Adopted Levels, Gammas

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

Q(β^-)=−3206 *23*; S(n)=9036 *6*; S(p)=3780 *5*; Q(α)=3327 *28* 2021Wa16

2021As08: ^{181}Ta(^{14}N,p3n)^{191}Au, E=65-87 MeV, measured production cross sections, compared with statistical model calculations using PACE4 code.

^{191}Au Levels

Isotope shifts: 1989Wa11, 1988LeZV.

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.

Cross Reference (XREF) Flags

A	^{191}Au IT decay (0.92 s)	E	^{186}W(^{11}B,6nγ),^{176}Yb(^{19}F,4nγ)
B	^{191}Hg ε decay (50.8 min)	F	^{190}Os(^{7}Li,6nγ)
C	^{191}Hg ε decay (49 min)	G	^{191}Ir(α,4nγ)
D	^{186}W(^{11}B,6nγ):SD		

E(level)[†]	J$^\pi$	$T_{1/2}$	XREF	Comments
0.0	3/2$^+$	3.18 h *8*	ABC EFG	%ε+%β^+=100 μ=+0.1369 *9*; Q=+0.72 *2* No α (<5×10^{-6}%) (1963Ka17). J$^\pi$: atomic beam (1960Ew06). $d_{3/2}$ from Schmidt diagram. $T_{1/2}$: from 1967Jo06. Other values: 3.2 h *1* (1961An03 − ce(t)), 3.0 h *5* (1955Sm42), ≈4 h (1954Gi04). Isotope shift: $\Delta<r^2>(^{191}Au, ^{197}Au)$=0.243 fm^2 *4* (1994Pa37), 0.242 fm^2 *5* (1989Wa11), 0.227 fm^2 *5* (1985St10); nuclear charge radius: $<r^2>^{1/2}$=5.415 fm *5* (2013An02). μ: From 2019StZV,1994Pa37 − Laser Resonance Ionization Mass Spectroscopy. Others: 0.137 *1* (1980Ek04 − atomic beam on−line NMR), +0.137 *3* (2000Sa58 − collinear laser spectroscopy − 1992Ki30 and 1992Le22 are earlier publication), ±0.137 *7* (1964Ew02). Q: From 2016St14 (1994Pa37: +0.716 *21* collinear laser spectroscopy). Others: +0.76 *3* (2000Sa58 − collinear laser spectroscopy), −1.3 *1* (1992Ki30 − resonance ionization mass spectroscopy).
11.5 *3*	(1/2$^+$)[#]	15.5 ns *15*	ABC E	$T_{1/2}$: 1986Be07, from ce-ce(t) in ^{191}Hg ε decay (50.8 min). J$^\pi$: $s_{1/2}$ expected from shell model. Also discussed in 1983PaZR.
207.9 *5*	(3/2$^+$)[#]		BC	J$^\pi$: 196.5γ M1 to (1/2$^+$), 455γ from (7/2)$^+$.
252.45 *19*	(5/2)$^+$[#]		ABC E G	J$^\pi$: 240.9γ E2 to (1/2$^+$), 252.5γ M1+E2 to 3/2$^+$.
266.1[a] *7*	(11/2$^-$)[#]	0.92 s *11*	ABC EFG	%IT=100 μ=6.326 *37* $\delta<r^2>^{191,197}$=−0.201 fm^2 *4* (stat) *6* (syst) (2023Cu04). μ: From 2020Ba17 − hfs measurement with respect to $^{197}\Delta$(6s)=0.1134 *58* for J=11/2. Others: 6.6 *6* (2019StZV, 1985Va07 − nuclear static (low-temperature) orientation). 4.96 *35* (1982LiZV). Configuration: π $h_{11/2}$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				$T_{1/2}$: from 1971Be61 (^{191}Au IT decay (0.92 s)).
331.4? *5*	(5/2$^+$)[@]		C	Jπ: Observed in the decay of ^{191}Hg(49 min) (J^π=(3/2$^-$)). $d_{5/2}$ assignment expected from shell model.
490.8 *7*	(7/2$^-$)[@]		BC	Jπ: 224.7γ E2 to (11/2$^-$).
520.9 *8*	(5/2$^+$)[@]		B	
540.3[j] *7*	(9/2$^-$)	10 ns *2*	B E G	Jπ: 274.2γ M1+E2 to (11/2$^-$); population in (α,4nγ); fits $h_{9/2}$ decoupled band systematics. $T_{1/2}$: from γ(t) pulsed Eα=51 MeV in (α,4n) (1979Go15).
662.5 *6*	(7/2)$^+$[@]		B	Jπ: 410.0γ M1 to (5/2)$^+$, 662.0γ to 3/2$^+$.
686.3[a] *7*	(15/2$^-$)		B EFG	Jπ: 420.2γ stretched E2 to (11/2$^-$).
788.6 *6*	(9/2$^+$)[@]		B	Jπ: 536.1γ (E2) to (5/2)$^+$.
844.8 *7*	(13/2$^-$)[@]		B G	Jπ: 578.6γ M1+E2 to (11/2$^-$); 578.6γ(θ) data in (α,4nγ) is consistent for a ΔJ=1 transition, the values A_2=−0.16 *2* and A_4=−0.02 *3* for a doublet 578.6γ+579.4γ.
876.8 *11*	(9/2$^-$)[@]		B	Jπ: 610.6γ M1+E2 to (11/2$^-$), 386.0γ to (7/2$^-$).
897.1 *8*	(11/2$^-$)		B E G	Jπ: 357.0γ M1+E2 to (9/2$^-$). γ(θ) data in (α,4nγ) is consistent for a ΔJ=1 transition, A_2=−0.48 *13* and A_4=−0.04 *19*.
911.4[j] *8*	(13/2$^-$)		B E G	Jπ: 371.1γ stretched E2 to (9/2$^-$).
1066.0? *13*	(3/2$^-$)[@]		C	Jπ: Observed in the decay of ^{191}Hg (49 min) (J^π=(3/2$^-$)).
1131.9[‡] *12*	(11/2$^+$)[@&]		B	Jπ: 343.3γ M1 to (9/2$^+$).
1268.7[‡] *10*	(11/2$^-$)[@&]		B	Jπ: 357.0γ M1+E2 to (13/2$^-$); 777.8γ to (7/2$^-$).
1341.2 *7*	[&]		B	
1351.4[‡] *8*	(15/2$^-$)[&]		B E G	XREF: B(1352). Jπ: 440.0γ M1+E2 to (13/2$^-$), 454.7γ E2 to (11/2$^-$).
1355.8[‡] *11*	[&]		B	XREF: B(1356).
1376.6 *8*	(17/2$^-$)[&]		B G	Jπ: 690.3γ D+Q to (15/2$^-$).
1394.3[‡] *13*	[&]		B	
1411.5[a] *7*	(19/2$^-$)[@]		EFG	Jπ: 725.2γ stretched E2 to (15/2$^-$).
1431.0[j] *8*	(17/2$^-$)		E G	Jπ: 519.5γ stretched E2 to (13/2$^-$).
1459.6[‡] *9*	(13/2$^+$)[@&]		B	
1481.9[‡] *10*	[&]		B	
1549.9[‡] *12*	[&]		B	
1629.6[‡] *10*	[&]		B	
1920.8[k] *9*	(19/2$^-$)		E	Jπ: 570.6γ stretched E2 to (15/2$^-$), 489.9γ M1+E2 to (17/2$^-$).
1991.0[i] *8*	(21/2$^+$)	<0.3 ns	EFG	Jπ: 579.5γ stretched E1 to (19/2$^-$). $T_{1/2}$: from 1985Ko13, ce-ce delayed coincidence; Other value: <2 ns (1979Go15) − both in (α,4nγ).
2024.5[‡] *12*	[&]		B	
2032.6[j] *9*	(21/2$^-$)		E G	Jπ: 601.1γ stretched E2 to (17/2$^-$).
2041.1[‡] *12*	[&]		B	
2079.9? *8*	(23/2$^+$)		E	E(level): This is the intermediate level of the cascade 207.5γ-(88.9γ) to (21/2$^+$), not connected to the scheme otherwise; hence E(level)=2198.5 is possible for opposite cascade. Jπ: 207.5γ M1+E2, ΔJ=1 from (25/2$^+$) (or to (21/2$^+$) if 207.5γ proceeds from this level and the cascade is (88.9γ)−207.5γ) instead.
2129.2[‡] *13*	[&]		B	
2159.0[‡i] *8*	(25/2$^+$)	0.96 ns *10*	E G	Jπ: 168.0γ stretched (E2) to (21/2$^+$). $T_{1/2}$: from 1985Ko13 (α,4nγ), ce-ce delayed coincidence.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
2174.6‡ *10*	&		B	
2187.0[a] *8*	(23/2⁻)		EFG	Jπ: 775.4γ stretched E2 to (19/2⁻). States with similar transition pattern were observed in ^{189}Au and ^{193}Au (1976Go22).
2198.6 *8*	(23/2⁺)		G	Jπ: 207.6γ D, ΔJ=1, to (21/2⁺).
2218.9‡ *12*	&		B	
2235.2‡ *12*	&		B	
2287.4 *8*	(25/2⁺)		E	Jπ: 159.5 stretched E1 from (27/2⁻).
2348.4‡ *13*	&		B	
2423.0 *8*	(27/2⁺)	<0.2 ns	E G	Jπ: 264.0γ M1+E2, ΔJ=1, to (25/2⁺). $T_{1/2}$: from 1985Ko13 (α,4nγ), ce-ce delayed coincidence.
2446.9[a] *8*	(27/2⁻)	0.89 ns *9*	E G	μ<20 Jπ: 269.9γ stretched (E2) to (23/2⁻). Possible configuration: π $(h^{-3}_{11/2})$ (1997Pe26 – (^{11}B,6nγ)). $T_{1/2}$: from 1985Ko13 (α,4nγ), ce-ce delayed coincidence. μ: integral perturbed angular distribution of γ rays following nuclear reaction (1985Ko13, not listed in 2020StZV).
2490.0[h] *8*	(31/2⁺)	402 ns *20*	E G	μ=6.5 *6* Jπ: 67.0γ (E2) to (27/2⁺); yrast π=+ levels. Possible configuration: ν $[(i^{-1}_{13/2}), (h^{-1}_{9/2})]_{10-}$ ⊗ π $[(h^{-1}_{11/2})]$ (1997Pe26 – (^{11}B,6nγ)). $T_{1/2}$: from 1997Pe26 (^{11}B,6nγ), γ-γ delayed coincidence, BaF_2-HPGe. Other: >400 ns from ce-ce delayed coincidence 1985Ko13 (α,4nγ). μ: Based on g=0.42 *3* from TDPAD (2020StZV, 1997Pe26).
2503.0[c] *8*	(31/2⁻)	6.1 ns *5*	E G	Jπ: 56.2γ (E2) to (27/2⁻); yrast π=− levels. Possible configuration: ν $(i^{-2}_{13/2})_{10+}$ ⊗ π $(h^{1}_{11/2})$ (1997Pe26 – (^{11}B,6nγ)). $T_{1/2}$: From 1985Ko13 (α,4nγ), ce-ce delayed coincidence; Other values: 6 ns *2* (1979Go15 – for 2447 level); 10 ns *2* (1974Tj02 – for 1991 level) – latter two also in (α,4nγ) are most likely for this level; 6 ns *2* (1997Pe26 – (^{11}B,6nγ) γ-γ delayed coincidence).
2544.7[k] *9*	(23/2⁻)		E	Jπ: 624.3γ E2 to (19/2⁻), 511.7γ M1+E2 to (21/2⁻).
2671.1[i] *8*	(29/2⁺)		E	Jπ: 586.2γ stretched Q from (33/2⁺).
2688.3[j] *11*	(25/2⁻)		E	Jπ: 655.7γ E2 to (21/2⁻).
2748.3 *8*	(29/2)		G	Jπ: 301.4γ D to (27/2⁻).
2804.4[d] *8*	(33/2⁻)	<0.4 ns	E G	Jπ: 301.5γ (M1) to (31/2⁻) and 77.2γ M1 from (35/2⁻). $T_{1/2}$: from 1985Ko13 (α,4nγ), ce-ce delayed coincidence.
2881.5[c] *8*	(35/2⁻)		E	Jπ: 378.4γ stretched E2 to (31/2⁻).
2926.3[j] *13*	(29/2⁻)		E	Jπ: 238.0γ E2 to (25/2⁻).
2998.4[h] *8*	(35/2⁺)		E	Jπ: 508.4γ stretched E2 to (31/2⁺).
3008.8[b] *8*	(35/2⁻)		E	Jπ: 506.1γ stretched E2 to (31/2⁻).
3147.6 *9*	(31/2)		G	Jπ: 399.3γ D, ΔJ=1, to (31/2),
3203.4?[a] *13*	(35/2⁻)	<0.3 ns	G	Jπ: 399γ to (31/2⁻), assuming yrast level. $T_{1/2}$: from 1985Ko13 (α,4nγ), ce-ce delayed coincidence.
3254.3[j] *16*	(33/2⁻)		E	Jπ: 328.0γ E2 to (29/2⁻).
3257.6[i] *9*	(33/2⁺)		E	Jπ: 647.5γ stretched Q from (37/2⁺).
3280.6[d] *8*	(37/2⁻)		E	Jπ: 476.4γ stretched E2 to (33/2⁻).
3373.6[c] *8*	(39/2⁻)		E	Jπ: 492.2γ stretched E2 to (35/2⁻).
3429.3[j] *16*	(37/2⁻)		E	Jπ: 175.0γ E2 to (33/2⁻).
3494.0[m] *8*	(37/2⁺)		E	Jπ: 687.0γ stretched Q from (41/2⁺).
3657.3[j] *17*	(41/2⁻)		E	Jπ: 288.0γ E2 to (37/2⁻).
3737.5[b] *9*	(39/2⁻)		E	Jπ: 729.2γ stretched Q to 35/2⁻.
3788.7[l] *8*	(39/2⁻)		E	Jπ: 907.4γ E2 to (35/2⁻), 508.2γ M1 to (37/2⁻).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

E(level)[†]	Jπ	XREF	Comments
3811.2[h] 8	(39/2+)	E	Jπ: 812.7γ stretched E2 to (35/2+).
3905.4[i] 9	(37/2+)	E	Jπ: 275.4γ from (41/2+); cascade 647.5γ (Q; ΔJ=2) − 586.2γ (Q; ΔJ=2) − 512.0γ − 168.0γ (E2) to (21/2+) rules out spins higher than 37/2.
4032.4[l] 8	(43/2−)	E	Jπ: 658.8γ stretched E2 to (39/2−).
4062.8 9		E	
4114.0[c] 9	(43/2−)	E	Jπ: 740.2γ stretched E2 to (39/2−). E(level): This is the intermediate level of the cascade 828.3γ-740.2γ, not otherwise connected to the level scheme; hence E(level)=4202.1 is also possible, if opposite.
4156.0[i] 9	(39/2)	E	Jπ: 250.6γ (D(+Q)) (ΔJ=1) to (37/2+).
4180.9 8	(41/2+)	E	Jπ: 687.0γ Q to (37/2+), 369.6γ D to (39/2+).
4275.8 8	(41/2+)	E	Jπ: 781.9γ (Q) to (37/2+), 464.6γ D to (39/2+).
4289.9[m] 8	(41/2+)	E	Jπ: 795.4γ stretched E2 to (37/2+).
4405.6[b] 9	(43/2−)	E	Jπ: 668.4γ stretched Q to (39/2−).
4406.6[i] 10	(41/2)	E	Jπ: 250.6γ (D(+Q)) (ΔJ=1) to (39/2).
4420.9[h] 8	(43/2+)	E	Jπ: 609.7γ stretched E2 to (39/2+).
4453.5 8	(43/2+)	E	Jπ: 272.5γ D(+Q), ΔJ=1, to (41/2+).
4478.9 9		E	
4479.3[f] 9	(45/2−)	E	Jπ: 447.1γ M1(+E2) to (43/2−); intensity of feeding in (^{11}B,6nγ) suggest yrast π=− level.
4683.1[i] 10	(43/2)	E	Jπ: 276.5γ stretched D to (41/2).
4688.9[h] 8	(47/2+)	E	Jπ: 268.0γ stretched E2 to (43/2+).
4747.3 8	(47/2−)	E	Jπ: 714.9γ stretched E2 to (43/2−).
4766.7 9	(47/2+)	E	Jπ: 313.3γ stretched Q to (43/2+).
4818.1[l] 8	(47/2−)	E	Jπ: 785.7γ stretched E2 to (43/2−).
4942.6[c] 9	(47/2−)	E	Jπ: 828.3γ stretched E2 to (43/2−).
4952.7 9	(47/2−)	E	Jπ: 810.5γ stretched Q from (51/2−).
5082.8[b] 9	(47/2−)	E	Jπ: 677.1γ stretched Q to (43/2−).
5141.2 9	(49/2+)	E	Jπ: 252.8γ from (53/2+) and 452.2 M1 to (47/2+) define level spin and establish Mult=(E2) for 252.8γ, γ(θ) data in (^{11}B,6nγ), A_2=−0.16 4 and A_4=−0.07 8, implies Q(+D).
5170.7 9		E	
5202.0 8	(51/2+)	E	Jπ: 513.1γ stretched E2 to (47/2+).
5243.4[f] 8	(49/2−)	E	Jπ: 763.8γ (Q) to (45/2−), 496.1γ M1 to (47/2−).
5351.4[l] 9	(51/2−)	E	Jπ: 604.2γ stretched E2 to (47/2−).
5394.2[g] 8	(53/2+)	E	Jπ: 192.2γ stretched M1, ΔJ=1, to (51/2+).
5397.0 9	(51/2+)	E	Jπ: 630.5γ (stretched Q) to (47/2+).
5455.7[c] 9	(51/2−)	E	Jπ: 513.1γ stretched E2 to (47/2−).
5579.9 9	(51/2)	E	Jπ: 438.7γ D+Q, ΔJ=1, to (49/2+).
5645.9 9	(51/2−)	E	Jπ: 693.1γ stretched Q to (47/2−).
5763.3[e] 9	(51/2−)	E	Jπ: 820.6γ stretched Q to (47/2−).
5830.7 9		E	
5998.7[g] 8	(57/2+)	E	Jπ: 604.5γ stretched E2 to (53/2+).
6013.8 9	(55/2+)	E	Jπ: 616.7γ stretched Q to (51/2+).
6027.0 10	(55/2+)	E	Jπ: 630.5γ (stretched Q) to (51/2+).
6033.8[c] 9	(55/2−)	E	Jπ: 578.2γ stretched E2 to (51/2−).
6034.4 9	(55/2+)	E	Jπ: 832.2γ stretched E2 to (51/2+).
6097.5[f] 9	(53/2−)	E	Jπ: 451.5γ M1(+E2), ΔJ=1, to (51/2−).
6211.4[e] 9	(55/2−)	E	Jπ: 448.3γ (stretched Q) to (51/2−).
6284.1[l] 9	(55/2−)	E	Jπ: 932.7γ stretched Q to (51/2−).
6384.4 9	(55/2−)	E	Jπ: 1033.0γ stretched E2 to (51/2−).
6540.5 9		E	
6623.0 10		E	
6652.6[f] 9	(57/2−)	E	Jπ: 555.1γ stretched Q to (53/2−).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

E(level)†	Jπ	XREF	Comments
6659.6[l] 8	(59/2⁻)	E	Jπ: 275.2γ stretched E2 to (55/2⁻).
6829.6 9		E	
6881.5[c] 9	(59/2⁻)	E	Jπ: 847.7γ stretched Q to (55/2⁻).
6900.3[g] 9	(61/2⁺)	E	Jπ: 901.6γ stretched E2 to (57/2⁺).
6945.5[e] 10	(59/2⁻)	E	Jπ: 734.0γ to (55/2⁻), negative parity sequence assignment.
7006.7[f] 9	(61/2⁻)	E	Jπ: 354.1γ stretched E2 to (57/2⁻).
7056.8[l] 9	(63/2⁻)	E	Jπ: 397.1γ stretched E2 to (59/2⁻).
7276.5 9		E	
7566.0[f] 9	(65/2⁻)	E	Jπ: 559.3γ stretched Q to (61/2⁻).
7751.9 10		E	
7787.2[e] 11	(63/2⁻)	E	Jπ: 841.7γ to (59/2⁻), negative parity sequence assignment.
7808.7[g] 10	(65/2⁺)	E	Jπ: 908.4γ stretched E2 to (61/2⁺).
7829.5[c] 10	(63/2⁻)	E	Jπ: 948.0γ to (59/2⁻), band member assignment.
7884.6[l] 10	(67/2⁻)	E	Jπ: 827.8γ stretched E2 to (63/2⁻).
8143.4 10		E	
8244.1 10		E	
8485.3[f] 10	(69/2⁻)	E	Jπ: 919.3γ stretched Q to (65/2⁻).
8546.7[g] 10	(69/2⁺)	E	Jπ: 738.0γ stretched Q to (65/2⁺).
8903.9[l] 11	(71/2⁻)	E	Jπ: 1019.3γ stretched Q to (67/2⁻).
9093.5 11	(71/2⁻)	E	Jπ: 1208.9γ stretched Q to (67/2⁻).
9526.8[g] 10	(73/2⁺)	E	Jπ: 980.1γ Q to (69/2⁺) yrast π=+ band member.
9946.5[l] 11	(75/2⁻)	E	Jπ: 1042.6γ to (71/2⁻) π=− sequence assignment.
10751.8[g] 12	(77/2⁺)	E	Jπ: 1225.0γ to (73/2⁺) yrast π=+ band member.
x[n]	J≈(19/2)	D	Additional information 1. Jπ: from 1993Vo04, based on the least-squares fit to formulas connecting Eγ′s and J^{π}′s according to the formalism given by 1990Dr08 and 1992Be25.
186.8+x[n] 3	J+2	D	
415.7+x[n] 6	J+4	D	
686.6+x[n] 7	J+6	D	
998.6+x[n] 7	J+8	D	
1350.8+x[n] 7	J+10	D	
1742.3+x[n] 7	J+12	D	
2172.1+x[n] 8	J+14	D	
2639.9+x[n] 8	J+16	D	
3144.7+x[n] 8	J+18	D	
3685.6+x[n] 9	J+20	D	
4262.0+x[n] 9	J+22	D	
4873.0+x[n] 10	J+24	D	
5518.0+x[n] 10	J+26	D	
6195.7+x[n] 10	J+28	D	
6906.1+x[n] 11	J+30	D	
7648.7+x[n] 11	J+32	D	
8422.9+x[n] 12	J+34	D	
9229.1+x[n] 13	J+36	D	
10066.1+x[n] 14	J+38	D	
10935.1+x[n] 15	J+40	D	
y[o]	J1≈(35/2)	D	Additional information 2. Jπ: From spin fits. Alignments indicated by the slopes of the theoretical Routhians require 39/2 (1997Sc22).
397.8+y[o] 5	J1+2	D	
834.8+y[o] 7	J1+4	D	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

E(level)[†]	Jπ	XREF	Comments
1310.4+y[o] *9*	J1+6	D	
1823.1+y[o] *10*	J1+8	D	
2372.3+y[o] *12*	J1+10	D	
2956.7+y[o] *13*	J1+12	D	
3574.6+y[o] *14*	J1+14	D	
4226.6+y[o] *15*	J1+16	D	
4910.6+y[o] *15*	J1+18	D	
5626.1+y[o] *16*	J1+20	D	
6372.1+y[o] *17*	J1+22	D	
z[p]	J2≈(33/2)	D	Additional information 3. Jπ: From spin fits. Alignments indicated by the slopes of the theoretical Routhians require 37/2 (1997Sc22).
382.7+z[p] *5*	J2+2	D	
803.4+z[p] *7*	J2+4	D	
1262.0+z[p] *9*	J2+6	D	
1757.7+z[p] *10*	J2+8	D	
2289.2+z[p] *12*	J2+10	D	
2856.0+z[p] *13*	J2+12	D	
3456.6+z[p] *14*	J2+14	D	
4091.1+z[p] *15*	J2+16	D	
4757.8+z[p] *15*	J2+18	D	
5457.0+z[p] *16*	J2+20	D	
6187.5+z[p] *17*	J2+22	D	
6948.5+z[p] *18*	J2+24	D	
7738.5+z[p] *18*	J2+26	D	

[†] Deduced by evaluator from a least-squares fit to γ-rays energies, assuming ΔEγ=±0.5 keV if uncertainty not given.
[‡] Directly populated in the decay of ^{191}Hg (50.8 min).
[#] Systematics of odd Au nuclei with A=193-199.
[@] Systematics of odd Au nuclei with A=189-195 (1975Zg01).
[&] ε+β$^+$ population from ^{191}Hg (50.8 min, 13/2$^+$) to levels with E>1000 keV implies J≥9/2.
[a] Band(A): $\pi h_{11/2}$, α=−1/2.
[b] Band(B): Band based on (35/2$^-$); configuration eBC.
[c] Band(C): Band based on (31/2$^-$); configuration eAB.
[d] Band(D): Band based on (33/2$^-$); configuration eAC.
[e] Seq.(M): Band based on (51/2$^-$), 5763 level.
[f] Seq.(N): Band based on (45/2$^-$), 4479 level.
[g] Band(E): Band based on (53/2$^+$).
[h] Band(F): Band based on (31/2$^+$); configuration eBF.
[i] Seq.(O): Based on (21/2$^+$); $\pi h^{-1}_{11/2}\otimes\nu i^{-1}_{13/2}\nu(p_{3/2},f_{5/2})$.
[j] Band(G): Band based on 9/2$^-$, α=+1/2.
[k] Band(H): Band based on 9/2$^-$, α=−1/2.
[l] Seq.(P): Band based on (39/2$^-$), 5-qp state: configuration $\pi h^{-1}_{11/2}\otimes\nu i^{-2}_{13/2}\nu h^{-1}_{9/2}\nu(p_{3/2},f_{5/2})$.
[m] Band(I): Band based on (37/2$^+$); configuration eAF.
[n] Band(J): Yrast SD-1 band (1997Sc22,1993Vo04). Percent population=0.17 (1997Sc22), 0.15 (1993Vo04). The saturation of dynamical moment of inertia indicates blocking effect due, possibly, to 3/2[651], α=+1/2 proton. This band is identical to the SD band in ^{192}Hg (Eγ's in this band are at the quarter-point energies of those in the ^{192}Hg SD band).
[o] Band(K): SD-2 band (1997Sc22). Population intensity=40% of SD-1 band or 0.07% of reaction channel. SD-2 and SD-3 bands are interpreted as signature partners of the π3/2[532] orbital.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{191}Au Levels (continued)

[p] Band(L): SD-3 band (1997Sc22). Population intensity=40% of SD-1 band or 0.07% of reaction channel. SD-2 and SD-3 bands are interpreted as signature partners of the $\pi 3/2[532]$ orbital.

Adopted Levels, Gammas (continued)

γ(^{191}Au)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
11.5	(1/2$^+$)	11.2 *6*	100	0.0	3/2$^+$	[M1,E2]		2.6×10^4 *27*	α(M)=2.0×10^4 *21* α(N)=5×10^3 *5*; α(O)=8×10^2 *8*; α(P)=0.74 *34* E_γ: from Eγ(252.6γ)-Eγ(241.4γ). Mult.: s1/2 to d3/2 transition.
207.9	(3/2$^+$)	196.5[@] *4*	100	11.5	(1/2$^+$)	M1[‡]		1.067 *16*	α(K)=0.877 *13*; α(L)=0.1460 *22*; α(M)=0.0339 *5* α(N)=0.00844 *13*; α(O)=0.001551 *23*; α(P)=0.0001049 *16*
252.45	(5/2)$^+$	240.9 *2*	21.3[‡] *21*	11.5	(1/2$^+$)	E2[‡]		0.2019 *29*	α(K)=0.1069 *15*; α(L)=0.0715 *10*; α(M)=0.01822 *26* α(N)=0.00449 *6*; α(O)=0.000741 *11*; α(P)=1.112×10^{-5} *16* E_γ: weighted average of 240.8 *2* from ^{191}Hg ε decay (49 min) and 241.4 *5* from ^{191}Hg ε decay (50.8 min).
		252.5[‡] *2*	100[‡] *10*	0.0	3/2$^+$	M1+E2[‡]	0.89 *20*	0.37 *4*	α(K)=0.29 *4*; α(L)=0.0666 *18*; α(M)=0.01604 *31* α(N)=0.00398 *8*; α(O)=0.000702 *21*; α(P)=3.3×10^{-5} *5* E_γ: weighted average of 252.4 *2* from ^{191}Hg ε decay (49 min) and 252.6 *4* from ^{191}Hg ε decay (50.8 min). I_γ: Other: 44 9 ^{191}Hg ε decay (49 min). δ: from ^{191}Hg ε+β$^+$ decay (50.8 min).
266.1	(11/2$^-$)	13.7[‡] *6*	100	252.45	(5/2)$^+$	(E3)[‡]		1.2×10^7 *4*	B(E3)(W.u.)=0.56 *+41−20* 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* α: α=1.38×10^7 *20*, av of α(13.7 keV)=1.19×10^7 and α(13.1 keV)=1.57×10^7 (uncertainty due to 0.6 keV uncertainty in Eγ).
331.4?	(5/2$^+$)	331.4[@ j] *5*	100	0.0	3/2$^+$	D			Mult.: From 1989GiZY ^{191}Hg ε decay (49 m) (δ=0.007 *26* for D+Q, based on γ(θ) measurements).
490.8	(7/2$^-$)	224.7[@] *2*	100	266.1	(11/2$^-$)	E2[‡]		0.253 *4*	α(K)=0.1272 *18*; α(L)=0.0948 *14*; α(M)=0.02424 *35* α(N)=0.00598 *9*; α(O)=0.000982 *14*; α(P)=1.313×10^{-5} *19*
520.9	(5/2$^+$)	269.0[‡]		252.45	(5/2)$^+$				
		521.5[‡ j] *7*	100 *13*	0.0	3/2$^+$	E2(+M1)[‡]	3.3 *4*	0.0277 *12*	α(K)=0.0210 *10*; α(L)=0.00511 *14*; α(M)=0.001235 *32* α(N)=0.000306 *8*; α(O)=5.36×10^{-5} *15*; α(P)=2.36×10^{-6} *12*

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
540.3	(9/2$^-$)	274.2 *3*	100	266.1	(11/2$^-$)	M1+E2[‡]	−0.096 *15*	0.422 *6*	B(M1)(W.u.)=7.4×10^{-5} *+18−13*; B(E2)(W.u.)=0.0036 *+16−11* α(K)=0.347 *5*; α(L)=0.0576 *8*; α(M)=0.01336 *19* α(N)=0.00333 *5*; α(O)=0.000612 *9*; α(P)=4.12×10^{-5} *6* E_γ: weighted average of 274.1 *10* from ^{191}Hg ε decay (50.8 min), 274.4 *5* from (^{11}B,6nγ), and 274.1 *3* from (α,4nγ).
662.5	(7/2)$^+$	409.7[‡] *9*	100[‡] *20*	252.45	(5/2)$^+$	M1[‡]		0.1433 *22*	α(K)=0.1182 *18*; α(L)=0.01934 *29*; α(M)=0.00448 *7* α(N)=0.001115 *17*; α(O)=0.0002052 *31*; α(P)=1.394×10^{-5} *21*
		455[‡]		207.9	(3/2$^+$)				
		662.0[‡] *10*	41[‡] *10*	0.0	3/2$^+$				
686.3	(15/2$^-$)	420.2[&] *2*	100	266.1	(11/2$^-$)	E2[‡]		0.0400 *6*	α(K)=0.0279 *4*; α(L)=0.00920 *13*; α(M)=0.002274 *32* α(N)=0.000562 *8*; α(O)=9.61×10^{-5} *14*; α(P)=3.06×10^{-6} *4* E_γ: weighted average of 274.1 *10* from ^{191}Hg ε decay (50.8 min), 274.4 *5* from (^{11}B,6nγ), and 274.1 *3* from (α,4nγ).
788.6	(9/2$^+$)	267[‡j]		520.9	(5/2$^+$)				
		536.1[‡] *6*	100 *11*	252.45	(5/2)$^+$	(E2)[‡]		0.02184 *31*	α(K)=0.01621 *23*; α(L)=0.00428 *6*; α(M)=0.001041 *15* α(N)=0.000258 *4*; α(O)=4.48×10^{-5} *6*; α(P)=1.799×10^{-6} *26*
844.8	(13/2$^-$)	156[‡j]		686.3	(15/2$^-$)				E_γ: From level energy difference; Eγ=156 keV in ^{191}Hg ε decay (50.8 min).
		578.6[&] *3*	100 *10*	266.1	(11/2$^-$)	M1+E2[‡]	0.34[e] *5*	0.0536 *13*	α(K)=0.0441 *11*; α(L)=0.00727 *16*; α(M)=0.00168 *4* α(N)=0.000420 *9*; α(O)=7.70×10^{-5} *17*; α(P)=5.16×10^{-6} *14*
876.8	(9/2$^-$)	386.0[‡]		490.8	(7/2$^-$)				
		610.6[‡j] *6*	100	266.1	(11/2$^-$)	M1+E2[‡]	1.1 *+9−4*	0.032 *9*	α(K)=0.025 *7*; α(L)=0.0046 *10*; α(M)=0.00109 *21* α(N)=0.00027 *5*; α(O)=4.9×10^{-5} *10*; α(P)=2.9×10^{-6} *9*
897.1	(11/2$^-$)	357.0[h] *4*	100[h]	540.3	(9/2$^-$)	M1+E2[‡]	−0.25[e] *4*	0.199 *4*	α(K)=0.1631 *34*; α(L)=0.0274 *5*; α(M)=0.00635 *10* α(N)=0.001582 *26*; α(O)=0.000290 *5*; α(P)=1.93×10^{-5} *4* δ: Other: −0.9 *+10−6* ^{191}Ir(α,4nγ) (1977Go12). E_γ: weighted average of 357.0 *4* from ^{191}Hg ε decay (50.8 min), 357.0 *5* from (^{11}B,6nγ), and 356.9 *3* from (α,4nγ).
911.4	(13/2$^-$)	371.1 *2*	100[‡] *11*	540.3	(9/2$^-$)	E2[‡]		0.0557 *8*	α(K)=0.0372 *5*; α(L)=0.01404 *20*; α(M)=0.00350 *5* α(N)=0.000864 *12*; α(O)=0.0001465 *21*; α(P)=4.05×10^{-6} *6* E_γ: weighted average of 371.0 *4* from ^{191}Hg ε decay (50.8 min), 371.3 *5* from (^{11}B,6nγ), and 371.0 *3* from (α,4nγ).
		644.5[‡] *10*	14[‡] *4*	266.1	(11/2$^-$)				
1066.0?	(3/2$^-$)	575[@j]	100	490.8	(7/2$^-$)				

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
1131.9	(11/2$^+$)	343.3[‡] *10*	100	788.6	(9/2$^+$)	M1[‡]		0.230 *4*	α(K)=0.1897 *30*; α(L)=0.0312 *5*; α(M)=0.00723 *12* α(N)=0.001800 *29*; α(O)=0.000331 *5*; α(P)=2.25×10^{-5} *4*
1268.7	(11/2$^-$)	357.0[h‡j] *4*	<340[h‡]	911.4	(13/2$^-$)	M1+E2[‡]	0.7 *4*	0.16 *4*	α(K)=0.128 *32*; α(L)=0.0241 *30*; α(M)=0.0057 *6* α(N)=0.00141 *16*; α(O)=0.000255 *32*; α(P)=1.5×10^{-5} *4*
		392.0[‡]		876.8	(9/2$^-$)				
		777.8[‡] *8*	100[‡] *27*	490.8	(7/2$^-$)				
		1002.7[‡j] *10*	90[‡] *23*	266.1	(11/2$^-$)				
1341.2		552.5[‡] *10*	74[‡] *18*	788.6	(9/2$^+$)				
		678.6[‡] *7*	100[‡] *18*	662.5	(7/2)$^+$				
		820.8[‡] *10*	55[‡] *13*	520.9	(5/2$^+$)				
1351.4	(15/2$^-$)	440.0[#] *3*	100.0 *12*	911.4	(13/2$^-$)	M1+E2	−1.0[d] *+50−10*	0.08 *4*	α(K)=0.061 *32*; α(L)=0.012 *4*; α(M)=0.0028 *8* α(N)=7.0×10^{-4} *19*; α(O)=1.3×10^{-4} *4*; α(P)=7.E−6 *4*
		454.7 *8*	23.6 *4*	897.1	(11/2$^-$)	E2		0.0327 *5*	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*
1355.8		511.0[‡] *8*	100	844.8	(13/2$^-$)				
1376.6	(17/2$^-$)	690.3[&] *3*	100[‡] *26*	686.3	(15/2$^-$)	D+Q[d]	+0.58[d] *23*		
		1109.3[‡j] *10*	82[‡] *21*	266.1	(11/2$^-$)				
1394.3		549.5[‡] *10*	100	844.8	(13/2$^-$)				
1411.5	(19/2$^-$)	725.2[a] *2*	100	686.3	(15/2$^-$)	E2		0.01109 *16*	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*
1431.0	(17/2$^-$)	519.5 *3*	100	911.4	(13/2$^-$)	E2		0.02354 *33*	α(K)=0.01736 *24*; α(L)=0.00470 *7*; α(M)=0.001146 *16* α(N)=0.000284 *4*; α(O)=4.92×10^{-5} *7*; α(P)=1.924×10^{-6} *27* E_γ: weighted average of 519.7 *5* from (^{11}B,6nγ) and 519.4 *3* from (α,4nγ).
1459.6	(13/2$^+$)	671.0[‡] *7*	100	788.6	(9/2$^+$)				
1481.9		637.1[‡] *7*	100	844.8	(13/2$^-$)				
1549.9		863.6[‡] *10*	100	686.3	(15/2$^-$)				
1629.6		718.0[‡] *7*	100[‡] *15*	911.4	(13/2$^-$)				

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
1629.6		732.8[‡] *10*	17[‡] *4*	897.1	(11/2$^-$)				
1920.8	(19/2$^-$)	489.9 *6*	100.0 *15*	1431.0	(17/2$^-$)	M1+E2		0.058 *31*	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*
		570.6 *10*	70.8 *15*	1351.4	(15/2$^-$)	E2		0.01888 *28*	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*
1991.0	(21/2$^+$)	579.5 *2*	100	1411.5	(19/2$^-$)	E1		0.00631 *9*	α(K)=0.00526 *7*; α(L)=0.000810 *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* E_γ: weighted average of 579.6 *3* from (^{11}B,6nγ) and 579.4 *3* from (α,4nγ).
2024.5		1338.1[‡] *10*	100	686.3	(15/2$^-$)				
2032.6	(21/2$^-$)	601.5 *3*	100	1431.0	(17/2$^-$)	E2		0.01673 *23*	α(K)=0.01270 *18*; α(L)=0.00307 *4*; α(M)=0.000741 *10* α(N)=0.0001836 *26*; α(O)=3.22×10^{-5} *5*; α(P)=1.411×10^{-6} *20* E_γ: weighted average of 601.6 *2* from (^{11}B,6nγ) and 601.1 *3* from (α,4nγ).
2041.1		1354.7[‡] *10*	100	686.3	(15/2$^-$)				
2079.9?	(23/2$^+$)	(88.9)		1991.0	(21/2$^+$)				E_γ: From level energy difference.
2129.2		1284.4[‡] *10*	100[‡] *26*	844.8	(13/2$^-$)				
		1864.0[‡,j] *10*	32[‡] *9*	266.1	(11/2$^-$)				
2159.0	(25/2$^+$)	168.0[a] *2*	100	1991.0	(21/2$^+$)	(E2)		0.691 *10*	B(E2)(W.u.)=39.9 *+46−37* α(K)=0.259 *4*; α(L)=0.325 *5*; α(M)=0.0838 *13* α(N)=0.02064 *31*; α(O)=0.00335 *5*; α(P)=2.64×10^{-5} *4* Mult.: Q in ^{191}Ir(α,4nγ) and RUL. In (^{11}B,6nγ) α(K)exp suggest M1+E2 transition with δ=3.8 *+7−5*.
2174.6		1329.8[‡] *10*	100[‡] *25*	844.8	(13/2$^-$)				
		1488.3[‡] *10*	25[‡] *6*	686.3	(15/2$^-$)				
		1908.1[‡,j] *10*	55[‡] *14*	266.1	(11/2$^-$)				
2187.0	(23/2$^-$)	775.4[a] *2*	100	1411.5	(19/2$^-$)	E2		0.00962 *13*	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*
2198.6	(23/2$^+$)	207.6[#] *3*	100	1991.0	(21/2$^+$)	D[d]			γ(θ) data in (α,4nγ) is consistent for a ΔJ=1 transition, A_2=−0.20 *5* and A_4=−0.05 *8*.
2218.9		1532.5[‡] *10*	100	686.3	(15/2$^-$)				
2235.2		1548.8[‡] *10*	100	686.3	(15/2$^-$)				
2287.4	(25/2$^+$)	128.3 *3*	7.9 *17*	2159.0	(25/2$^+$)	D(+Q)			γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, the values A_2=−0.4 *1* and A_4=+0.07 *8*.
		207.5 *3*	100 *33*	2079.9?	(23/2$^+$)	M1+E2	0.59 *16*	0.77 *6*	α(K)=0.60 *6*; α(L)=0.1270 *20*; α(M)=0.0303 *7*

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
									α(N)=0.00752 *16*; α(O)=0.001340 *20*; α(P)=7.1×10^{-5} *8* γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, the values A_2=−0.16 *4* and A_4=−0.03 *8*.
2348.4		1503.6[‡] *10*	100	844.8	(13/2$^-$)				
2423.0	(27/2$^+$)	264.0[a] *2*	100	2159.0	(25/2$^+$)	M1+E2	0.69 *21*	0.37 *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* γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.12 *4* and A_4=−0.09 *8*.
2446.9	(27/2$^-$)	159.5 *2*	4.7 *8*	2287.4	(25/2$^+$)	E1		0.1272 *18*	B(E1)(W.u.)=2.10×10^{-6} *+45−41* 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.: From D (ΔJ=1) from γ(θ) in (^{11}B,6nγ) and RUL.
		259.9[a] *2*	100 *6*	2187.0	(23/2$^-$)	(E2)[d]		0.1586 *23*	B(E2)(W.u.)=6.5 *+7−6* α(K)=0.0885 *13*; α(L)=0.0528 *8*; α(M)=0.01342 *19* α(N)=0.00331 *5*; α(O)=0.000548 *8*; α(P)=9.29×10^{-6} *13* ΔJ=2 from γ(θ) in (^{11}B,6nγ) and (α,4nγ). Disagrees with Mult=M1+E2 from α(K)exp=0.17 *1* in (^{11}B,6nγ).
		288.0 *3*	5.1 *13*	2159.0	(25/2$^+$)	E1		0.0296 *4*	B(E1)(W.u.)=3.9×10^{-7} *+11−10* 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*
2490.0	(31/2$^+$)	67.0 *3*	100	2423.0	(27/2$^+$)	(E2)		30.4 *8*	B(E2)(W.u.)=0.508 *+33−29* 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* Mult.: (E1,E2) from α(L2)exp/α(L3)exp=2<in ^{186}W(^{11}B,6nγ); (E2) from ^{191}Ir(α,4nγ).
2503.0	(31/2$^-$)	56.2 *3*		2446.9	(27/2$^-$)	(E2)[d]		71.1 *21*	B(E2)(W.u.)=35.1 *+35−30* α(L)=53.3 *16*; α(M)=13.8 *4* α(N)=3.39 *10*; α(O)=0.540 *16*; α(P)=0.000575 *15* E1,E2 from α(L2)exp/α(L3)exp=0.82 *20* in ^{186}W(^{11}B,6nγ); (E2) from ^{191}Ir(α,4nγ).
2544.7	(23/2$^-$)	511.7 *5*	100.0 *16*	2032.6	(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*
		624.3 *5*	26.1 *11*	1920.8	(19/2$^-$)	E2		0.01538 *22*	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*
2671.1	(29/2$^+$)	248.0 *3*	100 *29*	2423.0	(27/2$^+$)				
		383.6 *3*	29 *14*	2287.4	(25/2$^+$)				
		512.0 *4*	57 *21*	2159.0	(25/2$^+$)				
2688.3	(25/2$^-$)	655.7 *6*	100	2032.6	(21/2$^-$)	E2		0.01379 *20*	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*

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
2748.3	(29/2)	301.4[#] *3*	100	2446.9	(27/2$^-$)	D[d]			
2804.4	(33/2$^-$)	301.5 *2*	100	2503.0	(31/2$^-$)	(M1)[d]		0.328 *5*	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*
2881.5	(35/2$^-$)	77.2 *3*		2804.4	(33/2$^-$)	M1		2.76 *5*	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*
		378.4 *2*	100 *14*	2503.0	(31/2$^-$)	E2		0.0529 *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*
2926.3	(29/2$^-$)	238.0 *8*	100	2688.3	(25/2$^-$)	E2		0.210 *4*	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*
2998.4	(35/2$^+$)	508.4 *3*	100	2490.0	(31/2$^+$)	E2		0.02480 *35*	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*
3008.8	(35/2$^-$)	204.3 *3*	17 *3*	2804.4	(33/2$^-$)	M1+E2	0.65 *18*	0.78 *7*	α(K)=0.60 *7*; α(L)=0.1338 *23*; α(M)=0.0321 *8* α(N)=0.00796 *19*; α(O)=0.001410 *22*; α(P)=7.1×10^{-5} *9*
		506.1 *4*	100 *33*	2503.0	(31/2$^-$)	E2		0.02507 *35*	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*
3147.6	(31/2)	399.3[#] *3*	100	2748.3	(29/2)	D[d]			γ(θ) data in (α,4nγ) is consistent for a ΔJ=1 transition, A$_2$=−0.20 *5* and A$_4$=−0.04 *8*.
3203.4?	(35/2$^-$)	399[#]	100	2804.4	(33/2$^-$)	(M1)[d]		0.1538 *22*	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*
3254.3	(33/2$^-$)	328.0 *8*	100	2926.3	(29/2$^-$)	E2		0.0788 *12*	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*
3257.6	(33/2$^+$)	586.2 *5*	100	2671.1	(29/2$^+$)	Q			
3280.6	(37/2$^-$)	271.9 *3*	8.6 *14*	3008.8	(35/2$^-$)	M1		0.434 *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*
		399.0 *2*	100 *11*	2881.5	(35/2$^-$)	M1		0.1538 *22*	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*
		476.4 *3*	14 *3*	2804.4	(33/2$^-$)	E2		0.0291 *4*	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*
3373.6	(39/2$^-$)	92.9 *2*	23 *5*	3280.6	(37/2$^-$)	M1		8.95 *14*	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*
		492.2 *3*	100 *18*	2881.5	(35/2$^-$)	E2		0.0268 *4*	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*
3429.3	(37/2$^-$)	175.0 *5*	100	3254.3	(33/2$^-$)	E2		0.597 *10*	α(K)=0.235 *4*; α(L)=0.272 *5*; α(M)=0.0701 *13* α(N)=0.01727 *32*; α(O)=0.00281 *5*; α(P)=2.39×10^{-5} *4*
3494.0	(37/2$^+$)	495.8 *3*	100	2998.4	(35/2$^+$)	M1+E2	1.40 *20*	0.047 *4*	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* δ: from α(K)exp in (^{11}B,6nγ).
3657.3	(41/2$^-$)	228.0 *5*	100	3429.3	(37/2$^-$)	E2		0.241 *4*	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*

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
3737.5	(39/2$^-$)	729.2 *5*	100	3008.8	(35/2$^-$)	Q			
3788.7	(39/2$^-$)	508.2 *3*	100 *30*	3280.6	(37/2$^-$)	M1		0.0810 *11*	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*
		779.5 *5*	60 *10*	3008.8	(35/2$^-$)				
		907.4 *4*	60 *20*	2881.5	(35/2$^-$)	E2		0.00697 *10*	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*
3811.2	(39/2$^+$)	317.5 *3*	10 *2*	3494.0	(37/2$^+$)	M1+E2	0.4 *2*	0.257 *25*	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* δ: From (^{11}B,6nγ).
		812.7 *3*	100 *8*	2998.4	(35/2$^+$)	E2		0.00873 *12*	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*
3905.4	(37/2$^+$)	647.5 *4*	100	3257.6	(33/2$^+$)	Q			
4032.4	(43/2$^-$)	243.8 *2*	47 *7*	3788.7	(39/2$^-$)	E2		0.1942 *28*	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*
		658.8 *2*	100 *10*	3373.6	(39/2$^-$)	E2		0.01365 *19*	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*
4062.8		274.2 *3*	100	3788.7	(39/2$^-$)				
4114.0	(43/2$^-$)	740.2 *3*	100	3373.6	(39/2$^-$)	E2		0.01061 *15*	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*
4156.0	(39/2)	250.6[h] *3*	100[h]	3905.4	(37/2$^+$)	(D(+Q))			γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.21 *4* and A_4=+0.02 *8*.
4180.9	(41/2$^+$)	275.4 *3*	14 *3*	3905.4	(37/2$^+$)				
		369.6 *3*	100 *14*	3811.2	(39/2$^+$)	D			
		687.0 *3*	83 *14*	3494.0	(37/2$^+$)	Q			
4275.8	(41/2$^+$)	464.6 *2*	100 *16*	3811.2	(39/2$^+$)	D			
		781.9 *3*	61 *16*	3494.0	(37/2$^+$)	(Q)			
4289.9	(41/2$^+$)	478.8 *3*	100 *25*	3811.2	(39/2$^+$)	M1+E2	0.74 *+21−19*	0.071 *8*	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* δ: from (^{11}B,6nγ).
		795.4 *3*	63 *13*	3494.0	(37/2$^+$)	E2		0.00913 *13*	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*
4405.6	(43/2$^-$)	372.7 *4*	40 *15*	4032.4	(43/2$^-$)				
		668.4 *4*	100 *30*	3737.5	(39/2$^-$)	Q			
4406.6	(41/2)	250.6[h] *3*	100[h]	4156.0	(39/2)	(D(+Q))			γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.21 *4* and A_4=+0.02 *8*.

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[c]	δ	α[g]	Comments
4420.9	(43/2$^+$)	130.7 *3*	7.9 *19*	4289.9	(41/2$^+$)	M1+E2	1.01 *17*	2.56 *15*	α(K)=1.60 *21*; α(L)=0.73 *5*; α(M)=0.183 *14* α(N)=0.0453 *34*; α(O)=0.0076 *5*; α(P)=0.000189 *26*
		240.0 *3*	0.95 *24*	4180.9	(41/2$^+$)	D			ΔJ=1 from DCO in ^{186}W(^{11}B,6nγ).
		358.3 *4*	3.8 *7*	4062.8					
		609.7 *3*	100 *14*	3811.2	(39/2$^+$)	E2		0.01622 *23*	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*
4453.5	(43/2$^+$)	177.9 *3*	79 *18*	4275.8	(41/2$^+$)	D(+Q)			
		272.5 *3*	100 *18*	4180.9	(41/2$^+$)	D(+Q)			γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.2 *1* and A_4=+0.09 *8*.
		642.3 *5*	32 *11*	3811.2	(39/2$^+$)				
4478.9		446.4 *4*	100	4032.4	(43/2$^-$)				
4479.3	(45/2$^-$)	447.1 *3*	100	4032.4	(43/2$^-$)	M1(+E2)		0.07 *4*	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*
4683.1	(43/2)	276.5 *3*	100	4406.6	(41/2)	D			γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.16 *4* and A_4=−0.07 *8*.
4688.9	(47/2$^+$)	210.0 *4*	2.3 *7*	4478.9					
		235.3 *4*	1.4 *5*	4453.5	(43/2$^+$)				
		268.0 *2*	100 *7*	4420.9	(43/2$^+$)	E2		0.1441 *20*	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*
4747.3	(47/2$^-$)	714.9 *2*	100	4032.4	(43/2$^-$)	E2		0.01143 *16*	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*
4766.7	(47/2$^+$)	313.3 *2*	100	4453.5	(43/2$^+$)	Q			
4818.1	(47/2$^-$)	785.7 *3*	100	4032.4	(43/2$^-$)	E2		0.00936 *13*	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*
4942.6	(47/2$^-$)	828.3 *4*	100	4114.0	(43/2$^-$)	E2		0.00839 *12*	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*
4952.7	(47/2$^-$)	473.9 *3*	100	4479.3	(45/2$^-$)	M1		0.0974 *14*	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*
5082.8	(47/2$^-$)	677.1 *3*	100	4405.6	(43/2$^-$)	Q			
5141.2	(49/2$^+$)	452.2 *2*	100	4688.9	(47/2$^+$)	M1		0.1103 *15*	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*
5170.7		481.8 *4*	100	4688.9	(47/2$^+$)				
5202.0	(51/2$^+$)	513.1 *2*	100	4688.9	(47/2$^+$)	E2		0.02425 *34*	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*
5243.4	(49/2$^-$)	291.2 *4*	5 *3*	4952.7	(47/2$^-$)				
		496.1 *3*	100 *25*	4747.3	(47/2$^-$)	M1		0.0863 *12*	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*
		763.8 *3*	63 *10*	4479.3	(45/2$^-$)	(Q)			
5351.4	(51/2$^-$)	533.3 *2*	42 *8*	4818.1	(47/2$^-$)	E2		0.02211 *31*	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*

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

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	α[g]	Comments
5351.4	(51/2⁻)	604.2 *4*	100 *25*	4747.3	(47/2⁻)	E2	0.01656 *23*	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*
5394.2	(53/2⁺)	192.2 *2*	100 *17*	5202.0	(51/2⁺)	M1	1.136 *16*	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* γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=−0.21 *4* and A_4=−0.02 *8*.
		252.8 *3*	5.8 *25*	5141.2	(49/2⁺)	(E2)	0.1731 *25*	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 γ(θ); (E2) from decay scheme, see comment on J for 5141.2 level.
5397.0	(51/2⁺)	630.5[h] *4*	100[h] *20*	4766.7	(47/2⁺)	(Q)		
5455.7	(51/2⁻)	372.8 *4*	8 *3*	5082.8	(47/2⁻)			doublet in (^{11}B,6nγ) DCO analysis; A_2=+0.18 *8* and A_4=−0.22 *8* for the doublet are compatible with stretched E2.
		503.5 *4*	6.7 *25*	4952.7	(47/2⁻)	(Q)		
		513.1 *2*	100 *17*	4942.6	(47/2⁻)	E2	0.02425 *34*	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*
		637.7 *4*	17 *4*	4818.1	(47/2⁻)	Q		
5579.9	(51/2)	438.7 *3*	100	5141.2	(49/2⁺)	D+Q		γ(θ) data in (^{11}B,6nγ) is comparable for a ΔJ=1 transition, A_2=−0.3 *1* and A_4=+0.6 *2*.
5645.9	(51/2⁻)	402.3 *3*	100 *23*	5243.4	(49/2⁻)	M1	0.1505 *21*	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*
		693.1 *3*	85 *23*	4952.7	(47/2⁻)	Q		
		898.4 *4*	43 *11*	4747.3	(47/2⁻)	Q		
5763.3	(51/2⁻)	520.0 *3*	75 *15*	5243.4	(49/2⁻)	D(+Q)		
		810.5 *5*	25 *10*	4952.7	(47/2⁻)	Q		
		820.6 *6*	100 *20*	4942.6	(47/2⁻)	Q		
5830.7		689.5 *3*	100	5141.2	(49/2⁺)			
5998.7	(57/2⁺)	604.5 *2*	100	5394.2	(53/2⁺)	E2	0.01654 *23*	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*
6013.8	(55/2⁺)	616.7 *4*	100	5397.0	(51/2⁺)	Q		
6027.0	(55/2⁺)	630.5[h] *4*	100[h]	5397.0	(51/2⁺)	(Q)		
6033.8	(55/2⁻)	578.2 *4*	100	5455.7	(51/2⁻)	E2	0.01831 *26*	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*
6034.4	(55/2⁺)	832.2 *3*	100	5202.0	(51/2⁺)	E2	0.00831 *12*	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*
6097.5	(53/2⁻)	451.5 *3*	100 *13*	5645.9	(51/2⁻)	M1(+E2)	0.07 *4*	α(K)=0.057 *34*; α(L)=0.011 *4*; α(M)=0.0026 *8* α(N)=6.5×10^{-4} *21*; α(O)=1.2×10^{-4} *4*; α(P)=7.E−6 *4* γ(θ) data in (^{11}B,6nγ) is consistent for a ΔJ=1 transition, A_2=+0.05 *8* and A_4=+0.4 *2*.
		854.8 *6*	37 *10*	5243.4	(49/2⁻)			

$^{191}_{79}Au_{112}$-16

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	α[g]	Comments
6211.4	(55/2⁻)	448.3[i] *4*	100[i]	5763.3	(51/2⁻)	(Q)		
6284.1	(55/2⁻)	932.7 *3*	100	5351.4	(51/2⁻)	Q		
6384.4	(55/2⁻)	738.3 *3*	100 *25*	5645.9	(51/2⁻)	Q		
		1033.0 *3*	100 *25*	5351.4	(51/2⁻)	E2	0.00539 *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*
6540.5		506.0 *3*	100	6034.4	(55/2⁺)			
6623.0		792.3 *5*	100	5830.7				
6652.6	(57/2⁻)	555.1 *3*	100	6097.5	(53/2⁻)	Q		
6659.6	(59/2⁻)	275.2 *2*	54 *8*	6384.4	(55/2⁻)	E2	0.1328 *19*	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*
		375.6 *4*	8 *3*	6284.1	(55/2⁻)	Q		
		448.3[i] *4*	15[i] *3*	6211.4	(55/2⁻)	(Q)		
		625.9 *3*	23 *8*	6033.8	(55/2⁻)	E2	0.01529 *21*	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*
		660.9 *2*	100 *8*	5998.7	(57/2⁺)	E1	0.00484 *7*	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*
6829.6		795.1 *4*	100 *20*	6034.4	(55/2⁺)			
		803.6 *6*	45 *15*	6027.0	(55/2⁺)			
		815.7 *4*	75 *20*	6013.8	(55/2⁺)			
6881.5	(59/2⁻)	847.7 *3*	100	6033.8	(55/2⁻)	Q		
6900.3	(61/2⁺)	901.6 *3*	100	5998.7	(57/2⁺)	E2	0.00706 *10*	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*
6945.5	(59/2⁻)	734.0 *4*	100	6211.4	(55/2⁻)			
7006.7	(61/2⁻)	347.1 *3*	100 *22*	6659.6	(59/2⁻)	M1	0.2236 *32*	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*
		354.1 *3*	53 *11*	6652.6	(57/2⁻)	E2	0.0635 *9*	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*
7056.8	(63/2⁻)	397.1 *3*	100	6659.6	(59/2⁻)	E2	0.0464 *7*	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*
7276.5		446.9 *3*	100 *25*	6829.6		Q		
		735.7 *5*	25 *10*	6540.5				
7566.0	(65/2⁻)	509.2 *4*	100 *25*	7056.8	(63/2⁻)			
		559.3 *3*	75 *25*	7006.7	(61/2⁻)	Q		
7751.9		851.6 *3*	100	6900.3	(61/2⁺)			
7787.2	(63/2⁻)	841.7 *5*	100	6945.5	(59/2⁻)			
7808.7	(65/2⁺)	908.4 *3*	100	6900.3	(61/2⁺)	E2	0.00696 *10*	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*
7829.5	(63/2⁻)	948.0 *4*	100	6881.5	(59/2⁻)			
7884.6	(67/2⁻)	827.8 *4*	100	7056.8	(63/2⁻)	E2	0.00840 *12*	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*

$^{191}_{79}Au_{112}$-17

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	$I_{(\gamma+ce)}$	Comments
8143.4		1243.1 *5*	100	6900.3	(61/2$^+$)			
8244.1		967.6 *4*	100	7276.5		Q		
8485.3	(69/2$^-$)	919.3 *5*	100	7566.0	(65/2$^-$)	Q		
8546.7	(69/2$^+$)	738.0 *3*	100	7808.7	(65/2$^+$)	Q		
8903.9	(71/2$^-$)	1019.3 *4*	100	7884.6	(67/2$^-$)	Q		
9093.5	(71/2$^-$)	1208.9 *5*	100	7884.6	(67/2$^-$)	Q		
9526.8	(73/2$^+$)	980.1 *3*	100	8546.7	(69/2$^+$)	Q		
9946.5	(75/2$^-$)	1042.6 *4*	100	8903.9	(71/2$^-$)			
10751.8	(77/2$^+$)	1225.0 *5*	100	9526.8	(73/2$^+$)			
186.8+x	J+2	186.8[b] *3*		x	J≈(19/2)			
415.7+x	J+4	228.9[b] *5*		186.8+x	J+2		0.45 *15*	E_γ: Uncertainty assigned by the evaluator. Δ($E\gamma$)=1.5 keV quoted by 1997Sc22 seems in error in view of the uncertainties (0.2 to 0.5 keV) of other gamma rays in the band.
686.6+x	J+6	270.9[b] *2*		415.7+x	J+4		0.62[f] *20*	
998.6+x	J+8	312.0[b] *2*		686.6+x	J+6		0.87[f] *15*	
1350.8+x	J+10	352.2[b] *2*		998.6+x	J+8		1.04[f] *15*	
1742.3+x	J+12	391.5[b] *2*		1350.8+x	J+10		1.00[f] *15*	
2172.1+x	J+14	429.8[b] *2*		1742.3+x	J+12			
2639.9+x	J+16	467.8[b] *2*		2172.1+x	J+14		0.86[f] *15*	
3144.7+x	J+18	504.8[b] *2*		2639.9+x	J+16		0.83[f] *20*	
3685.6+x	J+20	540.9[b] *2*		3144.7+x	J+18		0.69[f] *15*	
4262.0+x	J+22	576.4[b] *3*		3685.6+x	J+20		0.52[f] *15*	
4873.0+x	J+24	611.0[b] *3*		4262.0+x	J+22		0.66[f] *20*	
5518.0+x	J+26	645.0[b] *3*		4873.0+x	J+24		0.53[f] *15*	
6195.7+x	J+28	677.7[b] *3*		5518.0+x	J+26		0.54[f] *15*	
6906.1+x	J+30	710.4[b] *3*		6195.7+x	J+28			
7648.7+x	J+32	742.6[b] *3*		6906.1+x	J+30			
8422.9+x	J+34	774.2[b] *4*		7648.7+x	J+32			
9229.1+x	J+36	806.2[b] *4*		8422.9+x	J+34			
10066.1+x	J+38	837.0[b] *5*		9229.1+x	J+36			
10935.1+x	J+40	869.0[b] *5*		10066.1+x	J+38			
397.8+y	J1+2	397.8[b] *5*		y	J1≈(35/2)			
834.8+y	J1+4	437.0[b] *5*		397.8+y	J1+2			
1310.4+y	J1+6	475.6[b] *5*		834.8+y	J1+4			
1823.1+y	J1+8	512.7[b] *5*		1310.4+y	J1+6			

$^{191}_{79}Au_{112}$-18

Adopted Levels, Gammas (continued)

γ(^{191}Au) (continued)

E_i(level)	J_i^π	E_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	E_f	J_f^π
2372.3+y	J1+10	549.2[b] 5	1823.1+y	J1+8	1757.7+z	J2+8	495.7[b] 5	1262.0+z	J2+6
2956.7+y	J1+12	584.4[b] 5	2372.3+y	J1+10	2289.2+z	J2+10	531.5[b] 5	1757.7+z	J2+8
3574.6+y	J1+14	617.9[b] 5	2956.7+y	J1+12	2856.0+z	J2+12	566.8[b] 5	2289.2+z	J2+10
4226.6+y	J1+16	652.0[b] 5	3574.6+y	J1+14	3456.6+z	J2+14	600.6[b] 5	2856.0+z	J2+12
4910.6+y	J1+18	684.0[b] 5	4226.6+y	J1+16	4091.1+z	J2+16	634.5[b] 5	3456.6+z	J2+14
5626.1+y	J1+20	715.5[b] 5	4910.6+y	J1+18	4757.8+z	J2+18	666.7[b] 5	4091.1+z	J2+16
6372.1+y	J1+22	746.0[b] 5	5626.1+y	J1+20	5457.0+z	J2+20	699.2[b] 5	4757.8+z	J2+18
382.7+z	J2+2	382.7[b] 5	z	J2≈(33/2)	6187.5+z	J2+22	730.5[b] 5	5457.0+z	J2+20
803.4+z	J2+4	420.7[b] 5	382.7+z	J2+2	6948.5+z	J2+24	761.0[b] 5	6187.5+z	J2+22
1262.0+z	J2+6	458.6[b] 5	803.4+z	J2+4	7738.5+z	J2+26	790.0[b] 5	6948.5+z	J2+24

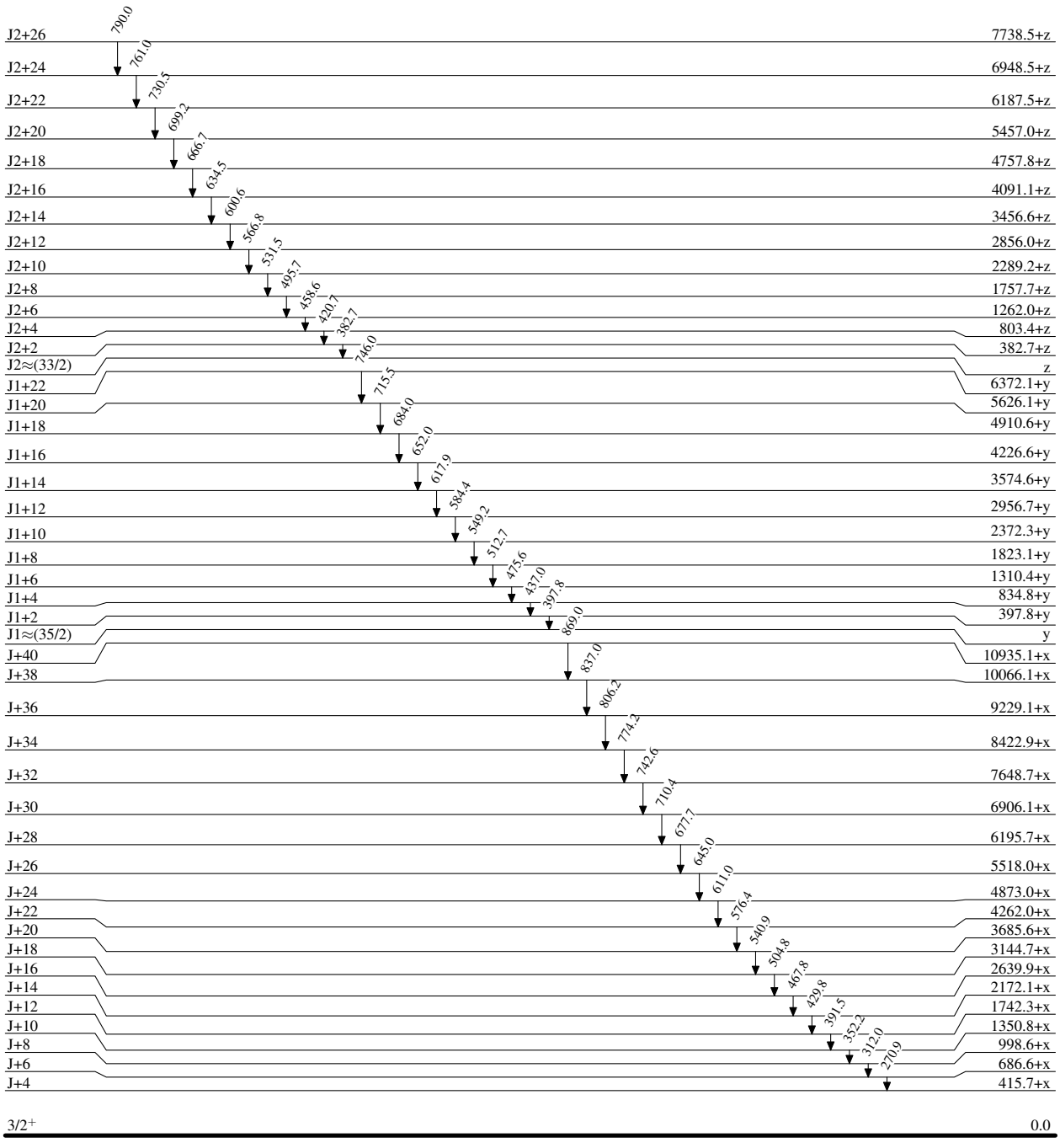
† From (^{11}B,6nγ), unless otherwise noted.
‡ From ^{191}Hg ε decay (50.8 min).
# From (α,4nγ).
@ From ^{191}Hg ε decay (49 min).
& Weighted average of ^{191}Hg ε decay (50.8 min) and (α,4nγ).
[a] Weighted average of data from (^{11}B,6nγ) and (α,4nγ).
[b] From (^{11}B,6nγ):SD.
[c] From (^{11}B,6nγ), unless otherwise specified, based on DCO, POL, and $\alpha(K)_{exp}$ data.
[d] From α,γ(θ) in (α,4nγ) (1979Go15,1977Go12).
[e] From nuclear orientation (1985Va07 – ^{191}Hg ε decay (50.8 m)).
[f] From SD band. Iγ within the band normalized to 1.0 for 391.5γ.
[g] Additional information 4.
[h] Multiply placed with undivided intensity.
[i] Multiply placed with intensity suitably divided.
[j] Placement of transition in the level scheme is uncertain.

$^{191}_{79}Au_{112}$-19

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

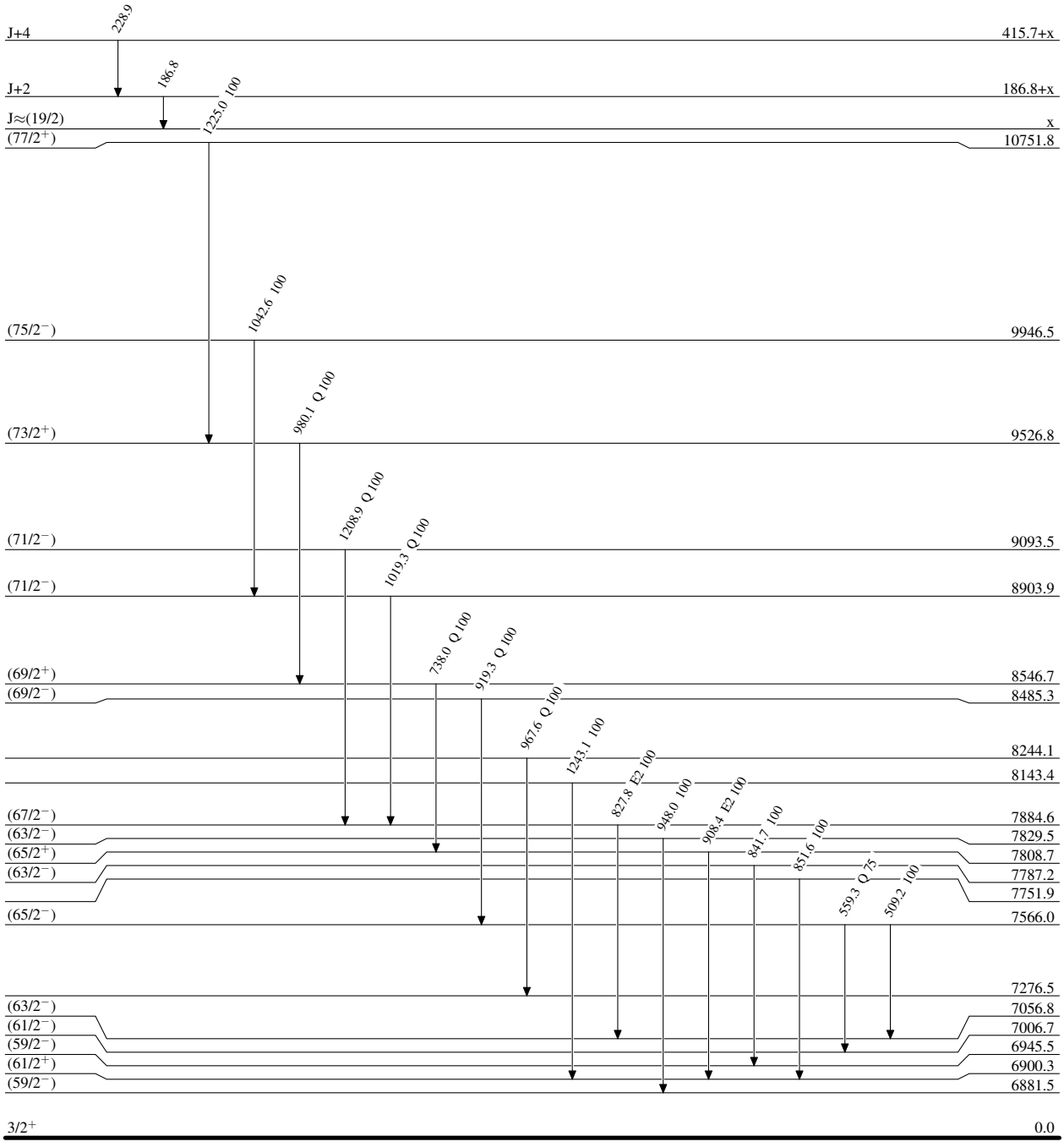


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

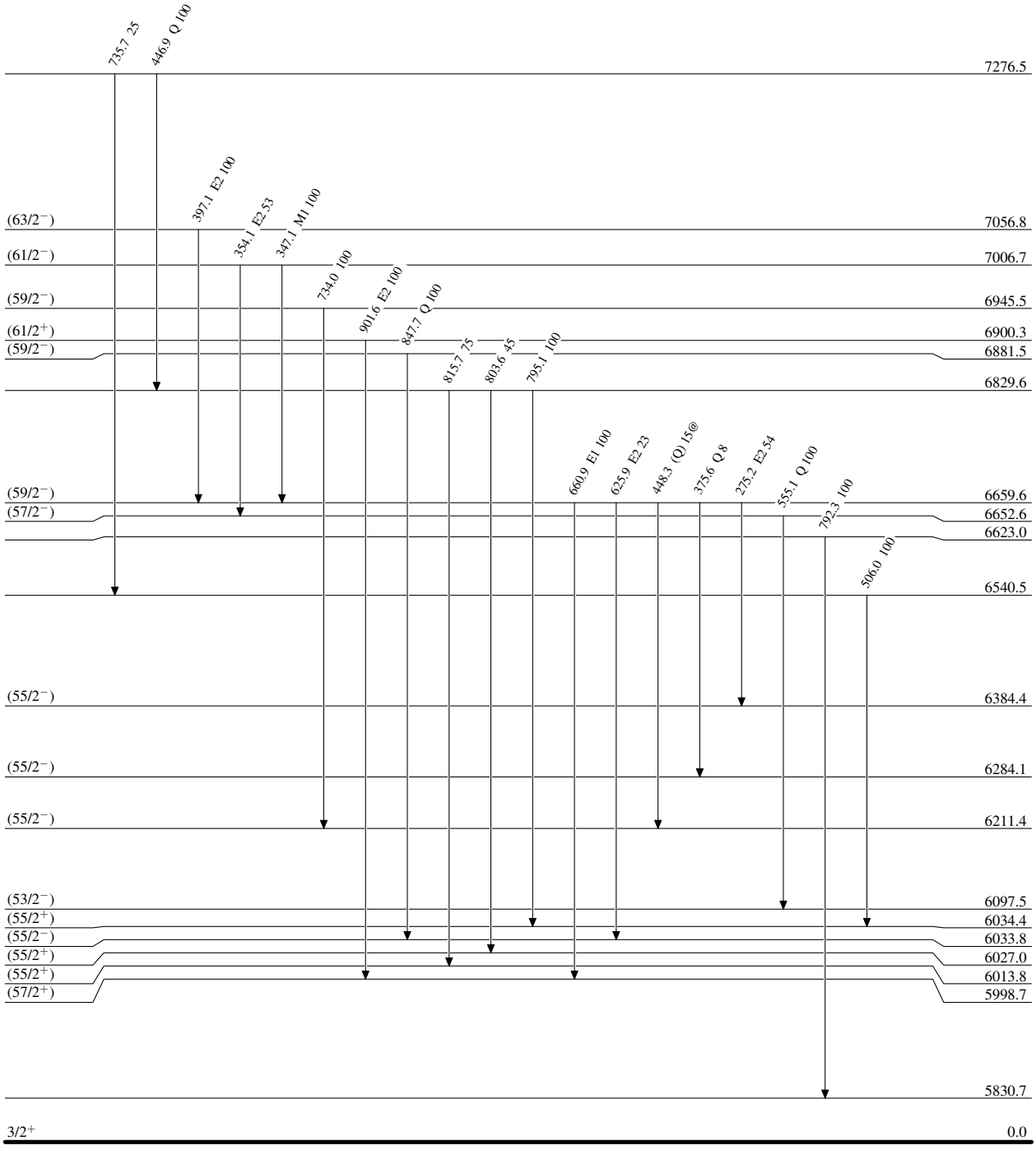


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

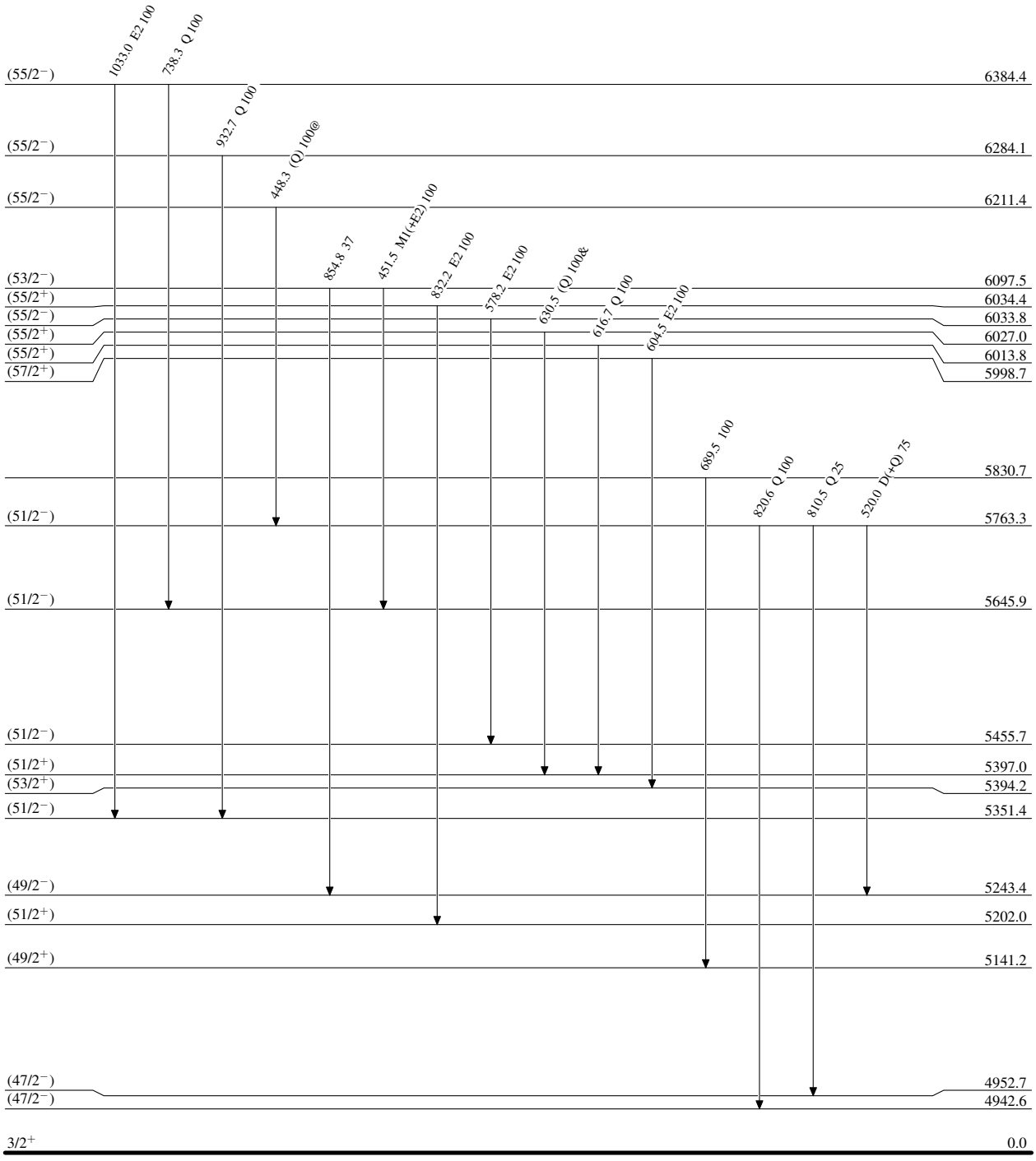


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

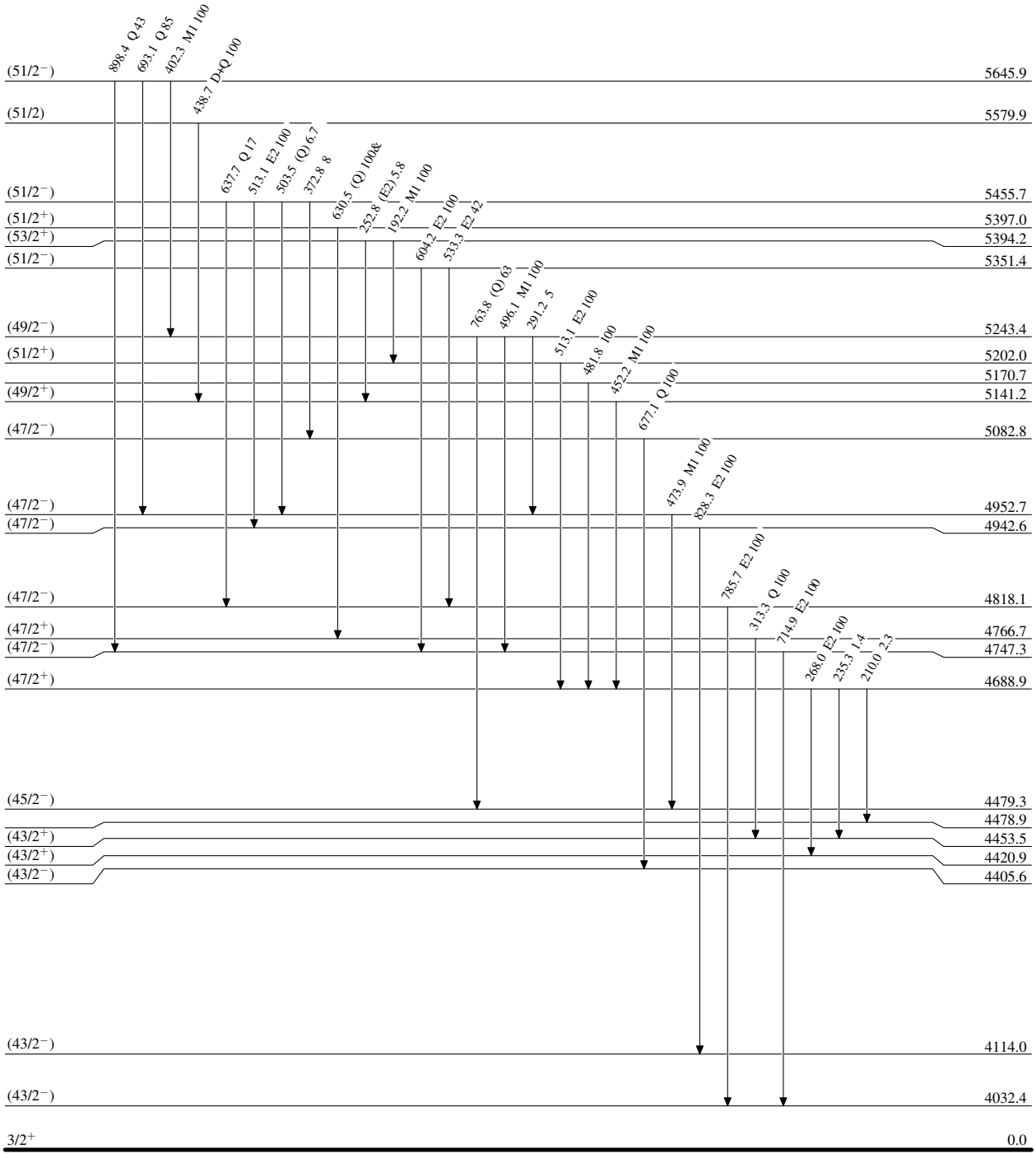


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

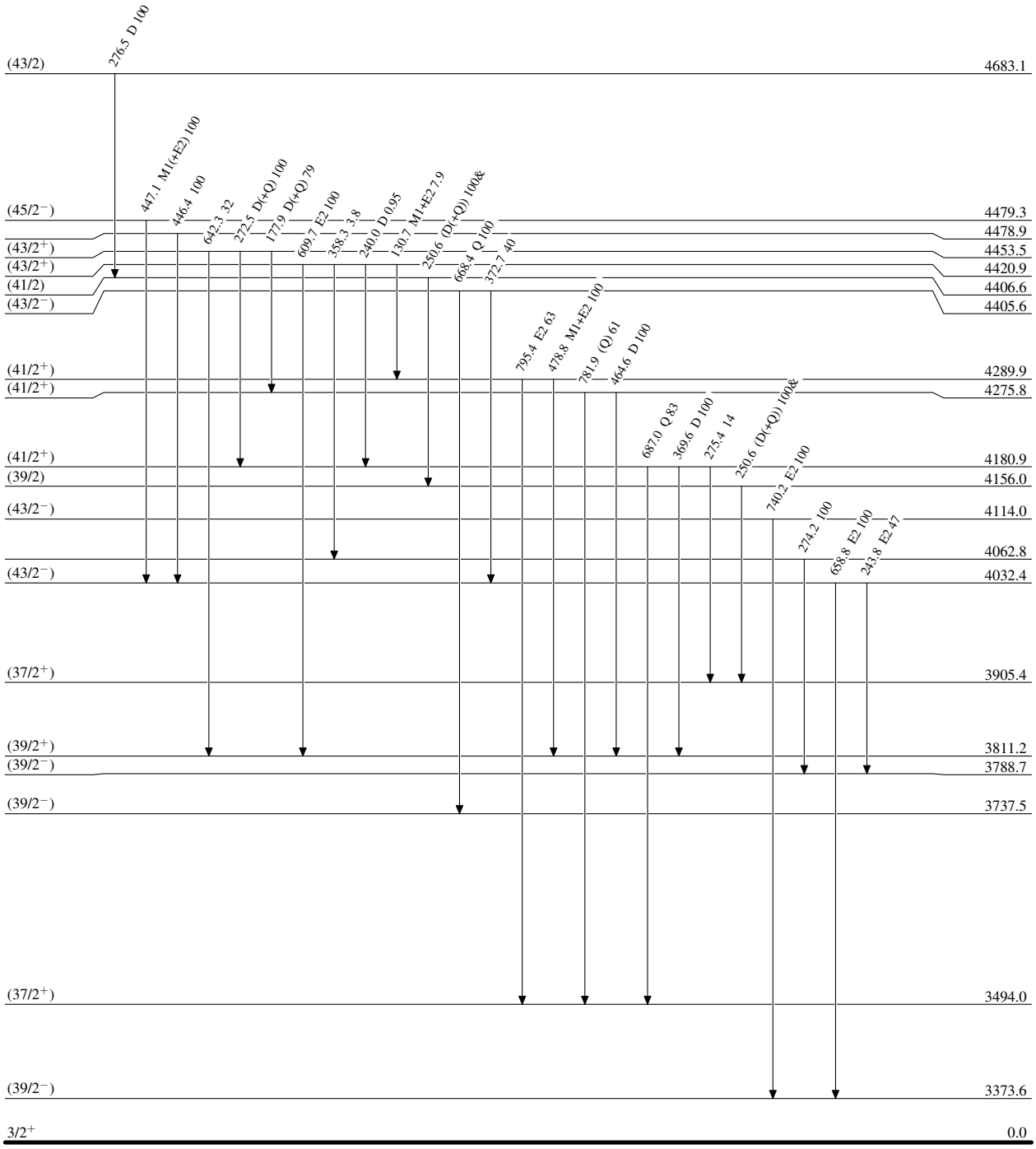


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

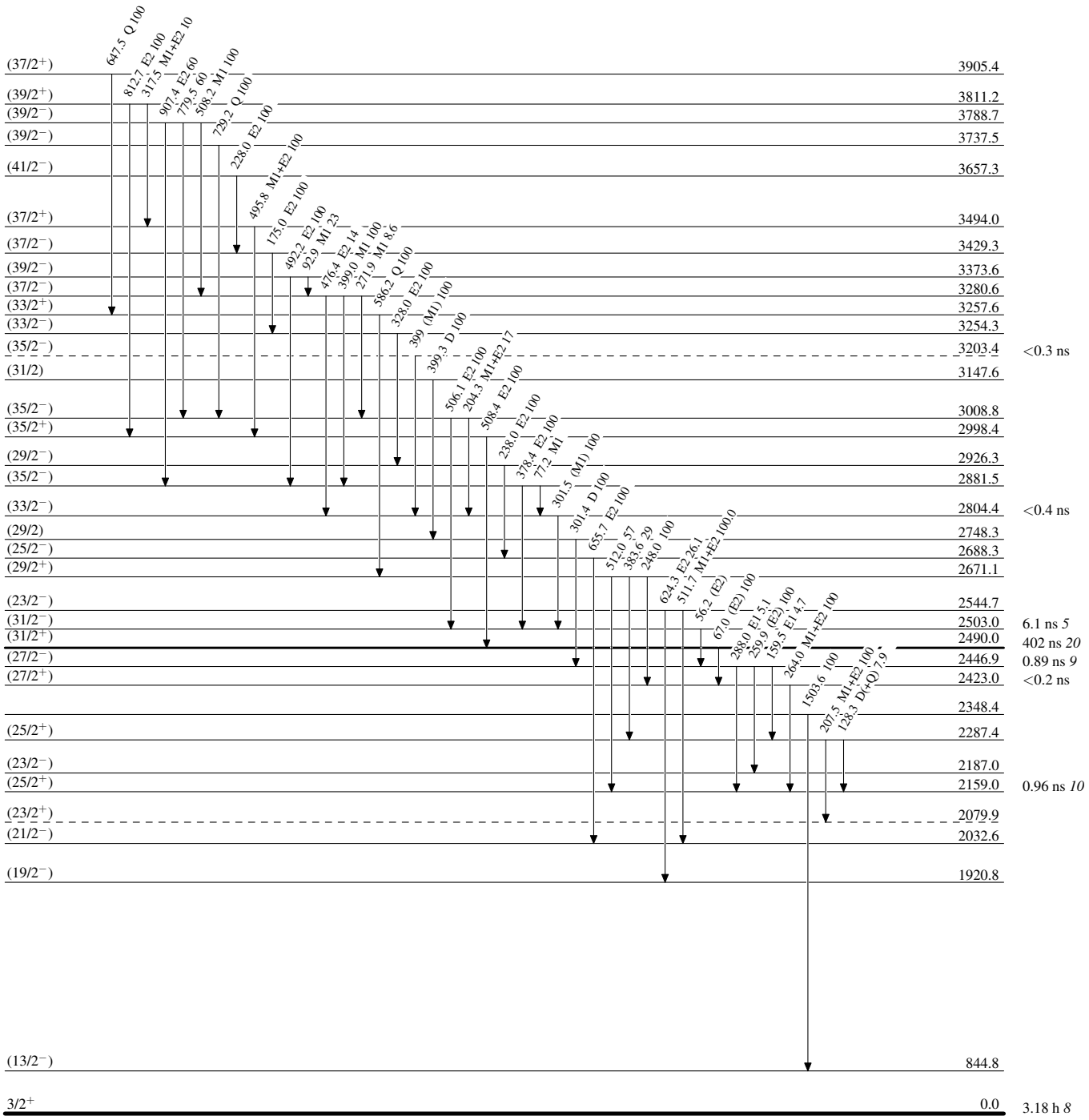


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



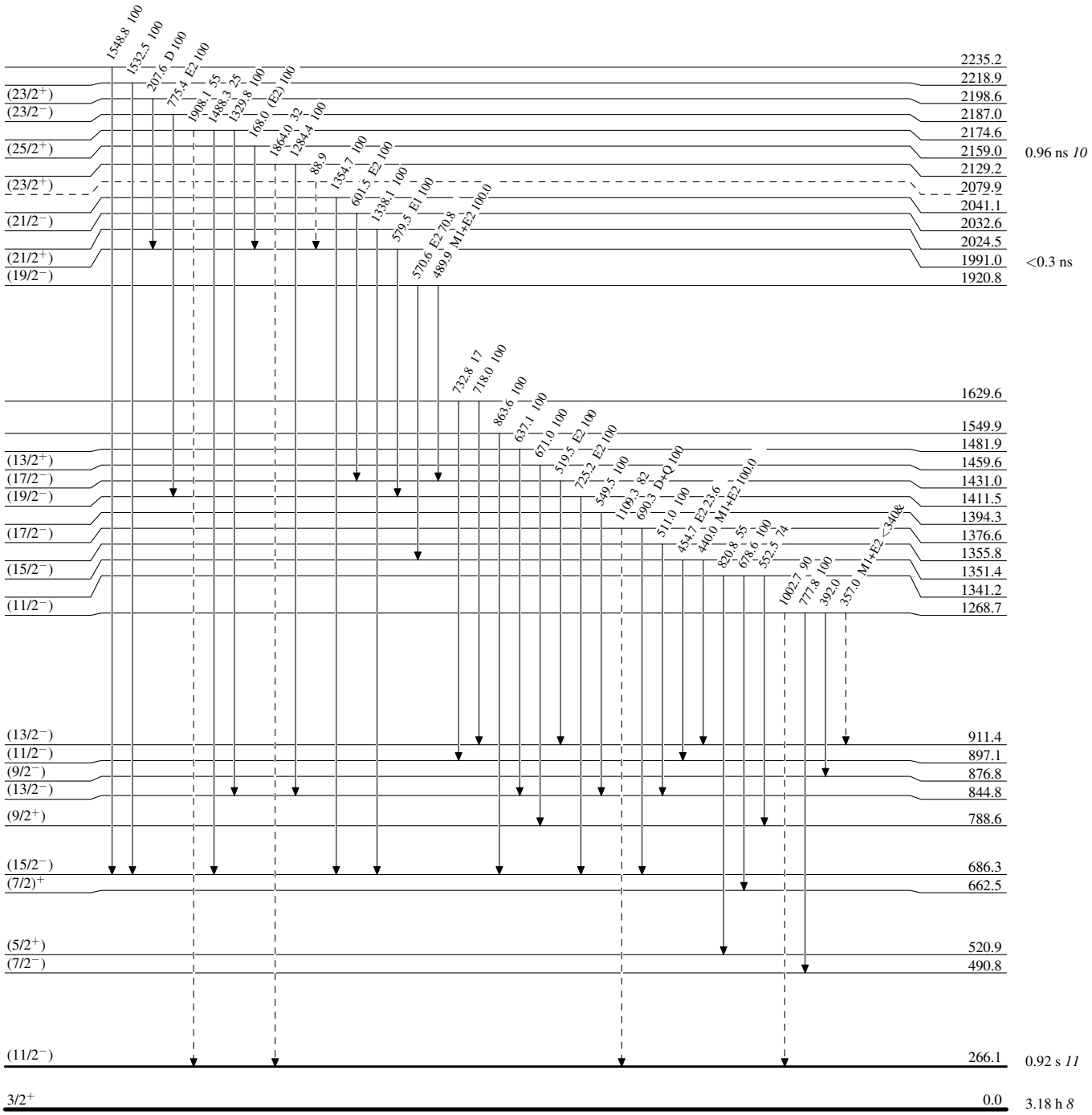
$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend
- - - - - - ► γ Decay (Uncertain)



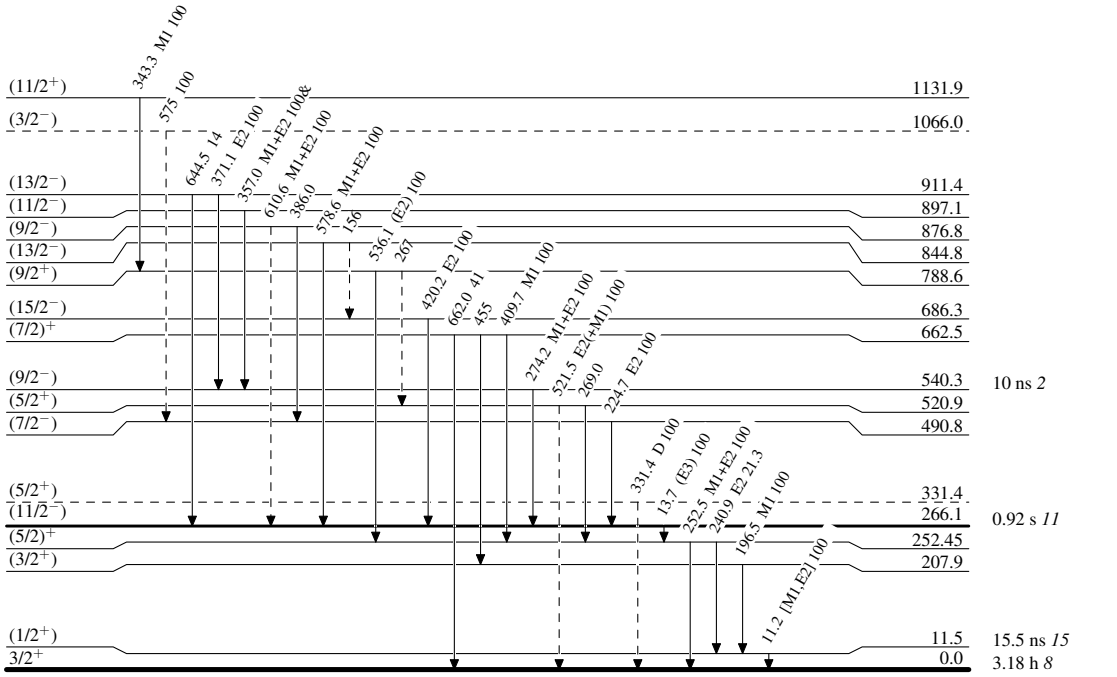
$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

Level Scheme (continued)

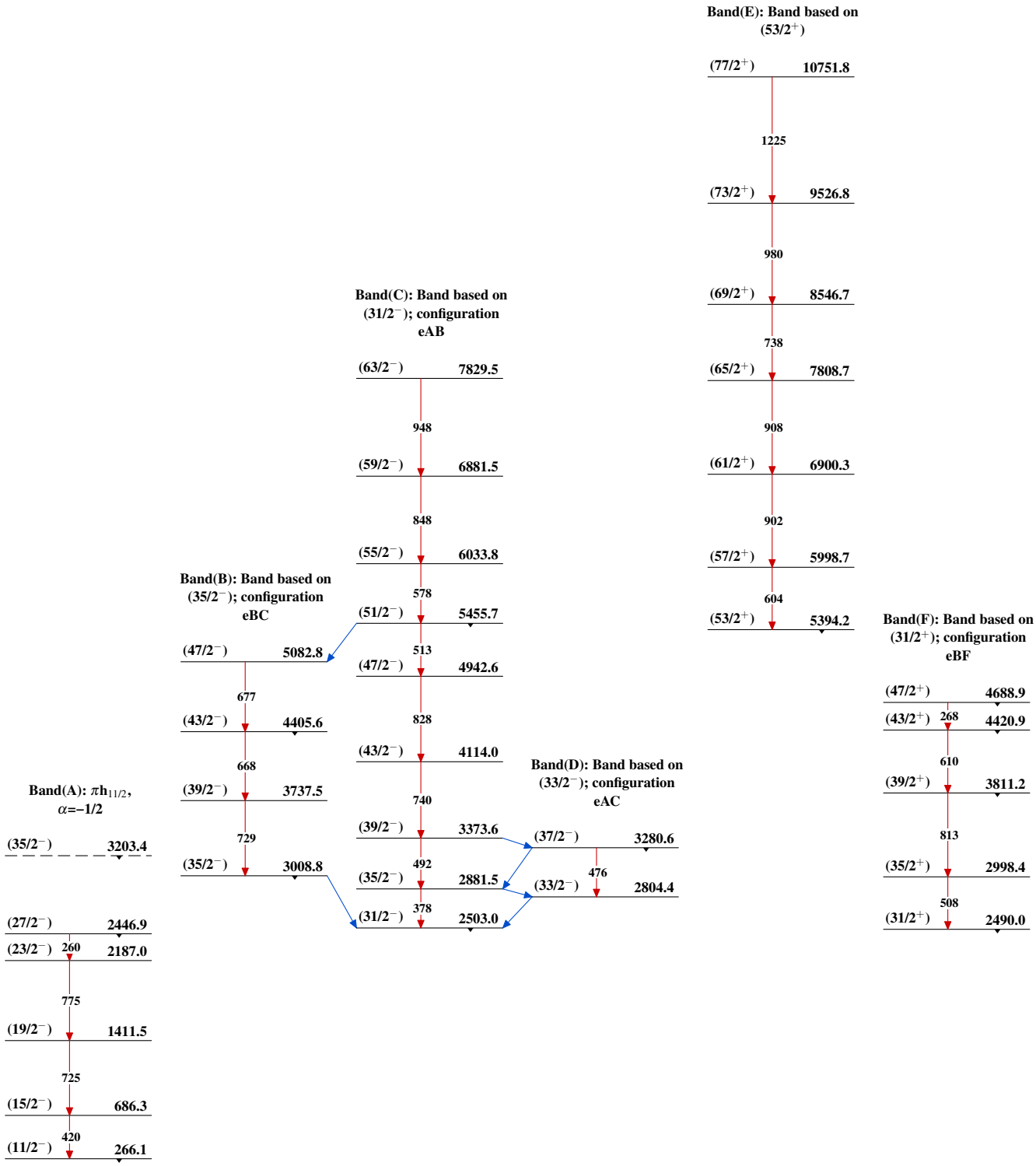
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend
γ Decay (Uncertain)



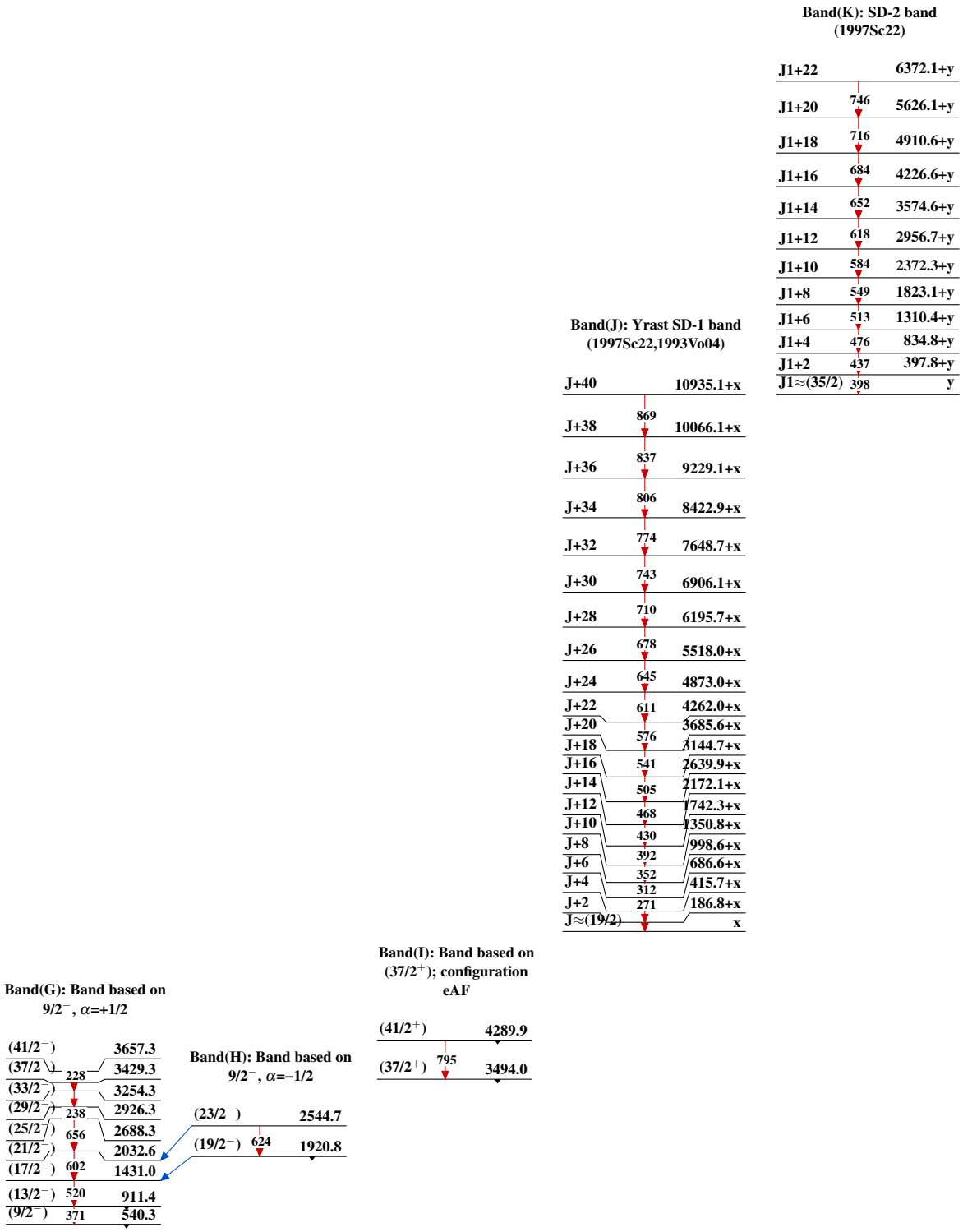
$^{191}_{79}Au_{112}$

Adopted Levels, Gammas

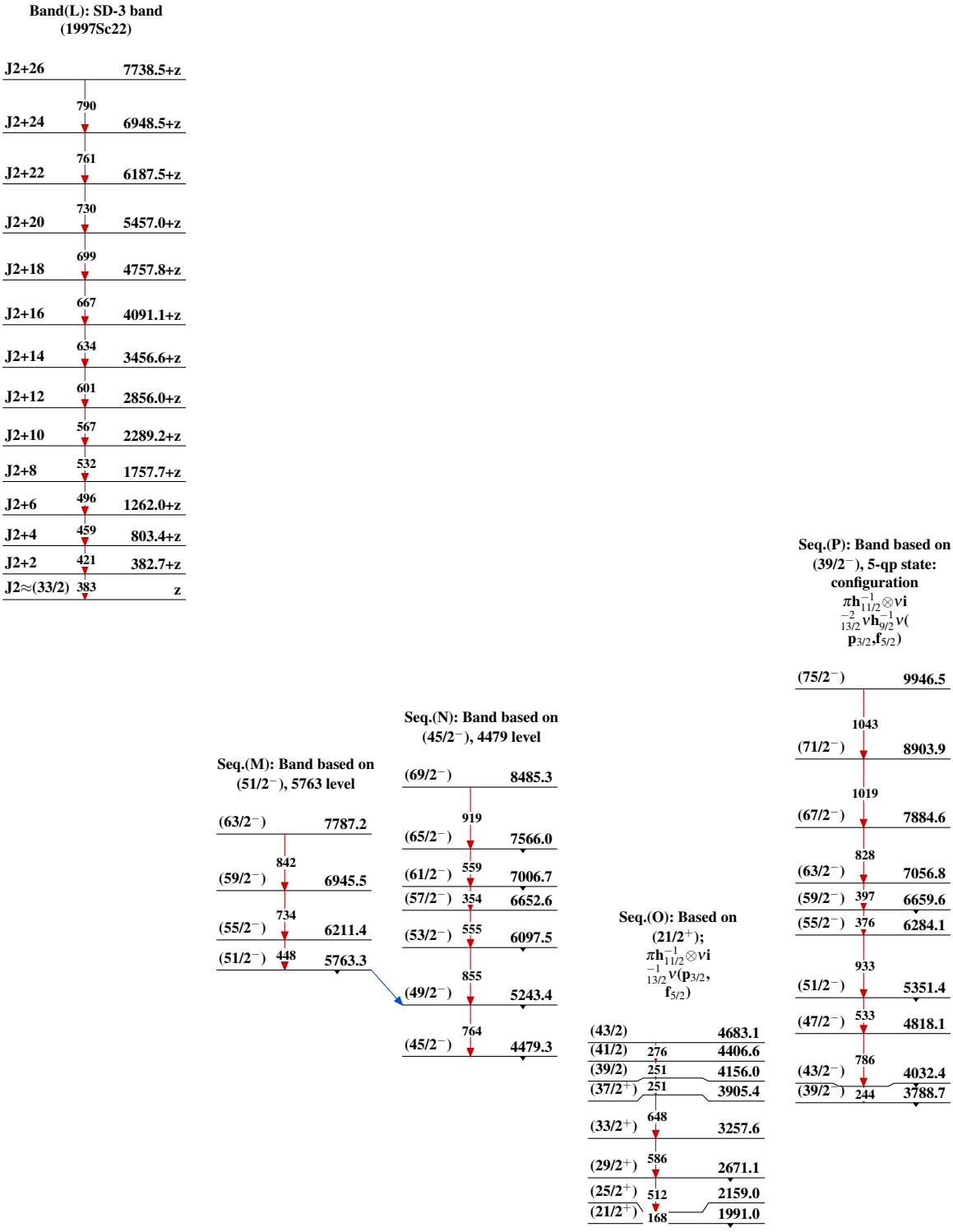


$^{191}_{79}Au_{112}$

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)



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