

$^{208}\text{Pb}(^{14}\text{C},3n\gamma) E=67 \text{ MeV}$ **1987Co36**

Type	Author	History	Literature Cutoff Date
Full Evaluation	Balraj Singh et al. ,	Citation NDS 175, 1 (2021)	19-May-2021

1987Co36 (also **1986Co05**): $E(^{14}\text{C})=60\text{--}78 \text{ MeV}$. Measured $E\gamma$, $I\gamma$, γ -ray excitation functions, $\gamma\gamma$ -coin, $\gamma(\theta)$ at six angles between 0° and 90° , conversion coefficients using Ge(Li) and Si(Li) detectors, with magnetic deflection of conversion electrons at the MP-7 tandem Van de Graaff accelerator of Brookhaven National Laboratory. Thick (50 mg/cm^2) and thin ($300 \mu\text{g/cm}^2$ on $225 \mu\text{g/cm}^2 \text{ Au}$) targets of enriched ^{208}Pb were used for the excitation function measurements. The $\gamma(\theta)$ and $\gamma\gamma$ -coin measurements were made at 67 and 68 MeV beam energy, respectively. The γ -ray intensities were probably from data at 67 MeV, as shown in γ -ray spectra in Fig. 2.

2001Sh14 (also **1993Sh43**): analyzed spectroscopic data from in-beam γ -ray and α -decay experiments. Deduced bands and configurations.

 ^{219}Ra Levels

Note that all the level energies in the side structure in Fig. 8 of **1987Co36** have either been revised or omitted with different placements of most of the associated γ rays in the later work of **1992Wi02** and **2017He15**. Comments are given with individual γ transitions.

E(level) [†]	J ^π #	T _{1/2}	Comments
0.0	7/2 ⁺		
16.6 [@] 3	11/2 ⁺	10 ms 3	% $\alpha \approx 100$ (2018Sa45); %IT=? T _{1/2} : isomer half-life from 2018Sa45 .
113.8 ^a 2	9/2 ⁺		
250.9 [@] 6	15/2 ⁺		E(level),J ^π : 234.3, 13/2 ⁺ in 1987Co36 .
447.2? 6			E(level): 430.6 in 1987Co36 . Level is treated as questionable as the 196.3 γ not reported in later studies (1992Wi02 and 2017He15). This level is not included in the Adopted dataset.
475.2 ^a 3	13/2 ⁺		
512.1 ^{&} 6	17/2 ⁻		E(level),J ^π : 495.4, 15/2 ⁻ in 1987Co36 .
545.1 [@] 7	19/2 ⁺		E(level),J ^π : 529.1, 17/2 ⁺ in 1987Co36 .
603.9 ^b 4	15/2 ⁻		
750.5 ^{&} 7	21/2 ⁻		E(level),J ^π : 733.7, 19/2 ⁻ in 1987Co36 . B(E1)/B(E2)= $2.52 \times 10^{-6} \text{ fm}^{-2}$ 18 (1987Co36).
852.9 ^a 11	17/2 ⁺		
876.8 6	17/2 ⁺		E(level): 859.9 in 1987Co36 .
892.3 [@] 7	23/2 ⁺		E(level),J ^π : 876.6, 21/2 ⁺ in 1987Co36 . B(E1)/B(E2)= $1.12 \times 10^{-6} \text{ fm}^{-2}$ 8 (1987Co36).
937.5 ^b 4	19/2 ⁻		E(level),J ^π : 876.3, (19/2 ⁻) in 1987Co36 .
1052.1 ^{&} 7	25/2 ⁻		E(level),J ^π : 1035.6, 23/2 ⁻ in 1987Co36 . B(E1)/B(E2)= $1.49 \times 10^{-6} \text{ fm}^{-2}$ 10 (1987Co36).
1246.1 ^a 5	21/2 ⁺		
1287.4 [@] 7	27/2 ⁺		E(level),J ^π : 1271.6, 25/2 ⁺ in 1987Co36 . B(E1)/B(E2)= $1.23 \times 10^{-6} \text{ fm}^{-2}$ 16 (1987Co36).
1324.9 ^b 5	23/2 ⁻		E(level),J ^π : 1263.7, (23/2 ⁻) in 1987Co36 .
1410.0 ^{&} 7	29/2 ⁻		E(level),J ^π : 1393.6, 27/2 ⁻ in 1987Co36 . B(E1)/B(E2)= $1.16 \times 10^{-6} \text{ fm}^{-2}$ 8 (1987Co36).
1637.9 ^a 11	25/2 ⁺		E(level),J ^π : tentative 1938 level in 1987Co36 .
1700.5 [@] 7	31/2 ⁺		E(level),J ^π : 1684.7, 29/2 ⁺ in 1987Co36 . B(E1)/B(E2)= $2.8 \times 10^{-6} \text{ fm}^{-2}$ 6 (1987Co36).
1738.9 ^b 5	27/2 ⁻		

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$^{208}\text{Pb}(^{14}\text{C}, 3n\gamma) E=67 \text{ MeV}$ **1987Co36 (continued)** ^{219}Ra Levels (continued)

E(level) [†]	J ^π #	Comments
1831.9 ^{&} 7	33/2 ⁻	E(level), J ^π : 1815.6, 31/2 ⁻ in 1987Co36 . B(E1)/B(E2)=1.41×10 ⁻⁶ fm ⁻² 9 (1987Co36).
2040.9 ^a 11	29/2 ⁺	
2129.2 [@] 7	35/2 ⁺	E(level), J ^π : 2113.4, 33/2 ⁺ in 1987Co36 . B(E1)/B(E2)=3.68×10 ⁻⁶ fm ⁻² 26 (1987Co36).
2154.0 ^b 7	31/2 ⁻	E(level), J ^π : 2040.2, (31/2 ⁻) in 1987Co36 .
2288.5 ^{&} 7	37/2 ⁻	E(level), J ^π : 2272.1, 35/2 ⁻ in 1987Co36 . B(E1)/B(E2)=2.14×10 ⁻⁶ fm ⁻² 30 (1987Co36).
2461.7 ^a 8	33/2 ⁺	
2579.4 [@] 8	39/2 ⁺	E(level), J ^π : 2563.6, 37/2 ⁺ in 1987Co36 . B(E1)/B(E2)=1.96×10 ⁻⁶ fm ⁻² 14 (1987Co36).
2767.0 ^{&} 8	41/2 ⁻	E(level), J ^π : 2750.8, 39/2 ⁻ in 1987Co36 . B(E1)/B(E2)=1.76×10 ⁻⁶ fm ⁻² 18 (1987Co36).
3044.9 [@] 8	43/2 ⁺	E(level), J ^π : 3029.0, 41/2 ⁺ in 1987Co36 . B(E1)/B(E2)=1.06×10 ⁻⁶ fm ⁻² 17 (1987Co36).
3271.8 ^{‡&} 8	45/2 ⁻	E(level), J ^π : 3255.8, 43/2 ⁻ in 1987Co36 . B(E1)/B(E2)=2.08×10 ⁻⁶ fm ⁻² 28 (1987Co36).
3521.3 ^{‡@} 8	47/2 ⁺	E(level), J ^π : 3505.0, 45/2 ⁺ in 1987Co36 . B(E1)/B(E2)=3.34×10 ⁻⁶ fm ⁻² 48 (1987Co36).
3792.6 ^{‡&} 8	49/2 ⁻	E(level), J ^π : 3776.5, 47/2 ⁺ in 1987Co36 . B(E1)/B(E2)=1.3×10 ⁻⁶ fm ⁻² 4 (1987Co36).
4024.9 ^{‡@} 8	51/2 ⁺	E(level), J ^π : 4009.6, 49/2 ⁺ in 1987Co36 . B(E1)/B(E2)=2.4×10 ⁻⁶ fm ⁻² 4 (1987Co36).
4345.3 ^{‡&} 8	53/2 ⁻	E(level), J ^π : 4328.9, 51/2 ⁻ in 1987Co36 . This level is considered uncertain by evaluators, and is not included in the Adopted dataset. B(E1)/B(E2)=4.0×10 ⁻⁶ fm ⁻² 9 (1987Co36).
4555.7 [?] 13	(55/2 ⁺)	E(level), J ^π : 4540.4, (53/2 ⁺) in 1987Co36 , tentative level in 1987Co36 . This level is not included in the Adopted dataset.
4930.0 [?] 10		E(level): tentative 4913.6 in 1987Co36 . This level is not listed in the Adopted dataset.

[†] Deduced from least-squares fit to γ -ray energies. The levels are based on 7/2⁺ g.s. and 16.7, 11/2⁺ first excited state as proposed in [2000Ri12](#) and [2017He15](#), thus the level energies listed [1987Co36](#) are adjusted as needed. The side structure of the level scheme proposed by [1987Co36](#) has been almost totally modified, as guided by data in [1992Wi02](#) and [2017He15](#).

[‡] Claimed as a new level by [2017He15](#), but a similar level was reported by [1987Co36](#) with nearly the same set of gamma transitions.

For g.s. band, as given in [1987Co36](#), but adjusted upwards by one unit of spin to conform to the spin assignments in [2017He15](#). For the side band, the assignments are from [2017He15](#), as the level scheme for this structure, as suggested by [1987Co36](#), has undergone major modifications in the work of [1992Wi02](#) and [2017He15](#).

@ Band(A): Band based on 11/2⁺. Alternating-parity band. Average B(E1)/B(E2)=2.09×10⁻⁶ fm⁻² 9 ([1987Co36](#)).

& Band(a): Band based on 17/2⁻. Alternating-parity band. Average B(E1)/B(E2)=2.09×10⁻⁶ fm⁻² 9 ([1987Co36](#)).

^a Band(B): Band based on 9/2⁺.

^b Band(b): Band based on 15/2⁻.

$^{208}\text{Pb}(^{14}\text{C}, 3n\gamma) E=67 \text{ MeV}$ **1987Co36 (continued)** $\gamma(^{219}\text{Ra})$

A_2 , A_4 , $\alpha(K)\text{exp}$ and $\alpha(L)\text{exp}$ values are from **1987Co36**.

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α @	Comments
97.2 2		113.8	9/2 ⁺	16.6	11/2 ⁺			E_γ : from 2000Ri12 , uncertainty assigned by evaluators. The γ was not listed in 1987Co36 .
113.8 2		113.8	9/2 ⁺	0.0	7/2 ⁺			E_γ : from 2000Ri12 , uncertainty assigned by evaluators. This γ is not given in 1987Co36 .
122.5 2	14.5 7	1410.0	29/2 ⁻	1287.4	27/2 ⁺	D		$A_2=-0.27$ 1
128.7 2	6.7 3	603.9	15/2 ⁻	475.2	13/2 ⁺	(E1)	0.260	$A_2=-0.24$ 1 Placement from 1992Wi02 and 2017He15 . 1987Co36 placed it from a 128.7, (11/2 ⁻) level in the same band as in 1992Wi02 , but with a different ordering of γ rays in a cascade.
131.4 2	7.7 4	1831.9	33/2 ⁻	1700.5	31/2 ⁺	D		$A_2=-0.27$ 1
141.5 2	32.7 16	892.3	23/2 ⁺	750.5	21/2 ⁻	(E1)	0.207	$A_2=-0.27$ 1
159.6 & 5	43.3 & 22	1052.1	25/2 ⁻	892.3	23/2 ⁺	[E1]	0.1545	E_γ : double placement with divided intensity.
159.6 & 5	7.2 & 10	2288.5	37/2 ⁻	2129.2	35/2 ⁺			E_γ : doublet with intensity divided.
187.7 3	2.2 1	2767.0	41/2 ⁻	2579.4	39/2 ⁺	D		$A_2=-0.25$ 2
196.3 ^a 2	10.1 5	447.2?		250.9	15/2 ⁺			$A_2=+0.23$ 1; $A_4=+0.11$ 1 Assignment to ^{219}Ra is considered questionable by evaluators, as this γ is not reported by 1992Wi02 and 2017He15 , thus this γ is not included in the Adopted dataset.
205.1 2	67.9 34	750.5	21/2 ⁻	545.1	19/2 ⁺	E1	0.0849	$\alpha(L)\text{exp}<0.018$; $A_2=-0.22$ 1
226.8 [#] 2	1.6 2	3271.8	45/2 ⁻	3044.9	43/2 ⁺	D		$A_2=-0.23$ 7
231.9 [#] 5	1.4 3	4024.9	51/2 ⁺	3792.6	49/2 ⁻			E_γ : doublet with a γ in ^{220}Ra .
234.3 5	120.6 60	250.9	15/2 ⁺	16.6	11/2 ⁺	[E2]	0.336	E_γ : 234.3 and 234.5 form a doublet in ^{219}Ra .
234.5 5	19.6 23	1287.4	27/2 ⁺	1052.1	25/2 ⁻			E_γ : 234.5 and 234.3 form a doublet in ^{219}Ra .
238.3 2	1.9 1	750.5	21/2 ⁻	512.1	17/2 ⁻	(E2)	0.316	$A_2=+0.47$ 4; $A_4=-0.17$ 6
249 1	1.9 2	852.9	17/2 ⁺	603.9	15/2 ⁻			Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ from a 792 level feeding 495.4 level (corresponding 512.5 level here).
249.5 [#] 5	3.3 4	3521.3	47/2 ⁺	3271.8	45/2 ⁻			E_γ : 249.5 and 249 form a doublet in ^{219}Ra .
261.1 2	26.3 13	512.1	17/2 ⁻	250.9	15/2 ⁺	E1	0.0482	E_γ : 249.5 and 249 form a doublet in ^{219}Ra . $\alpha(K)\text{exp}=0.036$ 7; $A_2=-0.23$ 1
270.7 [#] 5	0.6 2	3792.6	49/2 ⁻	3521.3	47/2 ⁺			E_γ : doublet with a γ in ^{220}Ra .
277.7 5	4.5 7	3044.9	43/2 ⁺	2767.0	41/2 ⁻	(E1)	0.0419	$\alpha(K)\text{exp}<0.17$ $\alpha(K)\text{exp}$ gives E1 or E2.
290.4 5	19.6 10	1700.5	31/2 ⁺	1410.0	29/2 ⁻	E1	0.0379	E_γ : doublet with a γ in ^{220}Ra . $\alpha(K)\text{exp}<0.040$ $\alpha(K)\text{exp}$ for doublet.
290.7 5	10.2 5	2579.4	39/2 ⁺	2288.5	37/2 ⁻	(E1)	0.0378	E_γ : 290.4 and 290.7 form a doublet in ^{219}Ra . $\alpha(K)\text{exp}<0.040$ $\alpha(K)\text{exp}$ for 290.7+290.4 doublet.
294.8 5	100.0 50	545.1	19/2 ⁺	250.9	15/2 ⁺	(E2)	0.1602	E_γ : 290.4 and 290.7 form a doublet in ^{219}Ra . $\alpha(L)\text{exp}<0.067$ E_γ : 294.8 and 295 form a doublet in ^{219}Ra . Mult.: $\alpha(L)\text{exp}$ normalized to $\alpha(K)=0.075$ for 294.8 γ assumed as E2. Measured $\alpha(L)\text{exp}$ is consistent with E2.
*295 1	3.7 3							E_γ : 294.8 and 295 form a doublet in ^{219}Ra . In 1992Wi02 a 295.2 γ was placed from a 1426

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$^{208}\text{Pb}(^{14}\text{C}, 3n\gamma) E=67 \text{ MeV}$ **1987Co36 (continued)** $\gamma(^{219}\text{Ra})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.‡	α @	Comments
								level, but no such level was proposed in 2017He15 . In 1987Co36 , 295γ is placed from a 792 level, feeding 495.4 level (corresponding to 512.5 level here).
297.3 2	18.8 9	2129.2	35/2 ⁺	1831.9	33/2 ⁻	E1	0.0360	$\alpha(K)\text{exp}=0.019\ 4$; $A_2=-0.12\ 1$
301.9 5	13.8 7	1052.1	25/2 ⁻	750.5	21/2 ⁻	[E2]	0.1492	E_γ : 301.9 and 302 form a doublet in ^{219}Ra .
302 1	0.8 1	2040.9	29/2 ⁺	1738.9	27/2 ⁻			I_γ : 301.9 and 302 form a doublet in ^{219}Ra . Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ tentatively from a tentative 1566 level.
307.7 3	2.4 1	2461.7	33/2 ⁺	2154.0	31/2 ⁻			Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ from a 2347.9 level.
308.6 2	2.4 1	1246.1	21/2 ⁺	937.5	19/2 ⁻	D		$A_2=-0.21\ 6$ Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ from 542.7, (15/2 ⁻) level.
313 1	2.8 2	1637.9	25/2 ⁺	1324.9	23/2 ⁻			E_γ : doublet with γ in ^{220}Ra . Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ from a tentative 1938 level.
320.7 ^a 3	1.6 1	4345.3?	53/2 ⁻	4024.9	51/2 ⁺	D		$A_2=-0.18\ 8$ A 320.4 5 γ with $I_\gamma=2.3\ 11$ in 1992Wi02 and a 321.3 10 with $I_\gamma=0.4\ 1$ in 2017He15 was placed from 876, 17/2 ⁺ level. This placement is not included in the Adopted dataset.
333.6 2	6.9 4	937.5	19/2 ⁻	603.9	15/2 ⁻	(E2)	0.111	$A_2=+0.28\ 7$; $A_4=+0.01\ 10$
347.5 2	40.4 20	892.3	23/2 ⁺	545.1	19/2 ⁺	E2	0.0991	$\alpha(K)\text{exp}=0.037\ 7$; $A_2=+0.20\ 1$; $A_4=-0.08\ 1$
358.0 2	30.9 15	1410.0	29/2 ⁻	1052.1	25/2 ⁻	E2	0.0911	$\alpha(K)\text{exp}=0.046\ 9$; $A_2=+0.30\ 1$; $A_4=-0.11\ 1$
361.4 2	7.7 4	475.2	13/2 ⁺	113.8	9/2 ⁺	(E2)	0.0887	$A_2=+0.36\ 2$; $A_4=-0.09\ 3$ Placement from 1992Wi02 and 2017He15 . 1987Co36 placed it from a 1625, (27/2 ⁻) level in the same band as in 1992Wi02 , but with a different ordering of γ rays in a cascade.
387.4 2	7.4 4	1324.9	23/2 ⁻	937.5	19/2 ⁻	(E2)	0.0735	$A_2=+0.30\ 2$; $A_4=-0.18\ 3$
395.0 2	9.2 5	1287.4	27/2 ⁺	892.3	23/2 ⁺	(E2)	0.0697	$A_2=+0.40\ 2$; $A_4=-0.22\ 3$
413.1 2	2.7 6	1700.5	31/2 ⁺	1287.4	27/2 ⁺			E_γ : 413.1, 414.0 and 415.1 form a multiplet in ^{219}Ra and ^{218}Ra .
414.0 2	6.0 15	1738.9	27/2 ⁻	1324.9	23/2 ⁻			E_γ : 413.1, 414.0 and 415.1 form a multiplet in ^{219}Ra and ^{218}Ra . Placement from 1992Wi02 and 2017He15 . 1987Co36 placed this γ from 542.7, (15/2 ⁻) level.
415.1 5	1.5 8	2154.0	31/2 ⁻	1738.9	27/2 ⁻			E_γ : 413.1, 414.0 and 415.1 form a multiplet in ^{219}Ra and ^{218}Ra .
422.0 2	25.1 13	1831.9	33/2 ⁻	1410.0	29/2 ⁻	E2	0.0588	$\alpha(K)\text{exp}<0.085$; $A_2=+0.31\ 1$; $A_4=-0.13\ 1$
428.7 2	2.2 1	2129.2	35/2 ⁺	1700.5	31/2 ⁺	Q		$A_2=+0.73\ 4$; $A_4=-0.45\ 10$
450.2 3	3.0 2	2579.4	39/2 ⁺	2129.2	35/2 ⁺	(Q)		$A_2=+0.24\ 2$
456.5 2	12.6 6	2288.5	37/2 ⁻	1831.9	33/2 ⁻	E2	0.0482	$\alpha(K)\text{exp}<0.14$; $A_2=+0.34\ 1$; $A_4=-0.19\ 2$
458.6 2	5.5 3	475.2	13/2 ⁺	16.6	11/2 ⁺	(M1)	0.224	$A_2=-0.25\ 3$; $A_4=-0.01\ 5$ Placement from 1992Wi02 and 2017He15 . 1987Co36 placed it from a 1722.3 level.
465.4 2	3.3 2	3044.9	43/2 ⁺	2579.4	39/2 ⁺	Q		$A_2=+0.23\ 2$; $A_4=-0.16\ 6$
476.9 [#] 5	1.2 3	3521.3	47/2 ⁺	3044.9	43/2 ⁺			E_γ : 476.9 and 478.7 form a doublet in ^{219}Ra .
478.7 5	3.7 3	2767.0	41/2 ⁻	2288.5	37/2 ⁻			E_γ : 478.7 and 476.9 form a doublet in ^{219}Ra .
503.7 [#] 2	1.2 1	4024.9	51/2 ⁺	3521.3	47/2 ⁺	(Q)	0.0380	$A_2=+0.41\ 8$
505.0 [#] 2	1.6 1	3271.8	45/2 ⁻	2767.0	41/2 ⁻			$A_2=-0.01\ 6$
520.7 [#] 2	0.6 1	3792.6	49/2 ⁻	3271.8	45/2 ⁻	Q		$A_2=+0.02\ 10$; $A_4=-0.11\ 9$

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$^{208}\text{Pb}(^{14}\text{C}, 3\text{n}\gamma) \text{ E}=67 \text{ MeV}$ **1987Co36 (continued)** $\gamma(^{219}\text{Ra})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
530.8 ^a 10	<0.3	4555.7?	(55/2 ⁺)	4024.9	51/2 ⁺		E_γ : this γ is a doublet with an unassigned γ ray. In 2017He15 , this γ feeds 3791, 49/2 ⁻ level. This placement is not included in the Adopted dataset.
552.4 ^a 3	0.5 2	4345.3?	53/2 ⁻	3792.6	49/2 ⁻		$A_2=-0.02$ 12; $A_4=+0.44$ 32 This γ is not reported in 1992Wi02 and 2017He15 , treated as uncertain by evaluators and is not included in the Adopted dataset.
584.7 ^a 5	<0.3	4930.0?		4345.3?	53/2 ⁻		E_γ : doublet with an unassigned γ ray. Tentative γ in 1987Co36 is not reported in 1992Wi02 and 2017He15 and is not included in the Adopted dataset.
625.9 2	3.7 2	876.8	17/2 ⁺	250.9	15/2 ⁺	D	$A_2=-0.27$ 4; $A_4=-0.03$ 7 Placement from 1992Wi02 and 2017He15 .

[†] From [1987Co36](#). Uncertainty is given as 0.2 keV in [1987Co36](#). Evaluators assign 0.5 keV for γ rays labeled by the authors as doublets, and 1 keV when E_γ listed to nearest keV. Relative γ -ray intensities are likely from $E(^{14}\text{C})=67 \text{ MeV}$.

[‡] From $\gamma(\theta)$ and ce data ([1987Co36](#)).

Claimed as a new transition by [2017He15](#), but this γ ray was reported earlier by [1987Co36](#) from a similar level.

@ 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.

& Multiply placed with intensity suitably divided.

^a Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

$^{208}\text{Pb}(^{14}\text{C},3\text{n}\gamma) \text{ E=67 MeV}$ 1987Co36

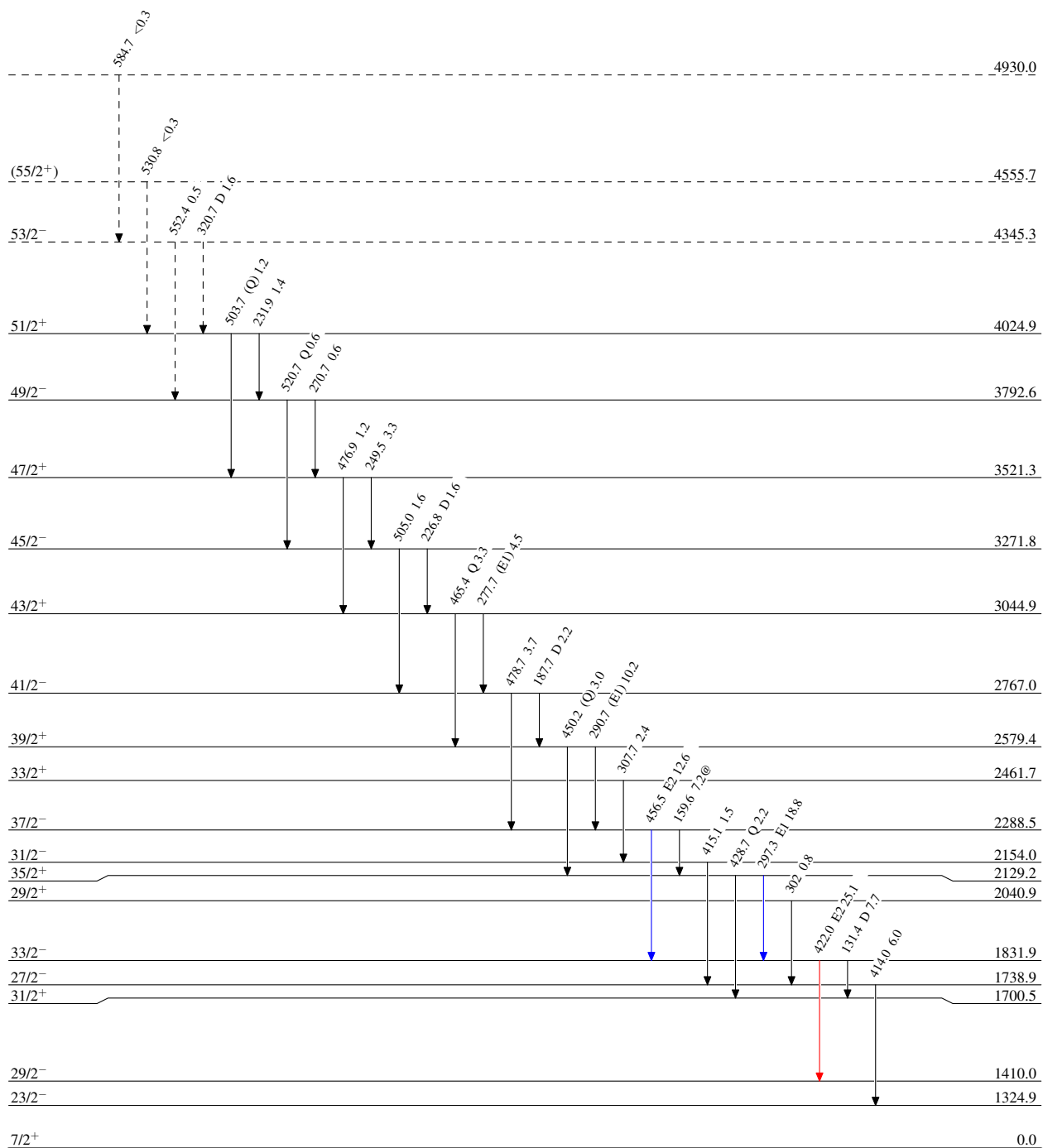
Level Scheme

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
 $\cdots\cdots\cdots\longrightarrow$ γ Decay (Uncertain)

 $^{219}_{88}\text{Ra}_{131}$

$^{208}\text{Pb}(^{14}\text{C}, 3n\gamma) E=67 \text{ MeV}$ 1987Co36

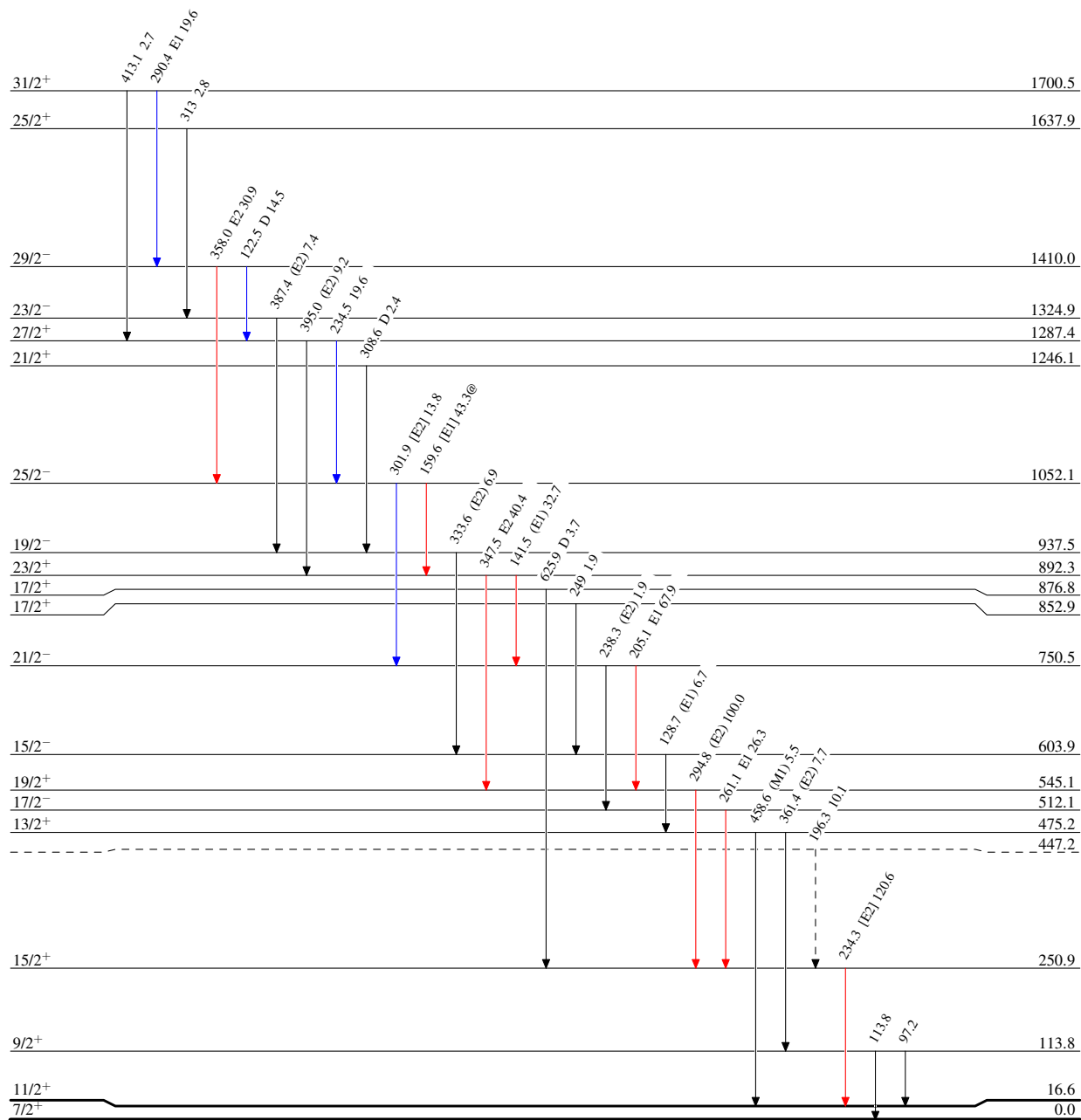
Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

Legend

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



10 ms 3

$^{208}\text{Pb}(^{14}\text{C},3\text{n}\gamma)\text{E}=67\text{ MeV}$ 1987Co36