

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 110,999 (2009)	1-Nov-2008

$Q(\beta^-) = -4.91 \times 10^3$ 3; $S(n) = 9.38 \times 10^3$ 3; $S(p) = 2.45 \times 10^3$ 4; $Q(\alpha) = 4.75 \times 10^3$ 3 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ -4890 30 9360 30 2430 30 4770 30 [2003Au03](#).

Transition quadrupole moment Q_t is related to the level lifetime by $Q_t(J \rightarrow J-2) = 0.906 \sqrt{(p_\gamma(J \rightarrow J-2)) / (\tau \times E_\gamma^5(J \rightarrow J-2))} \times <JK20 \text{ I } J-2K> \text{ [eb]}$ and is reported by [1995Wa18](#) for some levels.

[1968Si01](#) searched for the α decay in gold isotopes and tentatively assigned a 4.69 MeV 2 α line to ^{187}Au . The measurement shows either very weak or no α branch.

 ^{187}Au LevelsCross Reference (XREF) Flags

- A** ^{187}Au IT decay (2.3 s)
B ^{187}Hg ε decay (1.9 min)
C ^{187}Hg ε decay (2.4 min)
D $^{172}\text{Yb}(^{19}\text{F}, 4n\gamma)$

E(level) [†]	J^π [‡]	$T_{1/2}$ [@]	XREF	Comments
0.0 ^h	1/2 ⁽⁺⁾	8.3 min 2	ABCD	$\% \varepsilon + \% \beta^+ = 100$; $\% \alpha = 0.003$ syst $\mu = +0.531$ 12 J^π : spin from atomic beam (1976Ek01), parity from μ and configuration = π 1/2 ⁺ [431] – main component of the oblate orbital arising mainly from the $d_{3/2}$ subshell (1990Sa21). $T_{1/2}$: weighted average of 8.4 min 3 (1983Gn01), 8.0 min 4 (1979Be51), and 8.5 min 7 (1973Se13); Other: 8 min (1960Al20) – measured in ^{187}Au ε decay. μ : from 1990Sa21 (Laser spectroscopy). Other values: +0.535 15 (1989Wa11 – Laser spectroscopy), +0.54 3 (1987Wa06 – Laser spectroscopy), and +0.72 7 (1980Ek04 – Atomic beam magnetic resonance). $\Delta <r^2>(^{187}\text{Au}, ^{197}\text{Au}) = -0.365$ 10 (1990Sa21); $<r^2>^{1/2}(^{187}\text{Au}) = 5.400$ 6 fm (2004An14). J^π : For prolate, configuration: 3/2 ⁺ [402] (19.5 keV level) and configuration: 1/2 ⁺ [400] (g.s.) $B(M1) = 0.0018$; and for oblate, configuration: 3/2 ⁺ [431] (19.5 keV) and configuration: 1/2 ⁺ [431] (g.s.) $B(M1) = 0.59$, calculated by 1978Bo05 . $T_{1/2}$: weighted average of 6 ns 1 (ce(19.5L)(t) – 1978Bo05) and 7 ns 1 (ce(220K)–ce(19.5M)(t) – 1986Be07). $\%IT = 100$ $T_{1/2}$: from ce(t) (IT decay – 1983Br26) – The uncertainty is at 95% confidence level. $T_{1/2}$: from ce(271.1K)–ce(51.2L)(t) – 1983Be48 . J^π : from systematics of neighboring odd-A Au isotopes. J^π : 183.7 γ M1+E2 to 3/2 ⁽⁺⁾ state, 203.4 γ M1 to 1/2 ⁽⁺⁾ state. $T_{1/2}$: from γ -ce(103.3M)(t)–(^{187}Hg ε decay – 1983Be48). Other value: 50 ns 5 from $\gamma\gamma$ (t) ($^{19}\text{F}, 4n\gamma$). J^π : 103.4 γ M1+E2 to 9/2 ⁽⁻⁾ , populated in $^{172}\text{Yb}(^{19}\text{F}, 4n\gamma)$. J^π : 240.3 γ E2 to 1/2 ⁽⁺⁾ , 220.8 γ M1+E2 to 3/2 ⁽⁺⁾ . J^π : 103.3 γ (E2) to (5/2 ⁻). J^π : 271.5 γ M1+E2 to 3/2 ⁽⁺⁾ .
19.53 ^h 9	3/2 ⁽⁺⁾ [#]	6.5 ns 7	ABCD	
120.33 ^{&} 14	9/2 ⁽⁻⁾ [#]	2.3 s 1	ABCD	
171.81 ^e 15	(5/2 ⁻)	1.1 ns 1	BCD	
203.29 9	(3/2 ⁺)		BC	
223.90 ^f 14	(11/2 ⁻)	48 ns 2	BCD	
240.19 ^h 9	(5/2 ⁺)		BCD	
274.91 16	(1/2 ⁻)		B	
290.97 10	(5/2 ⁺)		BC	

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Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [@]	XREF	Comments
325.64 15	(7/2 ⁻)	56 ps 5	BC	J ^π : 153.7γ M1+E2 to (5/2 ⁻) state, 205.4γ M1+E2 to 9/2 ⁽⁻⁾ state.
353.66 & 15	(13/2 ⁻)		CD	Q _t =6.08 eb 31 (1995Wa18). J ^π : 233.4γ E2 to 9/2 ⁽⁻⁾ state.
428.12 16	(3/2 ⁻)	9.5 ps 10	B	J ^π : 153.3γ M1+E2 to (1/2 ⁻) state, 256.4γ M1+E2 to (5/2 ⁻) state.
443.20 ^e 16	9/2 ⁽⁻⁾		CD	J ^π : 322.9γ E0+M1+E2 to 9/2 ⁽⁻⁾ , 271.2γ E2 to (5/2 ⁻) state.
456.13 15	(5/2 ⁻)		B	J ^π : 130.4γ M1+E2 to (7/2 ⁻), 284.5γ E0+M1+E2 to (5/2 ⁻) state.
476.60 13	(7/2 ⁻)		BC	J ^π : 252.5γ E2 to (11/2 ⁻), 236.3γ E1 to (5/2 ⁺) state.
495.33 11	(7/2 ⁺)		BC	J ^π : 255.2γ M1+E2 to (5/2 ⁺), 476.0γ E2 to 3/2 ⁽⁺⁾ state.
496.73 ^a 15	(11/2 ⁻)		CD	J ^π : 376.3γ M1+E2 to 9/2 ⁽⁻⁾ state.
503.73 10	(3/2 ⁺)		B	J ^π : 503.6γ (M1) to 1/2 ⁽⁺⁾ state, 484.3γ M1 to 3/2 ⁽⁺⁾ state.
546.08 14	(1/2 ⁻)		B	J ^π : 270.9γ E0+M1 to (1/2 ⁻) state, 545.9γ E1 to 1/2 ⁽⁺⁾ state.
590.80 12	(3/2 ⁺)		BC	J ^π : 571.4γ M1+E2 to 3/2 ⁽⁺⁾ state, 591.0γ M1 to 1/2 ⁽⁺⁾ state.
595.31 12	(3/2 ⁺)		B	J ^π : 391.9γ (E0+M1+E2) to (3/2 ⁺) state.
598.17 16	(7/2 ⁻)		BC	J ^π : 426.1γ M1+E2 to (5/2 ⁻) state, 478.0γ E2+M1 to 9/2 ⁽⁻⁾ state.
619.77 16	(11/2 ⁻)		C	J ^π : 499.4γ E2+M1 to 9/2 ⁽⁻⁾ , 265.9γ E2+M1 to (13/2 ⁻).
633.59 12	(7/2 ⁺)		BC	J ^π : 393.4γ M1 to (5/2 ⁺), 429.9γ (E2) to (3/2 ⁺).
638.60 11	(5/2 ⁺)		B	J ^π : 435.5γ M1+E2 to (3/2 ⁺) state, 347.9γ to (5/2 ⁺) state.
673.24 ^f 17	(15/2 ⁻)		CD	J ^π : 449.2γ E2 to (11/2 ⁻), population in ¹⁷² Yb(¹⁹ F,4ny).
674.11 22	(9/2 ⁻ , 11/2 ⁻)		C	J ^π : 450.1γ (M1) to (11/2 ⁻).
687.12 12	(5/2 ⁺)		BC	J ^π : 667.8γ M1 to 3/2 ⁽⁺⁾ , 446.9γ M1 to (5/2 ⁺).
688.59 & 18	(17/2 ⁻)		CD	Q _t =6.31 eb 35 (1995Wa18). J ^π : 334.8γ E2 to (13/2 ⁻) state.
705.9 3			B	
710.44 ^h 13	(9/2 ⁺)		CD	J ^π : 470.3γ E2 to (5/2 ⁺) state.
732.89 17	(5/2 ⁻)		B	J ^π : 457.8γ (E2) to (1/2 ⁻) state.
741.86 ^e 18	(13/2 ⁻)		CD	J ^π : 298.6γ E2 to 9/2 ⁽⁻⁾ , 388.1γ E0+M1+E2 to (13/2 ⁻).
749.29 17	(13/2 ⁻)		C	J ^π : 525.4γ M1+E2 to (11/2 ⁻).
754.55 16	(3/2 ⁻)		B	J ^π : 326.2γ M1 to (3/2 ⁻), 298.4γ M1+E2 to (5/2 ⁻), 428.6γ E2 to (7/2 ⁻).
755.27 20	(9/2 ⁻)		C	J ^π : 429.6γ M1+E2 to (7/2 ⁻).
767.08 14	(9/2 ⁺)		C	J ^π : 271.6γ E2+M1 to (7/2 ⁺), 476.3γ E2 to (5/2 ⁺).
778.41 16	(1/2, 3/2, 5/2) ⁺		B	J ^π : 275.4γ M1+E2 to (3/2 ⁺).
815.81 ^a 17	(15/2 ⁻)		CD	J ^π : 462.1γ M1+E2 to (13/2 ⁻), 319.2γ E2 to (11/2 ⁻).
822.42 16	(5/2 ⁺)		BC	J ^π : 582.4γ M1+E2 to (5/2 ⁺), 327.0γ M1+E2 to (7/2 ⁺).
829.03 18	(11/2 ⁻)		C	J ^π : 385.8γ M1 to 9/2 ⁽⁻⁾ , 475.4γ M1 to (13/2 ⁻).
840.11 18	(9/2 ⁻)		C	J ^π : 363.3γ M1 to (7/2 ⁻) and 616.4γ M1 to (11/2 ⁻).
877.23 17	(5/2 ⁻)		B	J ^π : 278.7γ M1 to (7/2 ⁻).
880.00 19	(7/2 ⁺)		C	J ^π : 289.5γ (E2) to (3/2 ⁺), 192.6γ (E2+M1) to (5/2 ⁺).
881.20 18	(11/2 ⁻)		C	J ^π : 657.3γ E0+M1+E2 to (11/2 ⁻), 131.8γ E2+M1 to (13/2 ⁻).
934.36 20	(5/2 ⁺)		C	J ^π : 693.8γ M1+E2 to (5/2 ⁺), 438.9γ E2+M1 to (7/2 ⁺).
948.18 25	(1/2 ⁻ , 3/2 ⁻)		B	J ^π : 402.1γ (M1+E2) to (1/2 ⁻).
950.23 20	(7/2 ⁻ , 9/2 ⁻)		C	J ^π : 829.9γ M1+E2 to 9/2 ⁽⁻⁾ , 351.9γ M1 to (7/2 ⁻).
956.44 16	(13/2 ⁻)		C	J ^π : 459.4γ E2+M1 to (11/2 ⁻), 602.9γ M1+E2 to (13/2 ⁻), 836.2γ E2 to 9/2 ⁽⁻⁾ .
965.5 5	(7/2 ⁺)		C	J ^π : 331.9γ M1+E2 to (7/2 ⁺).
967.98 17	(11/2 ⁺)		C	J ^π : 472.8γ E2 to (7/2 ⁺), 257.4γ E2+M1 to (9/2 ⁺).
975.31 17	(3/2 ⁻)		B	J ^π : 700.3γ M1 to (1/2 ⁻), 519.4γ M1 to (5/2 ⁻).
984.92 19	(9/2 ⁻)		C	J ^π : 659.4γ M1+E2 to (7/2 ⁻), 813.3γ E2 to (5/2 ⁻).
993.14 19	(15/2 ⁻)		C	J ^π : 639.4γ M1+E2 to (13/2 ⁻), 373.6γ (E2) to (11/2 ⁻).
994.29 22			B	
1015.32 19	(7/2 ⁺)		C	J ^π : 424.1γ (E2) to (3/2 ⁺), 520.1γ M1 to (7/2 ⁺).
1047.5 5			C	
1056.05 11	(3/2 ⁻)		B	J ^π : 579.3γ (E2) to (7/2 ⁻), 1036.1γ (E1) to 3/2 ⁽⁺⁾ , 1056.0γ (E1) to 1/2 ⁽⁺⁾ .

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Adopted Levels, Gammas (continued)

^{187}Au Levels (continued)				
E(level) [†]	J ^π [‡]	T _{1/2} [@]	XREF	Comments
1102.4 ^{&} 8	(21/2 ⁻)	3.5 ps 3	D	Q _t =6.17 eb 31 (1995Wa18). J ^π : 413.8γ Q to (17/2 ⁻).
1120.4 4			C	
1120.93 16	(11/2 ⁺)		C	J ^π : 410.6γ M1 to (9/2 ⁺), 625.4γ E2 to (7/2 ⁺).
1121.59 ^b 17	(13/2 ⁺)		CD	J ^π : 625.0γ E1 to (11/2 ⁻), 501.9γ E1 to (11/2 ⁻), 768.0γ E1 to (13/2 ⁻).
1126.6 4	(7/2,9/2,11/2) ⁻		C	J ^π : 683.5γ M1+E2 to 9/2 ⁽⁻⁾ , 371.3γ (E2+M1) to (9/2 ⁻).
1147.70 19	(11/2 ⁻ ,13/2 ⁻)		C	J ^π : 650.9γ E2+M1 to (11/2 ⁻), 331.8γ (M1) to (15/2 ⁻), 1027.3γ to 9/2 ⁽⁻⁾ .
1148.5 5	(11/2 ⁺)		C	J ^π : 653.2γ E2 to (7/2 ⁺).
1149.23 ^h 19	(13/2 ⁺)		CD	J ^π : 438.8γ E2 to (9/2 ⁺), 455.3γ (E2) from (17/2 ⁺).
1155.9 3	(11/2 ⁻)		C	J ^π : 659.2γ M1 to (11/2 ⁻), 712.7γ M1+E2 to 9/2 ⁽⁻⁾ , 830.1γ (E2) to (7/2 ⁻).
1158.88 25	(17/2 ⁻)		C	J ^π : 470.2γ M1+E2 to (17/2 ⁻), 805.5γ (E2) to (13/2 ⁻).
1161.2 ^{&} 5			B	
1164.47 21	(11/2 ⁺)		C	J ^π : 196.9γ E2+M1 to (11/2 ⁺), 669.1γ E2 to (7/2 ⁺).
1166.8 ^e 4	(17/2 ⁻)		CD	J ^π : 425.0γ (E2) to (13/2 ⁻), 478.1γ E0+M1+E2 to (17/2 ⁻).
1184.9 5	(7/2 ⁻ ,9/2 ⁻)		C	J ^π : 586.7γ M1+E2 to (7/2 ⁻).
1187.06 21	(13/2 ⁻)		C	J ^π : 963.2γ E2+M1 to (11/2 ⁻), 437.9γ E0+M1+E2 to (13/2 ⁻).
1197.64 19	(11/2 ⁻)		CD	J ^π : 448.3γ M1+E2 to (13/2 ⁻), 524.5 E2 to (15/2 ⁻). In (¹⁹ F,4nγ) J ^π =17/2 ⁻ for this level.
1205.15 16	(9/2 ⁺)		C	J ^π : 709.9γ E2(+M1) to (7/2 ⁺), 914.0γ (E2) to (5/2 ⁺).
1228.7 3	(9/2 ⁻)		C	J ^π : 388.5γ M1 to (9/2 ⁻), 751.9γ M1+E2 to (7/2 ⁻), 479.6γ (E2) to (13/2 ⁻).
1232.5 ^a 3	(19/2 ⁻)		CD	J ^π : 544.0γ M1(+E2) to (17/2 ⁻), 416.9γ (E2) to (15/2 ⁻).
1233.90 24			B	
1237.60 24	(5/2 ⁻)		B	J ^π : 761.0γ (M1) to (7/2 ⁻).
1249.39 25	(11/2 ⁻)		C	J ^π : 895.8γ E2(+M1) to (13/2 ⁻), 629.6γ M1+E2 to (11/2 ⁻).
1260.40 24	(3/2 ⁻)		B	J ^π : 783.8γ (E2) to (7/2 ⁻).
1276.86 23	(7/2 ⁻ ,9/2 ⁻)		C	J ^π : 678.9γ M1 to (7/2 ⁻), 1156.9 M1 to (9/2 ⁻).
1280.01 17	(11/2 ⁺)		C	J ^π : 569.5γ E2+M1 to (9/2 ⁺), 646.3γ E2 to (7/2 ⁺).
1291.28 25	(3/2 ⁻)		B	J ^π : 745.2γ E2+M1 to (1/2 ⁻).
1304.5 3	(9/2 ⁺ ,11/2 ⁺)		C	J ^π : 594.2γ E2(+M1) to (9/2 ⁺), 537.3γ M1+E2 to (9/2 ⁺).
1316.1 3	(17/2 ⁻)		CD	J ^π : 642.7γ M1+E2 to (15/2 ⁻), 566.9γ to (13/2 ⁻).
1316.79 18	(9/2 ⁻)		C	J ^π : 1196.6γ E2+M1 to 9/2 ⁽⁻⁾ , 360.4γ E2 to (13/2 ⁻).
1357.56 25	(15/2 ⁻)		C	J ^π : 1004.2γ M1 to (13/2 ⁻), 860.7γ E2 to 11/2 ⁻ .
1362.69 21			B	
1367.2 3	(15/2 ⁻)		C	J ^π : 551.1γ M1 to (15/2 ⁻), 1014.2γ M1+E2 to (13/2 ⁻).
1369.50 21	(7/2 ⁺)		C	J ^π : 736.3γ M1 to (7/2 ⁺), 778.8γ (E2) to (3/2 ⁺).
1380.61 ^b 19	(17/2 ⁺)		CD	J ^π : 564.8γ E1 to (15/2 ⁻), 259.2γ E2 to (13/2 ⁺).
1393.34 23	(13/2 ⁻)		C	J ^π : 436.6γ M1+E2 to (13/2 ⁻), 578.8γ M1 to (15/2 ⁻).
1397.8 5			C	
1398.2 3	(15/2 ⁺)		C	J ^π : 430.2γ E2 to (11/2 ⁺).
1400.2 5	(13/2 ⁻ ,15/2 ⁻)		C	J ^π : 584.4γ M1+E2 to (15/2 ⁻).
1405.25 20	(13/2 ⁺)		C	J ^π : 283.7γ M1+E2 to (13/2 ⁺), 1181.4γ (E1) to (11/2 ⁻).
1405.4 5			C	
1405.56 ^f 25	(19/2 ⁻)		CD	J ^π : 732.1γ E2 to (15/2 ⁻).
1415.8 9	(17/2 ⁻ ,19/2,21/2 ⁺)		D	J ^π : 727γ to (17/2 ⁻) and 699γ from (21/2 ⁺).
1418.5 3	(13/2 ⁻)		C	J ^π : 669.2γ M1 to (13/2 ⁻), 537.5γ M1+E2 to (11/2 ⁻).
1419.69 23	(5/2 ⁺)		B	J ^π : 786.1γ (M1+E2) to (7/2 ⁺).
1420.6 3	(9/2 ⁺ ,11/2 ⁺)		C	J ^π : 653.9γ M1+E2 to (9/2 ⁺), 710.3γ M1+E2 to (9/2 ⁺).
1420.7 5	(11/2 ⁻)		C	J ^π : 747.5γ E2 to (15/2 ⁻).
1464.3 5			C	
1470.98 20	(13/2 ⁺ ,15/2 ⁺)		C	J ^π : 349.5γ M1 to (11/2 ⁺), 781.5γ to (17/2 ⁻), 90.5γ to (17/2 ⁺).
1498.3 5	(5/2 ⁺)		B	J ^π : 1003.0γ to (7/2 ⁺).

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Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [@]	XREF	Comments
1540.7 4	(13/2 ⁻ , 15/2 ⁻)		C	J ^π : 791.3γ M1 to (13/2 ⁻), 867.5γ M1 to (15/2 ⁻).
1557.4 3			C	
1562.7 5			C	
1568.1 3	(11/2, 13/2, 15/2) ⁺		C	J ^π : 446.5γ E2+M1 to (13/2 ⁺).
1589.58 18	(11/2 ⁺ , 13/2 ⁺)		C	J ^π : 467.7γ E2+M1 to 13/2 ⁺ , 1365.8γ E1 to (11/2 ⁻).
1590.0 4	(11/2 ⁻ , 13/2 ⁻)		C	J ^π : 392.5γ E2+M1 to (11/2 ⁻), 840.5γ E2+M1 to (13/2 ⁻).
1593.8 & 11	(25/2 ⁻)	1.4 ps 2	D	Q _t =6.2 eb 4 (1995Wa18). J ^π : 491.6γ E2 to (21/2 ⁻).
1600.8 3			C	
1604.5 ^h 5	(17/2 ⁺)		CD	J ^π : 455.3γ (E2) to (13/2 ⁺).
1637.47 23			C	
1684.8 ^e 11	(21/2 ⁻)		D	J ^π : 518γ to (17/2 ⁻), band member.
1697.0 ^b 7	(21/2 ⁺)	7.5 ps 6	D	Q _t =8.05 eb 37 (1995Wa18). J ^π : 316.4γ Q to (17/2 ⁺), band member.
1711.0 3			C	
1737.50 22			B	
1739.5 ^a 8	(23/2 ⁻)		D	J ^π : 637γ to (21/2 ⁻), band member.
1751.80 22			B	
1776.1 5			B	
1778.8 5	(11/2 ⁻)		C	J ^π : 963.0γ (E2) to (15/2 ⁻).
1786.4 4			B	
1791.4 5			C	
1799.5 11			D	
1807.55 21	(15/2 ⁻)		C	J ^π : 1058γ M1 to (13/2 ⁻), 1583.8γ E2 to (11/2 ⁻).
1811.1 4			B	
1815.87 23	(15/2 ⁻)		C	J ^π : 1066.6γ E2+M1 to (13/2 ⁻).
1816.2 4	(11/2 ⁻)		C	J ^π : 1339.5γ (E2) to (7/2 ⁻).
1819.8 5			C	
1842.77 20	(5/2 ⁺)		B	J ^π : 1347.3γ to (7/2 ⁺), 1639.5γ to (3/2 ⁺).
1864.0 5			C	
1876.3 5			B	
1905.3 3	(15/2 ⁻)		C	J ^π : 1023.8γ (E2) to (11/2 ⁻), 1232.3γ (M1) to (15/2 ⁻).
1918.07 14			B	
1919.21 24	(3/2 ⁻)		B	J ^π : 1442.6γ to (7/2 ⁻).
1930.4 4	(17/2 ⁻)		C	J ^π : 1181.2γ E2 to (13/2 ⁻), 1257.0γ (M1+E2) to (15/2 ⁻).
1994.3 5	(11/2 ⁻)		C	J ^π : 1321.1γ to (15/2 ⁻).
1995.19 24	(5/2 ⁻)		B	J ^π : 1518.6γ M1 to (7/2 ⁻).
1997.3 4			B	
2007.3 8			D	
2029.7 5			C	
2051.6 4			B	
2052.6 9			D	
2065.7 5			C	
2068.81 19			B	
2073.2 5			C	
2082.0 5			C	
2094.6 3			B	
2095.81 20			B	
2097.5 ^b 9	(25/2 ⁺)	2.1 ps 3	D	Q _t =8.4 eb 5 (1995Wa18). J ^π : 400.4γ Q to (21/2 ⁺), band member.
2099.6 5			C	
2102.26 20			B	
2103.30 22			B	
2115.1 ^g 8	(21/2 ⁺)		D	J ^π : 709.8γ (E1) to (19/2 ⁻), band member.
2116.14 23			B	

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Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

E(level) [†]	J π [‡]	T _{1/2} [@]	XREF	Comments
2117.1 5			C	
2121.16 20			B	
2121.58 22			B	
2127.80 22			B	
2142.24 19			B	
2145.4 4			C	
2149.7 5	(13/2 ⁻)		C	J π : 1461.1 γ E2 to (17/2 ⁻).
2154.41 18	(3/2 ⁻)		B	J π : 1726.6 γ to (3/2 ⁻), 1608.1 γ to (1/2 ⁻), 1421.5 γ to (5/2 ⁻).
2154.89 12			B	
2160.6 ^{&} 15	(29/2 ⁻)	<1.94 ps	D	J π : 566.8 γ (E2) to (25/2 ⁻).
2172.32 21			B	
2173.06 12			B	
2178.10 23			B	
2178.91 24	(3/2 ⁻)		B	J π : 1702.3 γ to (7/2 ⁻).
2180.0 5	(9/2 ⁺)		C	J π : 1357.6 γ to (5/2 ⁺).
2183.8 5			C	
2184.87 21			B	
2186.04 24			C	
2191.3 5			C	
2193.1 5	(5/2 ⁺)		B	J π : 1697.8 γ to (7/2 ⁺).
2196.2 ^f 9	(23/2 ⁻)		D	J π : 790.6 γ (E2) to (19/2 ⁻).
2201.84 24			C	
2206.0 3			C	
2206.6 4			C	
2221.7 5			C	
2223.31 25			C	
2230.0 3			B	
2237.57 20	(13/2 ⁻)		C	J π : 1740.9 γ to (11/2 ⁻), 920.7 γ to (9/2 ⁻).
2237.77 22			C	
2246.43 25	(13/2 ⁻)		C	J π : 1626.7 γ to (11/2 ⁻), 1430.3 γ to (15/2 ⁻).
2246.8 ^e 15	(25/2 ⁻)		D	J π : 562 γ to (21/2 ⁻), band member.
2248.1 5			C	
2253.20 19			B	
2253.26 22			C	
2262.8 5			C	
2266.2 5			C	
2268.12 20	(13/2 ⁻)		C	J π : 1914.2 γ to (13/2 ⁻), 1579.5 γ to (17/2 ⁻).
2279.9 4			C	
2281.7 ^g 10	(23/2 ⁺)	<10 ns	D	J π : 166.7 γ M1+E2 to (21/2 ⁺), band member. T _{1/2} : From (^{19}F ,4n γ).
2282.96 25			B	
2285.0 5			C	
2288.9 5			C	
2291.0 6	(11/2 ⁺)		C	
2292.8 ^d 11	(27/2 ⁻)		D	J π : 699.1 γ (M1+E2) to (25/2 ⁻), band member.
2293.10 21			B	
2300.24 18			C	
2300.33 16			C	
2300.70 20			C	
2306.1 5			C	
2306.8 5			C	
2313.5 4	(13/2 ⁺)		C	J π : 724.1 γ (M1) to (11/2,13/2) ⁺ , 932.7 γ E2 to (17/2 ⁺).
2319.1 4			C	
2319.16 21	(15/2 ⁻)		C	J π : 1630.9 γ (M1) to (17/2 ⁻), 1503.6 γ (E2+M1) to (15/2 ⁻), 1362.6 γ to (13/2 ⁻).
2319.2 3			C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [@]	XREF	Comments
2321.9 20			B	
2327.87 23			C	
2334.0 5			C	
2334.8 4			B	
2337.2 3			C	
2342.9 3			C	
2343.2 3			C	
2345.7 4	(11/2 ⁺)		C	J ^π : 1196.1γ to (13/2 ⁺), 1466.1γ to (7/2 ⁺).
2345.87 21			B	
2348.9 5			C	
2350.5 3			C	
2354.1 5			C	
2354.5 ^a 13	(27/2 ⁻)		D	J ^π : 615γ to (23/2 ⁻), band member.
2365.3 5	(13/2 ⁻)		C	J ^π : 1616.0γ to (13/2 ⁻).
2369.0 5	(13/2 ⁺)		C	J ^π : 988.4γ to (17/2 ⁺).
2384.6 5			C	
2389.1 5			C	
2389.9 4			C	
2395.7 3	(13/2 ⁺)		C	J ^π : 1646.4γ to (13/2 ⁻).
2396.0 4	(15/2 ⁺)		C	J ^π : 1274.3γ to (13/2 ⁺), 1707.6γ to (17/2 ⁻).
2400.7 5			C	
2400.8 4			C	
2403.2 3			B	
2410.9 4			C	
2431.07 20			B	
2431.3 ^g 14	(25/2 ⁺)	24 ns 3	D	J ^π : 149.6γ (M1+E2) to (23/2 ⁺), band member. T _{1/2} : From (¹⁹ F,4nγ).
2471.0 5	(11/2 ⁻)		C	J ^π : 1154.2γ (E2+M1) to (9/2 ⁻).
2474.1 5			C	
2486.0 20			B	
2504.3 4			B	
2513.6 5			C	
2524.3 3			B	
2541.4 5			C	
2551.0 5			C	
2551.7 14			D	
2564.8 ^g 11	(27/2 ⁺)		D	J ^π : 133.7γ D+Q to (25/2 ⁺), band member.
2568.4 ^b 14	(29/2 ⁺)	0.97 ps 14	D	Q _t =8.3 eb 6 (1995Wa18). J ^π : 470.9γ (Q) to (25/2 ⁺).
2572.7 5			C	
2581.0 9	(25/2 ⁻)		D	J ^π : 384.7γ to (23/2 ⁻).
2606.7 5			C	
2625.3 5			C	
2633.0 5			C	
2669.4 ^c 18	(31/2 ⁻)	100 ns 5	D	μ=-3.9 5 J ^π : 508.8γ (M1+E2) to (29/2 ⁻). μ: deduced by the evaluator from g=0.25 3 (1997Pe26). The g factor is measured using time differential perturbed angular distribution. T _{1/2} : From (¹⁹ F,4nγ).
2670.2 13			D	
2671.8? 18			D	
2688.3 5			C	
2749.2 5			C	
2768.1 5			C	
2792.8 ^d 15	(31/2 ⁻)		D	J ^π : 500.0γ to (27/2 ⁻).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [@]	XREF	Comments
2798.7 ^{&} 18	(33/2 ⁻)		D	J ^π : 638.1γ Q to (29/2 ⁻).
2827.9 5			C	
2966.3 ^c 20	(33/2 ⁻)		D	J ^π : 297.1γ (M1+E2) to (31/2 ⁻), band member.
3013.5 ^a 16	(31/2 ⁻)		D	J ^π : 659γ to (27/2 ⁻), band member.
3039.3 ^b 17	(33/2 ⁺)	<2.56 ps	D	J ^π : 470.9γ (Q) to (29/2 ⁺), band member.
3056.6 ^g 15	(31/2 ⁺)		D	J ^π : 491.8γ to (27/2 ⁺), band member.
3129.0 ^c 20	(35/2 ⁻)		D	J ^π : 162.7γ D+Q to (33/2 ⁻), 459.4γ Q to (31/2 ⁻), band member.
3189.8 [?] 21			D	
3345.9 ^d 18	(35/2 ⁻)		D	J ^π : 553.1γ to (31/2 ⁻).
3353.3 21	(35/2 ⁻)		D	J ^π : 387γ to (33/2 ⁻).
3482.3 ^c 20	(37/2 ⁻)		D	J ^π : 353.4γ (M1+E2) to (35/2 ⁻), band member.
3483.1 ^b 20	(37/2 ⁺)		D	J ^π : 443.8γ Q to (33/2 ⁺), band member.
3503.4 ^{&} 21	(37/2 ⁻)		D	J ^π : 704.7γ Q to (33/2 ⁻).
3762.0 ^c 21	(39/2 ⁻)		D	J ^π : 279.7γ (M1+E2) to (37/2 ⁻), band member.
3810.7 ^g 18	(35/2 ⁺)		D	J ^π : 754.1γ Q to 31/2 ⁺ , band member.
3977.4 ^d 21	(39/2 ⁻)		D	J ^π : 631.5γ to (35/2 ⁻).
3993.7 ^b 22	(41/2 ⁺)		D	J ^π : 510.6γ to (37/2 ⁺), band member.
4015.2 21	(39/2 ⁻)		D	J ^π : 533γ to (37/2 ⁻), 662γ to (35/2 ⁻), 886γ to (35/2 ⁻).
4225.5 ^c 21	(41/2 ⁻)		D	J ^π : 463.6γ (M1+E2) to (39/2 ⁻), 743.2γ to (37/2 ⁻), band member.
4263.7 ^{&} 23	(41/2 ⁻)		D	J ^π : 760.3γ to 37/2 ⁻ .
4317.7 21			D	
4506.6 ^c 21	(43/2 ⁻)		D	J ^π : 281.0γ D+Q to (41/2 ⁻), band member.
4550.3 22	(43/2 ⁻)		D	J ^π : 788.1γ to (39/2 ⁻).
4577.0 ^g 20	(39/2 ⁺)		D	J ^π : 766.4γ to (35/2 ⁺), band member.
4593.2 ^b 25	(45/2 ⁺)		D	J ^π : 599.5γ to (41/2 ⁺), band member.
4651.0 20	(39/2 ⁺)		D	J ^π : 840.3γ to (35/2 ⁺), band member.
4657.1 21	(43/2 ⁻)		D	J ^π : 895.1γ Q to (39/2 ⁻).
4690.4 ^d 23	(43/2 ⁻)		D	J ^π : 713γ to (39/2 ⁻), band member.
4788.6 ^g 21	(43/2 ⁺)		D	J ^π : 211.6γ Q to (39/2 ⁺), band member.
4851.1 22	(47/2 ⁻)		D	J ^π : 344.5γ Q to (43/2 ⁻).
5041.2 ^{&} 25	(45/2 ⁻)		D	J ^π : 777.5γ to (41/2 ⁻).
5127.6 22			D	
5254.6 23			D	
5281 ^b 3	(49/2 ⁺)		D	J ^π : 688.3γ to (45/2 ⁺), band member.
5351.6 24			D	
5375.8 ^g 23	(47/2 ⁺)		D	J ^π : 587.2γ Q to (43/2 ⁺), band member.
5519.5 24	(51/2 ⁻)		D	J ^π : 668.4γ Q to (47/2 ⁻).
5746.1 24			D	
5782.8 ^g 25	(49/2 ⁺)		D	J ^π : 407.0γ to (47/2 ⁺), band member.
5815.8 25			D	
5868.6 24			D	
5980.8 25			D	
6054 ^b 3	(53/2 ⁺)		D	J ^π : 773γ to (49/2 ⁺), band member.
6129 3	(53/2,55/2 ⁻)		D	J ^π : 609.4γ to (51/2 ⁻).
6250 3			D	
6400 ^g 3	(51/2 ⁺)		D	J ^π : 617.6γ to (49/2 ⁺), band member.
6505 3			D	
6594 3			D	
6914 ^b 3	(57/2 ⁺)		D	J ^π : 860γ to (53/2 ⁺), band member.
7220 3			D	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{187}Au Levels (continued)

[†] From a least-squares adjustment to the γ -ray energies. $\Delta E=0.5$ keV assumed for missing γ -ray uncertainty. The 1857.8 γ from 2184.9 keV level is ignored during the least-squares adjustment ($\sigma>3$).

[‡] Levels with $J^\pi \geq 11/2^-$ populated in $^{172}\text{Yb}(^{19}\text{F},4n\gamma)$ reaction, assigned by [1989Jo02](#) from angular distribution data and rotational band relationships.

[#] From E3 and M1+E2 cascade to $1/2^{(+)}$ from 2.3-s isomer gives $9/2^{(-)}$ and $3/2^{(+)}$ for 120.3 and 19.5 keV levels, respectively.

[@] From reported lifetime in [1995Wa18](#), except otherwise noted. Lifetime in [1995Wa18](#) is measured using the Recoil Distance Method.

[&] Band(A): $1/2^- [541]$, $\alpha=+1/2$.

^a Band(B): $1/2^- [541]$, $\alpha=-1/2$.

^b Band(C): $1/2^+ [660]$.

^c Band(D): isomeric band.

^d Band(E): $\pi f_{7/2}$.

^e Band(F): Band 5.

^f Band(G): $\pi h_{11/2}$.

^g Band(H): Band 7.

^h Band(I): Band 9.

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$	Comments
19.53	3/2 ⁽⁺⁾	19.5 4	100	0.0	1/2 ⁽⁺⁾	(M1+E2)		7.×10 ³ 6	B(M1)(W.u.)<0.0027 4
120.33	9/2 ⁽⁻⁾	101.0 2	100	19.53	3/2 ⁽⁺⁾	E3		120.4 22	B(E3)(W.u.)=0.0195 10
171.81	(5/2 ⁻)	51.2 4	100	120.33	9/2 ⁽⁻⁾	[E2]		112 5	B(E2)(W.u.)=204 22
203.29	(3/2 ⁺)	183.7 4	1.4 6	19.53	3/2 ⁽⁺⁾	M1+E2	2.3 4	0.63 5	
		203.4 2	100 7	0.0	1/2 ⁽⁺⁾	M1		0.969	
223.90	(11/2 ⁻)	103.4 2	100	120.33	9/2 ⁽⁻⁾	M1+E2	0.0 5	6.6 5	B(M1)(W.u.)=5.5×10 ⁻⁵ 5
240.19	(5/2 ⁺)	36.9		203.29	(3/2 ⁺)				
		220.8 2	71 5	19.53	3/2 ⁽⁺⁾	M1+E2	2.54 18	0.336 11	
		240.3 2	100 8	0.0	1/2 ⁽⁺⁾	E2		0.203	
274.91	(1/2 ⁻)	103.3 2	100	171.81	(5/2 ⁻)	(E2)		4.55 8	
290.97	(5/2 ⁺)	50.7 4	0.23 6	240.19	(5/2 ⁺)				
		271.5 2	100 10	19.53	3/2 ⁽⁺⁾	M1+E2	0.0 3	0.44 3	
		291.0 4	2.3 7	0.0	1/2 ⁽⁺⁾				
325.64	(7/2 ⁻)	153.7 4	38 5	171.81	(5/2 ⁻)	M1+E2	0.65 10	1.78 9	
		205.4 2	100 10	120.33	9/2 ⁽⁻⁾	M1+E2	0.73 23	0.73 9	
353.66	(13/2 ⁻)	233.4 [‡] 2	100 [‡]	120.33	9/2 ⁽⁻⁾	E2		0.224	B(E2)(W.u.)=188 17
428.12	(3/2 ⁻)	102.3 4	1.1 5	325.64	(7/2 ⁻)				
		153.3 2	100 12	274.91	(1/2 ⁻)	M1+E2	2.3 4	1.15 7	
		256.4 2	88 7	171.81	(5/2 ⁻)	M1+E2	1.6 5	0.26 6	
443.20	9/2 ⁽⁻⁾	117.5 [‡] 4	4 [‡] 1	325.64	(7/2 ⁻)	E2+M1	5 3	2.8 3	
		271.2 [‡] 2	56 [‡] 5	171.81	(5/2 ⁻)	E2		0.1389	
		322.9 [‡] 2	100 [‡]	120.33	9/2 ⁽⁻⁾	E0+M1+E2		≈0.83	δ: %E0≈76.
									α: Estimated by the evaluator from α(K)exp=0.66 17 (1988Pa15), α(K)exp=0.62 7 (1998Ru04).
456.13	(5/2 ⁻)	130.4 2	22 5	325.64	(7/2 ⁻)	M1+E2	1.0 4	2.6 4	
		181.4 2	41 11	274.91	(1/2 ⁻)	E2		0.526	
		284.5 2	100 11	171.81	(5/2 ⁻)	E0+M1+E2		≈0.67	α: Estimated by the evaluator from α(K)exp=0.52 6 (1998Ru04).
		335.7 2	18 5	120.33	9/2 ⁽⁻⁾				
476.60	(7/2 ⁻)	185.7 2	19 4	290.97	(5/2 ⁺)				
		236.3 2	27.1 19	240.19	(5/2 ⁺)	E1		0.0478	
		252.5 2	100 14	223.90	(11/2 ⁻)	E2		0.1737	
495.33	(7/2 ⁺)	255.2 2	27.9 18	240.19	(5/2 ⁺)	M1+E2	0.3 7	0.49 15	
		292.2 4	4.0 9	203.29	(3/2 ⁺)	E2		0.1107	
		476.0 2	100 9	19.53	3/2 ⁽⁺⁾	E2		0.0291	
496.73	(11/2 ⁻)	143.0 [‡] 2	5.0 [‡] 5	353.66	(13/2 ⁻)	M1		2.61	
		171.7 [‡] 4	1.3 [‡] 4	325.64	(7/2 ⁻)				
		376.3 [‡] 2	100.0 [‡] 22	120.33	9/2 ⁽⁻⁾	M1+E2	0.6 3	0.147 24	

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)											
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [@]	δ	$\alpha^\&$	Comments		
503.73	(3/2 ⁺)	212.7 2	21 5	290.97	(5/2 ⁺)	E2+M1	1.6 4	0.46 8	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.59$ 7 (1998Ru04).		
		263.8 2	21 5	240.19	(5/2 ⁺)	(M1)		0.472			
		300.3 2	45 2	203.29	(3/2 ⁺)	(E2+M1)		0.22 12			
		484.3 2	74 10	19.53	3/2 ⁽⁺⁾	M1		0.0920			
546.08	(1/2 ⁻)	503.6 2	100 4	0.0	1/2 ⁽⁺⁾	(M1)		0.0830			
		89.7 4	1.5 7	456.13	(5/2 ⁻)	E2		8.25 20			
		270.9 2	76 10	274.91	(1/2 ⁻)	E0+M1		≈ 0.77			
		374.2 2	100 15	171.81	(5/2 ⁻)	(E2)		0.0545			
590.80	(3/2 ⁺)	545.9 2	20 3	0.0	1/2 ⁽⁺⁾	E1	1.5 7	0.17 7	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.22$ 8 (1998Ru04).		
		299.6 2	31 5	290.97	(5/2 ⁺)	M1+E2		0.13 8			
		350.0 4	16 3	240.19	(5/2 ⁺)	(M1+E2)		1.2 9			
		387.7 4	9.4 20	203.29	(3/2 ⁺)	(E0+M1+E2)		≈ 0.28			
595.31	(3/2 ⁺)	571.4 2	100 16	19.53	3/2 ⁽⁺⁾	M1+E2	1.2 3	0.036 6		α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).	
		591.0 2	34 5	0.0	1/2 ⁽⁺⁾	M1		0.0546			
		304.5 4	21 2	290.97	(5/2 ⁺)	(M1)		0.319			
		355.3 2	25 7	240.19	(5/2 ⁺)	(M1)		0.210			
598.17	(7/2 ⁻)	391.9 2	100 18	203.29	(3/2 ⁺)	(E0+M1+E2)		≈ 0.26	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).		
		575.8 2	35 8	19.53	3/2 ⁽⁺⁾						
		595.2 2	29 8	0.0	1/2 ⁽⁺⁾	(M1)		0.0536			
		142.7 4	4.3 14	456.13	(5/2 ⁻)	M1+E2		3.6 7			
619.77	(11/2 ⁻)	170.4 4	4.3 14	428.12	(3/2 ⁻)		0.5 4	1.36 6		α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).	
		272.1 2	24 4	325.64	(7/2 ⁻)	M1		0.433			
		426.1 2	100 14	171.81	(5/2 ⁻)	M1+E2		0.111 23			
		478.0 2	81 4	120.33	9/2 ⁽⁻⁾	E2+M1		1.0 7			
633.59	(7/2 ⁺)	176.5 $\ddagger$ 4	1.5 $\ddagger$ 5	443.20	9/2 ⁽⁻⁾	M1+E2	1.5 4	0.06 3			α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).
		265.9 $\ddagger$ 4	5.6 $\ddagger$ 10	353.66	(13/2 ⁻)	E2+M1		1.0 5			
		294.5 $\ddagger$ 4	3.1 $\ddagger$ 5	325.64	(7/2 ⁻)	E2		0.30 16			
		499.4 $\ddagger$ 2	100 $\ddagger$ 5	120.33	9/2 ⁽⁻⁾	E2+M1		0.1081			
638.60	(5/2 ⁺)	129.7 4	5.3 14	503.73	(3/2 ⁺)		0.8 4	0.044 9	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).		
		138.5 4	3.4 7	495.33	(7/2 ⁺)						
		342.6 4	10.6 21	290.97	(5/2 ⁺)	E2+M1		0.17 4			
		393.4 2	100 4	240.19	(5/2 ⁺)	M1		0.1597			
		429.9 4	12.7 21	203.29	(3/2 ⁺)	(E2)		0.0377		α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.20$ 3 (1998Ru04).	
		614.1 2	21 10	19.53	3/2 ⁽⁺⁾						
		347.9 2	12.2 22	290.97	(5/2 ⁺)	(M1)		0.222			
		398.3 2	73 6	240.19	(5/2 ⁺)						
		435.5 2	100 11	203.29	(3/2 ⁺)	M1+E2	0.65 23	0.096 13			

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [@]	δ	$\alpha^\&$	Comments
638.60	(5/2 ⁺)	619.0 2	33 6	19.53	3/2 ⁽⁺⁾	(M1)		0.0484	
		638.7 2	38 6	0.0	1/2 ⁽⁺⁾				
673.24	(15/2 ⁻)	449.2 [‡] 2	100 [‡]	223.90	(11/2 ⁻)	E2		0.0337	
674.11	(9/2 ⁻ ,11/2 ⁻)	450.1 [‡] 2	100 [‡] 15	223.90	(11/2 ⁻)	(M1)		0.1116	
687.12	(5/2 ⁺)	192.3 4	30 7	495.33	(7/2 ⁺)	M1+E2	2.1 4	0.56 6	
		395.9 4	40 10	290.97	(5/2 ⁺)	M1		0.1571	
		446.9 2	100 7	240.19	(5/2 ⁺)	M1		0.1138	
		483.7 2	80 10	203.29	(3/2 ⁺)	E2(+M1)	2.2 5	0.039 6	
		667.8 2	80 10	19.53	3/2 ⁽⁺⁾	M1		0.0397	
		686.7 4	30 7	0.0	1/2 ⁽⁺⁾				
688.59	(17/2 ⁻)	334.8 [‡] 2	100 [‡]	353.66	(13/2 ⁻)	E2		0.0743	B(E2)(W.u.)=208 22
705.9		159.8 2	100	546.08	(1/2 ⁻)				
710.44	(9/2 ⁺)	215.3 [‡] 4	2.2 [‡] 4	495.33	(7/2 ⁺)	M1+E2	0.7 8	0.65 20	
		419.5 [‡] 4	1.5 [‡] 4	290.97	(5/2 ⁺)	(E2)		0.0402	
		470.3 [‡] 2	100.0 [‡] 7	240.19	(5/2 ⁺)	E2		0.0300	
732.89	(5/2 ⁻)	276.6 2	53 8	456.13	(5/2 ⁻)	(M1)		0.414	
		407.8 2	87 6	325.64	(7/2 ⁻)	M1		0.1451	
		457.8 2	100 22	274.91	(1/2 ⁻)	(E2)		0.0321	
741.86	(13/2 ⁻)	122.0 [‡] 4	4.5 [‡] 15	619.77	(11/2 ⁻)	M1+E2	2.2 10	2.6 5	
		245.1 [‡] 4	11.1 [‡] 20	496.73	(11/2 ⁻)	E2+M1	1.2 3	0.35 6	
		298.6 [‡] 2	100 [‡] 4	443.20	9/2 ⁽⁻⁾	E2		0.1038	
		388.1 [‡] 2	30.3 [‡] 20	353.66	(13/2 ⁻)	E0+M1+E2		≈1.0	δ : %E0=81 4 (1988Pa15).
									α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.77$ 7, weighted average of $\alpha(\text{K})_{\text{exp}}=0.96$ 11 (1998Ru04) and $\alpha(\text{K})_{\text{exp}}=0.64$ 9 (1988Pa15).
		621.8 [‡] 4	17.2 [‡] 20	120.33	9/2 ⁽⁻⁾	E2		0.01552	
749.29	(13/2 ⁻)	525.4 [‡] 2	100 [‡]	223.90	(11/2 ⁻)	M1+E2	0.8 4	0.054 13	
754.55	(3/2 ⁻)	156.7 4	8 5	598.17	(7/2 ⁻)	E2		0.891 15	
		208.4 2	56 11	546.08	(1/2 ⁻)	(M1+E2)	1.0 6	0.62 21	
		298.4 2	92 13	456.13	(5/2 ⁻)	M1+E2	0.7 15	0.26 12	
		326.2 2	100 11	428.12	(3/2 ⁻)	M1		0.264	
		428.6 2	43 14	325.64	(7/2 ⁻)	E2		0.0380	
		480.1 2	57 8	274.91	(1/2 ⁻)	M1+E2	0.7 8	0.073 24	
		582.6 4	30 9	171.81	(5/2 ⁻)				
755.27	(9/2 ⁻)	258.7 [‡] 4	14 [‡] 5	496.73	(11/2 ⁻)	(M1)		0.498	
		429.6 [‡] 2	100 [‡] 19	325.64	(7/2 ⁻)	M1+E2	1.1 4	0.078 20	
		583.4 [‡] 4	19 [‡] 5	171.81	(5/2 ⁻)				

Adopted Levels, Gammas (continued) $\gamma(^{187}\text{Au})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. @	δ	α &	Comments
755.27	(9/2 ⁻)	634.9 † 4	19 † 5	120.33	9/2 ⁽⁻⁾				
767.08	(9/2 ⁺)	133.7 † 4	17 † 7	633.59	(7/2 ⁺)	E2+M1	2.2 7	1.89 22	
		271.6 † 2	100 † 12	495.33	(7/2 ⁺)	E2+M1	2.1 7	0.19 5	
		476.3 † 2	86 † 10	290.97	(5/2 ⁺)	E2		0.0291	
		526.7 † 4	45 † 5	240.19	(5/2 ⁺)	(E2)		0.0228	
778.41	(1/2,3/2,5/2) ⁺	275.4 2	100 7	503.73	(3/2 ⁺)	M1+E2	2.7 4	0.167 12	
		758.1 2	78 7	19.53	3/2 ⁽⁺⁾	(M1)		0.0287	
		778.6 4	67 15	0.0	1/2 ⁽⁺⁾				
815.81	(15/2 ⁻)	127.4 † 4	6.8 † 17	688.59	(17/2 ⁻)	E2+M1	3.1 14	2.1 3	
		196.0 † 4	5.5 † 17	619.77	(11/2 ⁻)	E2		0.401 7	
		319.2 † 2	59.3 † 17	496.73	(11/2 ⁻)	E2		0.0853	
		462.1 † 2	100 † 5	353.66	(13/2 ⁻)	M1+E2	1.1 3	0.064 12	
822.42	(5/2 ⁺)	327.0 4	30 3	495.33	(7/2 ⁺)	M1+E2	0.7 12	0.20 9	
		582.4 2	100 7	240.19	(5/2 ⁺)	M1+E2	0.4 7	0.051 16	
		618.7 4	23.3 10	203.29	(3/2 ⁺)	M1		0.0484	
829.03	(11/2 ⁻)	332.3 † 4	70 † 9	496.73	(11/2 ⁻)	M1		0.252	
		385.8 † 2	100 † 13	443.20	9/2 ⁽⁻⁾	M1		0.1683	
		475.4 † 2	87 † 13	353.66	(13/2 ⁻)	M1		0.0966	
		503.0 † 4	26 † 6	325.64	(7/2 ⁻)				
		709.2 † 4	82 † 13	120.33	9/2 ⁽⁻⁾	(E2+M1)	0.8 12	0.025 10	
840.11	(9/2 ⁻)	363.3 † 2	68 † 6	476.60	(7/2 ⁻)	M1		0.198	
		616.4 † 2	100 † 10	223.90	(11/2 ⁻)	M1		0.0489	
877.23	(5/2 ⁻)	278.7 2	100 14	598.17	(7/2 ⁻)	M1		0.406	
		330.9 2	100 9	546.08	(1/2 ⁻)				
		421.5 2	100 12	456.13	(5/2 ⁻)	(M1)		0.1329	
		551.8 2	50 21	325.64	(7/2 ⁻)	M1		0.0653	
880.00	(7/2 ⁺)	192.6 † 4	52 † 13	687.12	(5/2 ⁺)	(E2+M1)	2.0 7	0.57 12	
		289.5 † 4	100 † 13	590.80	(3/2 ⁺)	(E2)		0.1139	
		384.6 † 4	54.8 † 13	495.33	(7/2 ⁺)	E2+M1	2.4 8	0.068 16	
881.20	(11/2 ⁻)	131.8 † 4	7.8 † 14	749.29	(13/2 ⁻)	E2+M1	2.3 7	1.97 20	
		207.8 † 4	6.4 † 14	673.24	(15/2 ⁻)	(E2)		0.329	
		404.6 † 4	7.8 † 21	476.60	(7/2 ⁻)	(E2)		0.0442	
		657.3 † 2	100 † 7	223.90	(11/2 ⁻)	E0+M1+E2		≈0.07	

α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.057$ 7, weighted average of $\alpha(\text{K})_{\text{exp}}=0.069$ 11 ([1998Ru04](#)), $\alpha(\text{K})_{\text{exp}}=0.039$ 8 ([1978Bo05](#)), and $\alpha(\text{K})_{\text{exp}}=0.10$ 2 ([1988Pa15](#)).

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [@]	δ	$\alpha^\&$	Comments
934.36	(5/2 ⁺)	247.6 ^{±4}	81 ^{±11}	687.12	(5/2 ⁺)	M1+E2	1.2 5	0.34 10	
		343.6 ^{±4}	69 ^{±8}	590.80	(3/2 ⁺)	M1+E2	1.0 5	0.15 5	
		438.9 ^{±4}	83 ^{±6}	495.33	(7/2 ⁺)	E2+M1	1.8 5	0.055 12	
		643.5 ^{±4}	33 ^{±6}	290.97	(5/2 ⁺)	M1(+E2)	0.2 4	0.043 7	
		693.8 ^{±4}	100 ^{±11}	240.19	(5/2 ⁺)	M1+E2	0.8 6	0.027 9	
948.18	(1/2 ⁻ ,3/2 ⁻)	402.1 2	100	546.08	(1/2 ⁻)	(M1+E2)	0.9 11	0.10 5	
950.23	(7/2 ⁻ ,9/2 ⁻)	351.9 ^{±4}	35 ^{±4}	598.17	(7/2 ⁻)	M1		0.215	
		829.9 ^{±2}	100 ^{±9}	120.33	9/2 ⁽⁻⁾	M1+E2	1.1 4	0.015 4	
956.44	(13/2 ⁻)	140.7 ^{±4}	3.2 ^{±11}	815.81	(15/2 ⁻)	(M1+E2)	0.0 3	2.74 13	
		336.7 ^{±2}	49 ^{±2}	619.77	(11/2 ⁻)	M1+E2	0.60 18	0.198 20	
		459.4 ^{±2}	100 ^{±4}	496.73	(11/2 ⁻)	E2+M1	0.9 7	0.07 3	
		513.0 ^{±4}	12 ^{±3}	443.20	9/2 ⁽⁻⁾				
		602.9 ^{±2}	50 ^{±3}	353.66	(13/2 ⁻)	M1+E2	0.9 3	0.036 7	
		836.2 ^{±2}	77 ^{±4}	120.33	9/2 ⁽⁻⁾	E2			
965.5	(7/2 ⁺)	331.9 ^{±4}	100 ^{±3}	633.59	(7/2 ⁺)	M1+E2		0.16 9	
967.98	(11/2 ⁺)	257.4 ^{±4}	16.4 ^{±9}	710.44	(9/2 ⁺)	E2+M1	1.8 6	0.24 6	
		472.8 ^{±2}	100.0 ^{±18}	495.33	(7/2 ⁺)	E2		0.0296	
975.31	(3/2 ⁻)	429.5 4	11.9 3	546.08	(1/2 ⁻)	(M1)		0.1264	
		519.4 4	14 3	456.13	(5/2 ⁻)	M1		0.0765	
		700.3 2	100 10	274.91	(1/2 ⁻)	M1		0.0352	
		803.5 4	7.3 13	171.81	(5/2 ⁻)	E2+M1	2.4 24	0.011 14	
984.92	(9/2 ⁻)	487.7 ^{±4}	58 ^{±8}	496.73	(11/2 ⁻)	E2+M1	1.2 7	0.053 25	
		659.4 ^{±2}	100 ^{±12}	325.64	(7/2 ⁻)	M1+E2	0.5 11	0.036 15	
		813.3 ^{±4}	29 ^{±4}	171.81	(5/2 ⁻)	E2			
		864.4 ^{±4}	50 ^{±4}	120.33	9/2 ⁽⁻⁾	E2+M1	0.9 8	0.015 6	
993.14	(15/2 ⁻)	304.6 ^{±4}	4.6 ^{±12}	688.59	(17/2 ⁻)	(M1)		0.319	
		373.6 ^{±4}	11.0 ^{±17}	619.77	(11/2 ⁻)	(E2)		0.0547	
		496.5 ^{±4}	2.3 ^{±11}	496.73	(11/2 ⁻)				
		639.4 ^{±2}	100 ^{±3}	353.66	(13/2 ⁻)	M1+E2	0.85 18	0.032 4	
994.29		791.0 2	100	203.29	(3/2 ⁺)				
1015.32	(7/2 ⁺)	135.4 ^{±4}	45 ^{±15}	880.00	(7/2 ⁺)				
		328.1 4	0.95 11	687.12	(5/2 ⁺)	M1		0.260	
		381.7 ^{±4}	75 ^{±15}	633.59	(7/2 ⁺)	(M1)		0.1732	
		424.1 ^{±4}	100 ^{±20}	590.80	(3/2 ⁺)	(E2)		0.0390	

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult. @	δ	$\alpha\&$
1015.32	(7/2 ⁺)	520.1 [‡] 4	75 [‡] 15	495.33	(7/2 ⁺)	M1		0.0762
1047.5		550.8 [‡] 4	100 [‡]	496.73	(11/2 ⁻)			
1056.05	(3/2 ⁻)	579.3 2	100 8	476.60	(7/2 ⁻)	(E2)		0.0182
		764.4 4	19 4	290.97	(5/2 ⁺)			
		816.1 2	31 5	240.19	(5/2 ⁺)			
		853.3 2	38 5	203.29	(3/2 ⁺)			
		1036.1 2	35 12	19.53	3/2 ⁽⁺⁾	(E1)		
		1056.0 2	96 29	0.0	1/2 ⁽⁺⁾	(E1)		
1102.4	(21/2 ⁻)	413.8 [#]	100	688.59	(17/2 ⁻)	Q		
1120.4		433.4 [‡] 4	100 [‡]	687.12	(5/2 ⁺)			
1120.93	(11/2 ⁺)	154.0 [‡] 4	8 [‡] 3	967.98	(11/2 ⁺)	(E2)		0.950 17
		410.6 [‡] 2	100 [‡] 6	710.44	(9/2 ⁺)	M1		0.1425
		486.4 [‡] 4	49 [‡] 6	633.59	(7/2 ⁺)	E2		0.0276
		625.4 [‡] 2	76 [‡] 6	495.33	(7/2 ⁺)	E2		0.01532
1121.59	(13/2 ⁺)	292.1 [‡] 4	5.5 [‡] 8	829.03	(11/2 ⁻)	E1		0.0287
		305.4 [‡] 4	11.9 [‡] 16	815.81	(15/2 ⁻)	(E1)		0.0258
		501.9 [‡] 2	24.6 [‡] 16	619.77	(11/2 ⁻)	E1		
		625.0 [‡] 2	100 [‡] 3	496.73	(11/2 ⁻)	E1		
		768.0 [‡] 2	31.3 [‡] 16	353.66	(13/2 ⁻)	E1		
1126.6	(7/2,9/2,11/2) ⁻	371.3 [‡] 4	100 [‡] 21	755.27	(9/2 ⁻)	(E2+M1)	2.8 6	0.070 8
		683.5 [‡] 4	93 [‡] 14	443.20	9/2 ⁽⁻⁾	M1+E2	0.6 3	0.031 5
1147.70	(11/2 ⁻ ,13/2 ⁻)	331.8 [‡] 4	24 [‡] 9	815.81	(15/2 ⁻)	(M1)		0.253
		527.8 [‡] 2	96 [‡] 9	619.77	(11/2 ⁻)	M1+E2	0.8 3	0.054 10
		650.9 [‡] 2	100 [‡] 9	496.73	(11/2 ⁻)	E2+M1	1.3 5	0.025 7
		795.0 [‡] 4	35 [‡] 4	353.66	(13/2 ⁻)	(M1)		0.0254
		1027.3 [‡] 4	13 [‡] 4	120.33	9/2 ⁽⁻⁾			
1148.5	(11/2 ⁺)	653.2 [‡] 4	100 [‡]	495.33	(7/2 ⁺)	E2		0.01391
1149.23	(13/2 ⁺)	181.0 [‡] 4	4.5 [‡] 10	967.98	(11/2 ⁺)	E2+M1	6.1 10	0.551 13
		381.8 [‡] 4	8.5 [‡] 20	767.08	(9/2 ⁺)	(E2)		0.0516
		438.8 [‡] 2	100 [‡] 3	710.44	(9/2 ⁺)	E2		0.0358
1155.9	(11/2 ⁻)	659.2 [‡] 4	52 [‡] 10	496.73	(11/2 ⁻)	M1		0.0411
		712.7 [‡] 4	100 [‡] 10	443.20	9/2 ⁽⁻⁾	M1+E2	0.6 9	0.028 10
		830.1 [‡] 4	55 [‡] 10	325.64	(7/2 ⁻)	(E2)		
1158.88	(17/2 ⁻)	342.8 [‡] 4	74 [‡] 10	815.81	(15/2 ⁻)	(E2)		0.0695

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$	Comments
1158.88	(17/2 ⁻)	417.1 ⁺⁴ ₋₄	85 ⁺²¹ ₋₂₁	741.86	(13/2 ⁻)	(E2)		0.0408	
		470.2 ⁺⁴ ₋₄	95 ⁺²¹ ₋₂₁	688.59	(17/2 ⁻)	M1+E2	0.5 13	0.09 4	
		805.5 ⁺⁴ ₋₄	100 ⁺²¹ ₋₂₁	353.66	(13/2 ⁻)	(E2)			
1161.2		565.9 4	100	595.31	(3/2 ⁺)				
1164.47	(11/2 ⁺)	148.8 ⁺⁴ ₋₄	37 ⁺⁷ ₋₇	1015.32	(7/2 ⁺)	(E2)		1.080 19	
		196.9 ⁺⁴ ₋₄	27 ⁺⁷ ₋₇	967.98	(11/2 ⁺)	E2+M1	1.6 6	0.58 15	
		284.2 ⁺⁴ ₋₄	30 ⁺⁷ ₋₇	880.00	(7/2 ⁺)	E2		0.1204	
		669.1 ⁺⁴ ₋₄	100 ⁺¹⁰ ₋₁₀	495.33	(7/2 ⁺)	E2		0.01319	
1166.8	(17/2 ⁻)	425.0 ⁺⁴ ₋₄	100 ⁺²⁵ ₋₂₅	741.86	(13/2 ⁻)	(E2)		0.0388	
		478.1 ⁺⁴ ₋₄	16 ⁺⁶ ₋₆	688.59	(17/2 ⁻)	E0+M1+E2		≈0.31	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.24$ 10.
1184.9	(7/2 ⁻ ,9/2 ⁻)	586.7 ⁺⁴ ₋₄	100 ⁺³ ₋₃	598.17	(7/2 ⁻)	M1+E2	1.0 7	0.037 16	
1187.06	(13/2 ⁻)	305.8 ⁺⁴ ₋₄	51 ⁺⁶ ₋₆	881.20	(11/2 ⁻)	M1+E2	1.1 3	0.20 4	
		437.9 ⁺⁴ ₋₄	11 ⁺³ ₋₃	749.29	(13/2 ⁻)	E0+M1+E2		≈0.29	α : Estimated by the evaluator from $\alpha(\text{K})_{\text{exp}}=0.22$ 7.
		513.6 ⁺⁴ ₋₄	21 ⁺³ ₋₃	673.24	(15/2 ⁻)	(E2+M1)	0.9 8	0.054 24	
		963.2 ⁺² ₋₂	100 ⁺⁹ ₋₉	223.90	(11/2 ⁻)	E2+M1	1.7 6		
1197.64	(11/2 ⁻)	448.3 ⁺² ₋₂	100 ⁺¹² ₋₁₂	749.29	(13/2 ⁻)	M1+E2	1.0 9	0.07 4	
		524.5 ⁺² ₋₂	87 ⁺¹⁰ ₋₁₀	673.24	(15/2 ⁻)	E2		0.0230	
		721.7 ⁺⁴ ₋₄	12 ⁺⁴ ₋₄	476.60	(7/2 ⁻)	(E2)		0.01120	
		973.9 ⁺⁴ ₋₄	45 ⁺⁵ ₋₅	223.90	(11/2 ⁻)	M1+E2	0.7 6	0.012 3	
1205.15	(9/2 ⁺)	382.8 ⁺⁴ ₋₄	28 ⁺³ ₋₃	822.42	(5/2 ⁺)	E2		0.0512	
		494.6 ⁺⁴ ₋₄	19 ⁺³ ₋₃	710.44	(9/2 ⁺)	M1		0.0870	
		709.9 ⁺² ₋₂	100 ⁺⁸ ₋₈	495.33	(7/2 ⁺)	E2(+M1)	2.3 6	0.0152 22	
		914.0 ⁺⁴ ₋₄	22 ⁺⁶ ₋₆	290.97	(5/2 ⁺)	(E2)			
1228.7	(9/2 ⁻)	388.5 ⁺⁴ ₋₄	100 ⁺¹⁴ ₋₁₄	840.11	(9/2 ⁻)	M1		0.1652	
		479.6 ⁺⁴ ₋₄	79 ⁺¹⁴ ₋₁₄	749.29	(13/2 ⁻)	(E2)		0.0286	
		751.9 ⁺⁴ ₋₄	86 ⁺¹⁴ ₋₁₄	476.60	(7/2 ⁻)	M1+E2	0.9 10	0.021 9	
1232.5	(19/2 ⁻)	416.9 ⁺⁴ ₋₄	83 ⁺¹⁷ ₋₁₇	815.81	(15/2 ⁻)	(E2)		0.0408	
		544.0 ⁺⁴ ₋₄	100 ⁺¹⁷ ₋₁₇	688.59	(17/2 ⁻)	M1(+E2)	0.4 21	0.06 4	
1233.90		757.3 2	100	476.60	(7/2 ⁻)				
1237.60	(5/2 ⁻)	761.0 2	100	476.60	(7/2 ⁻)	(M1)		0.0284	
1249.39	(11/2 ⁻)	629.6 ⁺⁴ ₋₄	67 ⁺¹⁸ ₋₁₈	619.77	(11/2 ⁻)	M1+E2	0.9 3	0.032 6	
		753.1 ⁺⁴ ₋₄	42 ⁺¹² ₋₁₂	496.73	(11/2 ⁻)	M1		0.0292	
		805.7 ⁺⁴ ₋₄	40 ⁺⁹ ₋₉	443.20	9/2 ⁽⁻⁾	M1+E2	0.6 13	0.020 9	

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$
1249.39	(11/2 ⁻)	895.8 [‡] 4	100 [‡] 12	353.66	(13/2 ⁻)	E2(+M1)	3.2 8	
1260.40	(3/2 ⁻)	783.8 2	100	476.60	(7/2 ⁻)	(E2)		
1276.86	(7/2 ⁻ , 9/2 ⁻)	678.9 [‡] 4	100 [‡] 21	598.17	(7/2 ⁻)	M1		0.0381
		780.0 [‡] 4	29 [‡] 7	496.73	(11/2 ⁻)			
		951.0 [‡] 4	46 [‡] 11	325.64	(7/2 ⁻)	M1+E2		0.011 5
		1156.9 [‡] 4	64 [‡] 14	120.33	9/2 ⁽⁻⁾	M1		
1280.01	(11/2 ⁺)	569.5 [‡] 4	60 [‡] 5	710.44	(9/2 ⁺)	E2+M1	0.9 4	0.042 11
		646.3 [‡] 2	100 [‡] 10	633.59	(7/2 ⁺)	(E2)		0.01424
		785.3 [‡] 4	32 [‡] 7	495.33	(7/2 ⁺)	E2		
		1056.1 [‡] 4	30 [‡] 10	223.90	(11/2 ⁻)	(E1)		
1291.28	(3/2 ⁻)	745.2 2	100	546.08	(1/2 ⁻)	E2+M1	1.8 8	0.015 6
1304.5	(9/2 ⁺ , 11/2 ⁺)	537.3 [‡] 4	92 [‡] 8	767.08	(9/2 ⁺)	M1+E2	0.9 10	0.048 22
		594.2 [‡] 4	100 [‡] 8	710.44	(9/2 ⁺)	E2(+M1)	3.1 4	0.0206 10
1316.1	(17/2 ⁻)	566.9 [‡] 4	26 [‡] 5	749.29	(13/2 ⁻)			
		642.7 [‡] 4	100 [‡] 8	673.24	(15/2 ⁻)	M1+E2	1.3 9	0.025 15
1316.79	(9/2 ⁻)	360.4 [‡] 4	52 [‡] 8	956.44	(13/2 ⁻)	E2		0.0604
		366.5 [‡] 4	38 [‡] 6	950.23	(7/2 ⁻ , 9/2 ⁻)	E2+M1	1.2 7	0.11 6
		873.6 [‡] 4	40 [‡] 8	443.20	9/2 ⁽⁻⁾	M1		0.0199
		962.9 [‡] 4	42 [‡] 8	353.66	(13/2 ⁻)	E2		
		1092.5 [‡] 4	38 [‡] 6	223.90	(11/2 ⁻)	M1+E2	0.9 8	
		1196.6 [‡] 2	100 [‡] 8	120.33	9/2 ⁽⁻⁾	E2+M1	1.2 5	
1357.56	(15/2 ⁻)	364.0 [‡] 4	41 [‡] 12	993.14	(15/2 ⁻)	E2+M1	1.0 7	0.13 6
		542.0 [‡] 4	47 [‡] 12	815.81	(15/2 ⁻)	M1+E2	0.8 10	0.050 19
		860.7 [‡] 4	100 [‡] 12	496.73	(11/2 ⁻)	E2		
		1004.2 [‡] 4	41 [‡] 9	353.66	(13/2 ⁻)	M1		0.01398
1362.69		1343.3 2	100	19.53	3/2 ⁽⁺⁾			
1367.2	(15/2 ⁻)	551.1 [‡] 4	77 [‡] 15	815.81	(15/2 ⁻)	M1		0.0655
		624.9 [‡] 4	38 [‡] 12	741.86	(13/2 ⁻)	M1		0.0472
		1014.2 [‡] 4	100 [‡] 23	353.66	(13/2 ⁻)	M1+E2	1.0 9	
1369.50	(7/2 ⁺)	546.7 [‡] 4	54 [‡] 9	822.42	(5/2 ⁺)	(M1)		0.0669
		659.1 [‡] 4	59.1 [‡] 9	710.44	(9/2 ⁺)	E2(+M1)	2.9 9	0.017 3
		736.3 [‡] 4	45 [‡] 9	633.59	(7/2 ⁺)	M1		0.0309
		778.8 [‡] 4	100 [‡] 9	590.80	(3/2 ⁺)	(E2)		

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)										
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult. @	δ	$\alpha^\&$	$I_{(\gamma+ce)}$	Comments
1380.61	(17/2 ⁺)	148.3 4	15 5	1232.5	(19/2 ⁻)					
		259.2 [±] 4	36 [±] 5	1121.59	(13/2 ⁺)	E2		0.1600		
		387.5 4	13 4	993.14	(15/2 ⁻)	(E1)		0.01494		
		499.0 [±] 4	24 [±] 5	881.20	(11/2 ⁻)					
		564.8 [±] 2	100 [±] 5	815.81	(15/2 ⁻)	E1				
		692.1 4	8 3	688.59	(17/2 ⁻)	(E1)				
1393.34	(13/2 ⁻)	436.6 [±] 4	100 [±] 14	956.44	(13/2 ⁻)	M1+E2	0.8 6	0.09 3		
		578.8 [±] 4	48 [±] 14	815.81	(15/2 ⁻)	M1		0.0576		
		651.2 [±] 4	34 [±] 7	741.86	(13/2 ⁻)	M1		0.0424		
		773.3 [±] 4	48 [±] 7	619.77	(11/2 ⁻)	M1		0.0272		
		896.2 [±] 4	45 [±] 10	496.73	(11/2 ⁻)	M1		0.0187		
1397.8		1044.1 [±] 4	100 [±]	353.66	(13/2 ⁻)					
1398.2	(15/2 ⁺)	430.2 [±] 2	100 [±]	967.98	(11/2 ⁺)	E2		0.0376		
1400.2	(13/2 ⁻ , 15/2 ⁻)	584.4 [±] 4	100 [±] 15	815.81	(15/2 ⁻)	M1+E2	0.8 8	0.041 15		
1405.25	(13/2 ⁺)	283.7 [±] 2	100 [±] 14	1121.59	(13/2 ⁺)	M1+E2	0.49 23	0.34 4		
		785.5 [±] 4	11 [±] 4	619.77	(11/2 ⁻)					
		908.5 [±] 4	36 [±] 4	496.73	(11/2 ⁻)					
		1051.4 [±] 4	34 [±] 5	353.66	(13/2 ⁻)	(E1)				
		1181.4 [±] 4	64 [±] 7	223.90	(11/2 ⁻)	(E1)				
1405.4		656.1 [±] 4	100 [±]	749.29	(13/2 ⁻)					
1405.56	(19/2 ⁻)	89.0 [#]	10.5	1316.1	(17/2 ⁻)					I_γ : From ($^{19}\text{F}, 4n\gamma$).
		732.1 [±] 4	100 [±]	673.24	(15/2 ⁻)	E2		0.01087		
1415.8	(17/2 ⁻ , 19/2, 21/2 ⁺)	727 [#]	100	688.59	(17/2 ⁻)					
1418.5	(13/2 ⁻)	537.5 [±] 4	76.2 [±] 19	881.20	(11/2 ⁻)	M1+E2	0.9 10	0.048 22		
		669.2 [±] 4	100 [±] 14	749.29	(13/2 ⁻)	M1		0.0395		
		745.1 [±] 4	95 [±] 9	673.24	(15/2 ⁻)	E2+M1	0.8 11	0.022 8		
1419.69	(5/2 ⁺)	786.1 2	100	633.59	(7/2 ⁺)	(M1+E2)	0.8 13	0.020 8		
1420.6	(9/2 ⁺ , 11/2 ⁺)	653.9 [±] 4	66.7 [±] 17	767.08	(9/2 ⁺)	M1+E2	1.2 7	0.025 11		
		710.3 [±] 4	100 [±] 8	710.44	(9/2 ⁺)	M1+E2	1.2 4	0.021 5		
1420.7	(11/2 ⁻)	747.5 [±] 4	100 [±]	673.24	(15/2 ⁻)	E2		0.01040		
1464.3		1110.6 [±] 4	100 [±]	353.66	(13/2 ⁻)					
1470.98	(13/2 ⁺ , 15/2 ⁺)	90.5 [±] 4	[±]	1380.61	(17/2 ⁺)				3 1	
		349.5 [±] 2	100 [±]	1121.59	(13/2 ⁺)	M1		0.219		

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$	Comments
1470.98	(13/2 ⁺ , 15/2 ⁺)	781.5 [‡] 4	7.8 [‡] 22	688.59	(17/2 ⁻)				
1498.3	(5/2 ⁺)	1003.0 4	100	495.33	(7/2 ⁺)				
1540.7	(13/2 ⁻ , 15/2 ⁻)	791.3 [‡] 4	100 [‡] 20	749.29	(13/2 ⁻)	M1		0.0257	
		867.5 [‡] 4	90 [‡] 30	673.24	(15/2 ⁻)	M1		0.0203	
1557.4		790.5 [‡] 4	80 [‡] 20	767.08	(9/2 ⁺)				
		846.8 [‡] 4	100 [‡] 20	710.44	(9/2 ⁺)				
1562.7		1066.0 [‡] 4	100 [‡]	496.73	(11/2 ⁻)				
1568.1	(11/2, 13/2, 15/2) ⁺	446.5 [‡] 2	100 [‡]	1121.59	(13/2 ⁺)	E2+M1	1.3 3	0.064 11	
1589.58	(11/2 ⁺ , 13/2 ⁺)	467.7 [‡] 4	48 [‡] 9	1121.59	(13/2 ⁺)	E2+M1	1.1 7	0.06 3	
		761.1 [‡] 4	29 [‡] 5	829.03	(11/2 ⁻)	(E1)			
		969.7 [‡] 4	21 [‡] 7	619.77	(11/2 ⁻)	(E1)			
		1236.6 [‡] 4	48 [‡] 7	353.66	(13/2 ⁻)	(E1)			
		1365.8 [‡] 2	100 [‡] 14	223.90	(11/2 ⁻)	E1			
1590.0	(11/2 ⁻ , 13/2 ⁻)	392.5 [‡] 4	73 [‡] 20	1197.64	(11/2 ⁻)	E2+M1	1.3 7	0.09 5	
		840.5 [‡] 4	100 [‡] 20	749.29	(13/2 ⁻)	E2+M1	0.6 10	0.018 7	
1593.8	(25/2 ⁻)	491.6 [#]	100	1102.4	(21/2 ⁻)	(E2)		0.0269	B(E2)(W.u.)=2.2×10 ² 3
1600.8		480.6 [‡] 4	100 [‡] 12	1120.4					
		632.8 [‡] 4	54 [‡] 12	967.98	(11/2 ⁺)				
		890.3 [‡] 4	31 [‡] 8	710.44	(9/2 ⁺)				
1604.5	(17/2 ⁺)	455.3 [‡] 4	100 [‡]	1149.23	(13/2 ⁺)	(E2)		0.0326	
1637.47		515.9 [‡] 4	32 [‡] 7	1121.59	(13/2 ⁺)				
		1283.8 [‡] 2	100 [‡] 14	353.66	(13/2 ⁻)				
1684.8	(21/2 ⁻)	518 [#]	100	1166.8	(17/2 ⁻)				
1697.0	(21/2 ⁺)	316.4 [#]	100	1380.61	(17/2 ⁺)	Q			
		464.5 [#]	48	1232.5	(19/2 ⁻)				
1711.0		1214.6 [‡] 4	30 [‡] 11	496.73	(11/2 ⁻)				
		1357.2 [‡] 4	100 [‡] 11	353.66	(13/2 ⁻)				
1737.50		1534.2 2	100	203.29	(3/2 ⁺)				
1739.5	(23/2 ⁻)	507.0 [#]		1232.5	(19/2 ⁻)				
		637 [#]		1102.4	(21/2 ⁻)				
1751.80		1548.5 2	100	203.29	(3/2 ⁺)				
1776.1		1230.0 4	100	546.08	(1/2 ⁻)				
1778.8	(11/2 ⁻)	963.0 [‡] 4	100 [‡]	815.81	(15/2 ⁻)	(E2)			
1786.4		1583.1 4	100	203.29	(3/2 ⁺)				

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$
1791.4		1294.7 $\ddagger$ 4	100 $\ddagger$	496.73	(11/2 ⁻)			
1799.5		567 $\#$		1232.5	(19/2 ⁻)			
1807.55	(15/2 ⁻)	1058.0 $\ddagger$ 4	25 $\ddagger$ 5	749.29	(13/2 ⁻)	M1		0.01225
		1134.0 $\ddagger$ 4	25 $\ddagger$ 7	673.24	(15/2 ⁻)	M1		0.01028
		1583.8 $\ddagger$ 2	100 $\ddagger$ 10	223.90	(11/2 ⁻)	E2		
1811.1		1607.8 4	100	203.29	(3/2 ⁺)			
1815.87	(15/2 ⁻)	1066.6 $\ddagger$ 2	100 $\ddagger$ 7	749.29	(13/2 ⁻)	E2+M1	1.7 5	
		1142.5 $\ddagger$ 4	30 $\ddagger$ 7	673.24	(15/2 ⁻)	(E2+M1)	1.6 10	
		1592.0 $\ddagger$ 4	15 $\ddagger$ 7	223.90	(11/2 ⁻)			
1816.2	(11/2 ⁻)	1339.5 $\ddagger$ 4	100 $\ddagger$	476.60	(7/2 ⁻)	(E2)		
1819.8		1146.6 $\ddagger$ 4	100 $\ddagger$	673.24	(15/2 ⁻)			
1842.77	(5/2 ⁺)	1347.3 4	68 14	495.33	(7/2 ⁺)			
		1639.5 2	100 23	203.29	(3/2 ⁺)			
1864.0		1368.7 $\ddagger$ 4	100 $\ddagger$	495.33	(7/2 ⁺)			
1876.3		1381.0 4	100	495.33	(7/2 ⁺)			
1905.3	(15/2 ⁻)	1023.8 $\ddagger$ 4	33 $\ddagger$ 11	881.20	(11/2 ⁻)	(E2)		
		1232.3 $\ddagger$ 4	37 $\ddagger$ 7	673.24	(15/2 ⁻)	(M1)		
		1681.5 $\ddagger$ 4	100 $\ddagger$ 15	223.90	(11/2 ⁻)			
1918.07		1284.6 2	24.0 13	633.59	(7/2 ⁺)			
		1422.5 4	9.7 19	495.33	(7/2 ⁺)			
		1627.1 2	100 12	290.97	(5/2 ⁺)			
		1714.7 2	19.5 19	203.29	(3/2 ⁺)			
1919.21	(3/2 ⁻)	1442.6 2	100	476.60	(7/2 ⁻)			
1930.4	(17/2 ⁻)	1181.2 $\ddagger$ 4	100 $\ddagger$ 10	749.29	(13/2 ⁻)	E2		
		1257.0 $\ddagger$ 4	42 $\ddagger$ 10	673.24	(15/2 ⁻)	(M1+E2)	0.4 23	
1994.3	(11/2 ⁻)	1321.1 $\ddagger$ 4	100 $\ddagger$	673.24	(15/2 ⁻)			
1995.19	(5/2 ⁻)	1518.6 2	100	476.60	(7/2 ⁻)	M1		
1997.3		1794.0 4	100	203.29	(3/2 ⁺)			
2007.3		602 $\#$		1405.56	(19/2 ⁻)			
		691 $\#$		1316.1	(17/2 ⁻)			
2029.7		1676.0 $\ddagger$ 4	100 $\ddagger$	353.66	(13/2 ⁻)			
2051.6		1848.3 4	100	203.29	(3/2 ⁺)			
2052.6		736.4 $\#$	100	1316.1	(17/2 ⁻)			
2065.7		1392.5 $\ddagger$ 4	100 $\ddagger$	673.24	(15/2 ⁻)			
2068.81		1093.5 2	100 16	975.31	(3/2 ⁻)			

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	$\alpha^\&$	Comments
2068.81		1522.9 2	69 12	546.08	(1/2 ⁻)			
		1640.5 2	97 28	428.12	(3/2 ⁻)			
2073.2		1576.5 [‡] 4	100 [‡]	496.73	(11/2 ⁻)			
2082.0		1728.3 [‡] 4	100 [‡]	353.66	(13/2 ⁻)			
2094.6		732.5 4	63 11	1362.69				
		1455.4 4	100 11	638.60	(5/2 ⁺)			
2095.81		1549.6 2	74 14	546.08	(1/2 ⁻)			
		1667.8 2	100 17	428.12	(3/2 ⁻)			
2097.5	(25/2 ⁺)	358 [#]		1739.5	(23/2 ⁻)			
		400.4 [#]	100	1697.0	(21/2 ⁺)	Q		
2099.6		1277.2 [‡] 4	100 [‡]	822.42	(5/2 ⁺)			
2102.26		1556.2 2	100 15	546.08	(1/2 ⁻)			
		1674.1 2	52 15	428.12	(3/2 ⁻)			
2103.30		1900.0 2	100	203.29	(3/2 ⁺)			
2115.1	(21/2 ⁺)	699 [#]	18	1415.8	(17/2 ⁻ , 19/2, 21/2 ⁺)			
		709.8 [#]	100	1405.56	(19/2 ⁻)	(E1)		
2116.14		1620.8 2	100	495.33	(7/2 ⁺)			
2117.1		995.5 [‡] 4	100 [‡]	1121.59	(13/2 ⁺)			
2121.16		1575.1 2	100 15	546.08	(1/2 ⁻)			
		1693.0 2	46 10	428.12	(3/2 ⁻)			
2121.58		1830.6 2	100	290.97	(5/2 ⁺)			
2127.80		1924.5 2	100	203.29	(3/2 ⁺)			
2142.24		1646.7 2	100 43	495.33	(7/2 ⁺)			
		1902.3 4	43 10	240.19	(5/2 ⁺)			
		1939.5 4	95 19	203.29	(3/2 ⁺)			
2145.4		996.1 [‡] 4	100 [‡] 14	1149.23	(13/2 ⁺)			
		1435.0 [‡] 4	57 [‡] 14	710.44	(9/2 ⁺)			
2149.7	(13/2 ⁻)	1461.1 [‡] 4	100 [‡]	688.59	(17/2 ⁻)	E2		
2154.41	(3/2 ⁻)	1179.0 2	62 9	975.31	(3/2 ⁻)			
		1421.5 2	25 4	732.89	(5/2 ⁻)			
		1608.1 2	29 5	546.08	(1/2 ⁻)			
		1726.6 2	100 18	428.12	(3/2 ⁻)			
2154.89		1516.8 2	33 7	638.60	(5/2 ⁺)			
		1650.5 2	57 7	503.73	(3/2 ⁺)			
		1863.7 2	100 16	290.97	(5/2 ⁺)			
		1914.9 2	37 9	240.19	(5/2 ⁺)			
		1951.7 2	37 8	203.29	(3/2 ⁺)			
2160.6	(29/2 ⁻)	566.8 [#]	100	1593.8	(25/2 ⁻)	(E2)	0.0192	B(E2)(W.u.)>76

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)						
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @
2172.32		1196.9 2	52 6	975.31	(3/2 ⁻)	
		1744.3 2	100 17	428.12	(3/2 ⁻)	
2173.06		1539.6 4	17 3	633.59	(7/2 ⁺)	
		1669.3 2	38 5	503.73	(3/2 ⁺)	
		1678.2 2	100 32	495.33	(7/2 ⁺)	
		1882.3 2	85 8	290.97	(5/2 ⁺)	
		1932.5 2	38 6	240.19	(5/2 ⁺)	
		1969.4 2	82 15	203.29	(3/2 ⁺)	
2178.10		1544.5 2	100	633.59	(7/2 ⁺)	
2178.91	(3/2 ⁻)	1702.3 2	100	476.60	(7/2 ⁻)	
2180.0	(9/2 ⁺)	1357.6 [‡] 4	100 [‡]	822.42	(5/2 ⁺)	
2183.8		1564.0 [‡] 4	100 [‡]	619.77	(11/2 ⁻)	
2184.87		1452.2 2	91 27	732.89	(5/2 ⁻)	
		1728.5 2	100 27	456.13	(5/2 ⁻)	
		1857.8 2	82 18	325.64	(7/2 ⁻)	
2186.04		2065.7 [‡] 2	100 [‡]	120.33	9/2 ⁽⁻⁾	
2191.3		1069.7 [‡] 4	100 [‡]	1121.59	(13/2 ⁺)	
2193.1	(5/2 ⁺)	1697.8 4	100	495.33	(7/2 ⁺)	
2196.2	(23/2 ⁻)	790.6 [#]	100	1405.56	(19/2 ⁻)	(E2)
2201.84		2081.5 [‡] 2	100 [‡]	120.33	9/2 ⁽⁻⁾	
2206.0		1532.8 [‡] 2	100 [‡]	673.24	(15/2 ⁻)	
2206.6		1237.9 [‡] 4	100 [‡] 25	967.98	(11/2 ⁺)	
		1496.8 [‡] 4	50 [‡] 13	710.44	(9/2 ⁺)	
2221.7		1601.9 [‡] 4	100 [‡]	619.77	(11/2 ⁻)	
2223.31		1999.4 [‡] 2	100 [‡]	223.90	(11/2 ⁻)	
2230.0		1407.6 2	100	822.42	(5/2 ⁺)	
2237.57	(13/2 ⁻)	647.9 [‡] 4	28 [‡] 7	1590.0	(11/2 ⁻ , 13/2 ⁻)	
		920.7 [‡] 4	31 [‡] 5	1316.79	(9/2 ⁻)	
		1244.7 [‡] 4	16 [‡] 5	993.14	(15/2 ⁻)	
		1617.8 [‡] 4	21 [‡] 5	619.77	(11/2 ⁻)	
		1740.9 [‡] 2	100 [‡] 10	496.73	(11/2 ⁻)	
		1883.5 [‡] 4	31 [‡] 7	353.66	(13/2 ⁻)	
2237.77		648.1 [‡] 4	4.4 [‡] 17	1590.0	(11/2 ⁻ , 13/2 ⁻)	
		1563.6 [‡] 4	5.0 [‡] 17	674.11	(9/2 ⁻ , 11/2 ⁻)	
		2013.9 [‡] 2	100 [‡] 11	223.90	(11/2 ⁻)	
2246.43	(13/2 ⁻)	657.0 [‡] 4	50 [‡] 21	1590.0	(11/2 ⁻ , 13/2 ⁻)	

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)							
$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. @	$\alpha\&$
2246.43	(13/2 ⁻)	1253.4 ‡ 4	71 ‡ 21	993.14	(15/2 ⁻)		
		1430.3 ‡ 4	93 ‡ 21	815.81	(15/2 ⁻)		
		1626.7 ‡ 4	100 ‡ 21	619.77	(11/2 ⁻)		
2246.8	(25/2 ⁻)	562 #	100	1684.8	(21/2 ⁻)		
2248.1		1894.4 ‡ 4	100 ‡	353.66	(13/2 ⁻)		
2253.20		1431.2 4	26 7	822.42	(5/2 ⁺)		
		2013.0 2	100 18	240.19	(5/2 ⁺)		
		2049.5 4	26 4	203.29	(3/2 ⁺)		
2253.26		1372.3 ‡ 4	7.9 ‡ 24	881.20	(11/2 ⁻)		
		1580.0 ‡ # 4	7.9 ‡ 24	673.24	(15/2 ⁻)		
		2029.3 ‡ 2	100 ‡ 3	223.90	(11/2 ⁻)		
2262.8		1589.6 ‡ 4	100 ‡	673.24	(15/2 ⁻)		
2266.2		1117.0 ‡ 4	100 ‡	1149.23	(13/2 ⁺)		
2268.12	(13/2 ⁻)	679.7 ‡ 4	9 ‡ 3	1589.58	(11/2 ⁺ , 13/2 ⁺)		
		1579.5 ‡ 2	100 ‡ 7	688.59	(17/2 ⁻)		
		1914.2 ‡ 2	68 ‡ 7	353.66	(13/2 ⁻)		
2279.9		1399.6 ‡ 4	75 ‡ 25	880.00	(7/2 ⁺)		
		1606.9 ‡ 4	100 ‡ 25	673.24	(15/2 ⁻)		
2281.7	(23/2 ⁺)	166.7 #	100	2115.1	(21/2 ⁺)	(M1+E2)	1.2 5
		229 #		2052.6			
2282.96		1957.3 2	100	325.64	(7/2 ⁻)		
2285.0		1317.0 ‡ 4	100 ‡	967.98	(11/2 ⁺)		
2288.9		1332.5 ‡ 4	100 ‡	956.44	(13/2 ⁻)		
2291.0	(11/2 ⁺)	1325.5 ‡ 4	100 ‡	965.5	(7/2 ⁺)		
2292.8	(27/2 ⁻)	553.1 #	100	1739.5	(23/2 ⁻)		
		699.1 #	50	1593.8	(25/2 ⁻)	(M1+E2)	0.024 12
2293.10		1318.0 2	86 21	975.31	(3/2 ⁻)		
		1746.8 2	100 19	546.08	(1/2 ⁻)		
2300.24		880.3 ‡ 4	28 ‡ 4	1420.7	(11/2 ⁻)		
		930.9 ‡ 4	32 ‡ 4	1369.50	(7/2 ⁺)		
		995.9 ‡ 4	32 ‡ 4	1304.5	(9/2 ⁺ , 11/2 ⁺)		
		1020.3 ‡ 4	76 ‡ 8	1280.01	(11/2 ⁺)		
		1095.1 ‡ 2	100 ‡ 12	1205.15	(9/2 ⁺)		
		1135.5 ‡ 4	72 ‡ 4	1164.47	(11/2 ⁺)		

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult. @	δ	$\alpha\&$
2300.24		1589.0 $\frac{4}{2}$	18 $\frac{4}{2}$	710.44	(9/2 ⁺)			
2300.33		1023.7 $\frac{4}{2}$	6.2 $\frac{4}{2}$	1276.86	(7/2 ⁻ , 9/2 ⁻)			
		1315.4 $\frac{4}{2}$	17.0 $\frac{4}{2}$	984.92	(9/2 ⁻)			
		1350.0 $\frac{4}{2}$	4.2 $\frac{4}{2}$	950.23	(7/2 ⁻ , 9/2 ⁻)			
		1545.3 $\frac{4}{2}$	3.2 $\frac{4}{2}$	755.27	(9/2 ⁻)			
		1680.8 $\frac{4}{2}$	1.9 $\frac{4}{2}$	619.77	(11/2 ⁻)			
		1803.6 $\frac{4}{2}$	2.9 $\frac{4}{2}$	496.73	(11/2 ⁻)			
		1857.2 $\frac{4}{2}$	9.8 $\frac{4}{2}$	443.20	9/2 ⁽⁻⁾			
		2179.9 $\frac{4}{2}$	100 $\frac{4}{2}$	120.33	9/2 ⁽⁻⁾			
2300.70		493.2 $\frac{4}{2}$	5.7 $\frac{4}{2}$	1807.55	(15/2 ⁻)			
		1103.9 $\frac{4}{2}$	5.1 $\frac{4}{2}$	1197.64	(11/2 ⁻)			
		1419.6 $\frac{4}{2}$	9.8 $\frac{4}{2}$	881.20	(11/2 ⁻)			
		1627.2 $\frac{4}{2}$	3.4 $\frac{4}{2}$	673.24	(15/2 ⁻)			
		2076.6 $\frac{4}{2}$	100 $\frac{4}{2}$	223.90	(11/2 ⁻)			
2306.1		1952.4 $\frac{4}{2}$	100 $\frac{4}{2}$	353.66	(13/2 ⁻)			
2306.8		1425.6 $\frac{4}{2}$	100 $\frac{4}{2}$	881.20	(11/2 ⁻)			
2313.5	(13/2 ⁺)	724.1 $\frac{4}{2}$	28 $\frac{4}{2}$	1589.58	(11/2 ⁺ , 13/2 ⁺)	(M1)		0.0323
		932.7 $\frac{4}{2}$	100 $\frac{4}{2}$	1380.61	(17/2 ⁺)	E2		
2319.1		1169.8 $\frac{4}{2}$	100 $\frac{4}{2}$	1149.23	(13/2 ⁺)			
		1608.8 $\frac{4}{2}$	89 $\frac{4}{2}$	710.44	(9/2 ⁺)			
2319.16	(15/2 ⁻)	608.4 $\frac{4}{2}$	53 $\frac{4}{2}$	1711.0				
		848.1 $\frac{4}{2}$	47 $\frac{4}{2}$	1470.98	(13/2 ⁺ , 15/2 ⁺)			
		913.5 $\frac{4}{2}$	100 $\frac{4}{2}$	1405.56	(19/2 ⁻)			
		1362.6 $\frac{4}{2}$	94 $\frac{4}{2}$	956.44	(13/2 ⁻)			
		1503.6 $\frac{4}{2}$	39 $\frac{4}{2}$	815.81	(15/2 ⁻)	(E2+M1)	2.3	2/
		1630.9 $\frac{4}{2}$	29 $\frac{4}{2}$	688.59	(17/2 ⁻)	(M1)		
2319.2		502.9 $\frac{4}{2}$	55 $\frac{4}{2}$	1816.2	(11/2 ⁻)			
		900.7 $\frac{4}{2}$	76 $\frac{4}{2}$	1418.5	(13/2 ⁻)			
		1570.0 $\frac{4}{2}$	100 $\frac{4}{2}$	749.29	(13/2 ⁻)			
2321.9		2047 $\frac{2}{2}$	100	274.91	(1/2 ⁻)			
2327.87		1974.3 $\frac{4}{2}$	43.5 $\frac{4}{2}$	353.66	(13/2 ⁻)			
		2207.5 $\frac{4}{2}$	100 $\frac{4}{2}$	120.33	9/2 ⁽⁻⁾			
2334.0		1184.8 $\frac{4}{2}$	100 $\frac{4}{2}$	1149.23	(13/2 ⁺)			

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)						
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @
2334.8		2131.5 4	100	203.29	(3/2 ⁺)	
2337.2		1587.9 $\frac{3}{2}^+$ 2	100 $\frac{3}{2}^+$	749.29	(13/2 ⁻)	
2342.9		632.0 $\frac{3}{2}^+$ 4	65 $\frac{3}{2}^+$ 9	1711.0		
		871.9 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 12	1470.98	(13/2 ⁺ , 15/2 ⁺)	
		1989.1 $\frac{3}{2}^+$ 4	59 $\frac{3}{2}^+$ 12	353.66	(13/2 ⁻)	
2343.2		1594.3 $\frac{3}{2}^+$ 4	34 $\frac{3}{2}^+$ 3	749.29	(13/2 ⁻)	
		1669.0 $\frac{3}{2}^+$ 2	100 $\frac{3}{2}^+$ 9	674.11	(9/2 ⁻ , 11/2 ⁻)	
2345.7	(11/2 ⁺)	1196.1 $\frac{3}{2}^+$ 4	45 $\frac{3}{2}^+$ 14	1149.23	(13/2 ⁺)	
		1466.1 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 18	880.00	(7/2 ⁺)	
2345.87		1850.5 2	100 26	495.33	(7/2 ⁺)	
		2142.7 4	30 7	203.29	(3/2 ⁺)	
2348.9		1467.7 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	881.20	(11/2 ⁻)	M1
2350.5		1229.3 $\frac{3}{2}^+$ 4	53 $\frac{3}{2}^+$ 8	1120.93	(11/2 ⁺)	
		1853.8 $\frac{3}{2}^+$ 4	21 $\frac{3}{2}^+$ 8	496.73	(11/2 ⁻)	
		1997.0 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 11	353.66	(13/2 ⁻)	
2354.1		1156.5 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	1197.64	(11/2 ⁻)	
2354.5	(27/2 ⁻)	615 #	100	1739.5	(23/2 ⁻)	
2365.3	(13/2 ⁻)	1616.0 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	749.29	(13/2 ⁻)	
2369.0	(13/2 ⁺)	988.4 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	1380.61	(17/2 ⁺)	
2384.6		1889.3 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	495.33	(7/2 ⁺)	
2389.1		1715.9 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	673.24	(15/2 ⁻)	
2389.9		1009.4 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 10	1380.61	(17/2 ⁺)	
		1701.2 $\frac{3}{2}^+$ 4	70 $\frac{3}{2}^+$ 10	688.59	(17/2 ⁻)	
2395.7	(13/2 ⁺)	1646.4 $\frac{3}{2}^+$ 2	100 $\frac{3}{2}^+$	749.29	(13/2 ⁻)	
2396.0	(15/2 ⁺)	1274.3 $\frac{3}{2}^+$ 4	77 $\frac{3}{2}^+$ 31	1121.59	(13/2 ⁺)	
		1707.6 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 23	688.59	(17/2 ⁻)	
2400.7		1651.4 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$	749.29	(13/2 ⁻)	
2400.8		1584.8 $\frac{3}{2}^+$ 4	35 $\frac{3}{2}^+$ 15	815.81	(15/2 ⁻)	
		2047.3 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 20	353.66	(13/2 ⁻)	
2403.2		2163.0 4	100 22	240.19	(5/2 ⁺)	
		2199.9 4	39 11	203.29	(3/2 ⁺)	
2410.9		1661.4 $\frac{3}{2}^+$ 4	100 $\frac{3}{2}^+$ 10	749.29	(13/2 ⁻)	
		1737.9 $\frac{3}{2}^+$ 4	32 $\frac{3}{2}^+$ 6	673.24	(15/2 ⁻)	
2431.07		1935.7 2	100 22	495.33	(7/2 ⁺)	

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ	$\alpha^\&$	Comments
2431.07		2227.9 4	22 5	203.29	(3/2 ⁺)				
2431.3	(25/2 ⁺)	149.6	100	2281.7	(23/2 ⁺)	(M1+E2)		1.7 7	
2471.0	(11/2 ⁻)	1154.2 [‡] 4	100 [‡]	1316.79	(9/2 ⁻)	(E2+M1)			
2474.1		1315.2 [‡] 4	100 [‡]	1158.88	(17/2 ⁻)				
2486.0		2486 2	100	0.0	1/2 ⁽⁺⁾				
2504.3		2301.0 4	100	203.29	(3/2 ⁺)				
2513.6		1764.3 [‡] 4	100 [‡]	749.29	(13/2 ⁻)				
2524.3		2028.9 4	100 22	495.33	(7/2 ⁺)				
		2321.1 4	78 22	203.29	(3/2 ⁺)				
2541.4		2187.7 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2551.0		2197.3 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2551.7		270 [#]	100	2281.7	(23/2 ⁺)				
2564.8?	(27/2 ⁺)	133.7 [#]	100	2431.3	(25/2 ⁺)	D+Q			
2568.4	(29/2 ⁺)	470.9 [#]	100	2097.5	(25/2 ⁺)	(Q)		0.0299	
2572.7		1899.5 [‡] 4	100 [‡]	673.24	(15/2 ⁻)				
2581.0	(25/2 ⁻)	150 [#]		2431.3	(25/2 ⁺)				
		384.7 [#]		2196.2	(23/2 ⁻)				
2606.7		2253.0 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2625.3		1952.0 [‡] 4	100 [‡]	673.24	(15/2 ⁻)				
2633.0		1804.0 [‡] 4	100 [‡]	829.03	(11/2 ⁻)				
2669.4	(31/2 ⁻)	508.8	100	2160.6	(29/2 ⁻)	(M1+E2)	1.1	0.0501	B(M1)(W.u.)=(7.2×10 ⁻⁷ 4); B(E2)(W.u.)=(0.00136 7)
2670.2		474 [#]	100	2196.2	(23/2 ⁻)				
2671.8?		425 [#]	100	2246.8	(25/2 ⁻)				
2688.3		2334.6 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2749.2		2395.5 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2768.1		2414.4 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2792.8	(31/2 ⁻)	500.0 [#]	100	2292.8	(27/2 ⁻)				
2798.7	(33/2 ⁻)	638.1 [#]	100	2160.6	(29/2 ⁻)	Q			
2827.9		2474.2 [‡] 4	100 [‡]	353.66	(13/2 ⁻)				
2966.3	(33/2 ⁻)	297.1 [#]	100	2669.4	(31/2 ⁻)	(M1+E2)		0.22 12	
3013.5	(31/2 ⁻)	659 [#]	100	2354.5	(27/2 ⁻)				
3039.3	(33/2 ⁺)	470.9 [#]	100	2568.4	(29/2 ⁺)	(Q)		0.0298	
3056.6?	(31/2 ⁺)	491.8 [#]	100	2564.8?	(27/2 ⁺)				
3129.0	(35/2 ⁻)	162.7 [#]	70	2966.3	(33/2 ⁻)	D+Q			

Adopted Levels, Gammas (continued)

<u>$\gamma(^{187}\text{Au})$ (continued)</u>							
<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>$E_\gamma^\dagger$</u>	<u>$I_\gamma^\dagger$</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult. @</u>	<u>$\alpha\&$</u>
3129.0	(35/2 ⁻)	459.4 [#]	100	2669.4	(31/2 ⁻)	Q	
3189.8?		518 [#]	100	2671.8?			
3345.9	(35/2 ⁻)	553.1 [#]	100	2792.8	(31/2 ⁻)		
3353.3	(35/2 ⁻)	387 [#]	100	2966.3	(33/2 ⁻)		
3482.3	(37/2 ⁻)	353.4 [#]	100	3129.0	(35/2 ⁻)	(M1+E2)	0.14 8
		516.0 [#]	15	2966.3	(33/2 ⁻)		
3483.1	(37/2 ⁺)	443.8 [#]	100	3039.3	(33/2 ⁺)	Q	
3503.4	(37/2 ⁻)	704.7 [#]	100	2798.7	(33/2 ⁻)	Q	0.01179
3762.0	(39/2 ⁻)	279.7 [#]	100	3482.3	(37/2 ⁻)	(M1+E2)	0.26 14
		632.9 [#]	43	3129.0	(35/2 ⁻)		
3810.7	(35/2 ⁺)	754.1 [#]	100	3056.6?	(31/2 ⁺)	Q	
3977.4	(39/2 ⁻)	631.5 [#]	100	3345.9	(35/2 ⁻)		
3993.7	(41/2 ⁺)	510.6 [#]	100	3483.1	(37/2 ⁺)		
4015.2	(39/2 ⁻)	533 [#]		3482.3	(37/2 ⁻)		
		662 [#]		3353.3	(35/2 ⁻)		
		886 [#]		3129.0	(35/2 ⁻)		
4225.5	(41/2 ⁻)	463.6 [#]	100	3762.0	(39/2 ⁻)	(M1+E2)	0.07 4
		743.2 [#]		3482.3	(37/2 ⁻)		
4263.7	(41/2 ⁻)	760.3 [#]	100	3503.4	(37/2 ⁻)		
4317.7		507 [#]	100	3810.7	(35/2 ⁺)		
4506.6	(43/2 ⁻)	281.0 [#]	18	4225.5	(41/2 ⁻)	D+Q	
		744.6 [#]	100	3762.0	(39/2 ⁻)		
4550.3	(43/2 ⁻)	325 [#]		4225.5	(41/2 ⁻)		
		788.1 [#]	100	3762.0	(39/2 ⁻)		
4577.0	(39/2 ⁺)	766.4 [#]	100	3810.7	(35/2 ⁺)		
4593.2	(45/2 ⁺)	599.5 [#]	100	3993.7	(41/2 ⁺)		
4651.0	(39/2 ⁺)	840.3 [#]	100	3810.7	(35/2 ⁺)		
4657.1	(43/2 ⁻)	431.6 [#]	29	4225.5	(41/2 ⁻)		
		642 [#]		4015.2	(39/2 ⁻)		
		895.1 [#]	100	3762.0	(39/2 ⁻)	Q	
4690.4	(43/2 ⁻)	713 [#]	100	3977.4	(39/2 ⁻)		
4788.6	(43/2 ⁺)	137.6 [#]		4651.0	(39/2 ⁺)		

Adopted Levels, Gammas (continued)

$\gamma(^{187}\text{Au})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π
4788.6	(43/2 ⁺)	211.6 [#]	100	4577.0	(39/2 ⁺)	Q	5782.8	(49/2 ⁺)	407.0 [#]	100	5375.8	(47/2 ⁺)
4851.1	(47/2 ⁻)	194.1 [#]	88	4657.1	(43/2 ⁻)		5815.8		440 [#]	100	5375.8	(47/2 ⁺)
		344.5 [#]	100	4506.6	(43/2 ⁻)	Q	5868.6		741 [#]	100	5127.6	
5041.2	(45/2 ⁻)	777.5 [#]	100	4263.7	(41/2 ⁻)		5980.8		605 [#]	100	5375.8	(47/2 ⁺)
5127.6		577.4 [#]	100	4550.3	(43/2 ⁻)		6054	(53/2 ⁺)	773 [#]	100	5281	(49/2 ⁺)
		621 [#]		4506.6	(43/2 ⁻)		6129	(53/2,55/2 ⁻)	609.4 [#]	100	5519.5	(51/2 ⁻)
5254.6		466 [#]	100	4788.6	(43/2 ⁺)		6250		730 [#]	100	5519.5	(51/2 ⁻)
5281	(49/2 ⁺)	688.3 [#]	100	4593.2	(45/2 ⁺)		6400	(51/2 ⁺)	617.6 [#]	100	5782.8	(49/2 ⁺)
5351.6		845 [#]	100	4506.6	(43/2 ⁻)		6505		636 [#]	100	5868.6	
5375.8	(47/2 ⁺)	587.2 [#]	100	4788.6	(43/2 ⁺)	Q	6594		465 [#]	100	6129	(53/2,55/2 ⁻)
5519.5	(51/2 ⁻)	668.4 [#]	100	4851.1	(47/2 ⁻)	Q	6914	(57/2 ⁺)	860 [#]	100	6054	(53/2 ⁺)
5746.1		895 [#]		4851.1	(47/2 ⁻)		7220		819.6 [#]	100	6400	(51/2 ⁺)

[†] From ¹⁸⁷Hg ε decay (2.4 min), except otherwise noted.

[‡] From ¹⁸⁷Hg ε decay (1.9 min).

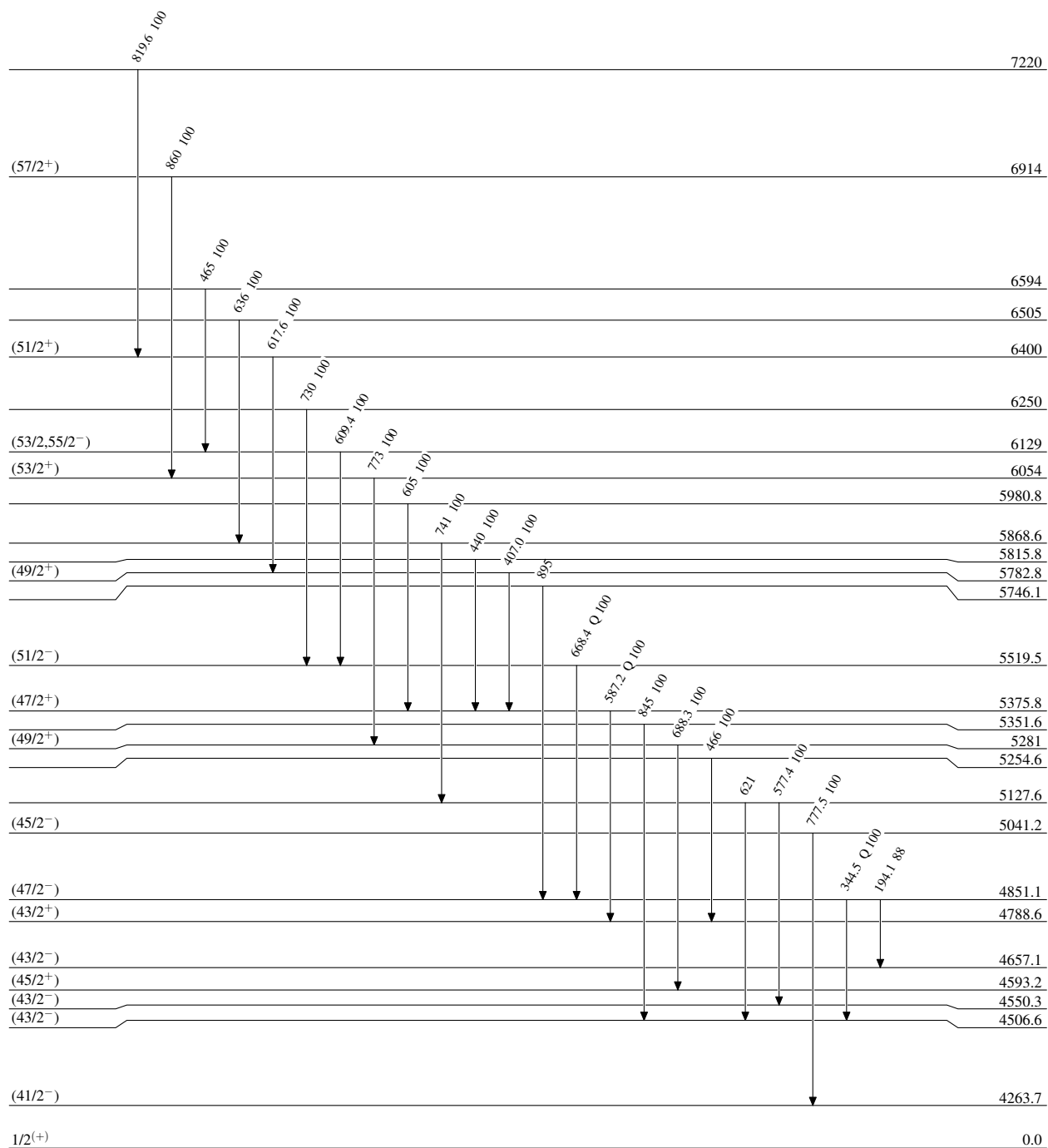
[#] From ¹⁷²Yb(¹⁹F,4n γ).

@ Assignment from ce measurements in ¹⁸⁷Hg ε decay (2.4 min & 1.9 min), except otherwise noted.

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

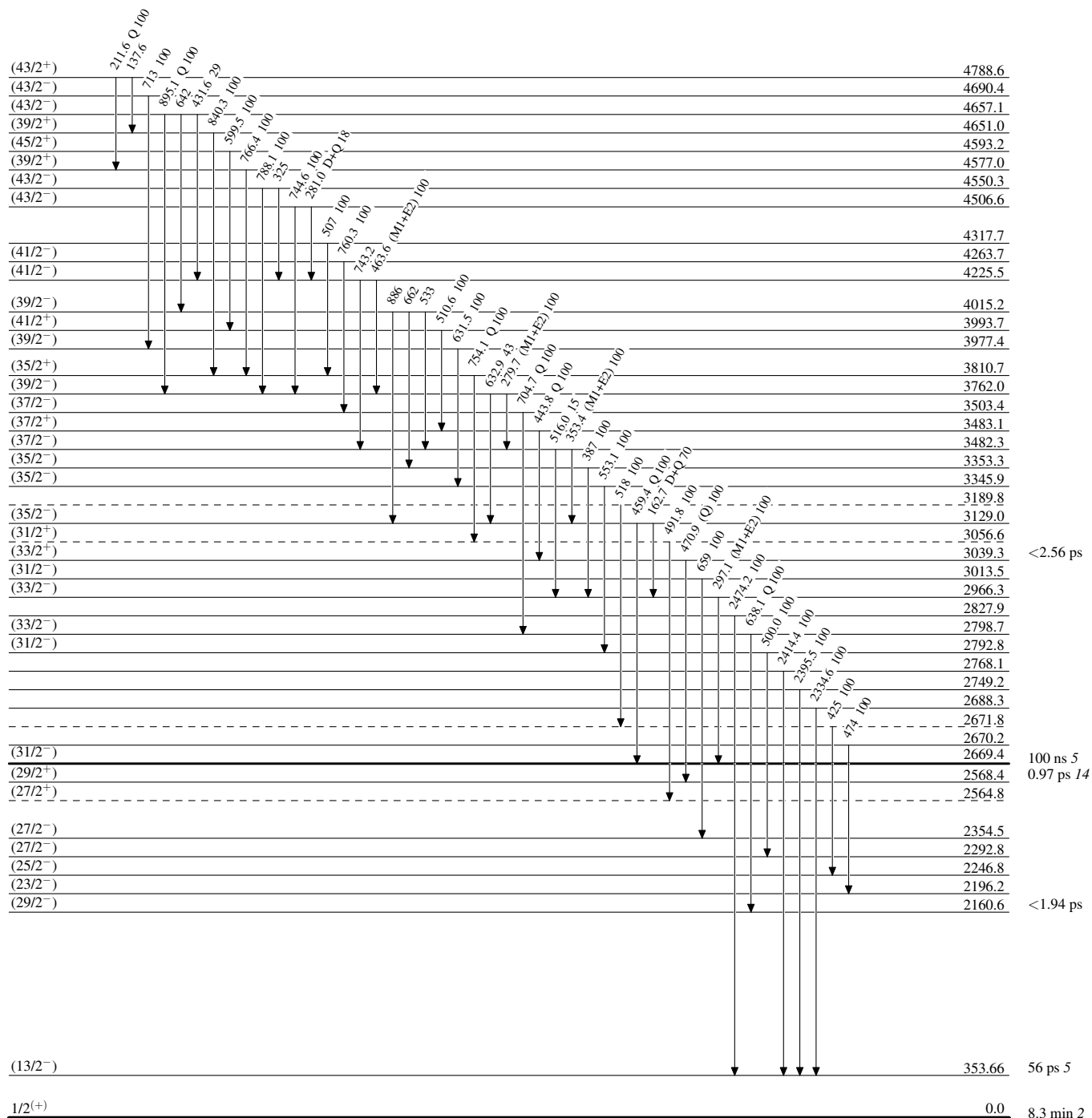
Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



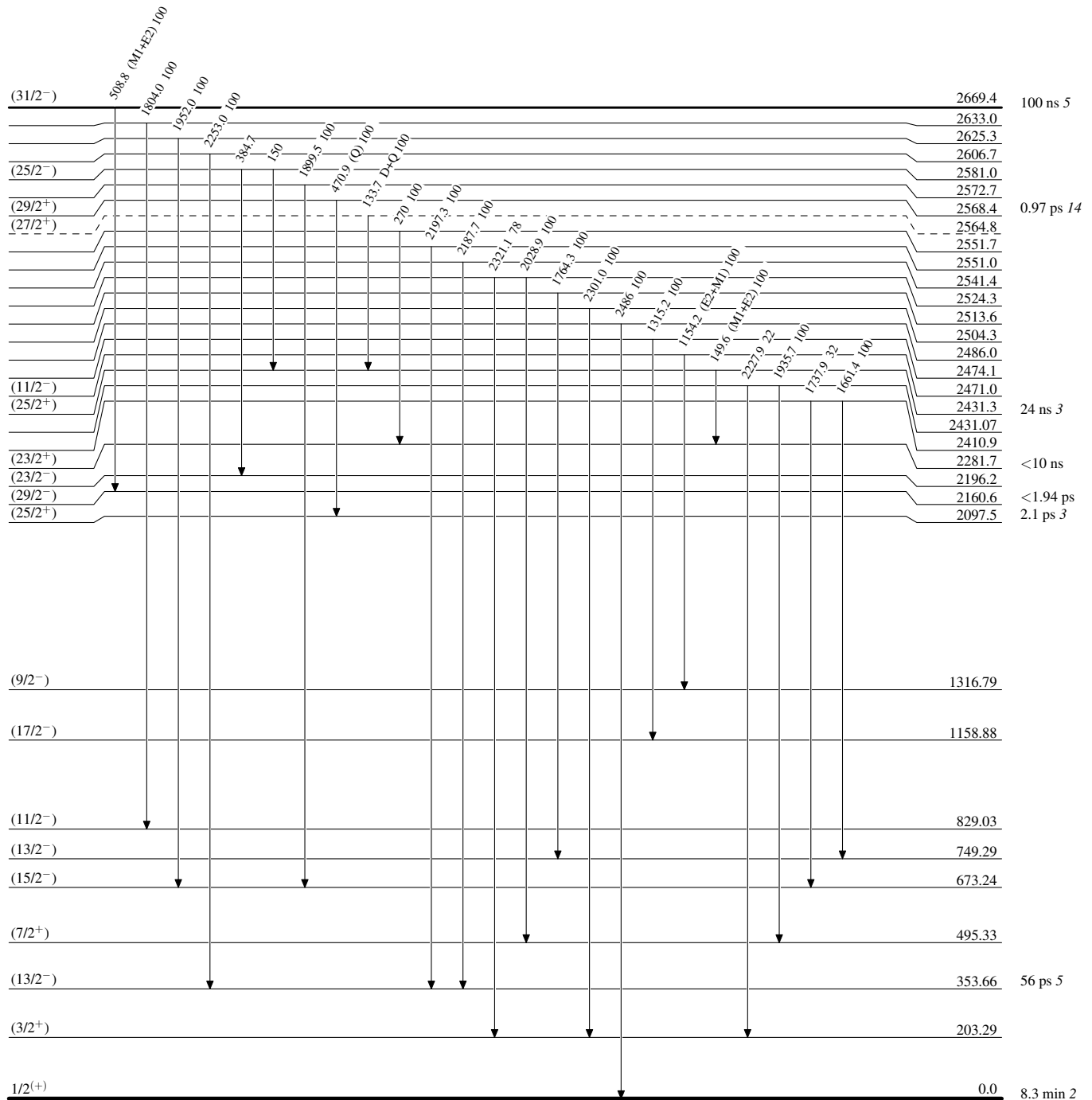
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



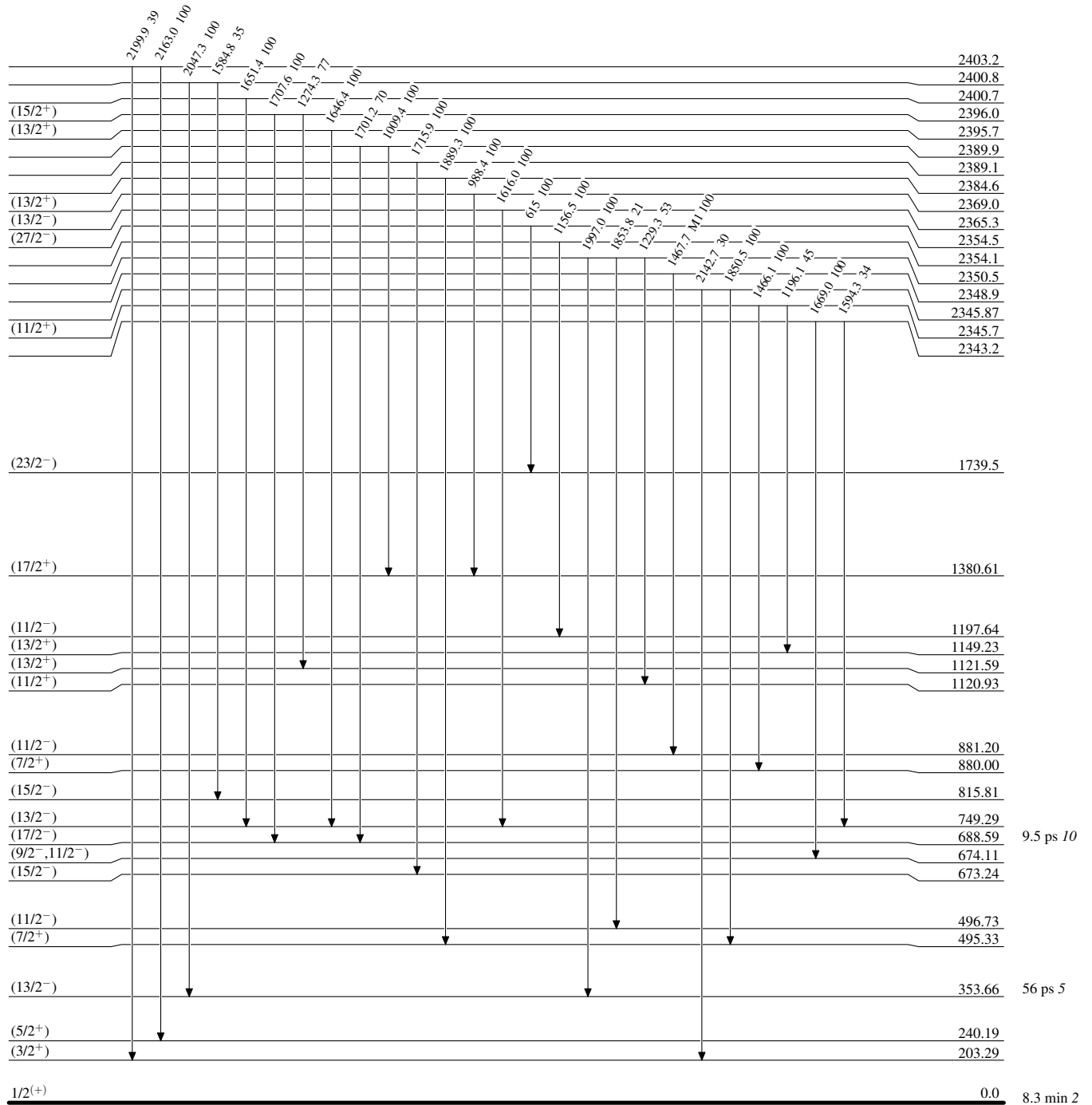
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

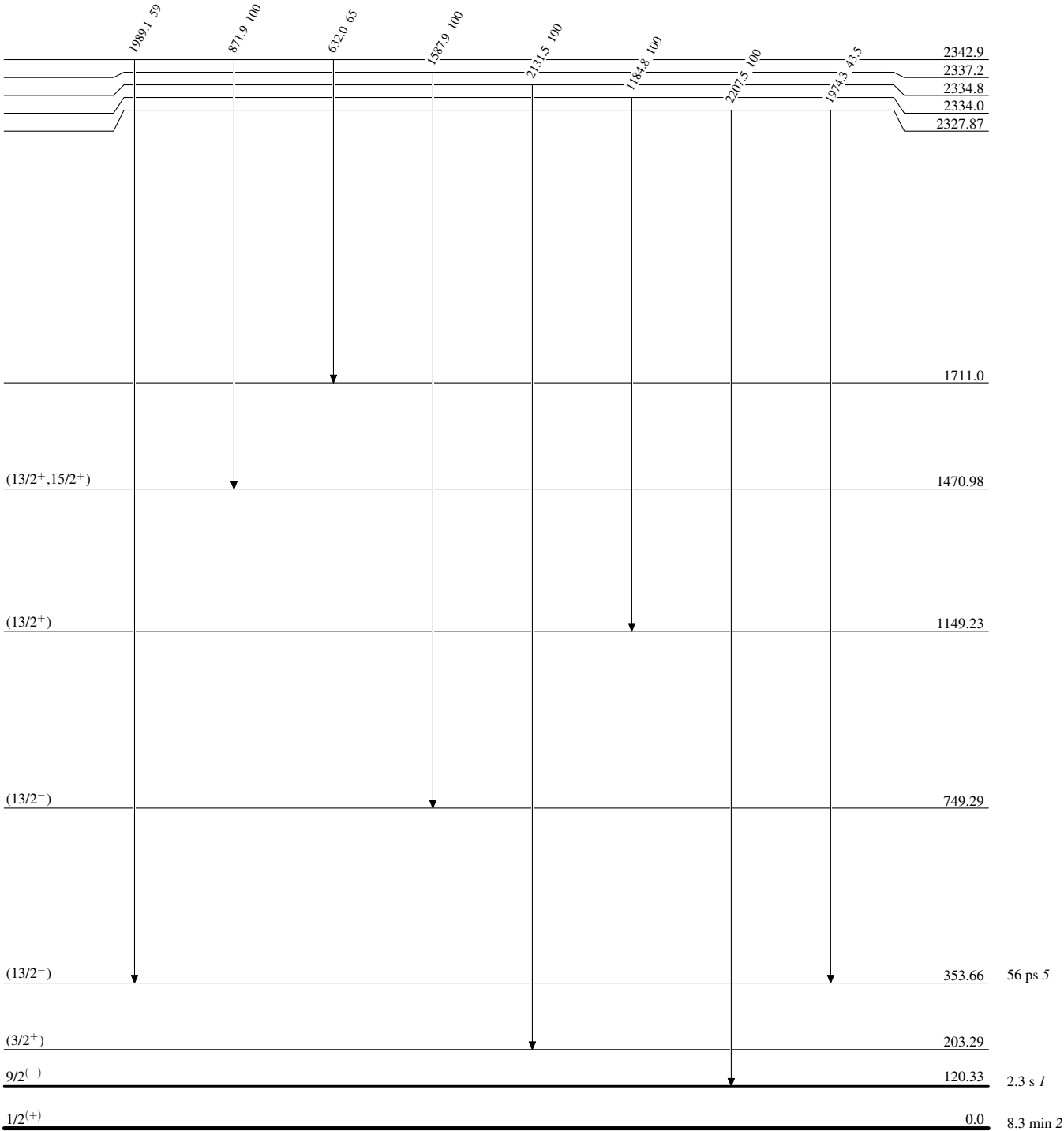
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

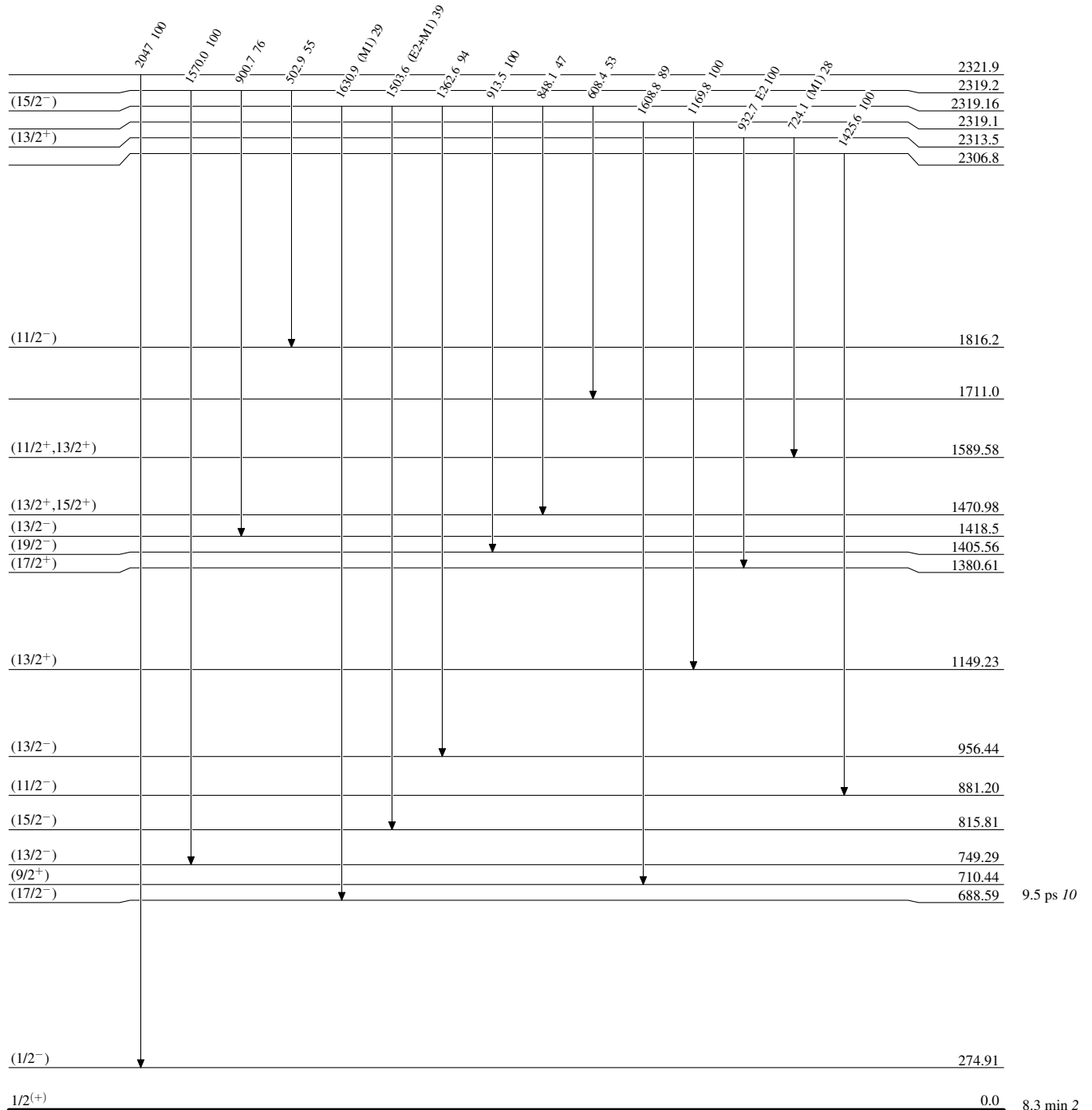
Level Scheme (continued)

Intensities: Relative photon branching from each level



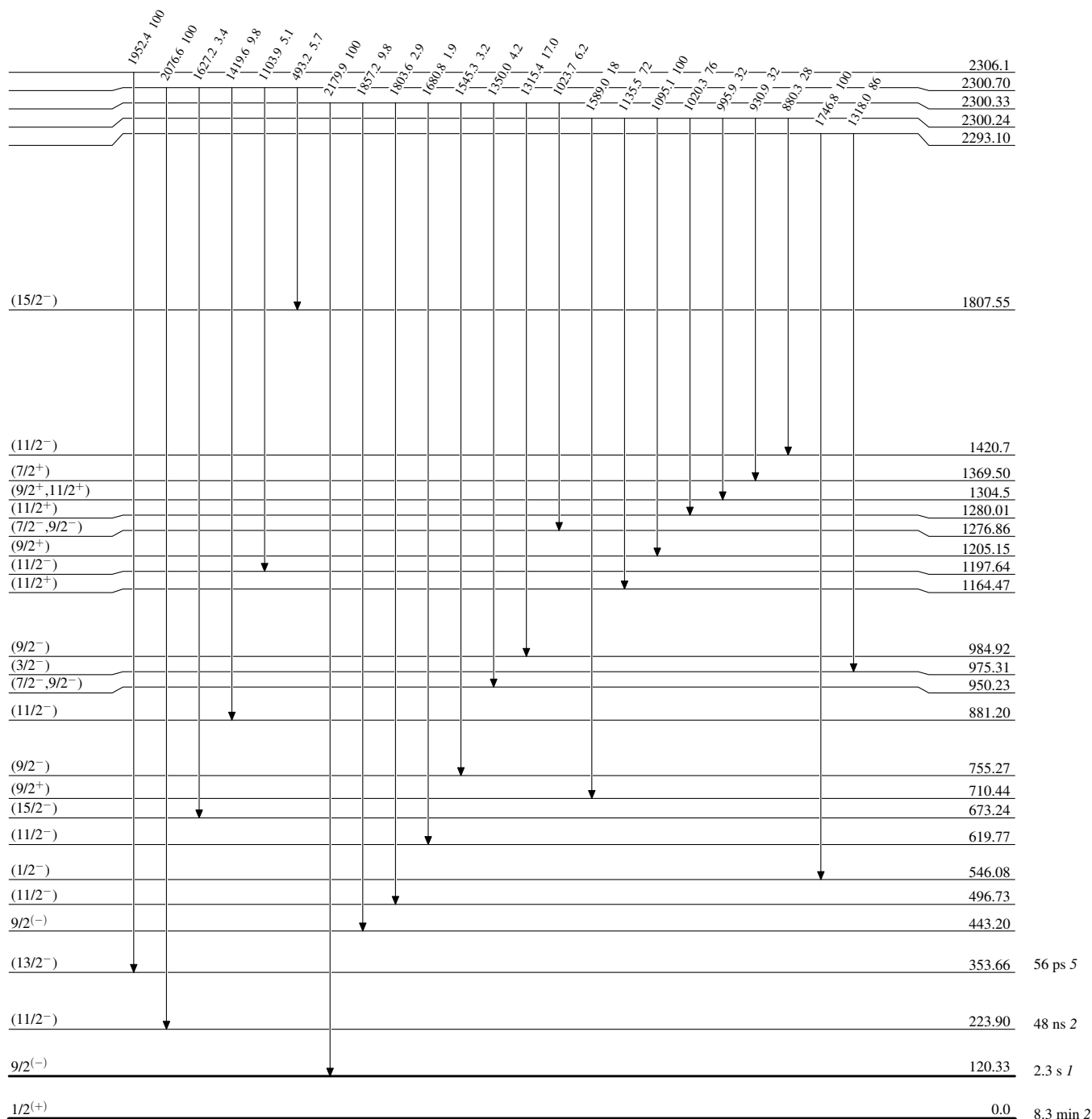
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



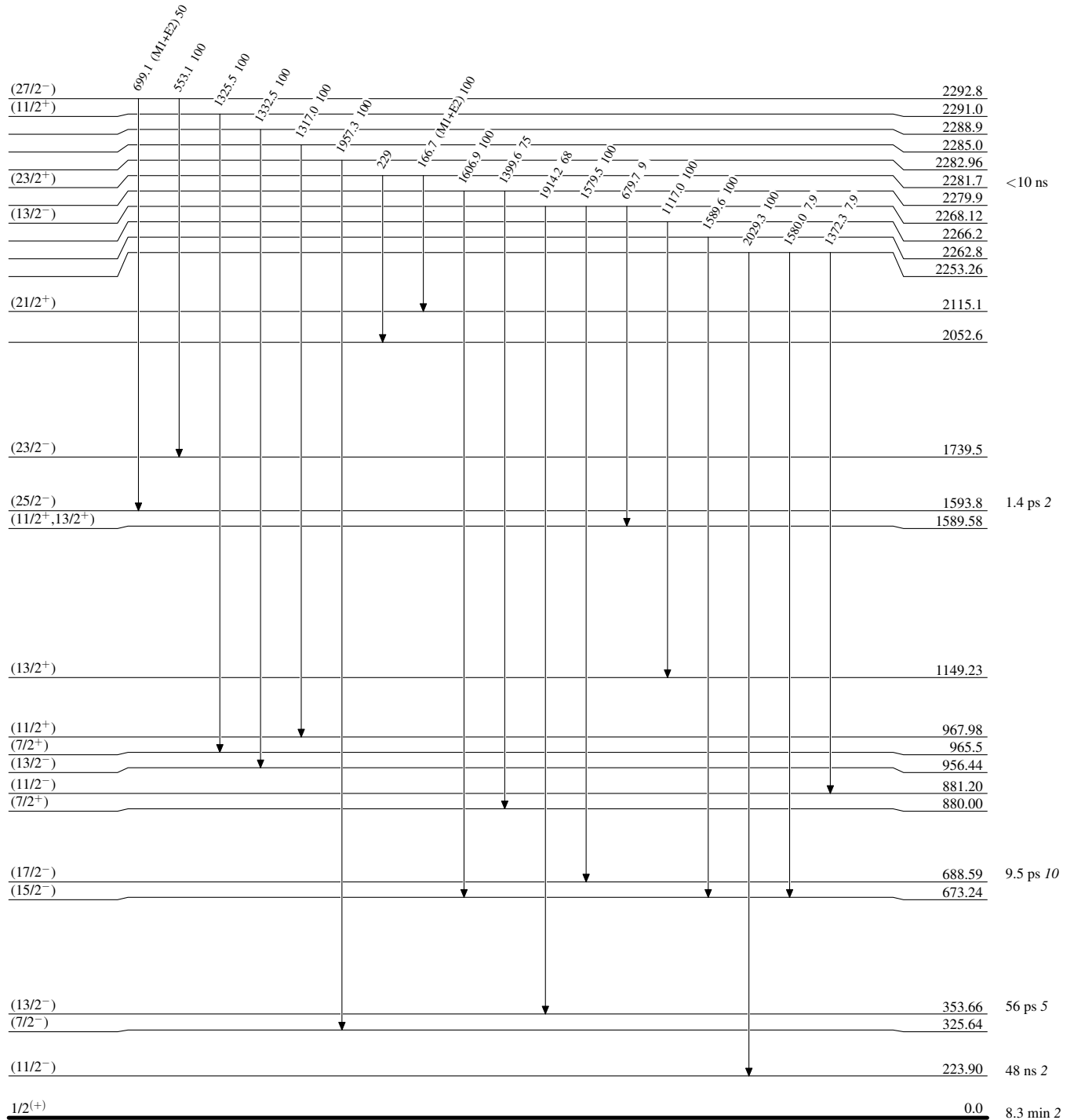
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



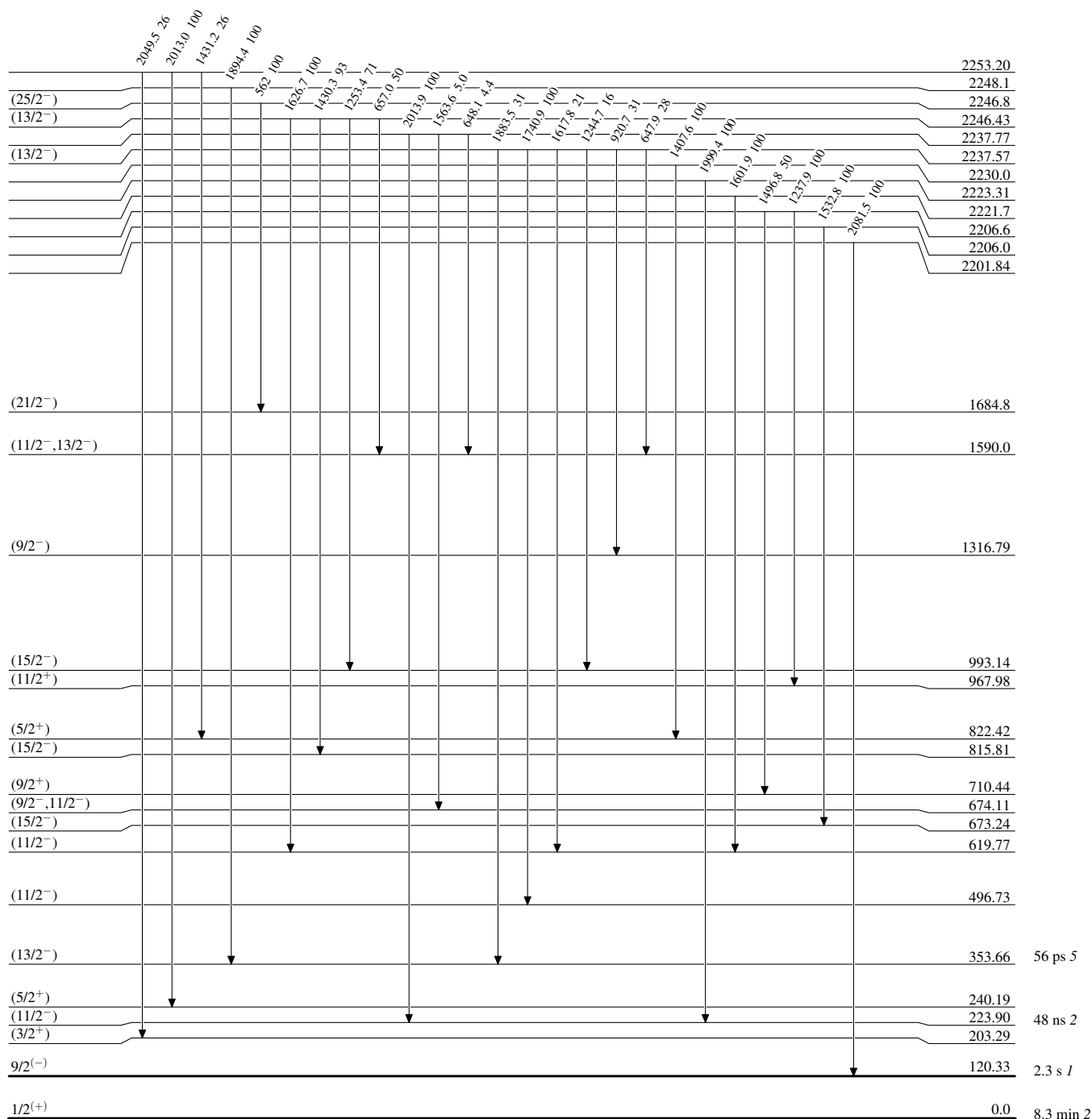
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



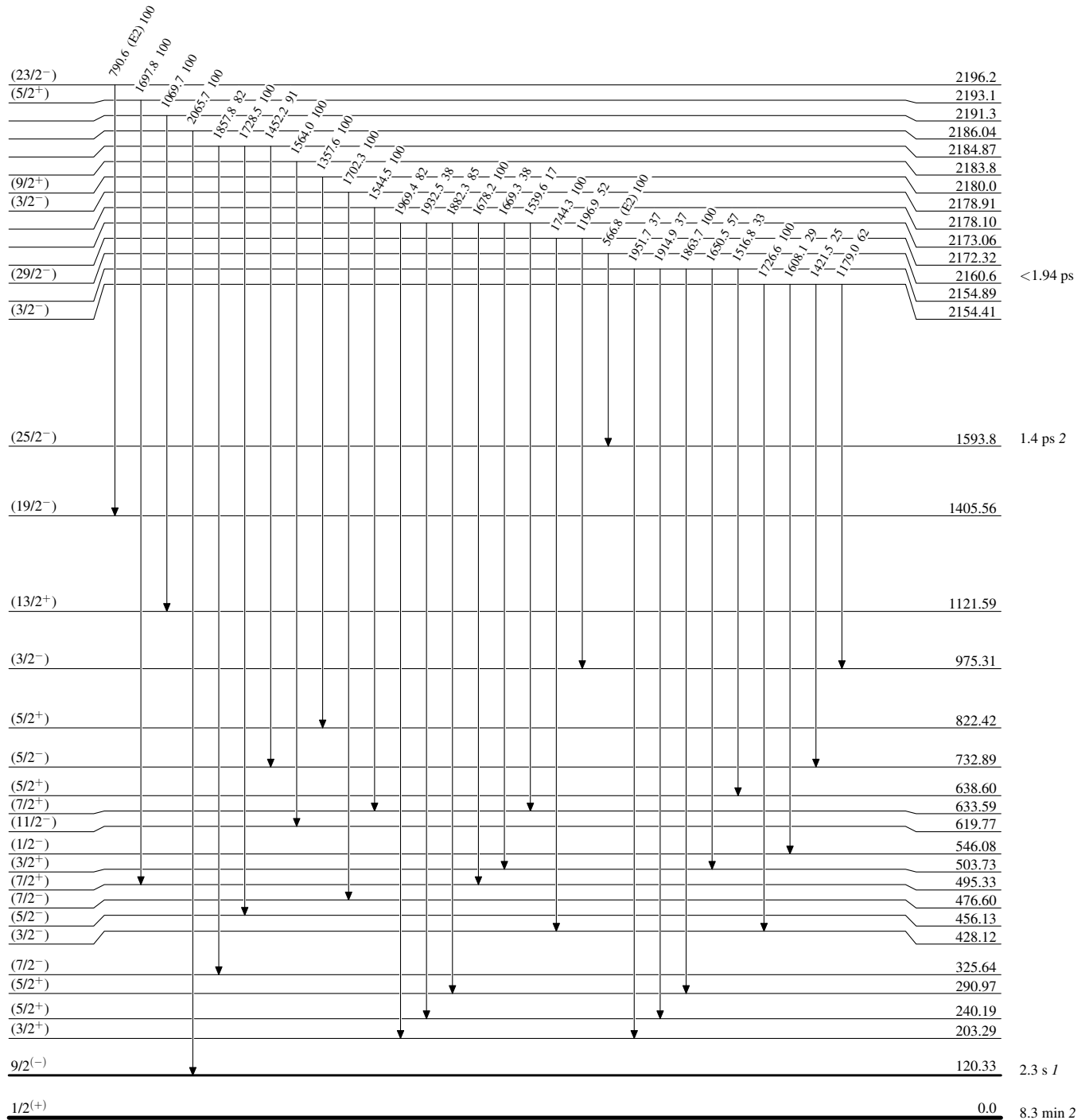
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



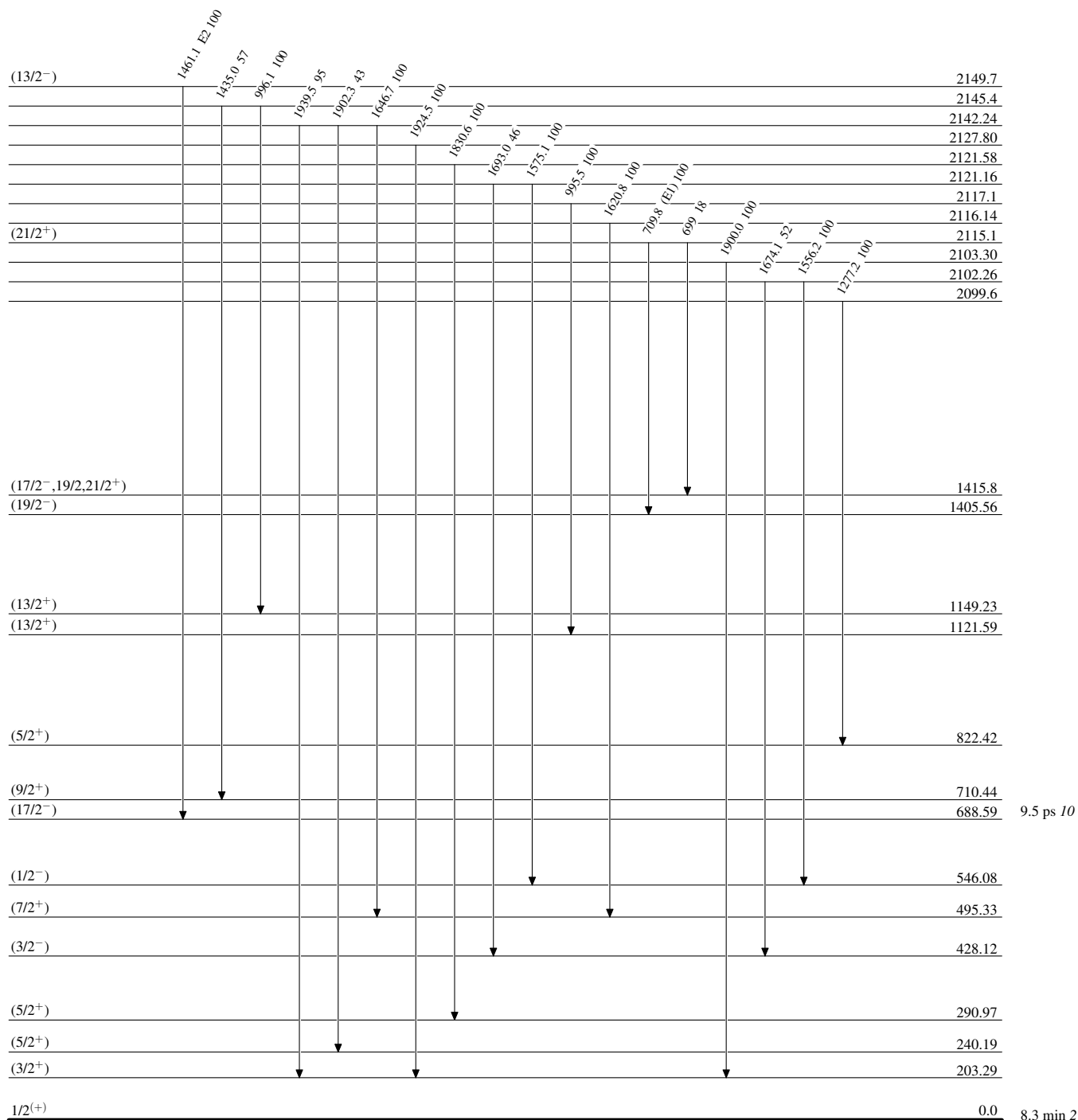
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



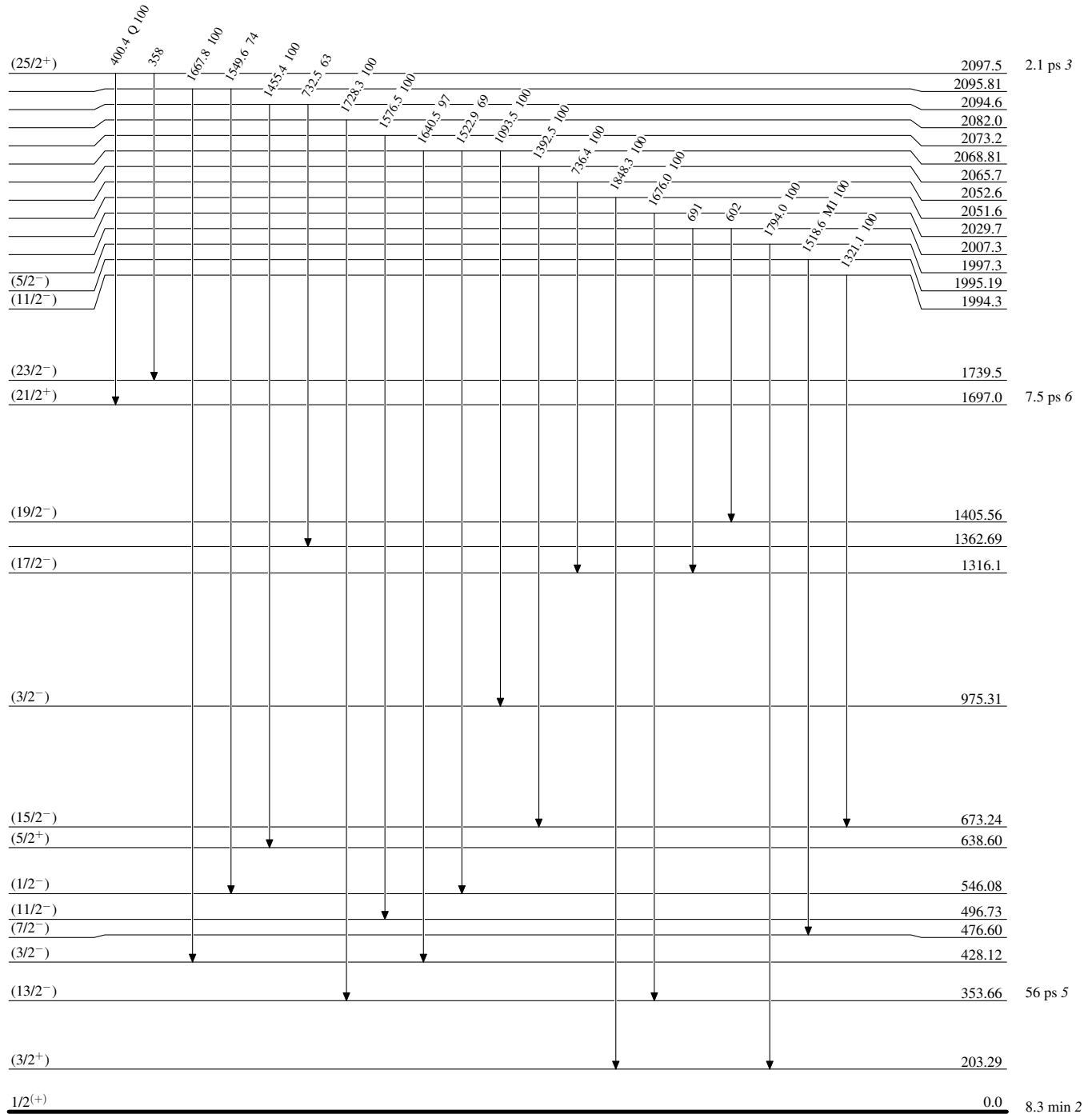
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



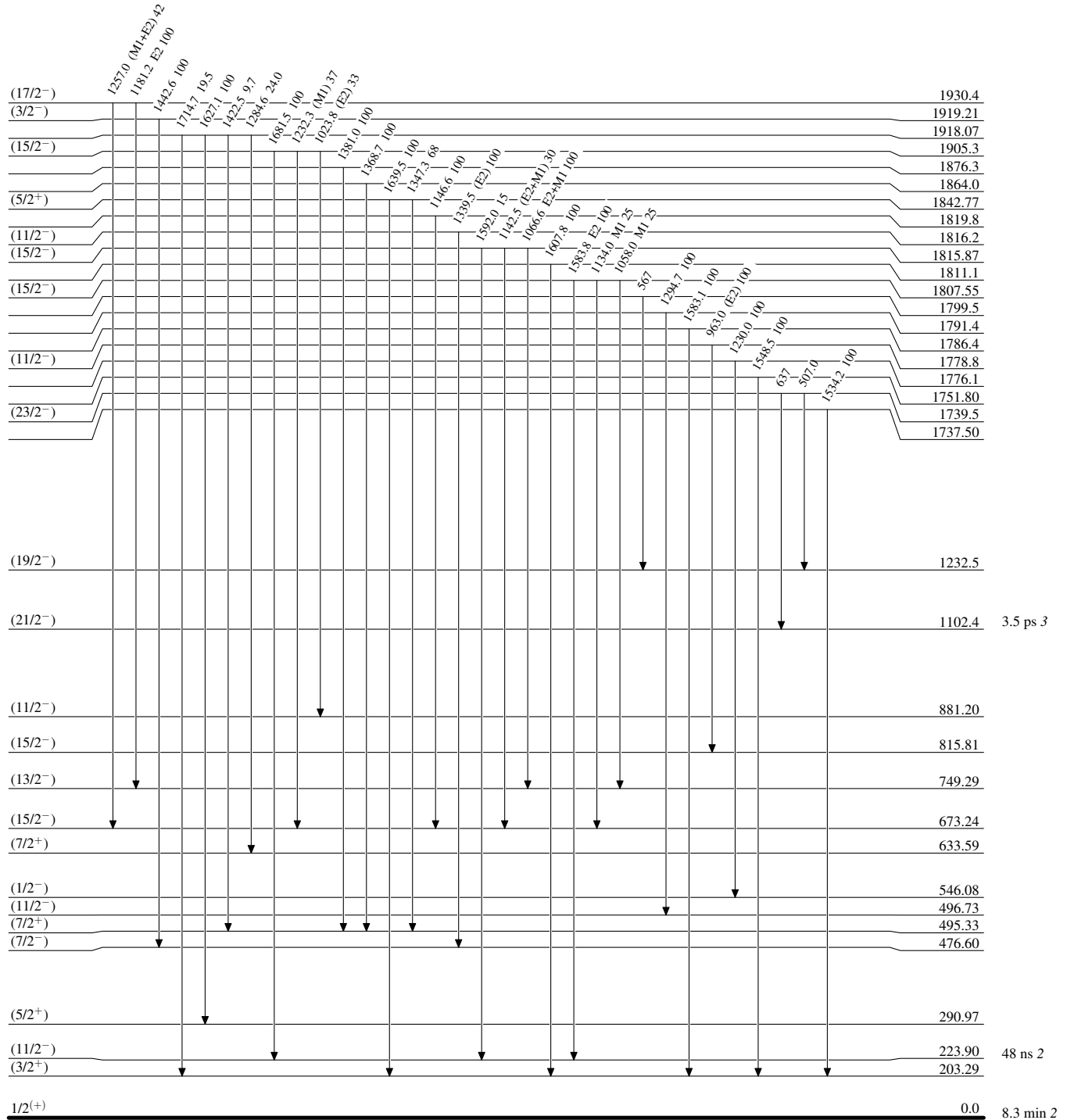
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



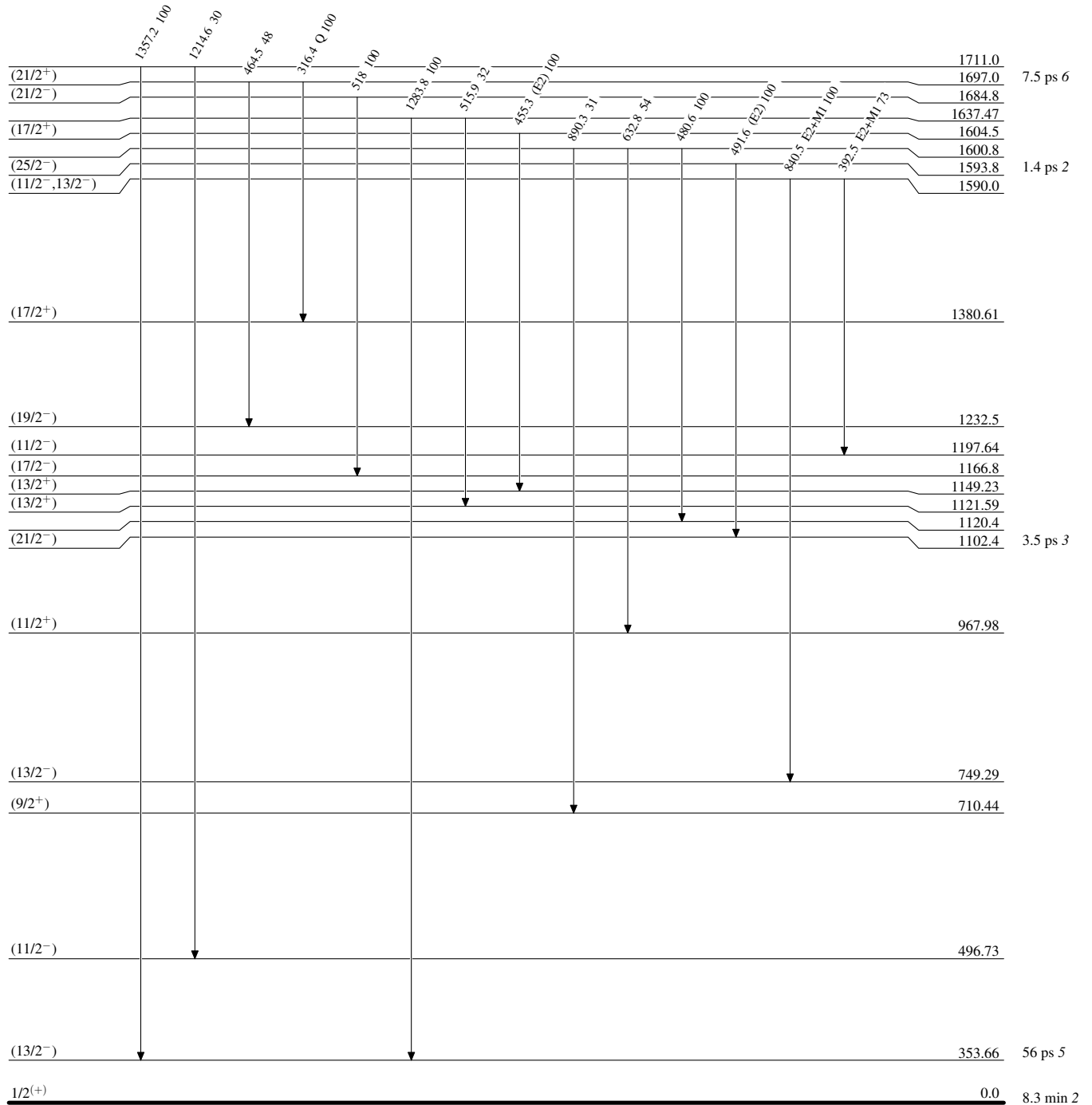
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



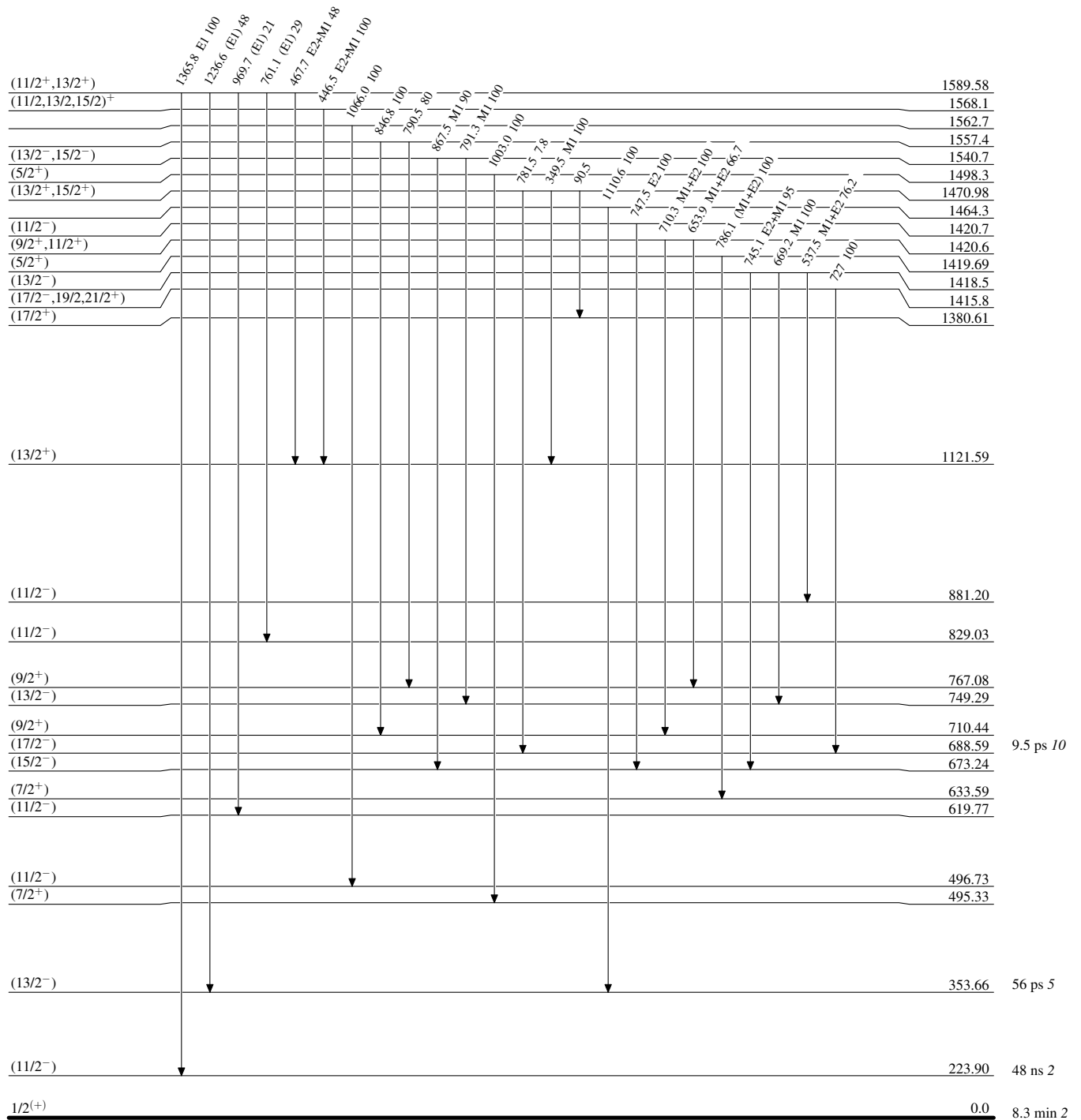
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

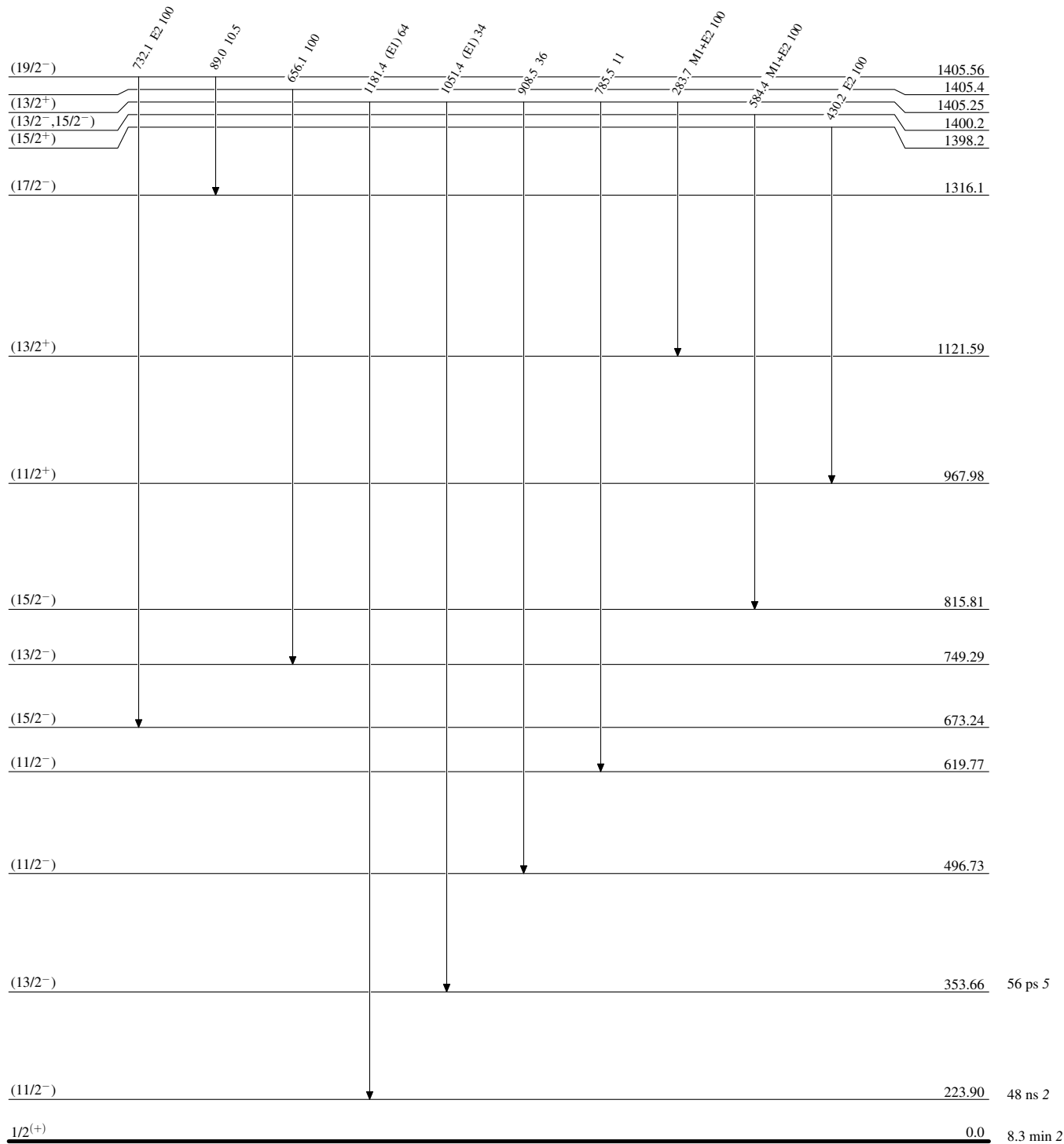
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

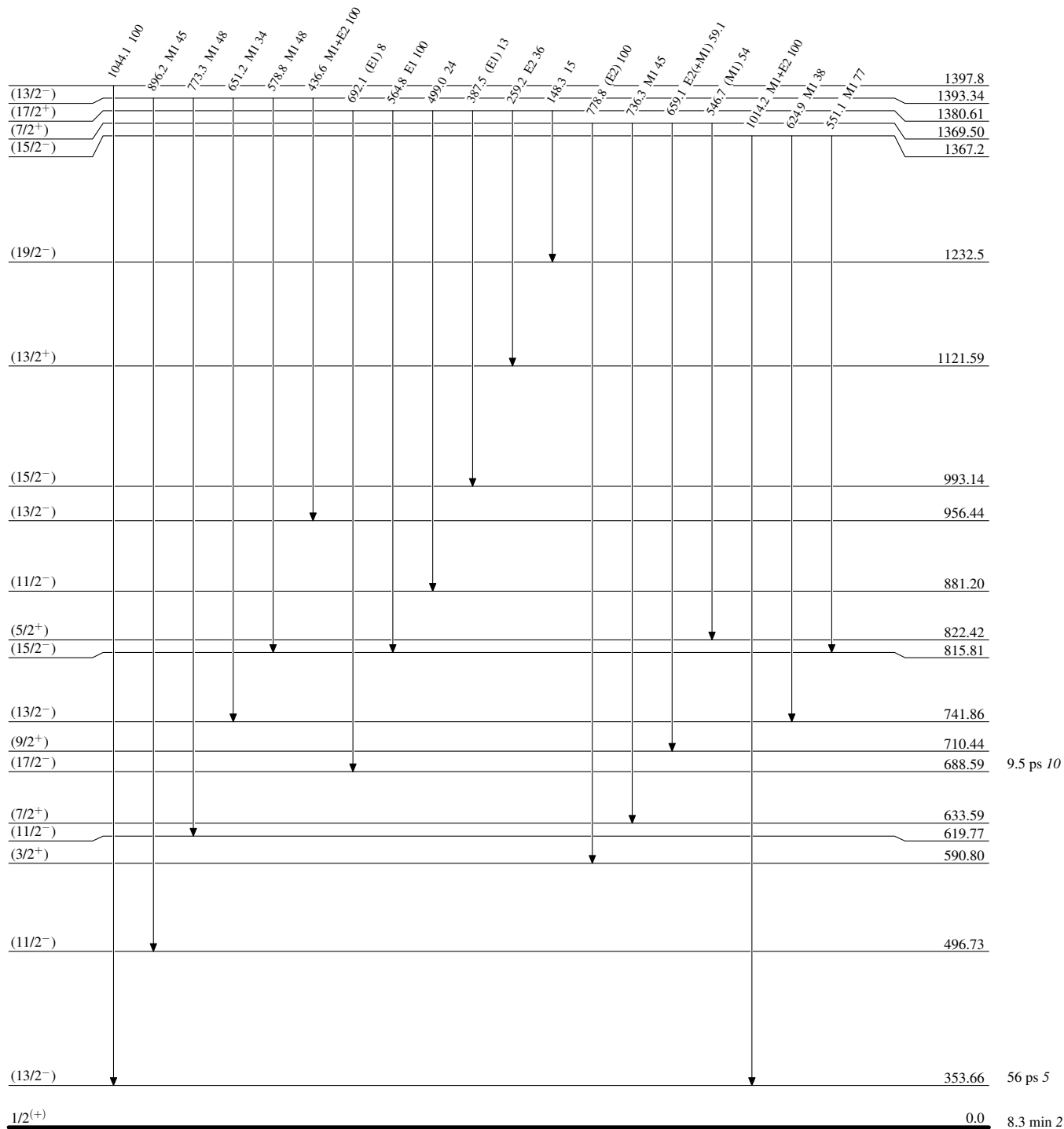
Level Scheme (continued)

Intensities: Relative photon branching from each level



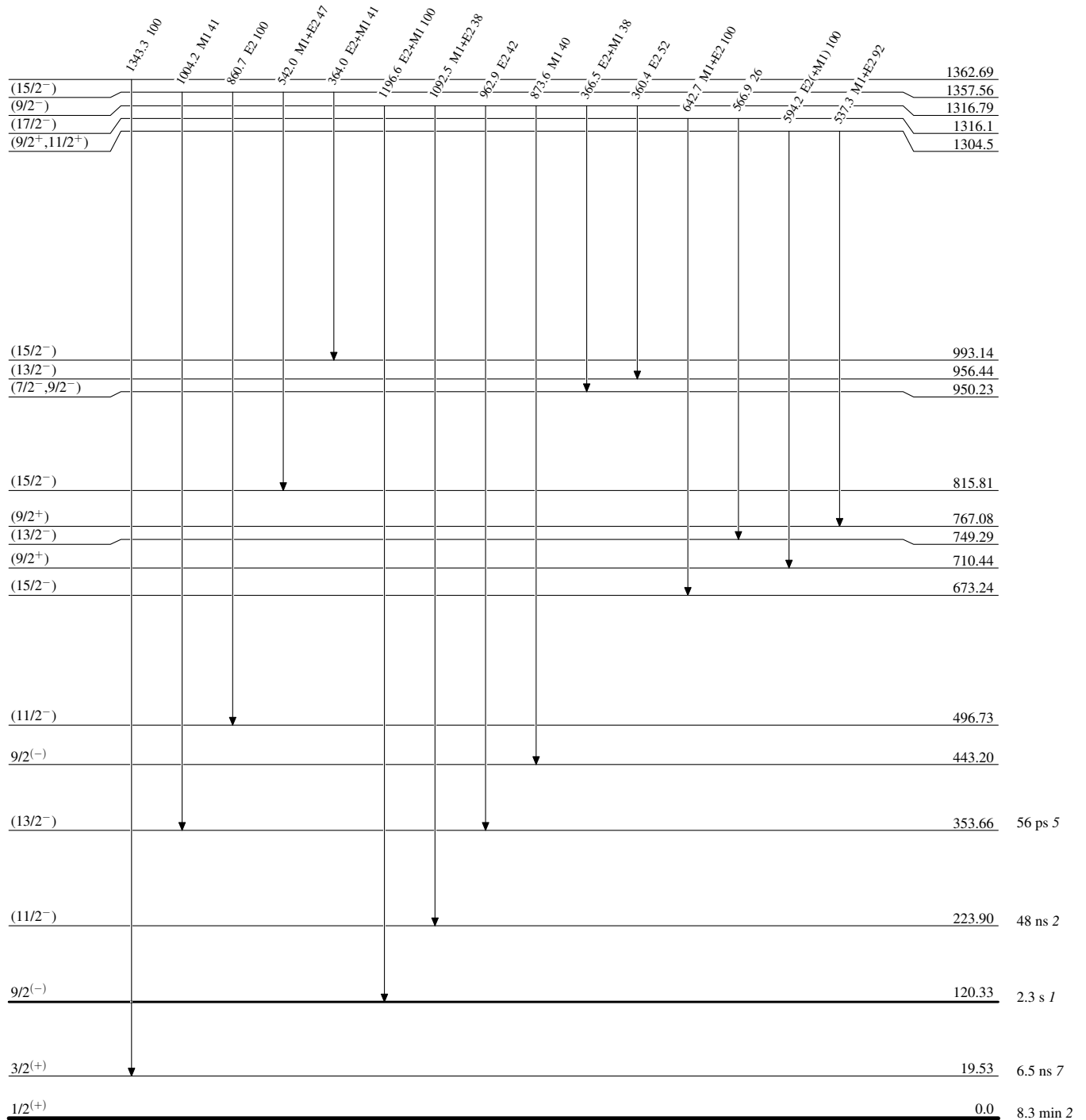
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



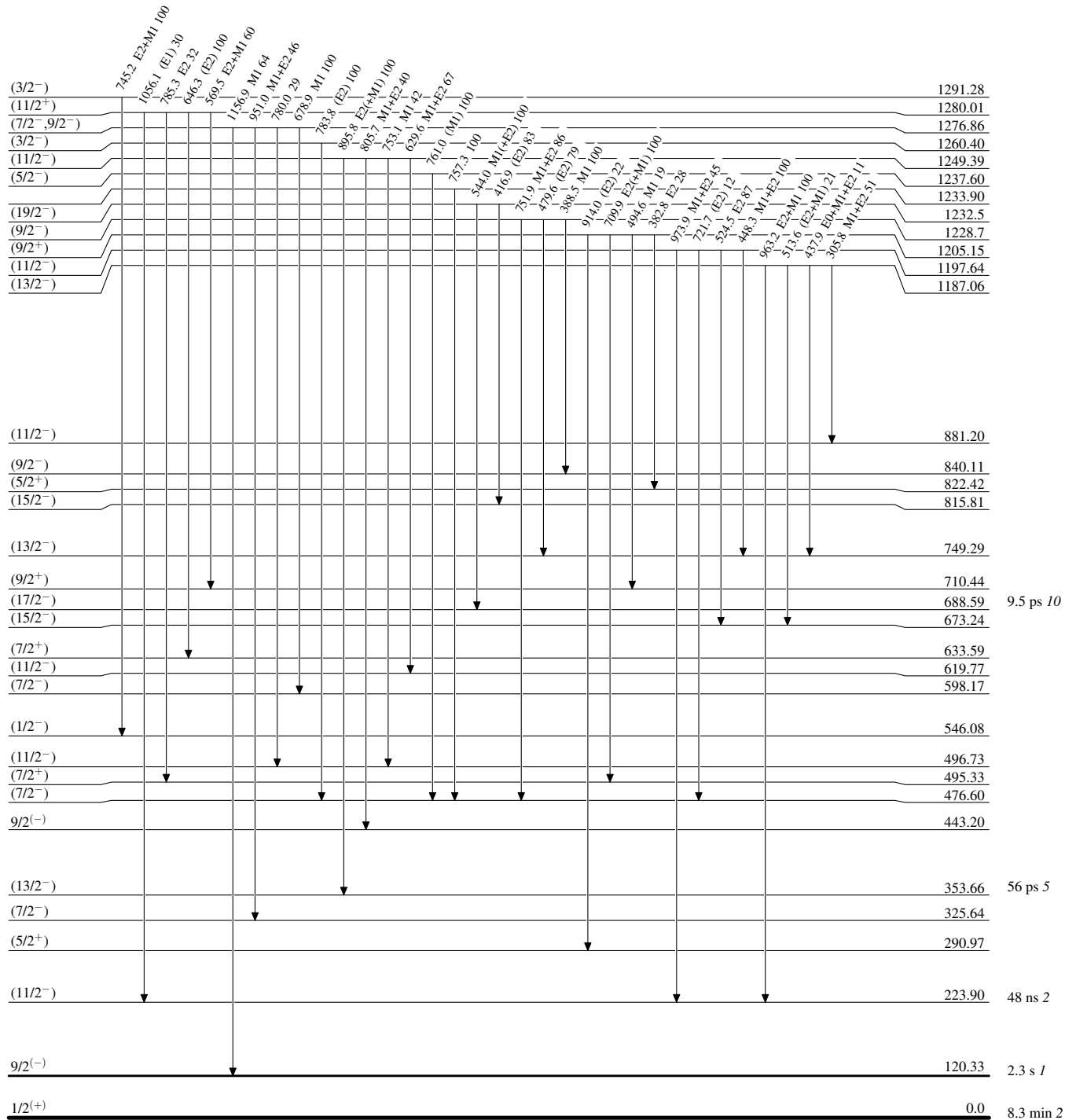
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



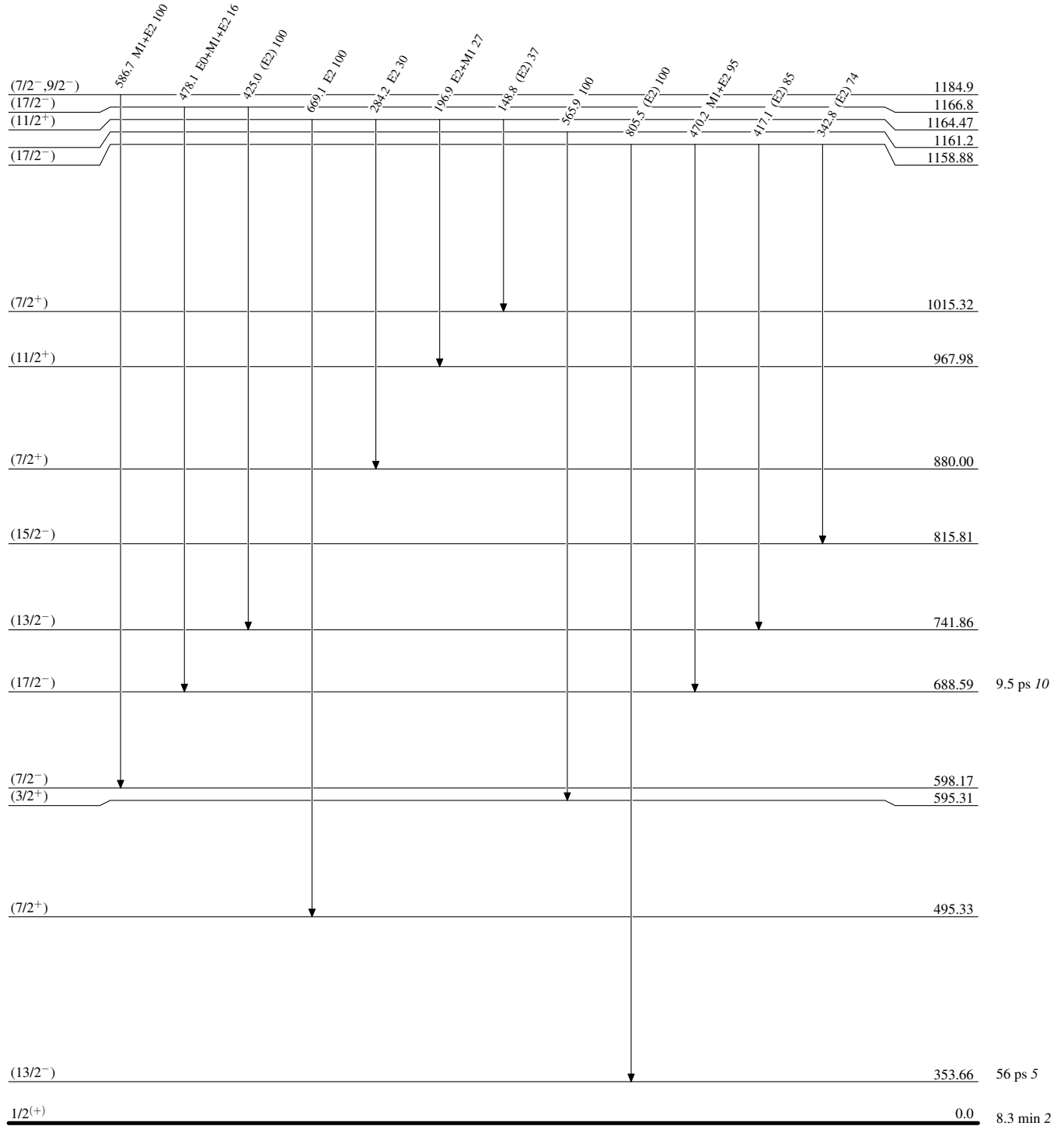
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



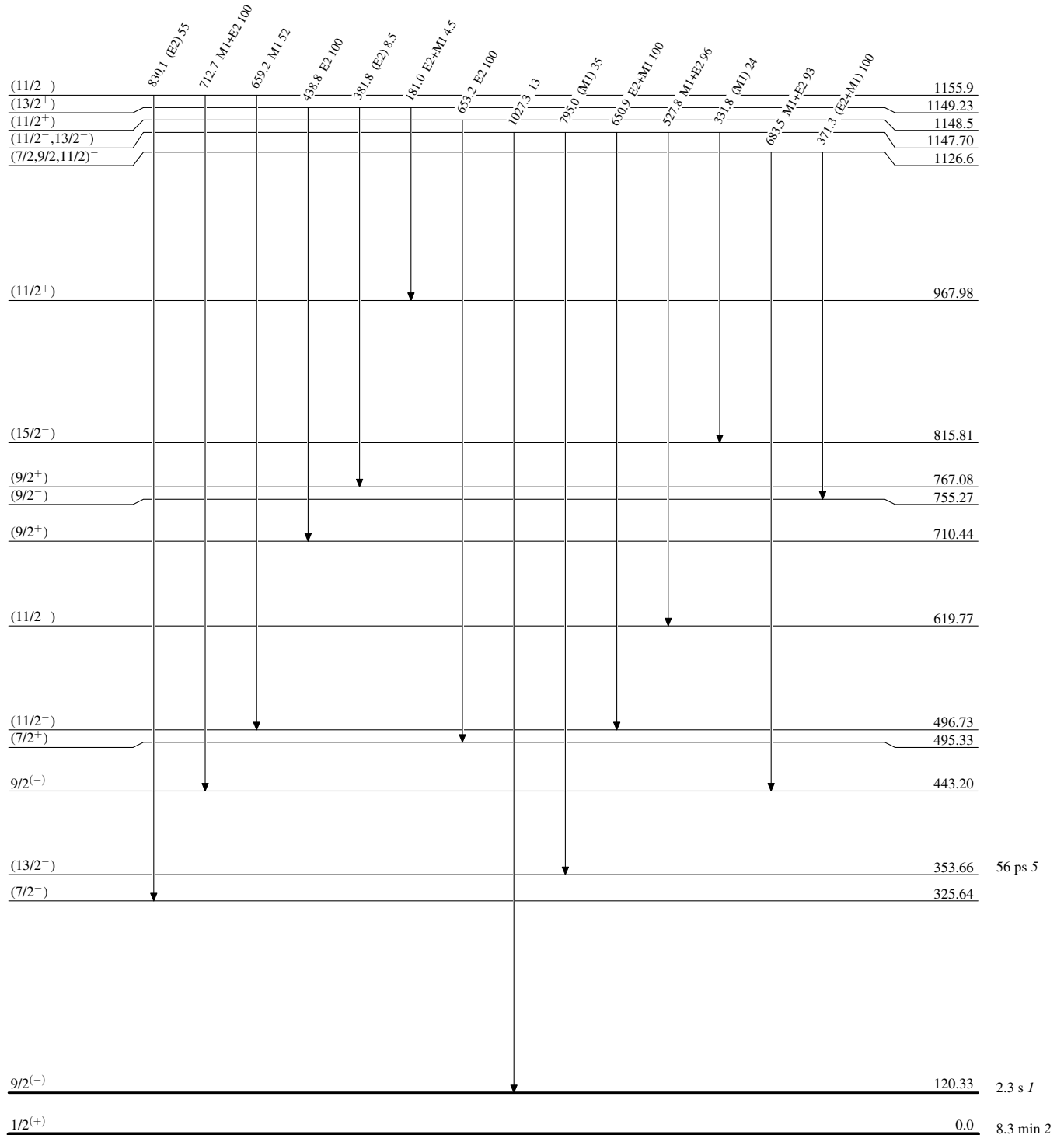
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



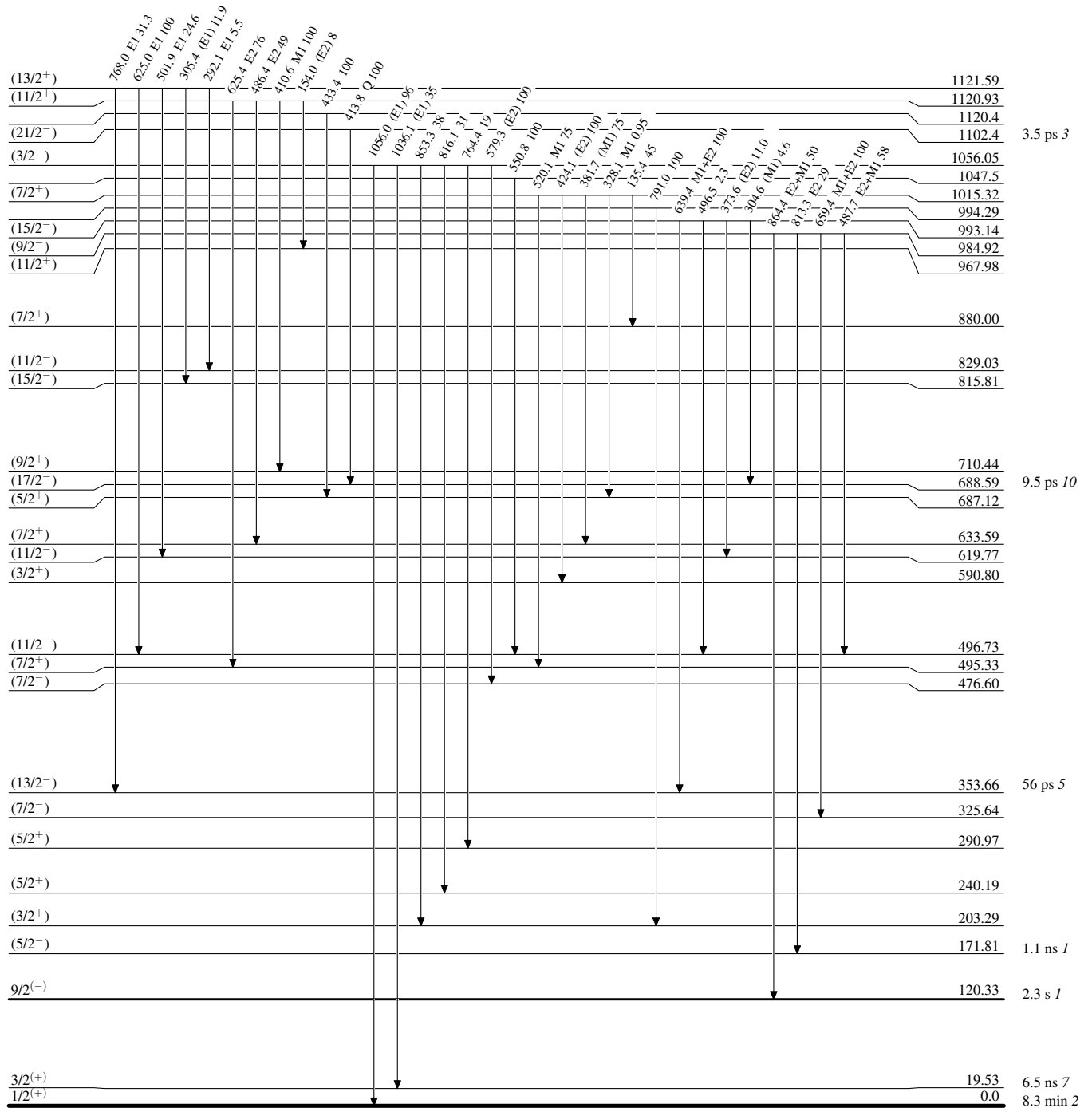
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



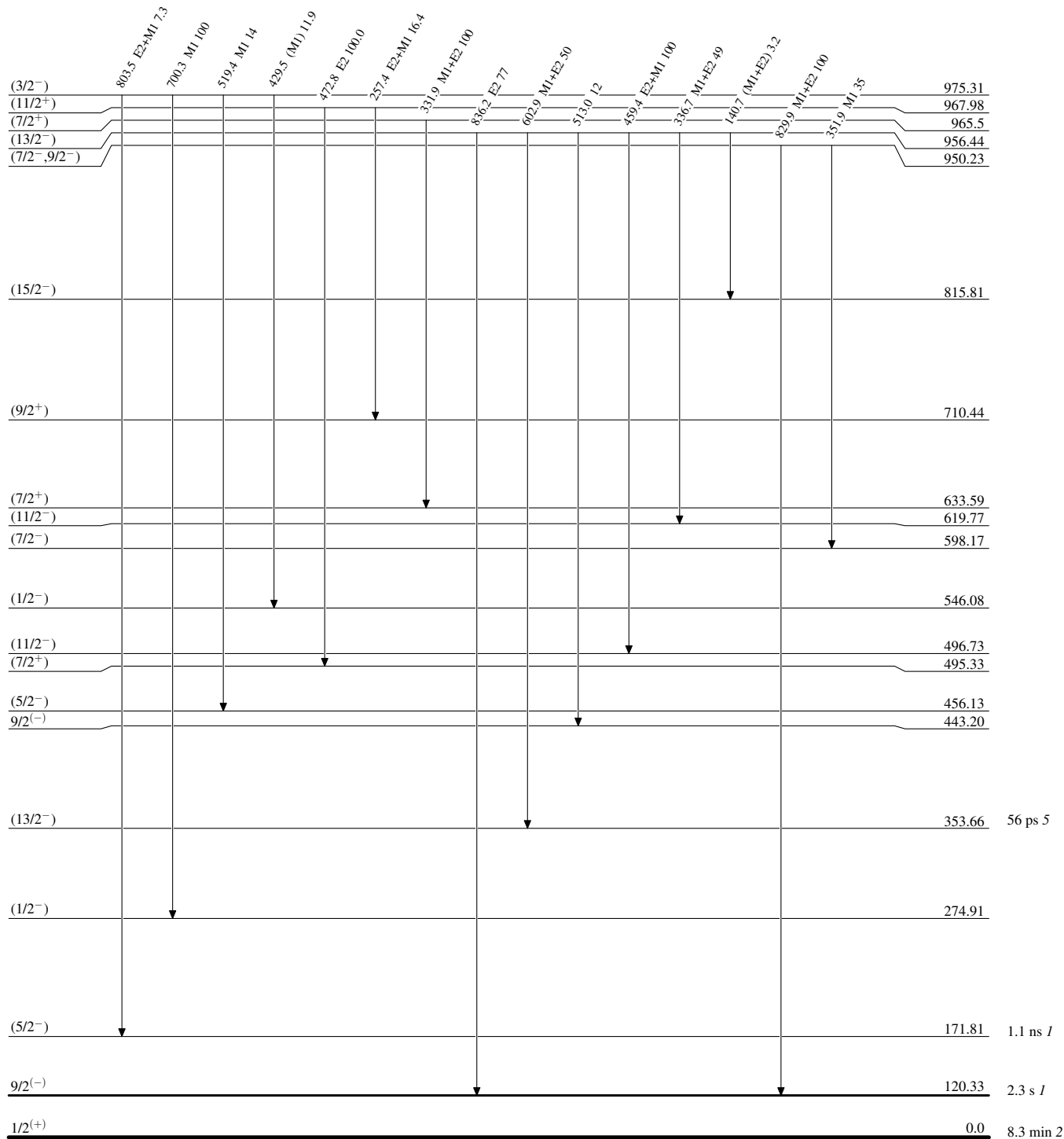
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



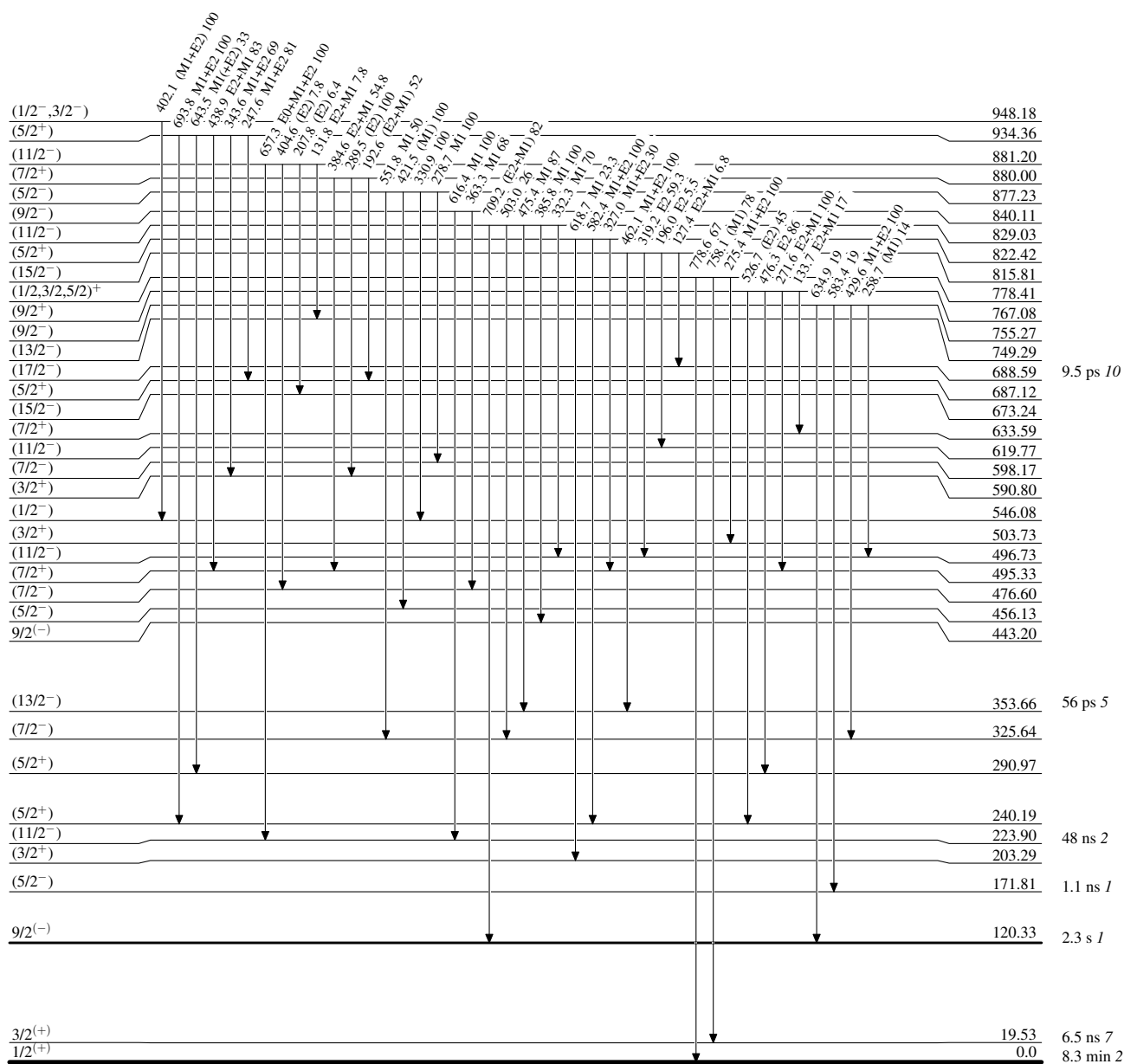
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



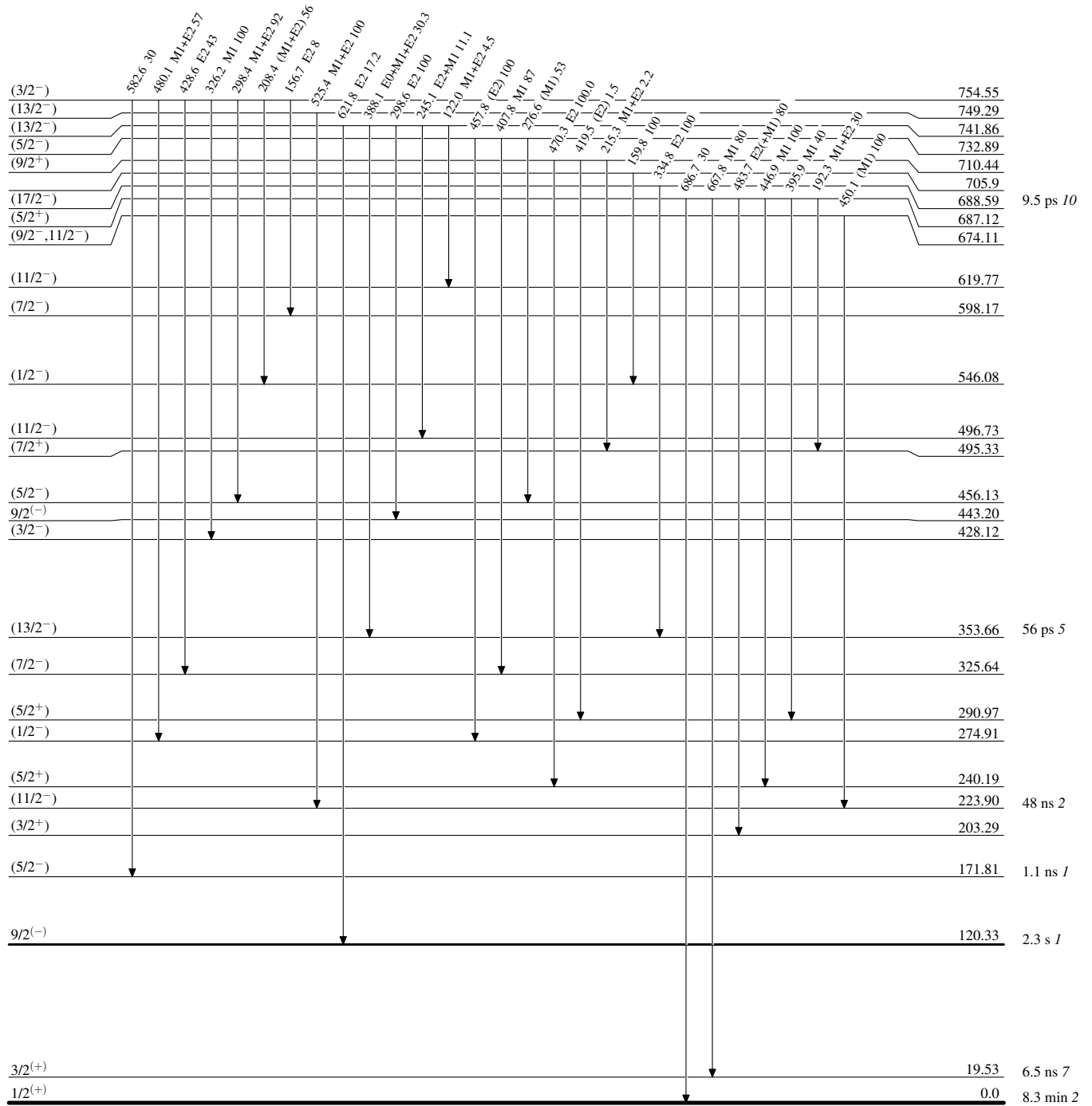
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

 $^{187}_{79}\text{Au}_{108}$

Adopted Levels, Gammas**Level Scheme (continued)**

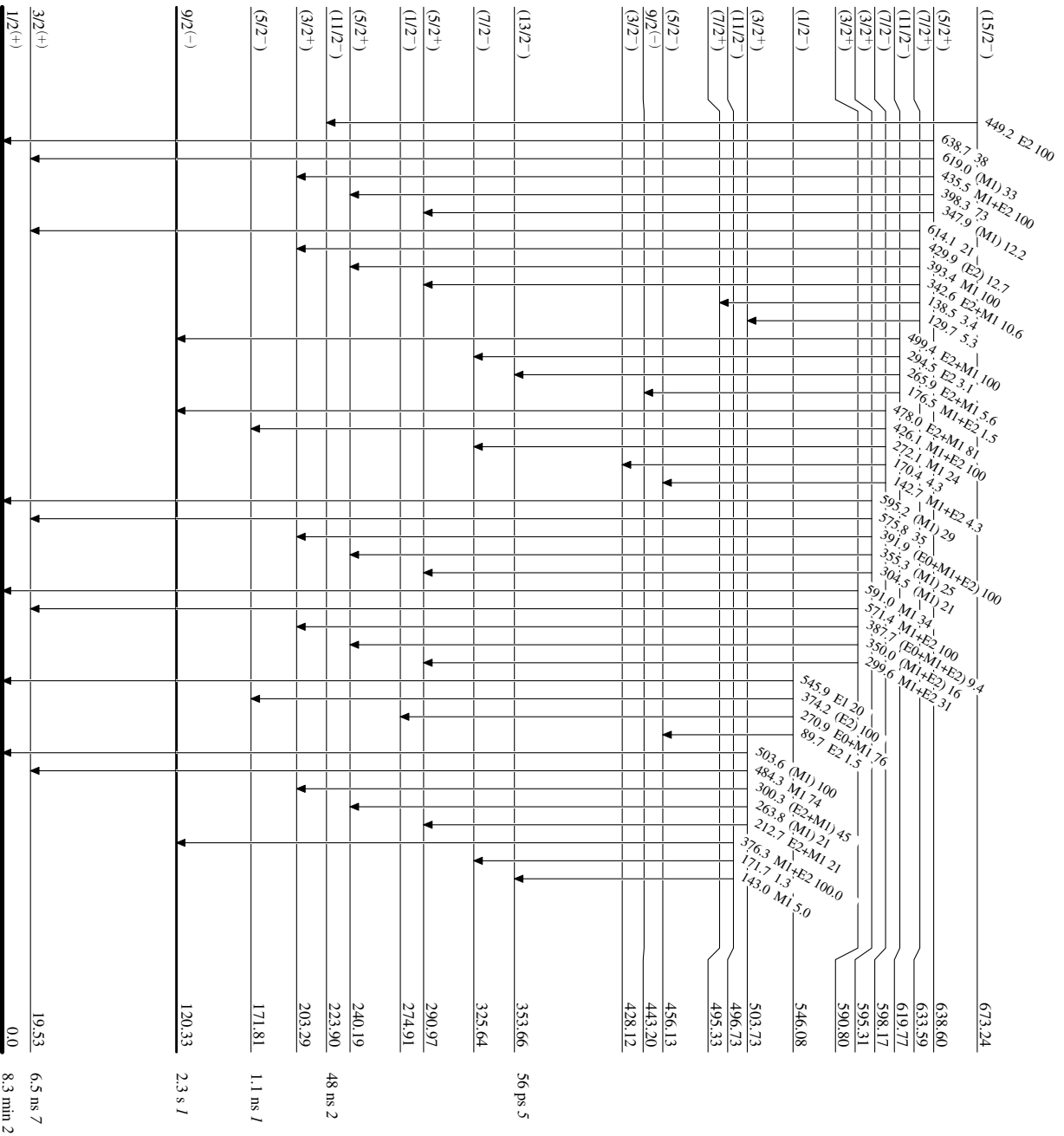
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

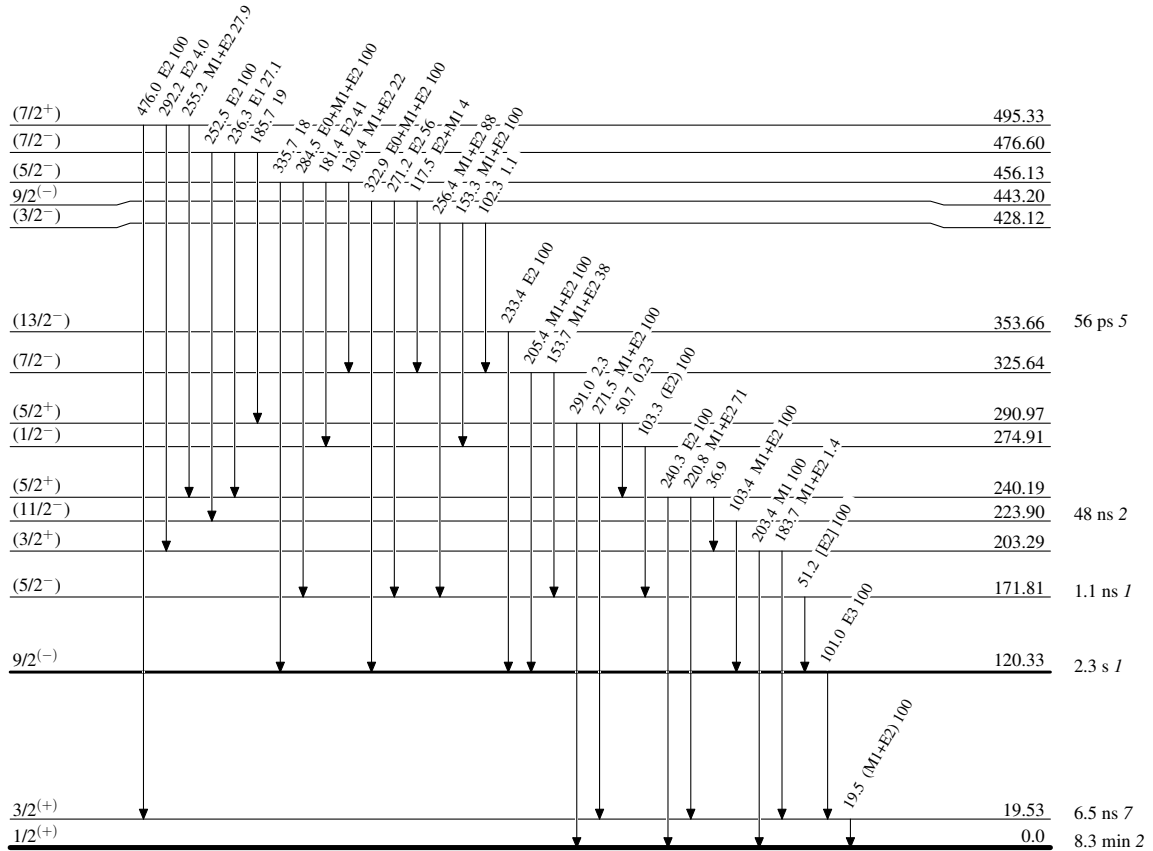
Level Scheme (continued)

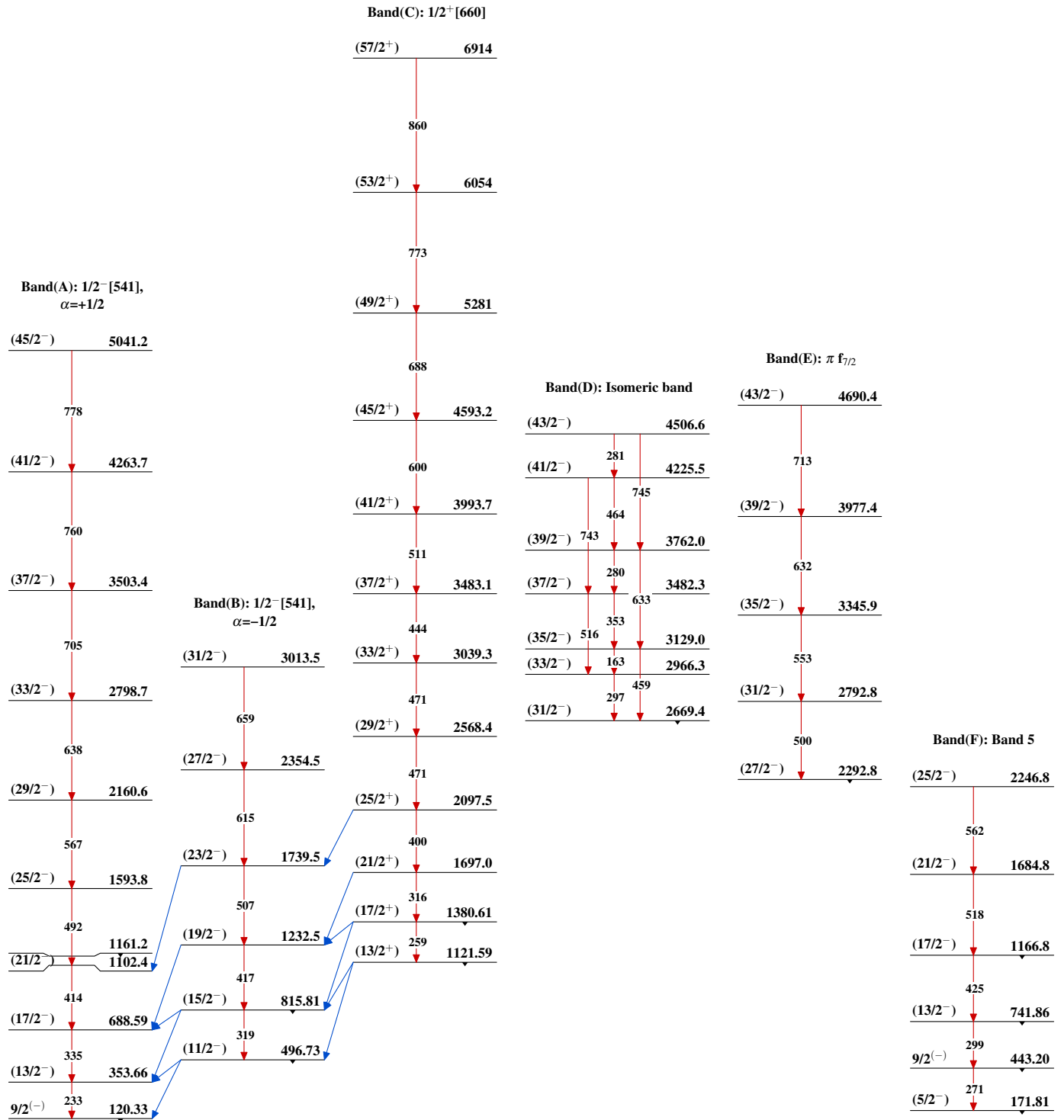
Intensities: Relative photon branching from each level



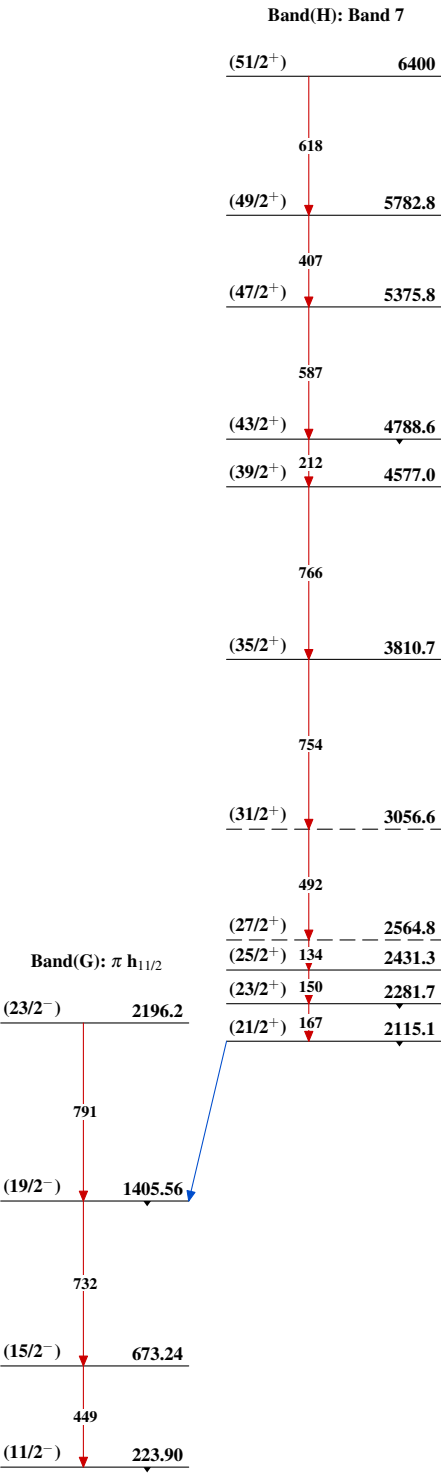
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

 $^{187}_{79}\text{Au}_{108}$

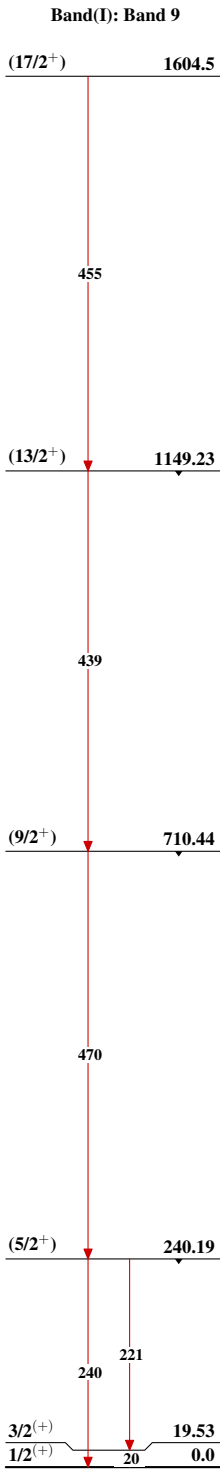
Adopted Levels, Gammas

Adopted Levels, Gammas (continued)



$^{187}_{79}\text{Au}_{108}$

Adopted Levels, Gammas (continued)



$^{187}_{79}\text{Au}_{108}$