

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

$Q(\beta^-) = -7346$ 29; $S(n) = 9492$ 10; $S(p) = 3802$ 15; $Q(\alpha) = 5701.0$ 17 [2021Wa16](#)
 $S(2n) = 17143$ 11, $S(2p) = 6269$ 13, $Q(\epsilon p) = 40$ 16 ([2021Wa16](#)).

 ^{202}Po LevelsCross Reference (XREF) Flags

A	^{202}At ϵ decay	D	^{194}Pt ($^{12}\text{C}, 4n\gamma$)
B	^{206}Rn α decay	E	^{196}Pt ($^{12}\text{C}, 6n\gamma$)
C	^{197}Au ($^{11}\text{B}, 6n\gamma$)	F	Coulomb excitation

E(level) [†]	J ^π	T _{1/2}	XREF	Comments
0	0 ⁺	44.5 min 4	ABCDEF	$\% \epsilon + \% \beta^+ = 98.08$ 7; $\% \alpha = 1.92$ 7 $\% \alpha$: From 1993Wa04 . Others: 2.2% 3 (1971Ho01), 0.73% 5 (1970Jo26), 2.0% 2 (1967Le21), and 2% (1965Br17). T _{1/2} : Weighted average of 44.7 min 5 (1993Wa04), 45.0 min 15 (1971Ho01 , 1965Ti03), 43 min 2 (1970Jo26) and 43.7 min 13 (1970DaZM). Others: 44 min (1965Br17). $\Delta \langle r^2 \rangle (^{208}\text{Po}, ^{202}\text{Po}) = -0.300$ fm ² 3 (1991Ko32); $\delta \langle r^2 \rangle (^{202}\text{Po}, ^{210}\text{Po}) = -0.470$ fm ² 12(stat) 8(syst) (2011Co01); $\delta \nu (^{202}\text{Po}, ^{210}\text{Po}) = +5.72$ GHz 14 (2011Co01). B(E2) $\uparrow = 1.12 +34-26$ J ^π : 677.2γ E2 to 0 ⁺ . B(E2) $\uparrow$ from $\langle 0_1^+ E2 2_1^+ \rangle = +1.06 +15-13$ and $\langle 2_1^+ E2 2_1^+ \rangle = -0.7 +13-12$ in Coulomb Excitation (2015Ke06). T _{1/2} : From B(E2) $\uparrow = 1.12 +34-26$ in Coulomb Excitation (2015Ke06). J ^π : 571.3γ E2 to 2 ⁺ . J ^π : 625.3γ M1+E2 to 2 ⁺ ; systematics of heavier Po isotopes. J ^π : 990.4γ E2 to 2 ⁺ ; 418.6γ M1+E2 to 4 ⁺ . J ^π : 443.0γ E2 to 4 ⁺ . $\mu = 7.44$ 15; $Q = (-)1.21$ 16 Additional information 1. E(level): x<40 keV estimated from delayed ce spectrum in 1976Be12 . J ^π : 912.5γ E3 from 11 ⁻ ; μ ; systematics of similar isomers in neighboring ^{200}Po and ^{204}Po nuclei. T _{1/2} : From time difference between transitions above isomer (912.6γ and 526.6γ) and below isomer (442.9γ, 571.6γ and 677.4γ) (1976Ha56). Others: ≈ 100 ns (1998Bi06), 85 ns 15 (1976Be12 , 1990Fa03), 165 ns 20 (1971Ha01); 185 ns 30 (1972Na02). μ : From 2020StZV based on $g = 0.927$ 9 in 1976Ha56 , but corrected for diamagnetism and Knight shift. Method: time dependent perturbed angular distribution. Q: From 1997Ne06 , 2021StZZ . Configuration= $\pi(h^{+2}_{9/2})$. J ^π : 1758 ce to 0 ⁺ ; no 1758γ observed. J ^π : 617.6γ E1 to 4 ⁺ ; no γ ray to 2 ⁺ ; systematics in neighboring even-even Po isotopes.
677.20 20	2 ⁺	1.7 ps +5-4	A CDEF	
1248.59 27	4 ⁺		A CDE	
1302.50 28	(2) ⁺		A	
1585.2 5			A	
1667.40 31	4 ⁺		A	
1689.5 6			A	
1691.54 31	6 ⁺		A CDE	
1691.5+x	8 ⁺	110 ns 15	A CDE	
1758.0 20	0 ⁺		A	
1774.4 6			A	
1775.30 28			A	
1866.2 4	5 ⁻		A	
2102.9 4			A	

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Adopted Levels, Gammas (continued) ^{202}Po Levels (continued)

E(level) [†]	J ^π	T _{1/2}	XREF	Comments
2127.71 34	(6 ⁺)		A	J ^π : 436.3γ M1(+E2) to 6 ⁺ ; 878.8γ E2 to 4 ⁺ .
2194.30+x 20	7 ⁻ , 8 ⁻ , 9 ⁻		A	J ^π : 502.8γ (E1) to 8 ⁺ .
2217.9+x 4	9 ⁻	≈1.5 ns	A CDE	J ^π : 526.6γ E1 to 8 ⁺ ; population in the (¹¹ B,6nγ), (¹² C,4nγ) and (¹² C,6nγ) reactions that favor yrast states. T _{1/2} : Value between 1-2 ns in 1976Be12. Others: <11 ns (1990Fa03). Configuration= $\nu(f_{7/2}^{-1}, i_{13/2}^{-1})$.
2230.9 4	(7 ⁻)		A	J ^π : 364.7γ E2 to 5 ⁻ .
2254.10 34	2 ⁺ , 6 ⁺		A	J ^π : 1005.5γ E2 to 4 ⁺ .
2282.63 33	(5 ⁻)		A	J ^π : 416.5γ M1+E2 to 5 ⁻ , 591.0γ to 6 ⁺ , 1034.2γ to 4 ⁺ .
2294.70+x 20	7 ⁺ , 8 ⁺ , 9 ⁺		A	J ^π : 603.2γ M1+E2 to 8 ⁺ ;
2345.9 5	3 ⁻ , 7 ⁻		A	J ^π : 479.7γ E2 to 5 ⁻ .
2485.2 5	4 ⁻ , 5 ⁻ , 6 ⁻		A	J ^π : 619.0γ M1 to 5 ⁻ .
2577.7 4	4 ⁺ , 8 ⁺		A	J ^π : 886.1γ E2 to 6 ⁺ .
2603.9+x 4	11 ⁻	85 ns 10	CDE	μ=11.9 3 J ^π : 386.0γ E2 to 9 ⁻ ; μ. T _{1/2} : From 912.6γ(t) and 386.0γ(t) in 1976Ha56. Others: >200 ns (1990Fa03), 100 ns 50 (1976Be12). μ: From g=1.03 3 in 1976Ha56. 2020StZV gives 11.9 4. Method: time dependent perturbed angular distribution. Configuration= $\pi(h_{9/2}^{+1}, i_{13/2}^{+1})$.
2830.7+x 4			A	
2839.7 4			A	
2897.3+x 5	11 ⁻		C E	J ^π : 679.4γ E2 to 9 ⁻ .
3040.3+x 5	12 ⁺	19 ns 4	C E	J ^π : 436.4γ E1 to 11 ⁻ . T _{1/2} : From γ(t) in 1976Be12 and 1990Fa03. Configuration= $\nu(i_{13/2}^{-2})$.
3435.0+x 7	13 ⁻		C E	J ^π : 537.7γ E2 to 11 ⁻ .
3573.3+x 8	15 ⁻	11 ns 3	C E	J ^π : 138.3γ E2 to 13 ⁻ . T _{1/2} : From γ(t) in 1976Be12 and 1990Fa03. Configuration= $\pi(h_{9/2}^{+2})\nu(p_{3/2}^{-1}, i_{13/2}^{-1})$; the assignment is tentative.
3615.8+x 7	14 ⁺		C E	J ^π : 575.5γ E2 to 12 ⁺ .
4071.0+x 8	16 ⁺		C E	J ^π : 455.2γ E2 to 14 ⁺ .
4609.0+x 10	(18 ⁺)		E	J ^π : 538γ (E2) to 16 ⁺ .
4612.5+x 10	(18 ⁺)		E	J ^π : 541.5γ (E2) to 16 ⁺ .
4738.6+x 10	18 ⁺		E	J ^π : 667.6γ E2 to 16 ⁺ .
4822.7+x 11	(20 ⁺)		E	J ^π : 213.7γ (E2) to (18 ⁺).
4923.3+x 11	(19)		E	J ^π : 310.8γ D to (18 ⁺).
5188.5+x 12	(22 ⁺)		E	J ^π : 365.8γ (E2) to (20 ⁺).
5209.4+x 11	(20 ⁺)		E	J ^π : 600.4γ (E2) to (18 ⁺).
5293.1+x 12	(21)		E	J ^π : 470.4γ D to (20 ⁺).
5528.7+x 12			E	

[†] From a least-squares fit to Eγ. When ΔEγ is not given, ΔEγ=0.5 keV was assumed.

Adopted Levels, Gammas (continued)

$\gamma(^{202}\text{Po})$									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [@]	δ^a	α^b	Comments
677.20	2 ⁺	677.2 2	100	0	0 ⁺	E2 ^{&}		0.01620 23	$\alpha(\text{K})=0.01210$ 17; $\alpha(\text{L})=0.00310$ 4; $\alpha(\text{M})=0.000763$ 11 $\alpha(\text{N})=0.0001960$ 27; $\alpha(\text{O})=3.97\times 10^{-5}$ 6; $\alpha(\text{P})=4.59\times 10^{-6}$ 6 B(E2)(W.u.)=33 +8-10 Mult.: $A_2=0.19$ 1; $A_4=0.06$ 2 (1990Fa03).
1248.59	4 ⁺	571.3 2	100	677.20	2 ⁺	E2 ^{&}		0.02355 33	$\alpha(\text{K})=0.01690$ 24; $\alpha(\text{L})=0.00500$ 7; $\alpha(\text{M})=0.001246$ 17 $\alpha(\text{N})=0.000320$ 4; $\alpha(\text{O})=6.43\times 10^{-5}$ 9; $\alpha(\text{P})=7.23\times 10^{-6}$ 10 Mult.: $A_2=0.22$ 2; $A_4=0.05$ 3 (1990Fa03).
1302.50	(2) ⁺	625.3 2	100	677.20	2 ⁺	M1+E2	1.8 +7-4	0.031 5	$\alpha(\text{K})=0.024$ 4; $\alpha(\text{L})=0.0053$ 6; $\alpha(\text{M})=0.00128$ 14 $\alpha(\text{N})=0.00033$ 4; $\alpha(\text{O})=6.7\times 10^{-5}$ 8; $\alpha(\text{P})=8.1\times 10^{-6}$ 11 Mult.: $\alpha(\text{K})_{\text{exp}}=0.024$ 4 (1998Bi06).
1585.2	4 ⁺	908.0 5	100	677.20	2 ⁺	M1+E2	0.7 6	0.15 5	$\alpha(\text{K})=0.12$ 4; $\alpha(\text{L})=0.024$ 5; $\alpha(\text{M})=0.0057$ 11 $\alpha(\text{N})=0.00146$ 28; $\alpha(\text{O})=0.00030$ 6; $\alpha(\text{P})=3.8\times 10^{-5}$ 9 Mult.: $\alpha(\text{K})_{\text{exp}}=0.12$ 4 (1998Bi06).
1667.40		418.6 3	92 23	1248.59	4 ⁺				$\alpha(\text{K})=0.00591$ 8; $\alpha(\text{L})=0.001204$ 17; $\alpha(\text{M})=0.000289$ 4 $\alpha(\text{N})=7.43\times 10^{-5}$ 10; $\alpha(\text{O})=1.526\times 10^{-5}$ 21; $\alpha(\text{P})=1.858\times 10^{-6}$ 26 Mult.: $\alpha(\text{K})_{\text{exp}}=0.006$ 2 (1998Bi06).
		990.4 3	100 23	677.20	2 ⁺	E2		0.00749 11	
1689.5	6 ⁺	387.0 5	100	1302.50	(2) ⁺	E2 ^{&}		0.0432 6	$\alpha(\text{K})=0.0285$ 4; $\alpha(\text{L})=0.01102$ 16; $\alpha(\text{M})=0.00279$ 4 $\alpha(\text{N})=0.000717$ 10; $\alpha(\text{O})=0.0001423$ 20; $\alpha(\text{P})=1.527\times 10^{-5}$ 21 Mult.: $A_2=0.14$ 1; $A_4=0.03$ 3 (1990Fa03).
1691.54		443.0 2	100	1248.59	4 ⁺				E_γ : 1758 γ not observed. Mult.: From $\alpha(\text{K})_{\text{exp}}>0.11$ (1995Bi17).
1758.0	0 ⁺	1758 2		0	0 ⁺	E0			
1774.4	5 ⁻	525.8 5	100	1248.59	4 ⁺	E1		0.00670 9	$\alpha(\text{K})=0.00554$ 8; $\alpha(\text{L})=0.000892$ 13; $\alpha(\text{M})=0.0002081$ 29 $\alpha(\text{N})=5.33\times 10^{-5}$ 7; $\alpha(\text{O})=1.102\times 10^{-5}$ 15; $\alpha(\text{P})=1.383\times 10^{-6}$ 19 Mult.: $\alpha(\text{K})_{\text{exp}}=0.0060$ 6 (1998Bi06).
1775.30		1098.1 2	100	677.20	2 ⁺				
1866.2		617.6 3	100	1248.59	4 ⁺				
2102.9	(6 ⁺)	854.3 3	100	1248.59	4 ⁺	M1(+E2)	≤ 1.0	0.149 35	$\alpha(\text{K})=0.119$ 30; $\alpha(\text{L})=0.022$ 4; $\alpha(\text{M})=0.0053$ 8 $\alpha(\text{N})=0.00136$ 20; $\alpha(\text{O})=0.00028$ 4; $\alpha(\text{P})=3.6\times 10^{-5}$ 7 Mult.: $\alpha(\text{K})_{\text{exp}}=0.13$ 4 (1998Bi06).
2127.71		436.3 2	86 29	1691.54	6 ⁺				$\alpha(\text{K})=0.00737$ 10; $\alpha(\text{L})=0.001596$ 22; $\alpha(\text{M})=0.000386$ 5 $\alpha(\text{N})=9.92\times 10^{-5}$ 14; $\alpha(\text{O})=2.028\times 10^{-5}$ 28; $\alpha(\text{P})=2.435\times 10^{-6}$ 34 Mult.: $\alpha(\text{K})_{\text{exp}}=0.006$ 2 (1998Bi06).
		878.8 3	100 24	1248.59	4 ⁺	E2		0.00948 13	
2194.30+x	7 ⁻ ,8 ⁻ ,9 ⁻	502.8 2	100	1691.5+x	8 ⁺	(E1)		0.01015 14	$\alpha(\text{K})=0.00836$ 12; $\alpha(\text{L})=0.001372$ 19; $\alpha(\text{M})=0.000321$ 4 $\alpha(\text{N})=8.20\times 10^{-5}$ 12; $\alpha(\text{O})=1.693\times 10^{-5}$ 24; $\alpha(\text{P})=2.104\times 10^{-6}$

Adopted Levels, Gammas (continued)

$\gamma(^{202}\text{Po})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	δ^a	α^b	Comments
2217.9+x	9^-	526.3 5	100	1691.5+x	8^+	E1 &		0.00924 13	30 Mult.: $\alpha(\text{K})\text{exp}<0.012$ 4 (1998Bi06). $\alpha(\text{K})=0.00761$ 11; $\alpha(\text{L})=0.001245$ 18; $\alpha(\text{M})=0.000291$ 4 $\alpha(\text{N})=7.44\times 10^{-5}$ 11; $\alpha(\text{O})=1.536\times 10^{-5}$ 22; $\alpha(\text{P})=1.914\times 10^{-6}$ 27
2230.9	(7^-)	364.7 2	100	1866.2	5^-	E2		0.0720 10	Mult.: $A_2=-0.09$ 2, $A_4=0.08(4)$ (1990Fa03). $\alpha(\text{K})=0.0433$ 6; $\alpha(\text{L})=0.02143$ 30; $\alpha(\text{M})=0.00550$ 8 $\alpha(\text{N})=0.001413$ 20; $\alpha(\text{O})=0.000278$ 4; $\alpha(\text{P})=2.87\times 10^{-5}$ 4
2254.10	$2^+, 6^+$	1005.5 2	100	1248.59	4^+	E2		0.00728 10	Mult.: $\alpha(\text{K})\text{exp}=0.036$ 5 (1998Bi06). $\alpha(\text{K})=0.00575$ 8; $\alpha(\text{L})=0.001163$ 16; $\alpha(\text{M})=0.000279$ 4 $\alpha(\text{N})=7.17\times 10^{-5}$ 10; $\alpha(\text{O})=1.474\times 10^{-5}$ 21; $\alpha(\text{P})=1.797\times 10^{-6}$ 25
2282.63	(5^-)	416.5 3	100 10	1866.2	5^-	M1+E2	1.03 +28-22	0.127 19	Mult.: $\alpha(\text{K})\text{exp}=0.005$ 2 (1998Bi06). $\alpha(\text{K})=0.099$ 16; $\alpha(\text{L})=0.0212$ 19; $\alpha(\text{M})=0.0051$ 4 $\alpha(\text{N})=0.00132$ 11; $\alpha(\text{O})=0.000271$ 24; $\alpha(\text{P})=3.29\times 10^{-5}$ 35
2294.70+x	$7^+, 8^+, 9^+$	591.0 2 1034.2 3 603.2 2	28 14 21 10 100	1691.54 1248.59 1691.5+x	6^+ 4^+ 8^+	M1+E2	0.39 +14-17	0.070 5	Mult.: $\alpha(\text{K})\text{exp}=0.09$ 2, $\alpha(\text{L})\text{exp}=0.023$ 3 (1998Bi06). $\alpha(\text{K})=0.057$ 4; $\alpha(\text{L})=0.0100$ 6; $\alpha(\text{M})=0.00236$ 13 $\alpha(\text{N})=0.000607$ 35; $\alpha(\text{O})=0.000127$ 7; $\alpha(\text{P})=1.63\times 10^{-5}$ 10
2345.9	$3^-, 7^-$	479.7 4	100	1866.2	5^-	E2		0.0355 5	Mult.: $\alpha(\text{K})\text{exp}=0.057$ 4 (1998Bi06). $\alpha(\text{K})=0.02414$ 34; $\alpha(\text{L})=0.00852$ 12; $\alpha(\text{M})=0.002148$ 31 $\alpha(\text{N})=0.000552$ 8; $\alpha(\text{O})=0.0001099$ 16; $\alpha(\text{P})=1.197\times 10^{-5}$ 17
2485.2	$4^-, 5^-, 6^-$	619.0 3	100	1866.2	5^-	M1		0.0725 10	Mult.: $\alpha(\text{K})\text{exp}=0.033$ 8 (1998Bi06). $\alpha(\text{K})=0.0592$ 8; $\alpha(\text{L})=0.01015$ 14; $\alpha(\text{M})=0.002386$ 34 $\alpha(\text{N})=0.000614$ 9; $\alpha(\text{O})=0.0001286$ 18; $\alpha(\text{P})=1.664\times 10^{-5}$ 23
2577.7	$4^+, 8^+$	886.1 2	100	1691.54	6^+	E2		0.00932 13	Mult.: $\alpha(\text{K})\text{exp}=0.06$ 2 (1998Bi06). $\alpha(\text{K})=0.00726$ 10; $\alpha(\text{L})=0.001564$ 22; $\alpha(\text{M})=0.000378$ 5 $\alpha(\text{N})=9.72\times 10^{-5}$ 14; $\alpha(\text{O})=1.988\times 10^{-5}$ 28; $\alpha(\text{P})=2.389\times 10^{-6}$ 33
2603.9+x	11^-	386.0 ‡	45 ‡	2217.9+x	9^-	E2 &		0.0617 9	Mult.: $\alpha(\text{K})\text{exp}=0.009$ 3 (1998Bi06). $\alpha(\text{K})=0.0383$ 5; $\alpha(\text{L})=0.01755$ 25; $\alpha(\text{M})=0.00449$ 6 $\alpha(\text{N})=0.001153$ 16; $\alpha(\text{O})=0.0002273$ 32; $\alpha(\text{P})=2.376\times 10^{-5}$ 33 B(E2)(W.u.)=0.0033 4
		912.5 ‡	100 ‡	1691.5+x	8^+	E3 &		0.02140 30	Mult.: $A_2=0.37$ 5, $A_4=-0.17$ 7 (1990Fa03). B(E3)(W.u.)=7.5 9 $\alpha(\text{K})=0.01515$ 21; $\alpha(\text{L})=0.00470$ 7; $\alpha(\text{M})=0.001179$ 17

Adopted Levels, Gammas (continued)

$\gamma(^{202}\text{Po})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. @	α^b	Comments
								$\alpha(\text{N})=0.000304$ 4; $\alpha(\text{O})=6.15\times 10^{-5}$ 9; $\alpha(\text{P})=7.08\times 10^{-6}$ 10 Mult.: $A_2=0.22$ 3, $A_4=0.08$ 5 (1990Fa03).
2830.7+x 2839.7 2897.3+x	11 ⁻	536.0 3 1148.1 2 679.4 [‡]	100 100 100 [‡]	2294.70+x 1691.54 2217.9+x	7 ⁺ ,8 ⁺ ,9 ⁺ 6 ⁺ 9 ⁻	E2	0.01609 23	$\alpha(\text{K})=0.01202$ 17; $\alpha(\text{L})=0.00308$ 4; $\alpha(\text{M})=0.000756$ 11 $\alpha(\text{N})=0.0001942$ 27; $\alpha(\text{O})=3.93\times 10^{-5}$ 6; $\alpha(\text{P})=4.55\times 10^{-6}$ 6 Mult.: $A_2=0.36$ 3, $A_4=-0.01$ 5 (1990Fa03).
3040.3+x	12 ⁺	143.1 [#] 436.4 [#]	48 [#] 100 [#]	2897.3+x 2603.9+x	11 ⁻ 11 ⁻	[E1] E1 &	0.1868 26 0.01366 19	$\alpha(\text{K})=0.1492$ 21; $\alpha(\text{L})=0.0287$ 4; $\alpha(\text{M})=0.00679$ 10 $\alpha(\text{N})=0.001725$ 24; $\alpha(\text{O})=0.000346$ 5; $\alpha(\text{P})=3.96\times 10^{-5}$ 6 B(E1)(W.u.)= 1.07×10^{-6} 23 $\alpha(\text{K})=0.01122$ 16; $\alpha(\text{L})=0.001868$ 26; $\alpha(\text{M})=0.000437$ 6 $\alpha(\text{N})=0.0001118$ 16; $\alpha(\text{O})=2.302\times 10^{-5}$ 32; $\alpha(\text{P})=2.84\times 10^{-6}$ 4 B(E1)(W.u.)= 7.9×10^{-8} 17 Mult.: $A_2=-0.04$ 4, $A_4=0.12$ 5 (1990Fa03).
3435.0+x	13 ⁻	537.7 [‡]	100 [‡]	2897.3+x	11 ⁻	E2 &	0.0271 4	$\alpha(\text{K})=0.01910$ 27; $\alpha(\text{L})=0.00599$ 8; $\alpha(\text{M})=0.001497$ 21 $\alpha(\text{N})=0.000385$ 5; $\alpha(\text{O})=7.70\times 10^{-5}$ 11; $\alpha(\text{P})=8.57\times 10^{-6}$ 12 Mult.: $A_2=0.38$ 3, $A_4=-0.01$ 5 (1990Fa03).
3573.3+x	15 ⁻	138.3 [‡]	100 [‡]	3435.0+x	13 ⁻	E2 &	1.882 26	$\alpha(\text{K})=0.343$ 5; $\alpha(\text{L})=1.141$ 16; $\alpha(\text{M})=0.304$ 4 $\alpha(\text{N})=0.0779$ 11; $\alpha(\text{O})=0.01488$ 21; $\alpha(\text{P})=0.001356$ 19 B(E2)(W.u.)= 5.0 14
3615.8+x	14 ⁺	180.7 [‡] 575.5 [‡]	12.9 [‡] 13 100 [‡]	3435.0+x 3040.3+x	13 ⁻ 12 ⁺	E2 &	0.02316 32	$\alpha(\text{K})=0.01666$ 23; $\alpha(\text{L})=0.00490$ 7; $\alpha(\text{M})=0.001219$ 17 $\alpha(\text{N})=0.000313$ 4; $\alpha(\text{O})=6.29\times 10^{-5}$ 9; $\alpha(\text{P})=7.08\times 10^{-6}$ 10 Mult.: $A_2=0.40$ 3, $A_4=-0.02$ 5 (1990Fa03).
4071.0+x	16 ⁺	455.2 [‡]	100 [‡]	3615.8+x	14 ⁺	E2 &	0.0404 6	$\alpha(\text{K})=0.0269$ 4; $\alpha(\text{L})=0.01008$ 14; $\alpha(\text{M})=0.00255$ 4 $\alpha(\text{N})=0.000655$ 9; $\alpha(\text{O})=0.0001301$ 18; $\alpha(\text{P})=1.403\times 10^{-5}$ 20 Mult.: $A_2=0.42$ 3, $A_4=-0.06$ 6 (1990Fa03).
4609.0+x	(18 ⁺)	538.0 [‡]	100 [‡]	4071.0+x	16 ⁺	(E2)	0.0270 4	$\alpha(\text{K})=0.01908$ 27; $\alpha(\text{L})=0.00598$ 8; $\alpha(\text{M})=0.001495$ 21 $\alpha(\text{N})=0.000384$ 5; $\alpha(\text{O})=7.69\times 10^{-5}$ 11; $\alpha(\text{P})=8.55\times 10^{-6}$ 12 Mult.: $A_2=0.38$ 3, $A_4=-0.01$ 5; doublet with 537.7 γ (1990Fa03).
4612.5+x	(18 ⁺)	541.5 [‡]	100 [‡]	4071.0+x	16 ⁺	(E2)	0.0266 4	$\alpha(\text{K})=0.01883$ 26; $\alpha(\text{L})=0.00586$ 8; $\alpha(\text{M})=0.001465$ 21 $\alpha(\text{N})=0.000376$ 5; $\alpha(\text{O})=7.54\times 10^{-5}$ 11; $\alpha(\text{P})=8.40\times 10^{-6}$ 12 Mult.: $A_2=0.21$ 18, $A_4=0.03$ 30 (1990Fa03).
4738.6+x	18 ⁺	667.6 [‡]	100 [‡]	4071.0+x	16 ⁺	E2	0.01670 23	$\alpha(\text{K})=0.01243$ 17; $\alpha(\text{L})=0.00323$ 5; $\alpha(\text{M})=0.000794$ 11 $\alpha(\text{N})=0.0002039$ 29; $\alpha(\text{O})=4.13\times 10^{-5}$ 6; $\alpha(\text{P})=4.76\times 10^{-6}$ 7 Mult.: $A_2=0.45$ 8, $A_4=-0.02$ 12 (1990Fa03).
4822.7+x	(20 ⁺)	213.7 [‡]	100 [‡]	4609.0+x	(18 ⁺)	(E2)	0.375 5	$\alpha(\text{K})=0.1441$ 20; $\alpha(\text{L})=0.1713$ 24; $\alpha(\text{M})=0.0452$ 6

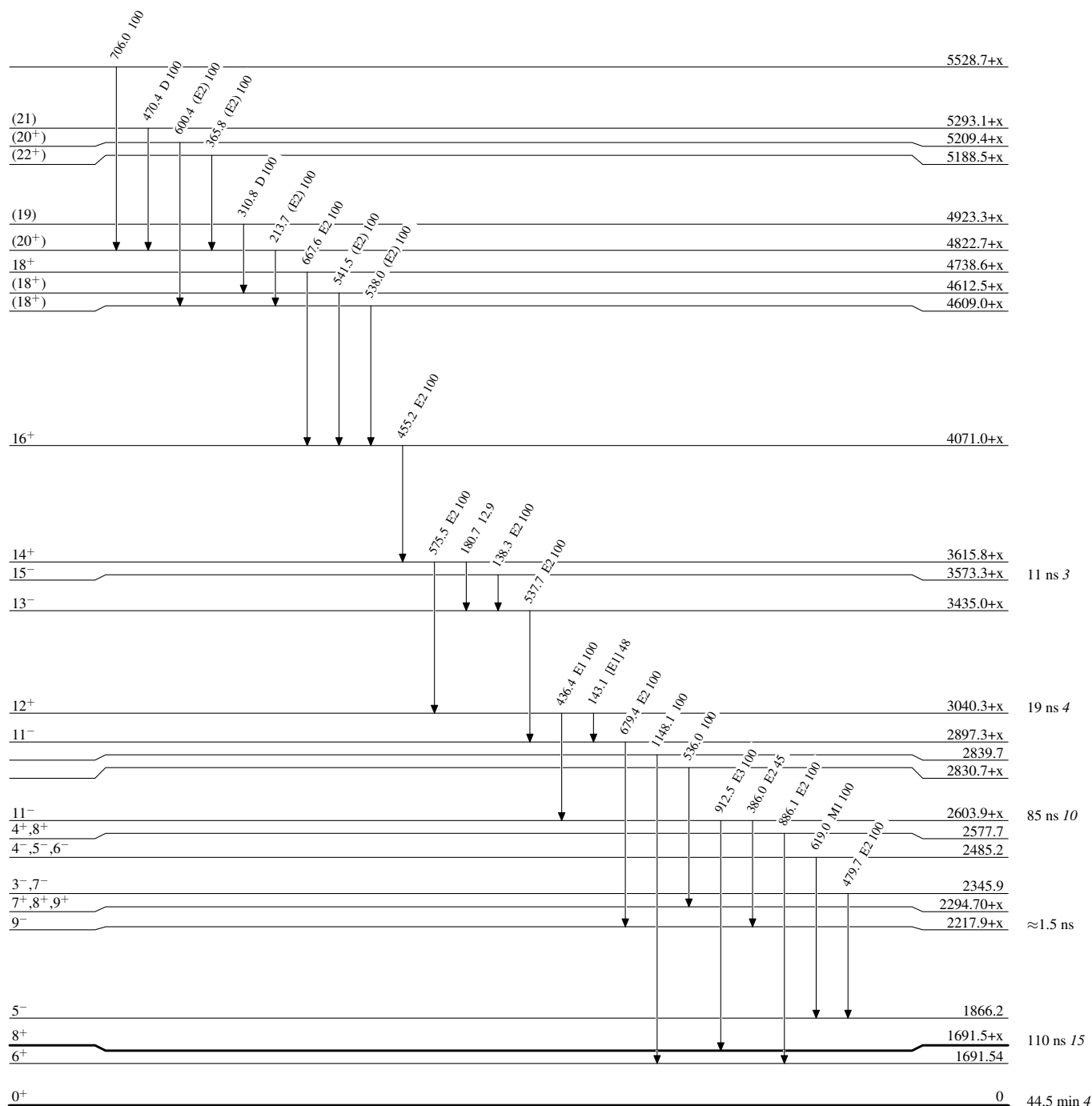
Adopted Levels, Gammas (continued) $\gamma(^{202}\text{Po})$ (continued)

<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}[†]</u>	<u>I_{γ}[‡]</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Mult.[@]</u>	<u>α^b</u>	<u>Comments</u>
4923.3+x	(19)	310.8 [‡]	100 [‡]	4612.5+x	(18 ⁺)	D	0.29 18	$\alpha(\text{N})=0.01158$ 16; $\alpha(\text{O})=0.002233$ 31; $\alpha(\text{P})=0.0002122$ 30 Mult.: A ₂ /A ₀ >0 (1990Fa03).
5188.5+x	(22 ⁺)	365.8 [‡]	100 [‡]	4822.7+x	(20 ⁺)	(E2)	0.07141 99	$\alpha(\text{K})=0.22$ 16; $\alpha(\text{L})=0.052$ 14; $\alpha(\text{M})=0.013$ 3; $\alpha(\text{N}+..)=0.0040$ 9 $\alpha(\text{N})=0.0033$ 7; $\alpha(\text{O})=0.00066$ 17; $\alpha(\text{P})=8.\text{E}-5$ 3 Mult.: A ₂ /A ₀ <0 (1990Fa03).
5209.4+x	(20 ⁺)	600.4 [‡]	100 [‡]	4609.0+x	(18 ⁺)	(E2)	0.02106 29	$\alpha(\text{K})=0.0431$ 6; $\alpha(\text{L})=0.02120$ 30; $\alpha(\text{M})=0.00544$ 8 $\alpha(\text{N})=0.001398$ 20; $\alpha(\text{O})=0.000275$ 4; $\alpha(\text{P})=2.84\times 10^{-5}$ 4 Mult.: A ₂ /A ₀ >0 (1990Fa03).
5293.1+x	(21)	470.4 [‡]	100 [‡]	4822.7+x	(20 ⁺)	D	0.09 6	$\alpha(\text{K})=0.01531$ 21; $\alpha(\text{L})=0.00433$ 6; $\alpha(\text{M})=0.001075$ 15 $\alpha(\text{N})=0.000276$ 4; $\alpha(\text{O})=5.56\times 10^{-5}$ 8; $\alpha(\text{P})=6.31\times 10^{-6}$ 9 Mult.: A ₂ =0.17 11, A ₄ =0.02 14 (1990Fa03).
5528.7+x		706.0 [‡]	100 [‡]	4822.7+x	(20 ⁺)			$\alpha(\text{K})=0.07$ 5; $\alpha(\text{L})=0.015$ 6; $\alpha(\text{M})=0.0036$ 14; $\alpha(\text{N}+..)=0.0011$ 5 $\alpha(\text{N})=0.0009$ 4; $\alpha(\text{O})=0.00019$ 8; $\alpha(\text{P})=2.4\times 10^{-5}$ 11 Mult.: A ₂ =-0.33 23, A ₄ =0.19 30 (1990Fa03).

† From ²⁰²At ε decay ([1998Bi06](#)), unless otherwise stated.‡ From ¹⁹⁶Pt(¹²C,6n γ) ([1990Fa03](#)).# From ¹⁹⁷Au(¹¹B,6n γ) ([1976Be12](#)).@ From $\alpha(\text{K})_{\text{exp}}$ and $\alpha(\text{L})_{\text{exp}}$ in [1998Bi06](#) and $\gamma(\theta)$ in [1990Fa03](#), unless otherwise stated.& From ce measurements in ¹⁹⁷Au(¹¹B,6n γ) ([1976Be12](#)), but values were not given by the authors.^a From $\alpha(\text{K})_{\text{exp}}$ and $\alpha(\text{L})_{\text{exp}}$ in ²⁰²At ε decay ([1998Bi06](#)).^b [Additional information 2](#).

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level

