	Comments
378.4 *2*	22 *3*	2881.8	35/2$^-$	2503.3	31/2$^-$	E2[b]	0.0529 *7*	A_2=+0.19 *4*; A_4=−0.23 *8* α(K)exp=0.040 *7* α(K)=0.0355 *5*; α(L)=0.01312 *19*; α(M)=0.00326 *5* α(N)=0.000807 *11*; α(O)=0.0001369 *19*; α(P)=3.87×10^{-6} *5*
383.6 *3*	0.4 *2*	2671.4	29/2$^+$	2287.7	25/2$^+$			
397.1 *3*	15 *3*	7057.1	63/2$^-$	6660.0	59/2$^-$	E2[b]	0.0464 *7*	A_2=+0.26 *4*; A_4=−0.20 *8* α(K)=0.0317 *4*; α(L)=0.01112 *16*; α(M)=0.00276 *4* α(N)=0.000682 *10*; α(O)=0.0001161 *17*; α(P)=3.47×10^{-6} *5*
399.0 *2*	35 *4*	3281.0	37/2$^-$	2881.8	35/2$^-$	M1	0.1538 *22*	A_2=−0.03 *4*; A_4=−0.03 *8* α(K)exp=0.11 *6* α(K)=0.1268 *18*; α(L)=0.02077 *29*; α(M)=0.00481 *7* α(N)=0.001198 *17*; α(O)=0.0002204 *31*; α(P)=1.497×10^{-5} *21* POL=−0.054 *4*.
402.3 *3*	3.5 *8*	5646.2	51/2$^-$	5243.7	49/2$^-$	M1	0.1505 *21*	A_2=−0.01 *4*; A_4=+0.04 *8* α(K)=0.1241 *18*; α(L)=0.02031 *29*; α(M)=0.00470 *7* α(N)=0.001171 *17*; α(O)=0.0002156 *30*; α(P)=1.464×10^{-5} *21* POL=−0.073 *12*.
420.3 *2*	100	686.5	15/2$^-$	266.2	11/2$^-$	E2[b]	0.0400 *6*	A_2=+0.15 *4*; A_4=−0.14 *8* α(K)exp=0.0227 *9* α(K)=0.0278 *4*; α(L)=0.00920 *13*; α(M)=0.002272 *32* α(N)=0.000562 *8*; α(O)=9.61×10^{-5} *14*; α(P)=3.06×10^{-6} *4* POL=+0.019 *3*. Mult.: From α(K)exp and pol.
438.7 *3*	1.0 *3*	5580.3	51/2	5141.6	49/2$^+$	D+Q[&]		A_2=−0.3 *1*; A_4=+0.6 *2*
439.8[#] *6*	25.4[#] *3*	1351.7	15/2$^-$	912.0	13/2$^-$	M1+E2[#]	0.08 *4*	DCO=0.72 *20* (2007Ok05) α(K)=0.06 *4*; α(L)=0.012 *4*; α(M)=0.0028 *9* α(N)=7.0×10^{-4} *22*; α(O)=1.3×10^{-4} *4*; α(P)=7.E−6 *4* POL=−0.13 *19* (2007Ok05).
446.4 *4*	1.2 *3*	4479.2		4032.8	43/2$^-$			
446.9 *3*	4 *1*	7276.8		6830.0		Q[b]		A_2=+0.3 *1*; A_4=−0.2 *1*
447.1 *3*	9 *3*	4479.7	45/2$^-$	4032.8	43/2$^-$	M1(+E2)	0.07 *4*	A_2=+0.07 *4*; A_4=−0.10 *8* α(K)=0.059 *35*; α(L)=0.011 *4*; α(M)=0.0027 *8* α(N)=6.7×10^{-4} *21*; α(O)=1.2×10^{-4} *4*; α(P)=7.E−6 *4* POL=−0.032 *5*.
448.3[g] *4*	5[g] *3*	6211.8	55/2$^-$	5763.6	51/2$^-$	(Q)[c]		A_2=+0.17 *8*; A_4=−0.18 *8* A_2, A_4 for doublet.
448.3[g] *4*	2.0[g] *4*	6660.0	59/2$^-$	6211.8	55/2$^-$	(Q)[c]		A_2=+0.17 *8*; A_4=−0.18 *8* A_2, A_4 for doublet.
451.5 *3*	3.0 *4*	6097.9	53/2$^-$	5646.2	51/2$^-$	M1(+E2)[&]	0.07 *4*	A_2=+0.05 *8*; A_4=+0.4 *2* α(K)=0.057 *34*; α(L)=0.011 *4*; α(M)=0.0026 *8*

$^{191}_{79}Au_{112}$-8

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[d]	α[e]	Comments
									α(N)=6.5×10^{-4} *21*; α(O)=1.2×10^{-4} *4*; α(P)=7.E−6 *4* POL=−0.073 *14*.
452.2 *2*	6 *1*	5141.6	49/2$^+$	4689.3	47/2$^+$	M1		0.1103 *15*	A_2=+0.08 *4*; A_4=−0.02 *8* α(K)exp=0.087 *13* α(K)=0.0910 *13*; α(L)=0.01484 *21*; α(M)=0.00343 *5* α(N)=0.000855 *12*; α(O)=0.0001575 *22*; α(P)=1.071×10^{-5} *15* POL=−0.130 *8*.
454.7[#] *8*	6.0[#] *1*	1351.7	15/2$^-$	897.4	11/2$^-$	E2[#]		0.0327 *5*	DCO=1.0 *3* (2007Ok05) α(K)=0.02329 *34*; α(L)=0.00712 *11*; α(M)=0.001750 *26* α(N)=0.000433 *7*; α(O)=7.44×10^{-5} *11*; α(P)=2.57×10^{-6} *4* POL=+0.12 *10* (2007Ok05).
464.6 *2*	3.8 *6*	4276.2	41/2$^+$	3811.6	39/2$^+$	D[&]			A_2=−0.13 *8*; A_4=−0.02 *8*
473.9 *3*	5 *1*	4953.1	47/2$^-$	4479.7	45/2$^-$	M1		0.0974 *14*	A_2=+0.06 *8*; A_4=−0.22 *8* α(K)=0.0804 *11*; α(L)=0.01310 *18*; α(M)=0.00303 *4* α(N)=0.000755 *11*; α(O)=0.0001389 *20*; α(P)=9.45×10^{-6} *13* POL=−0.021 *7*.
476.4 *3*	5 *1*	3281.0	37/2$^-$	2804.7	33/2$^-$	E2[b]		0.0291 *4*	A_2=+0.20 *4*; A_4=−0.08 *8* α(K)exp=0.012 *11* α(K)=0.02099 *30*; α(L)=0.00614 *9*; α(M)=0.001505 *21* α(N)=0.000372 *5*; α(O)=6.42×10^{-5} *9*; α(P)=2.321×10^{-6} *33* POL=+0.104 *9*.
478.8 *3*	8 *2*	4290.2	41/2$^+$	3811.6	39/2$^+$	M1+E2[&]	0.74 *+21−19*	0.071 *8*	A_2=−0.16 *4*; A_4=−0.06 *8* α(K)exp=0.058 *7* α(K)=0.058 *7*; α(L)=0.0104 *8*; α(M)=0.00243 *18* α(N)=0.00060 *5*; α(O)=0.000110 *9*; α(P)=6.8×10^{-6} *8* POL=−0.090 *6*.
481.8 *4*	2.0 *4*	5171.1		4689.3	47/2$^+$				
489.9[#] *6*	13.7[#] *2*	1921.6	19/2$^-$	1431.9	17/2$^-$	M1+E2[#]		0.058 *31*	DCO=0.75 *24* (2007Ok05) α(K)=0.047 *27*; α(L)=0.0088 *32*; α(M)=0.0021 *7* α(N)=5.2×10^{-4} *18*; α(O)=9.3×10^{-5} *34*; α(P)=5.4×10^{-6} *32* POL=−0.21 *13* (2007Ok05).
492.2 *3*	22 *4*	3374.0	39/2$^-$	2881.8	35/2$^-$	E2[b]		0.0268 *4*	A_2=+0.26 *4*; A_4=−0.20 *8* α(K)exp=0.020 *3* α(K)=0.01953 *27*; α(L)=0.00555 *8*; α(M)=0.001356 *19* α(N)=0.000336 *5*; α(O)=5.80×10^{-5} *8*; α(P)=2.162×10^{-6} *30* POL=+0.105 *5*.
495.8 *3*	16 *4*	3494.4	37/2$^+$	2998.8	35/2$^+$	M1+E2	1.40 *20*	0.047 *4*	A_2=−0.02 *4*; A_4=−0.05 *8* α(K)exp=0.037 *5* α(K)=0.037 *4*; α(L)=0.0075 *5*; α(M)=0.00179 *10* α(N)=0.000443 *25*; α(O)=7.9×10^{-5} *5*; α(P)=4.2×10^{-6} *5*

$^{191}_{79}Au_{112}$-9

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[e]	Comments
								POL=−0.063 *13*. Mult.,δ: From α(K)exp=0.037 *5*.
496.1 *3*	4 *1*	5243.7	49/2$^-$	4747.7	47/2$^-$	M1	0.0863 *12*	A_2=−0.01 *4*; A_4=−0.06 *8* α(K)=0.0712 *10*; α(L)=0.01159 *16*; α(M)=0.00268 *4* α(N)=0.000668 *9*; α(O)=0.0001230 *17*; α(P)=8.37×10^{-6} *12* POL=−0.071 *6*.
503.5 *4*	0.8 *3*	5456.1	51/2$^-$	4953.1	47/2$^-$	(Q)[c]		A_2=+0.4 *1*; A_4=0.0 *1*
506.0 *3*	1.0 *4*	6540.9		6034.8	55/2$^+$			
506.1 *4*	12 *4*	3009.1	35/2$^-$	2503.3	31/2$^-$	E2[c]	0.02507 *35*	A_2=+0.14 *8*; A_4=−0.04 *8* α(K)exp=0.0132 *19* α(K)=0.01837 *26*; α(L)=0.00509 *7*; α(M)=0.001243 *18* α(N)=0.000308 *4*; α(O)=5.33×10^{-5} *8*; α(P)=2.035×10^{-6} *29*
508.2 *3*	10 *3*	3789.0	39/2$^-$	3281.0	37/2$^-$	M1[&]	0.0810 *11*	A_2=−0.16 *4*; A_4=−0.08 *8* α(K)=0.0669 *9*; α(L)=0.01088 *15*; α(M)=0.002515 *35* α(N)=0.000626 *9*; α(O)=0.0001153 *16*; α(P)=7.85×10^{-6} *11* POL=−0.079 *7*.
508.4 *3*	72 *8*	2998.8	35/2$^+$	2490.4	31/2$^+$	E2[b]	0.02480 *35*	A_2=+0.17 *4*; A_4=−0.18 *8* α(K)exp=0.0132 *19* α(K)=0.01819 *26*; α(L)=0.00502 *7*; α(M)=0.001226 *17* α(N)=0.000303 *4*; α(O)=5.26×10^{-5} *7*; α(P)=2.015×10^{-6} *28* POL=+0.059 *2*.
509.2 *4*	8 *2*	7566.4	65/2$^-$	7057.1	63/2$^-$			
511.7[#] *5*	18.4[#] *3*	2545.6	23/2$^-$	2033.6	21/2$^-$	M1+E2[#]	0.052 *28*	α(K)=0.042 *24*; α(L)=0.0078 *29*; α(M)=0.0018 *6* α(N)=4.6×10^{-4} *16*; α(O)=8.2×10^{-5} *31*; α(P)=4.8×10^{-6} *29* POL=−0.07 *13* (2007Ok05).
512.0 *4*	0.8 *3*	2671.4	29/2$^+$	2159.4	25/2$^+$			A_2=+0.3 *1*; A_4=+0.4 *2* Sign of A_4 is incorrect for ΔJ=2, stretched quadrupole transition, as required by level scheme.
513.1 *2*	41 *3*	5202.4	51/2$^+$	4689.3	47/2$^+$	E2[b]	0.02425 *34*	A_2=+0.28 *4*; A_4=−0.10 *8* α(K)exp=0.0132 *19* α(K)=0.01783 *25*; α(L)=0.00488 *7*; α(M)=0.001191 *17* α(N)=0.000295 *4*; α(O)=5.11×10^{-5} *7*; α(P)=1.976×10^{-6} *28* POL=+0.89 *3*.
513.1 *2*	12 *2*	5456.1	51/2$^-$	4942.9	47/2$^-$	E2[b]	0.02425 *34*	A_2=+0.30 *4*; A_4=−0.12 *8* α(K)=0.01783 *25*; α(L)=0.00488 *7*; α(M)=0.001191 *17* α(N)=0.000295 *4*; α(O)=5.11×10^{-5} *7*; α(P)=1.976×10^{-6} *28* POL=+0.129 *7*.
519.7[#] *5*	45.7[#] *5*	1431.9	17/2$^-$	912.0	13/2$^-$	E2[#]	0.02352 *33*	DCO=1.07 *16* (2007Ok05) α(K)=0.01734 *25*; α(L)=0.00470 *7*; α(M)=0.001145 *16* α(N)=0.000284 *4*; α(O)=4.92×10^{-5} *7*; α(P)=1.922×10^{-6} *27*

$^{191}_{79}Au_{112}$-10

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[e]	Comments
								E_γ: Other: 519 (2003Gu23 – From Fig. 1; not in table I). POL=+0.01 *9* (2007Ok05).
520.0 *3*	1.5 *3*	5763.6	51/2$^-$	5243.7	49/2$^-$	D(+Q)[a]		A_2=−0.15 *8*; A_4=+0.07 *8*
533.3 *2*	5 *1*	5351.8	51/2$^-$	4818.5	47/2$^-$	E2[b]	0.02211 *31*	A_2=+0.26 *4*; A_4=−0.14 *8* α(K)=0.01640 *23*; α(L)=0.00435 *6*; α(M)=0.001058 *15* α(N)=0.000262 *4*; α(O)=4.55×10^{-5} *6*; α(P)=1.819×10^{-6} *26* POL=+0.107 *8*.
555.1 *3*	3.0 *5*	6653.0	57/2$^-$	6097.9	53/2$^-$	Q[b]		A_2=+0.3 *1*; A_4=−0.3 *2*
559.3 *3*	6 *2*	7566.4	65/2$^-$	7007.1	61/2$^-$	Q[b]		A_2=+0.22 *8*; A_4=−0.14 *8*
570.6[#] *10*	9.7[#] *2*	1921.6	19/2$^-$	1351.7	15/2$^-$	E2[#]	0.01888 *28*	DCO=1.1 *3* (2007Ok05) α(K)=0.01419 *21*; α(L)=0.00357 *5*; α(M)=0.000864 *13* α(N)=0.0002140 *32*; α(O)=3.74×10^{-5} *6*; α(P)=1.576×10^{-6} *23* POL=+0.06 *9* (2007Ok05).
578.2 *4*	12 *3*	6034.2	55/2$^-$	5456.1	51/2$^-$	E2[b]	0.01831 *26*	A_2=+0.24 *4*; A_4=−0.15 *8* α(K)=0.01380 *19*; α(L)=0.00343 *5*; α(M)=0.000831 *12* α(N)=0.0002059 *29*; α(O)=3.60×10^{-5} *5*; α(P)=1.533×10^{-6} *22* POL=+0.042 *5*.
579.6 *3*	25 *4*	1991.2	21/2$^+$	1411.7	19/2$^-$	E1[&]	0.00631 *9*	A_2=−0.15 *4*; A_4=−0.05 *8* α(K)=0.00526 *7*; α(L)=0.000809 *11*; α(M)=0.0001858 *26* α(N)=4.60×10^{-5} *6*; α(O)=8.35×10^{-6} *12*; α(P)=5.26×10^{-7} *7* POL=+0.024 *6*.
586.2 *5*	3 *1*	3258.0	33/2$^+$	2671.4	29/2$^+$	Q[b]		A_2=+0.24 *4*; A_4=−0.06 *8*
601.6[#] *2*	30.1[#] *6*	2033.6	21/2$^-$	1431.9	17/2$^-$	E2[#]	0.01672 *23*	DCO=1.10 *21* (2007Ok05) α(K)=0.01270 *18*; α(L)=0.00307 *4*; α(M)=0.000740 *10* α(N)=0.0001835 *26*; α(O)=3.21×10^{-5} *5*; α(P)=1.410×10^{-6} *20* E_γ: Other: 601 (2003Gu23 – From Fig. 1; not in table I). POL=+0.01 *14* (2007Ok05).
604.2 *4*	12 *3*	5351.8	51/2$^-$	4747.7	47/2$^-$	E2[b]	0.01656 *23*	A_2=+0.27 *4*; A_4=−0.20 *8* α(K)=0.01258 *18*; α(L)=0.00303 *4*; α(M)=0.000731 *10* α(N)=0.0001812 *26*; α(O)=3.18×10^{-5} *4*; α(P)=1.398×10^{-6} *20* POL=+0.048 *8*.
604.5 *2*	25 *4*	5999.1	57/2$^+$	5394.5	53/2$^+$	E2[b]	0.01654 *23*	A_2=+0.31 *4*; A_4=−0.12 *8* α(K)=0.01257 *18*; α(L)=0.00303 *4*; α(M)=0.000730 *10* α(N)=0.0001810 *25*; α(O)=3.17×10^{-5} *4*; α(P)=1.396×10^{-6} *20* POL=+0.097 *3*.
609.7 *3*	42 *6*	4421.2	43/2$^+$	3811.6	39/2$^+$	E2[b]	0.01622 *23*	A_2=+0.30 *4*; A_4=−0.16 *8* α(K)=0.01235 *17*; α(L)=0.00295 *4*; α(M)=0.000713 *10* α(N)=0.0001766 *25*; α(O)=3.10×10^{-5} *4*; α(P)=1.372×10^{-6} *19* POL=+0.086 *3*.

$^{191}_{79}Au_{112}$-11

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[e]	Comments
616.7 *4*	2.7 *5*	6014.2	55/2$^+$	5397.3	51/2$^+$	Q[b]		A_2=+0.3 *1*; A_4=−0.12 *8*
624.3[#] *5*	4.8[#] *2*	2545.6	23/2$^-$	1921.6	19/2$^-$	E2[#]	0.01538 *22*	DCO=0.9 *4* (2007Ok05) α(K)=0.01175 *17*; α(L)=0.00277 *4*; α(M)=0.000666 *9* α(N)=0.0001651 *23*; α(O)=2.90×10^{-5} *4*; α(P)=1.306×10^{-6} *18* POL=+0.13 *16* (2007Ok05).
625.9 *3*	3 *1*	6660.0	59/2$^-$	6034.2	55/2$^-$	E2[b]	0.01529 *21*	A_2=+0.27 *4*; A_4=−0.21 *8* α(K)=0.01169 *16*; α(L)=0.00275 *4*; α(M)=0.000661 *9* α(N)=0.0001639 *23*; α(O)=2.88×10^{-5} *4*; α(P)=1.299×10^{-6} *18* POL=+0.042 *9*.
630.5[f] *4*	5[f] *1*	5397.3	51/2$^+$	4767.1	47/2$^+$	(Q)[c]		A_2=+0.36 *8*; A_4=−0.16 *8* A_2, A_4 for doublet.
630.5[f] *4*	5[f] *1*	6027.4	(55/2$^+$)	5397.3	51/2$^+$	(Q)[c]		A_2=+0.36 *8*; A_4=−0.16 *8* A_2, A_4 for doublet.
637.7 *4*	2.0 *5*	5456.1	51/2$^-$	4818.5	47/2$^-$	Q[b]		A_2=+0.27 *4*; A_4=−0.12 *8*
642.3 *5*	0.9 *3*	4453.9	43/2$^+$	3811.6	39/2$^+$			
647.5 *4*	1.3 *4*	3905.7	37/2$^+$	3258.0	33/2$^+$	Q[b]		A_2=+0.20 *8*; A_4=−0.3 *1*
655.7[#] *6*	19.3[#] *3*	2689.3	25/2$^-$	2033.6	21/2$^-$	E2[#]	0.01379 *20*	DCO=1.0 *3* (2007Ok05) α(K)=0.01062 *15*; α(L)=0.002418 *34*; α(M)=0.000581 *8* α(N)=0.0001440 *20*; α(O)=2.54×10^{-5} *4*; α(P)=1.180×10^{-6} *17* E_γ: Other: 655 (2003Gu23 – From Fig. 1; not in table I). POL=+0.10 *17* (2007Ok05).
658.8 *2*	30 *3*	4032.8	43/2$^-$	3374.0	39/2$^-$	E2[b]	0.01365 *19*	A_2=+0.26 *4*; A_4=−0.20 *8* α(K)=0.01052 *15*; α(L)=0.002388 *33*; α(M)=0.000573 *8* α(N)=0.0001421 *20*; α(O)=2.503×10^{-5} *35*; α(P)=1.169×10^{-6} *16* POL=+0.064 *5*.
660.9 *2*	13 *1*	6660.0	59/2$^-$	5999.1	57/2$^+$	E1[&]	0.00484 *7*	A_2=−0.33 *4*; A_4=−0.03 *8* α(K)=0.00404 *6*; α(L)=0.000616 *9*; α(M)=0.0001413 *20* α(N)=3.50×10^{-5} *5*; α(O)=6.37×10^{-6} *9*; α(P)=4.07×10^{-7} *6* POL=+0.039 *4*.
668.4 *4*	2.0 *6*	4406.0	43/2$^-$	3737.9	39/2$^-$	Q[b]		A_2=+0.28 *8*; A_4=−0.13 *8*
677.1 *3*	2.6 *6*	5083.1	47/2$^-$	4406.0	43/2$^-$	Q[b]		A_2=+0.35 *8*; A_4=−0.12 *8*
687.0 *3*	2.4 *4*	4181.3	41/2$^+$	3494.4	37/2$^+$	Q[b]		A_2=+0.25 *4*; A_4=−0.14 *8*
689.5 *3*	1.5 *4*	5831.1		5141.6	49/2$^+$			
693.1 *3*	3.0 *8*	5646.2	51/2$^-$	4953.1	47/2$^-$	Q[b]		A_2=+0.19 *4*; A_4=−0.16 *8*
714.9 *2*	18 *3*	4747.7	47/2$^-$	4032.8	43/2$^-$	E2[b]	0.01143 *16*	A_2=+0.32 *4*; A_4=−0.08 *8* α(K)=0.00891 *12*; α(L)=0.001923 *27*; α(M)=0.000459 *6* α(N)=0.0001139 *16*; α(O)=2.016×10^{-5} *28*; α(P)=9.90×10^{-7} *14* POL=+0.055 *6*.

$^{191}_{79}Au_{112}$-12

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	α e	Comments
725.2 *2*	100 *10*	1411.7	19/2$^-$	686.5	15/2$^-$	E2	0.01109 *16*	A_2=+0.19 *4*; A_4=−0.14 *8* α(K)=0.00866 *12*; α(L)=0.001853 *26*; α(M)=0.000442 *6* α(N)=0.0001097 *15*; α(O)=1.943×10^{-5} *27*; α(P)=9.62×10^{-7} *13* POL=+0.014 *2*.
729.2 *5*	10 *2*	3737.9	39/2$^-$	3009.1	35/2$^-$	Q b		A_2=+0.27 *8*; A_4=−0.11 *8*
734.0 *4*	1.9 *6*	6945.8	(59/2$^-$)	6211.8	55/2$^-$			
735.7 *5*	1.0 *4*	7276.8		6540.9				
738.0 *3*	3 *1*	8547.1	69/2$^+$	7809.1	65/2$^+$	Q b		A_2=+0.28 *4*; A_4=−0.12 *8* $I_{(\gamma+ce)}$,I_γ: 2003Gu23 list I(γ+ce)=1.4, likely a misprint.
738.3 *3*	4 *1*	6384.7	55/2$^-$	5646.2	51/2$^-$	Q b		A_2=+0.25 *4*; A_4=−0.30 *8*
740.2 *3*	18 *4*	4114.3	43/2$^-$	3374.0	39/2$^-$	E2 b	0.01061 *15*	A_2=+0.33 *4*; A_4=−0.17 *8* α(K)=0.00831 *12*; α(L)=0.001757 *25*; α(M)=0.000419 *6* α(N)=0.0001039 *15*; α(O)=1.843×10^{-5} *26*; α(P)=9.23×10^{-7} *13* POL=+0.064 *5*.
763.8 *3*	2.5 *4*	5243.7	49/2$^-$	4479.7	45/2$^-$	(Q) c		A_2=+0.26 *4*; A_4=+0.05 *8*
775.5 *3*	73 *4*	2187.2	23/2$^-$	1411.7	19/2$^-$	E2 b	0.00962 *13*	A_2=+0.19 *4*; A_4=−0.12 *8* α(K)=0.00758 *11*; α(L)=0.001562 *22*; α(M)=0.000371 *5* α(N)=9.21×10^{-5} *13*; α(O)=1.638×10^{-5} *23*; α(P)=8.41×10^{-7} *12* POL=+0.011 *3*.
779.5 *5*	6 *1*	3789.0	39/2$^-$	3009.1	35/2$^-$			
781.9 *3*	2.3 *6*	4276.2	41/2$^+$	3494.4	37/2$^+$	(Q) c		A_2=+0.14 *4*; A_4=−0.13 *8*
785.7 *3*	9 *2*	4818.5	47/2$^-$	4032.8	43/2$^-$	E2 b	0.00936 *13*	A_2=+0.27 *4*; A_4=−0.15 *8* α(K)=0.00739 *10*; α(L)=0.001511 *21*; α(M)=0.000359 *5* α(N)=8.91×10^{-5} *13*; α(O)=1.585×10^{-5} *22*; α(P)=8.19×10^{-7} *11* POL=+0.060 *8*.
792.3 *5*	1.4 *4*	6623.4		5831.1				
795.1 *4*	2.0 *4*	6830.0		6034.8	55/2$^+$			
795.4 *3*	5 *1*	4290.2	41/2$^+$	3494.4	37/2$^+$	E2 b	0.00913 *13*	A_2=+0.31 *4*; A_4=−0.12 *8* α(K)=0.00721 *10*; α(L)=0.001466 *21*; α(M)=0.000348 *5* α(N)=8.64×10^{-5} *12*; α(O)=1.538×10^{-5} *22*; α(P)=7.99×10^{-7} *11* POL=+0.080 *7*.
803.6 *6*	0.9 *3*	6830.0		6027.4	(55/2$^+$)			
810.5 *5*	0.5 *2*	5763.6	51/2$^-$	4953.1	47/2$^-$	Q b		A_2=+0.3 *1*; A_4=−0.4 *2*
812.7 *3*	50 *4*	3811.6	39/2$^+$	2998.8	35/2$^+$	E2 b	0.00873 *12*	A_2=+0.30 *4*; A_4=−0.21 *8* α(K)=0.00691 *10*; α(L)=0.001390 *19*; α(M)=0.000330 *5* α(N)=8.18×10^{-5} *11*; α(O)=1.458×10^{-5} *20*; α(P)=7.66×10^{-7} *11* POL=+0.063 *3*.
815.7 *4*	1.5 *4*	6830.0		6014.2	55/2$^+$			
820.6 *6*	2.0 *4*	5763.6	51/2$^-$	4942.9	47/2$^-$	Q b		A_2=+0.34 *4*; A_4=−0.05 *8*

$^{191}_{79}Au_{112}$-13

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	α e	Comments
827.8 *4*	6 *2*	7884.9	67/2$^-$	7057.1	63/2$^-$	E2 b	0.00840 *12*	A_2=+0.23 *4*; A_4=−0.18 *8* α(K)=0.00667 *9*; α(L)=0.001328 *19*; α(M)=0.000315 *4* α(N)=7.81×10^{-5} *11*; α(O)=1.394×10^{-5} *20*; α(P)=7.39×10^{-7} *10*
828.3 *4*	16 *4*	4942.9	47/2$^-$	4114.3	43/2$^-$	E2 b	0.00839 *12*	A_2=+0.33 *4*; A_4=−0.32 *8* α(K)=0.00666 *9*; α(L)=0.001327 *19*; α(M)=0.000314 *4* α(N)=7.80×10^{-5} *11*; α(O)=1.392×10^{-5} *20*; α(P)=7.38×10^{-7} *10* POL=+0.079 *8*.
832.2 *3*	3 *1*	6034.8	55/2$^+$	5202.4	51/2$^+$	E2 b	0.00831 *12*	A_2=+0.16 *4*; A_4=−0.12 *8* α(K)=0.00660 *9*; α(L)=0.001311 *18*; α(M)=0.000311 *4* α(N)=7.71×10^{-5} *11*; α(O)=1.376×10^{-5} *19*; α(P)=7.31×10^{-7} *10* POL=+0.030 *7*.
841.7 *5*	2.0 *6*	7787.5	(63/2$^-$)	6945.8	(59/2$^-$)			
847.7 *3*	3 *1*	6881.9	59/2$^-$	6034.2	55/2$^-$	Q b		A_2=+0.19 *4*; A_4=−0.35 *8*
851.6 *3*	1.5 *4*	7752.3		6900.7	61/2$^+$			
854.8 *6*	1.1 *3*	6097.9	53/2$^-$	5243.7	49/2$^-$			
898.4 *4*	1.5 *4*	5646.2	51/2$^-$	4747.7	47/2$^-$	Q b		A_2=+0.24 *4*; A_4=−0.18 *8*
901.6 *3*	11 *2*	6900.7	61/2$^+$	5999.1	57/2$^+$	E2 b	0.00706 *10*	A_2=+0.28 *4*; A_4=−0.28 *8* α(K)=0.00565 *8*; α(L)=0.001082 *15*; α(M)=0.000255 *4* α(N)=6.34×10^{-5} *9*; α(O)=1.135×10^{-5} *16*; α(P)=6.25×10^{-7} *9* POL=+0.060 *6*.
907.4 *4*	6 *2*	3789.0	39/2$^-$	2881.8	35/2$^-$	E2 b	0.00697 *10*	A_2=+0.22 *4*; A_4=−0.06 *8* α(K)=0.00558 *8*; α(L)=0.001066 *15*; α(M)=0.0002514 *35* α(N)=6.24×10^{-5} *9*; α(O)=1.118×10^{-5} *16*; α(P)=6.17×10^{-7} *9* POL=+0.018 *9*.
908.4 *3*	5.7 *9*	7809.1	65/2$^+$	6900.7	61/2$^+$	E2 b	0.00696 *10*	A_2=+0.30 *4*; A_4=−0.29 *8* α(K)=0.00557 *8*; α(L)=0.001063 *15*; α(M)=0.0002507 *35* α(N)=6.22×10^{-5} *9*; α(O)=1.115×10^{-5} *16*; α(P)=6.16×10^{-7} *9* POL=+0.068 *7*.
919.3 *5*	4 *1*	8485.7	69/2$^-$	7566.4	65/2$^-$	Q b		A_2=+0.37 *4*; A_4=−0.23 *8*
932.7 *3*	3 *1*	6284.4	55/2$^-$	5351.8	51/2$^-$	Q b		A_2=+0.27 *4*; A_4=−0.20 *8*
948.0 *4*	1.7 *4*	7829.9	(63/2$^-$)	6881.9	59/2$^-$			
967.6 *4*	2.2 *4*	8244.4		7276.8		Q b		A_2=+0.20 *4*; A_4=−0.06 *8*
980.1 *3*	0.8 *3*	9527.2	73/2$^+$	8547.1	69/2$^+$	Q c		A_2=+0.27 *4*; A_4=+0.08 *8*
1019.3 *4*	2.0 *7*	8904.2	71/2$^-$	7884.9	67/2$^-$	Q b		A_2=+0.20 *4*; A_4=−0.33 *8*
1033.0 *3*	4 *1*	6384.7	55/2$^-$	5351.8	51/2$^-$	E2 b	0.00539 *8*	A_2=+0.28 *4*; A_4=−0.14 *8* α(K)=0.00436 *6*; α(L)=0.000791 *11*; α(M)=0.0001855 *26* α(N)=4.61×10^{-5} *6*; α(O)=8.30×10^{-6} *12*; α(P)=4.81×10^{-7} *7* POL=+0.062 *12*.

$^{191}_{79}Au_{112}$-14

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05 (continued)

$\gamma(^{191}Au)$ (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	Comments
1042.6 *4*	2.0 *7*	9946.8	(75/2$^-$)	8904.2	71/2$^-$		
1208.9 *5*	3 *1*	9093.8	71/2$^-$	7884.9	67/2$^-$	Q[b]	A_2=+0.24 *4*; A_4=−0.34 *8*
1225.0 *5*	0.3 *1*	10752.2	(77/2$^+$)	9527.2	73/2$^+$		
1243.1 *5*	0.8 *3*	8143.8		6900.7	61/2$^+$		
1423[h]		(9667)		8244.4			

† Except when noted, from authors table I, likely corresponding to all data obtained in runs with different projectile energies.
‡ From adopted gammas.
# From 2007Ok05. Eγ and Iγ from erratum published by authors of 2007Ok05. Also all DCO and POL values for Eγ are from the erratum. DCO′s correspond to gates on ΔJ=2, quadrupole transition. Expected DCO=1.0 for ΔJ=2, quadrupole and 0.5 for ΔJ=1, dipole or dipole+ quadrupole transitions.
@ From $\gamma(\theta)$, α(K)exp, DCO and pol measurements (2003Gu23, 2007Ok05 − erratum).
& ΔJ=1 from $\gamma(\theta)$.
a (ΔJ=1) from $\gamma(\theta)$.
b ΔJ=2 from $\gamma(\theta)$.
c (ΔJ=2) from $\gamma(\theta)$.
d From α(K)exp (2003Gu23), deduced using the BrIccMixing code.
e Additional information 1.
f Multiply placed with undivided intensity.
g Multiply placed with intensity suitably divided.
h Placement of transition in the level scheme is uncertain.

$^{191}_{79}Au_{112}$-15

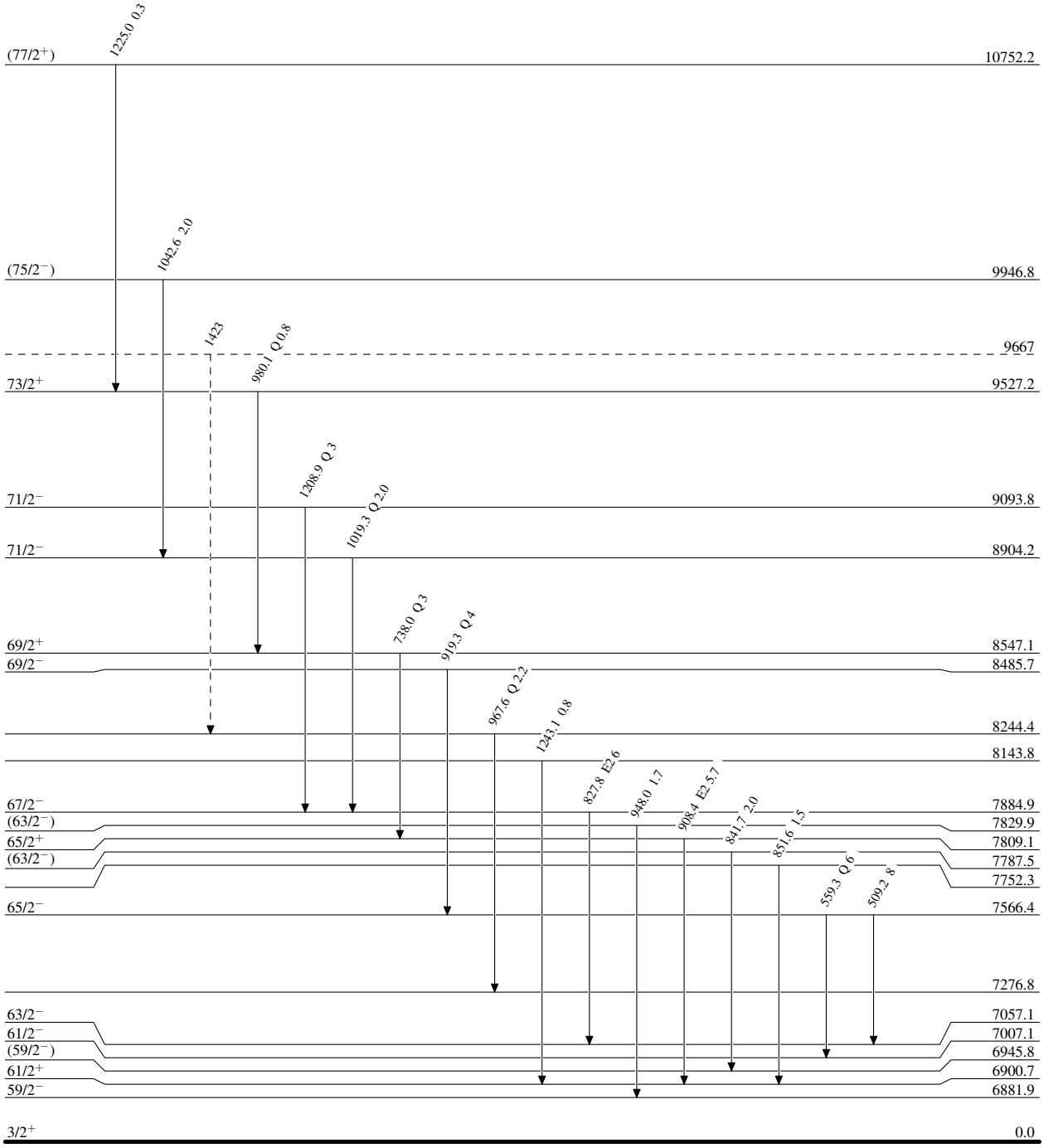
$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05

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)

Level Scheme

Intensities: Relative I_γ



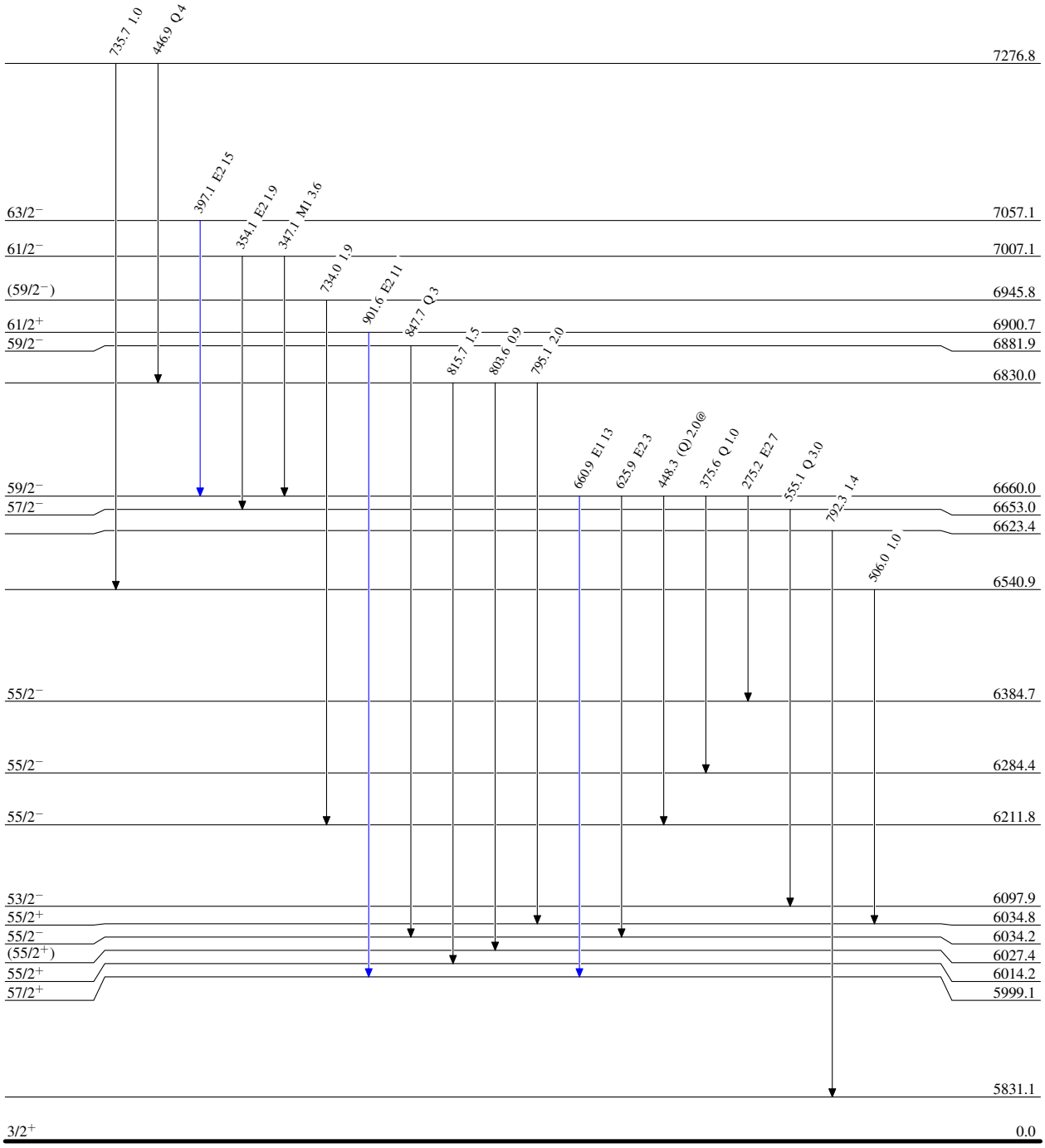
$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05

Level Scheme (continued)

Intensities: Relative I_γ
@ Multiply placed: intensity suitably divided

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



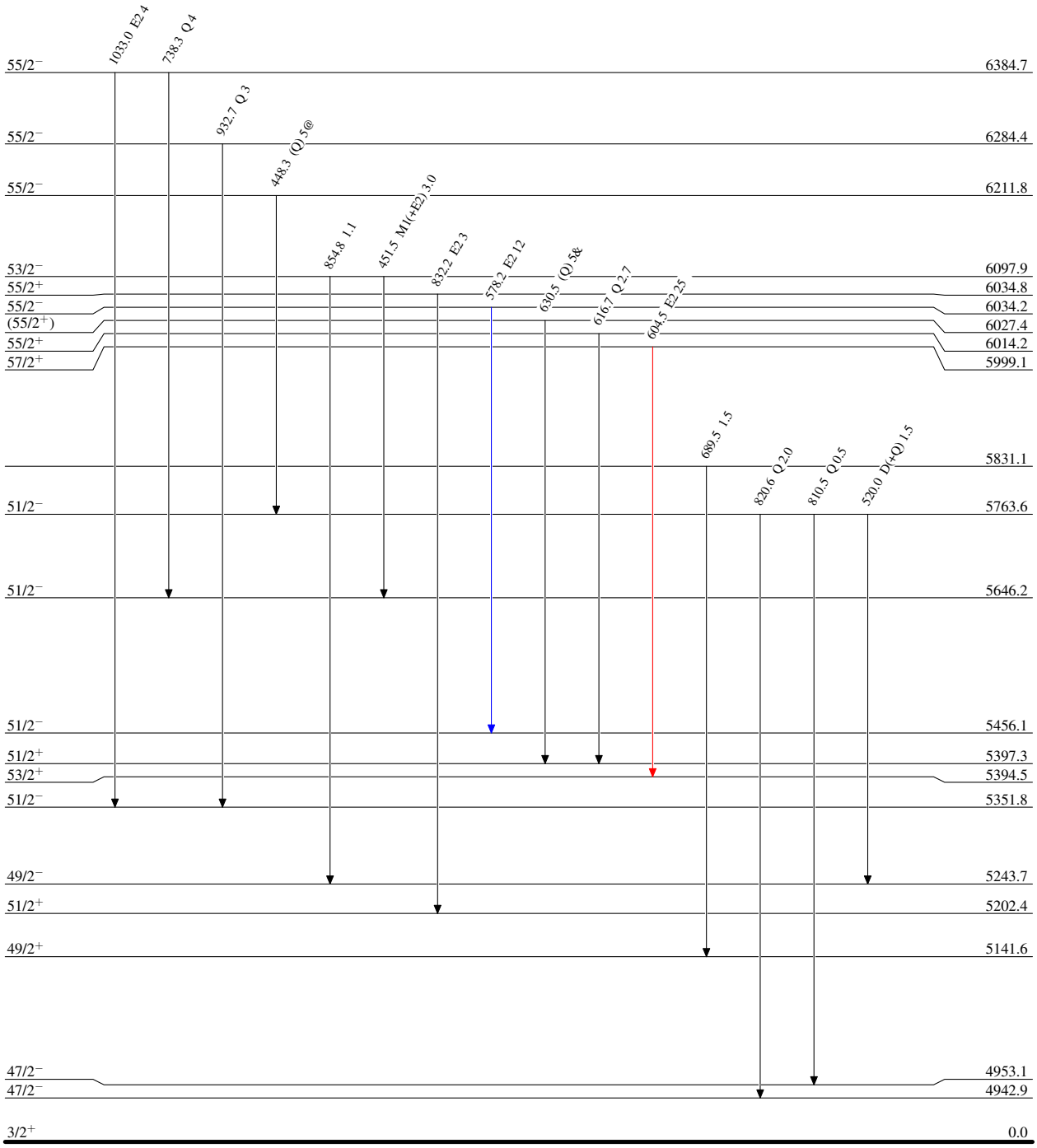
$^{191}_{79}Au_{112}$

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



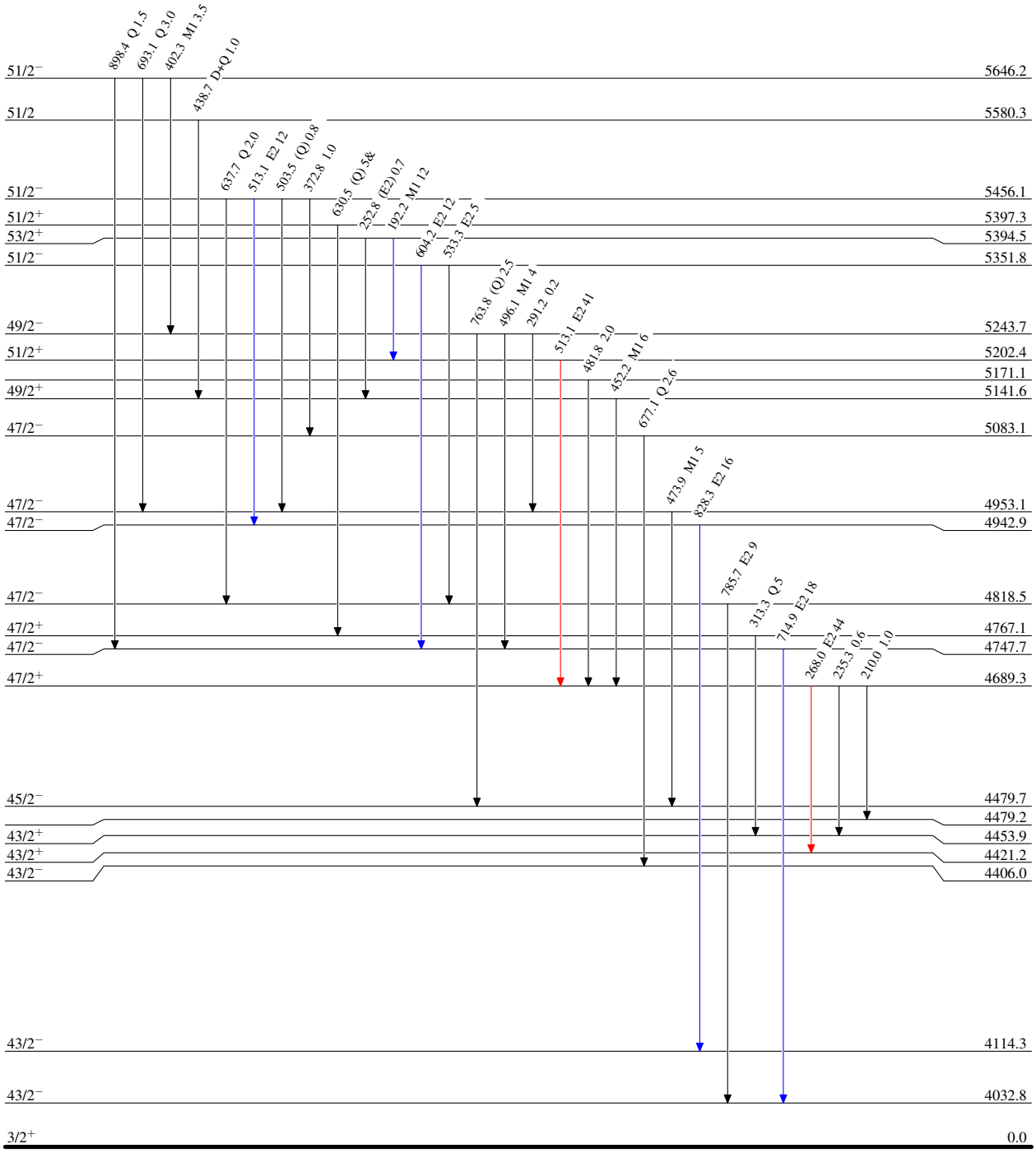
$^{191}_{79}Au_{112}$

^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



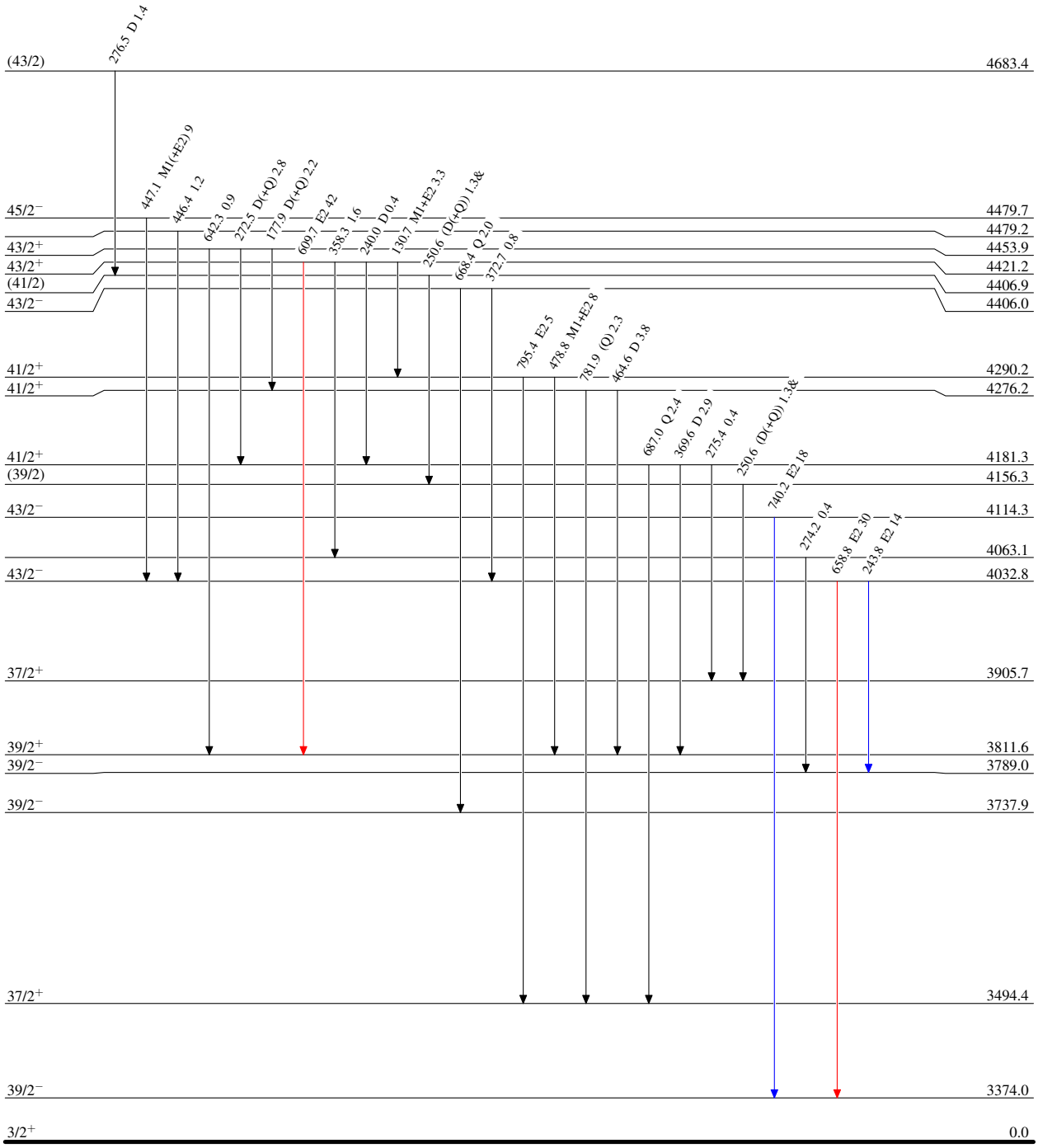
$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



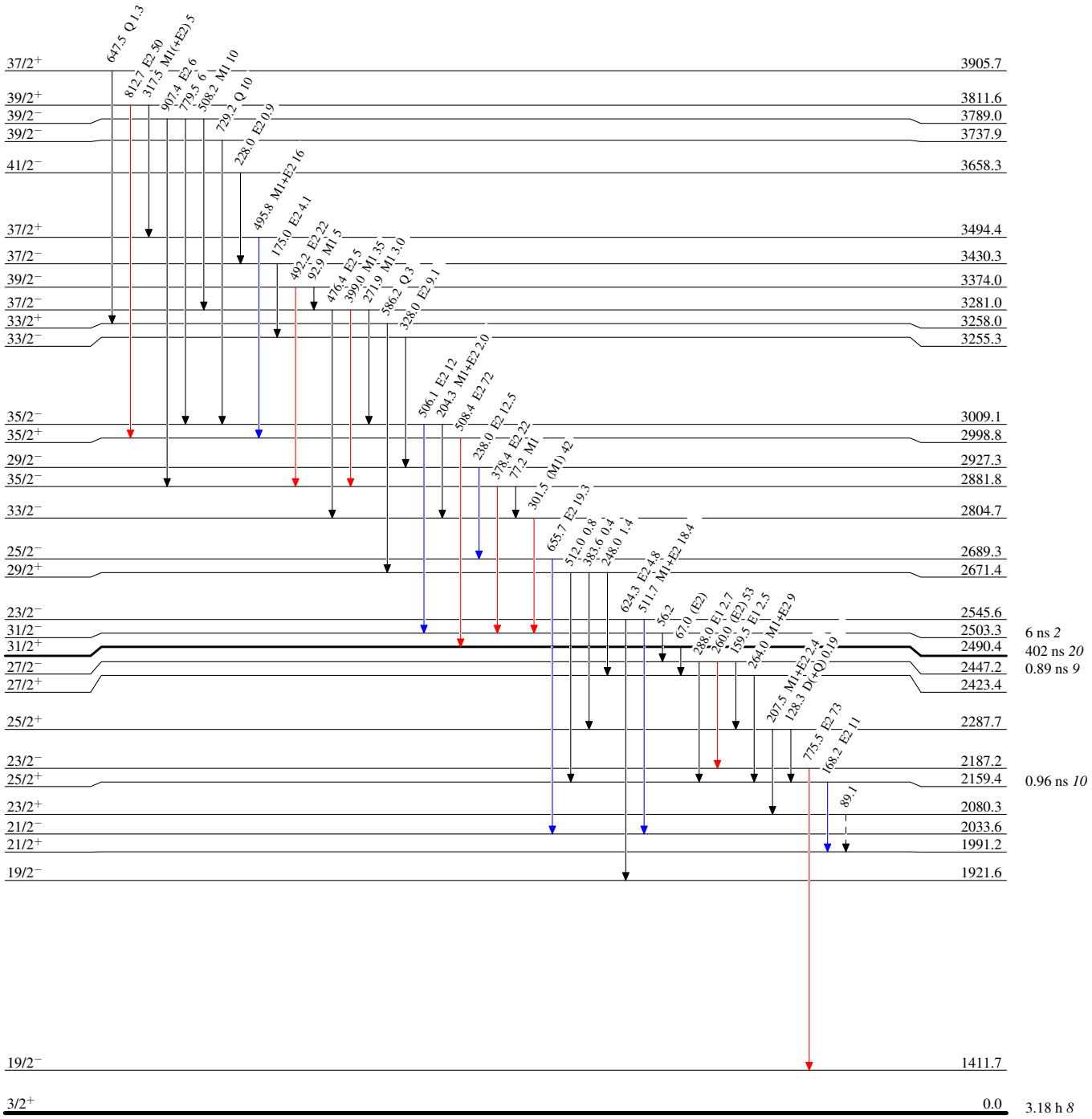
$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

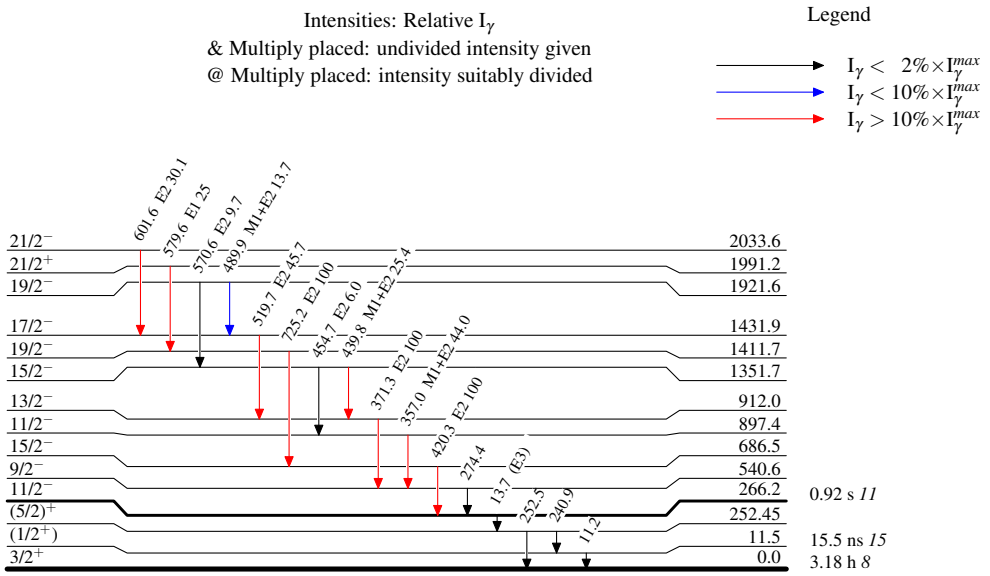
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ) 2003Gu23,1997Pe26,2007Ok05

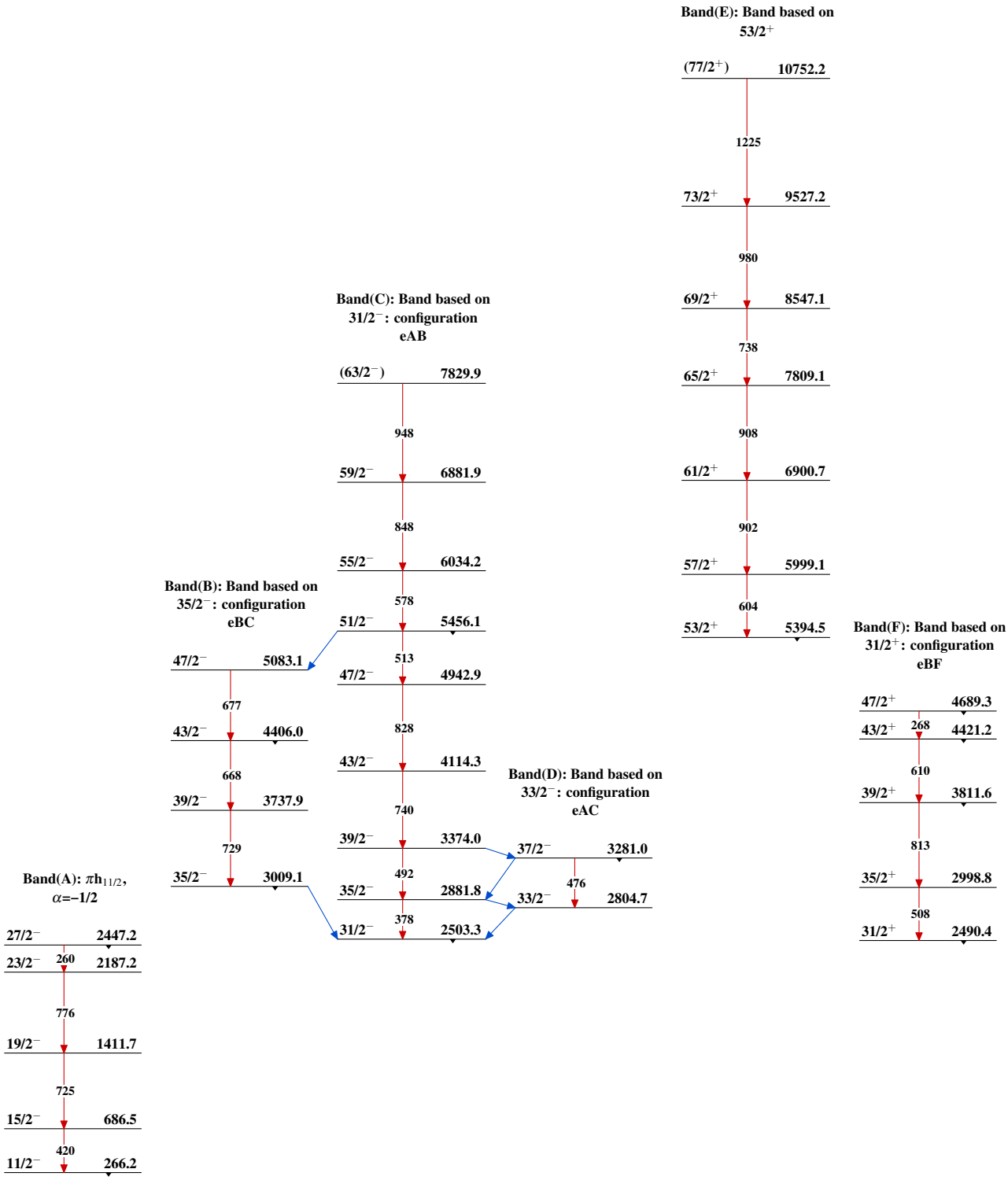
Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



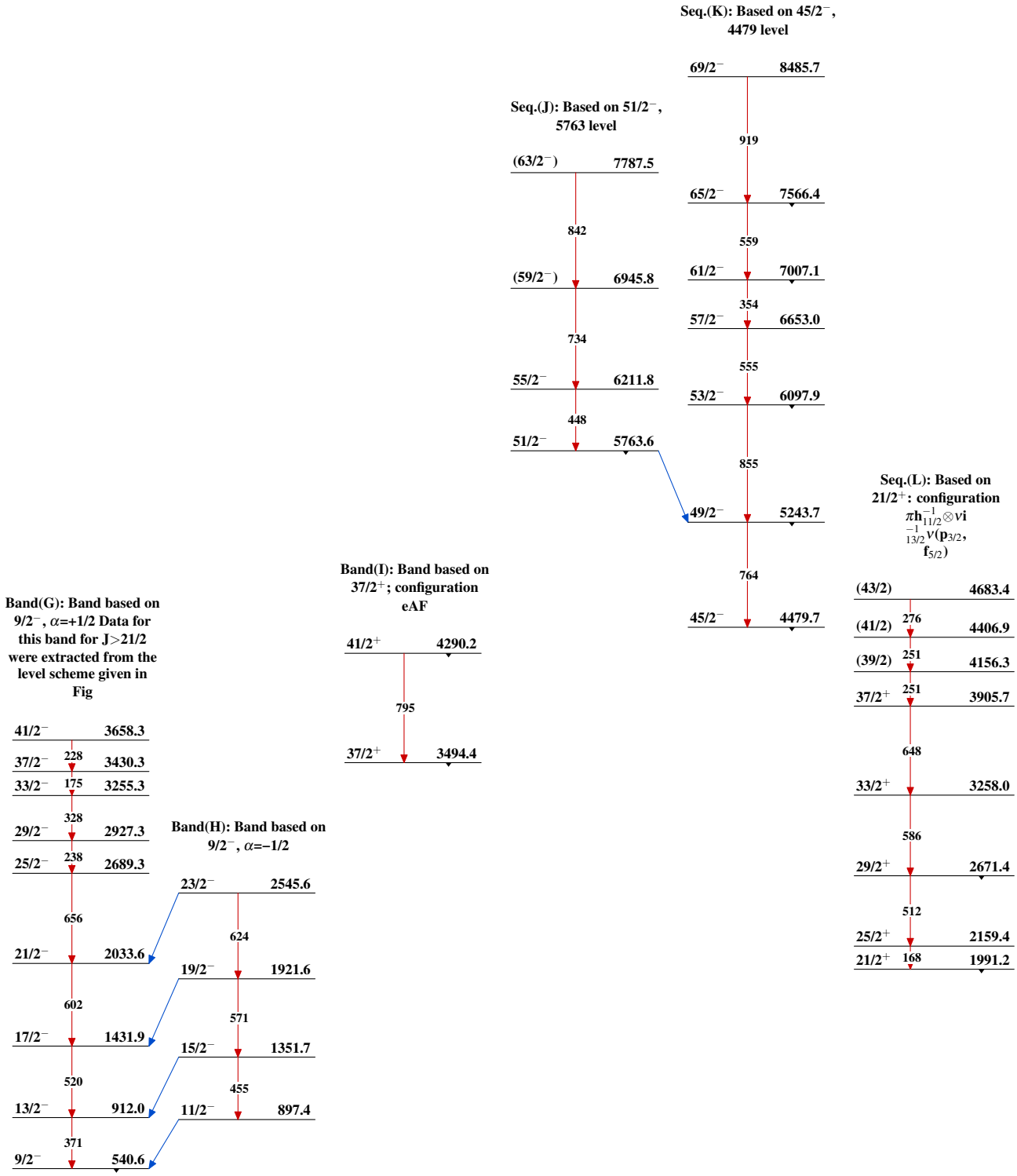
$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05



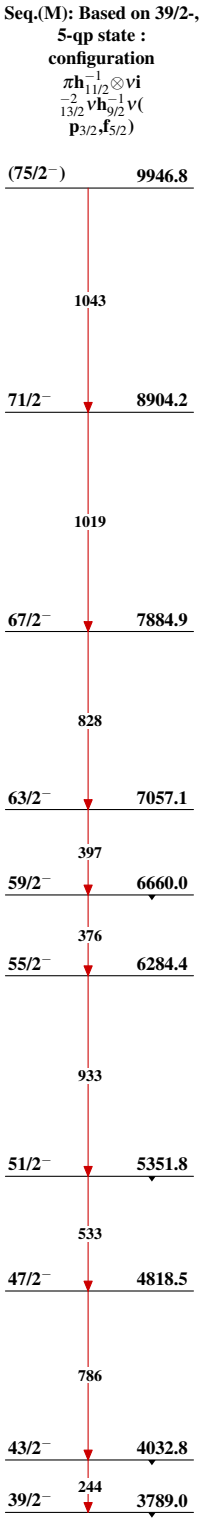
$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05 (continued)



$^{191}_{79}Au_{112}$

$^{186}W(^{11}B,6n\gamma),^{176}Yb(^{19}F,4n\gamma)$ 2003Gu23,1997Pe26,2007Ok05 (continued)



$^{191}_{79}Au_{112}$