

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 121, 561 (2014)	31-Mar-2014

Q(β^-)=-3981 8; S(n)=7658.4 14; S(p)=4983.5 8; Q(α)=5407.45 7 2012Wa38

Other reactions:

²⁰⁶Pb(⁶He,2n) and ²⁰⁸Pb(⁴He,2n): 2009Lu02, 2008Pe32, 2007Pe02, 2006Pe10, 2006Pe37.

²⁰⁸Pb(⁹Be,3n γ): 1999Da26.

²⁰⁹Bi(p,p') IAR: 1972Co05.

²⁰⁹Bi(p, γ): 1995Li33, 1994KaZQ, 1991Vy02, 1991Cv01.

²⁰⁹Bi(d,n): 1994Go42, 1991Vy02.

²⁰⁹Bi(³He,2p): 1991VyZZ.

²⁰⁹Bi(⁶Li,X): 2009Pe19, 2011Pe15.

²⁰⁹Bi(²⁰Ne,¹⁹F): 1996Lh02.

Bremmstrahlung from ²¹⁰Po α decay: 1999Tk04, 1999Ta02, 1999Oh02, 1999Dy01, 1998Pa15, 1997Ka59, 1997Ka36, 2000So20, 2001Ku27, 2001Gi12.

²¹⁰Bi β^- decay: β^- spectrum shape factor (1996Gr01).

²¹⁰Po Levels

Cross Reference (XREF) Flags

A	²¹⁰ Bi β^- decay (5.012 d)	F	²⁰⁴ Hg(¹³ C, α 3n γ)	K	²⁰⁹ Bi(α ,t) E=40 MeV
B	²¹⁰ At ϵ decay (8.1 h)	G	²⁰⁸ Pb(α ,2n γ)	L	²⁰⁹ Bi(⁷ Li, ⁶ He) E=210 MeV
C	²¹⁴ Rn α decay (0.27 μ s)	H	²⁰⁹ Bi(t,2n γ)	M	²¹⁰ Po(d,d') E=17 MeV
D	²¹⁴ Rn α decay (0.69 ns)	I	²⁰⁹ Bi(³ He,d) E=30 MeV		
E	²¹⁴ Rn α decay (6.5 ns)	J	²⁰⁹ Bi(³ He,d γ)		

E(level) ^d	J π^e	T _{1/2}	XREF	Comments
0.0 [†]	0 ⁺	138.376 d 2	ABCDE GHIJKLM	% α =100 T _{1/2} : from 1964EiZZ, calorimeter. Other values: 138.37 d 3 (1953Cu46), 138.401 d 6 (1954Ei20). Others: 1931Cu01, 1949Be54, 1953Gi10. 2012Do08 measured 138.6 d 15, 105.2 d 44, and 138.4 d 23 for room temperature, 293 K, and 4.2 K, respectively, from ²¹⁰ Po α decay. 2014Po01 measured 140.2 d 29, 139.2 d 29 at 4.2 K and 139.6 d 29, 143.3 d 30 at 293 K. Isotope shift (1991Ko32).
1181.398 [†] 10	2 ⁺	5.9 ps 12	B GHIJK M	J π : 1181 γ E2 to 0 ⁺ . T _{1/2} : from B(E2)=0.021 4 in ²¹⁰ Po(d,d') (1973Ei06,1981Ha54).
1426.701 [†] 14	4 ⁺	1.56 ns 6	B GHIJKLM	XREF: L(1390). J π : 245 γ E2 to 2 ⁺ ; (245 γ)(1181 γ)(θ). T _{1/2} : Weighted average of 1.53 ns 7 (1976Ha56 - (α ,2n γ), 1.53 ns 8 (1973Be30), and 1.60 ns 6 (1973Na21). Uncertainty - lowest expt. value. Other: 1.8 ns 2 (1963Fu02). Later values via ²¹⁰ At ϵ decay.
1473.357 [†] 21	6 ⁺	42.6 ns 10	B GHIJK	μ =5.48 5 J π : 46.9 γ E2 to 4 ⁺ . μ : Differential perturbed angular distribution of γ rays (1976Ha56,2014StZZ).
1556.97 [†] 3	8 ⁺	98.9 ns 25	B E GHIJK	T _{1/2} : from $\gamma\gamma$ (t) in ²⁰⁸ Pb(α ,2n γ) (1976Ha56). μ =+7.13 5; Q=-0.552 20 J π : 83.5 γ E2 to 6 ⁺ . μ systematics in ²⁰² Po to ²⁰⁸ Po supports a configuration=(π 1h _{9/2}) ² 8 ⁺ (1976Ha56,1973Br14). μ : Differential perturbed angular distribution of γ rays

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Adopted Levels, Gammas (continued)

^{210}Po Levels (continued)					
E(level) ^d	J ^π ^e	T _{1/2}	XREF	Comments	
				(1976Ha56,2014StZZ). Other: 1973Ya06.	
				Q: Differential perturbed angular distribution of γ rays (1991Be03,2014StZZ). Other values: Q=0.57, differential perturbed angular distribution of γ rays (1987Ma65,1983Da01,1989Ra17). Q=0.568 30, level mixing spectroscopy (1997Ne06).	
				T _{1/2} : weighted average of 101.0 ns 12, ce(t) in $^{209}\text{Bi}(t,2n\gamma)$ (1988Ma32), and 96.0 ns 14, $\gamma(t)$ in $^{208}\text{Pb}(\alpha,2n\gamma)$ (1976Ha56). See $^{208}\text{Pb}(\alpha,2n\gamma)$ for other values.	
2187.96 [‡] 4	8 ⁺		B GHIJKL	XREF: L(2120). J ^π : 631 γ M1+E2 to 8 ⁺ , 661 γ E3 from 11 ⁻ .	
2290.14 [‡] 4	2 ⁺		B HIJK M	J ^π : 2290 γ E2 to 0 ⁺ .	
2326.018 [‡] 23	6 ⁺		B GHIJK	J ^π : 853 γ M1+E2 to 6 ⁺ , 769 γ to 8 ⁺ , 899 γ to 4 ⁺ .	
2382.543 [‡] 17	4 ⁺		B GHIJK	J ^π : 1201.5 γ E2 to 2 ⁺ , 909 γ to 6 ⁺ .	
2386.784 19	3 ⁻	≈0.3 ps	B H J M	J ^π : 960 γ E1 to 4 ⁺ , 1205 γ E1 to 2 ⁺ . T _{1/2} : from B(E3)=0.63 7 in $^{210}\text{Po}(d,d')$ (1973El06) and adopted 1 γ (2386 γ)-branching.	
2393.78 [‡] 6	1 ⁺		HIJK	J ^π : 2394 γ M1 to 0 ⁺ .	
2403.282 [‡] 21	5 ⁺		B GHIJK	J ^π : 77.2 γ M1 to 6 ⁺ , 976 γ M1+E2 to 4 ⁺ .	
2413.834 [‡] 25	3 ⁺		HIJK	J ^π : 987 γ M1 to 4 ⁺ , 1232 γ M1+E2 to 2 ⁺ .	
2438.36 [‡] 3	7 ⁺		B GHIJK	J ^π : 881 γ M1+E2 to 8 ⁺ , 965 γ M1+E2 to 6 ⁺ .	
2608.58 [@] 6	0 ⁺		H	J ^π : 2608 γ E0 to 0 ⁺ .	
2658 10			M		
2845.97 [#] 7	(3) ⁻		H	J ^π : 459 γ M1 to 3 ⁻ , 1664 γ E1+M2 to 2 ⁺ .	
2849.17 [#] 4	11 ⁻	19.6 ns 4	GH K	μ =+12.20 9; Q=-0.86 11 J ^π : 1292 γ E3 to 8 ⁺ . Analogy with 85-ns ^{202}Po at ≈2.62 MeV with μ =11.9 4 (1976Ha56), and 8.3-ns ^{208}Po at ≈2.71 MeV with μ =+12.3 4 (1978LeZA). μ : Differential perturbed angular distribution of γ rays (1976Ha56,1976Re12,2014StZZ). Q: Differential perturbed angular distribution of γ rays (1991Be03,2014StZZ). Other values: Q=0.82 12, adjusted by evaluator relative to Q(1557)=-0.552, differential perturbed angular distribution of γ rays (1987Ma65,1989Ra17). Q=(-)0.79 19, adjusted by evaluator relative to Q(1557)=-0.552, differential perturbed angular distribution of γ rays (1983Da01,1989Ra17). T _{1/2} : from ce(t) in $^{209}\text{Bi}(t,2n\gamma)$ (1988Ma32). See $^{208}\text{Pb}(\alpha,2n\gamma)$ for other values.	
2872 1			K M		
2910.059 ^{&} 19	5 ⁻		B GH K M	J ^π : 1437 γ E1 to 6 ⁺ , 1483 γ E1 to 4 ⁺ .	
2999.48 [#] 4	(9) ⁻		GH K	J ^π : 811 γ E1 to 8 ⁺ .	
3016.49 [#] 3	(7) ⁻		B GH K	J ^π : 1543 γ E1 to 6 ⁺ , 1460 γ to 8 ⁺ .	
3023.74 [#] 5	(2) ⁻		H K	J ^π : 637 γ M1 to 3 ⁻ .	
3026.437 [#] 21	5 ⁻		B GH K M	J ^π : 622 γ E1 to 5 ⁺ , 639 γ E2 to 3 ⁻ , 1553 γ to 6 ⁺ ; (1600 γ)(245 γ) (θ).	
3075.08 [#] 3	(4) ⁻		B H K	J ^π : 1648 γ E1 to 4 ⁺ .	
3094.53 [@] 14	4 ⁺		H	J ^π : 691 γ M1+E2 to 5 ⁺ , 1913 γ E2 to 2 ⁺ .	
3111.646 ^{&} 24	4 ⁻		B H	J ^π : 202 γ M1 to 5 ⁻ , 725 γ M1+E2 to 3 ⁻ .	
3125.15 [#] 3	(6) ⁻		B H K	J ^π : 722 γ E1 to 5 ⁺ , 799 γ E1 to 6 ⁺ .	
3137.99 [#] 5	(8) ⁻		GH K	J ^π : 699 γ E1 to 7 ⁺ , 950 γ E1+M2 to 8 ⁺ .	
3182.79 [#] 4	10 ⁻		GH K	J ^π : 183 γ M1 to (9) ⁻ , 334 γ M1 to 11 ⁻ .	
3218.98 [@] 5	(6) ⁺		H	J ^π : 781 γ M1+E2 to 7 ⁺ , 1746 γ M1+E2 to 6 ⁺ .	

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Adopted Levels, Gammas (continued) ^{210}Po Levels (continued)

E(level) ^d	J ^π ^e	T _{1/2}	XREF			Comments
3428.59 3	5 ⁻		B	H	M	J ^π : 1955γ E1 to 6 ⁺ , 317γ M1 to 4 ⁻ .
3477.26 ^c 21					J	
3525.37 4	6 ⁻		B	H		J ^π : 615γ M1 to 5 ⁻ , 1087γ (E1+M2) to 7 ⁺ .
3637.49 ^c 20					J	
3685.41 5	7 ⁻			H		J ^π : 1497γ E1 to 8 ⁺ , 2212γ E1 to 6 ⁺ .
3693.89 ^c 20					J	
3699.61 6	5 ⁻		B	H		J ^π : 2273γ E1 to 4 ⁺ , 2227γ E1+M2 to 6 ⁺ .
3711.01 9	(5 ⁻)		B	H		J ^π : 2238γ (E1) to 6 ⁺ , 2284γ to 4 ⁺ .
3727.34 6	(6 ⁻)		B	H		J ^π : 817γ M1+E2 to 5 ⁻ , 2254γ E1 to 6 ⁺ , 1289γ to 7 ⁺ .
3779.91 6	(4,5) ⁻		B	H		J ^π : 870γ M1+E2 to 5 ⁻ , 2353γ E1 to 4 ⁺ .
3780.20 5	7 ⁻			H		J ^π : 1592γ E1+M2 to 8 ⁺ , 1454γ E1+M2 to 6 ⁺ .
3792 ^a 1	(2 ⁺)				K M	
4025.77 5	(7,8,9 ⁻)		H		m	XREF: m(4040). J ^π : 2469γ (E1+M2) to 8 ⁺ .
4029.1 ^{ac} 3	(4 ⁺)			IJK	m	XREF: m(4040).
4043.37 ^c 21					J m	XREF: m(4040).
4105.07 ^c 21					J LM	XREF: L(4100).
4141.08 ^{ac} 13	(6 ⁺)			IJK		
4145.32 4	(10 ⁻)		H		M	J ^π : 963γ M1 to 10 ⁻ , 1146γ (M1) to (9 ⁻).
4237 10					M	
4320 ^a 1	(3 ⁺)				K	
4324.12 4	(11 ⁻)		GH			J ^π : 1475γ M1 to 11 ⁻ , weak 2767γ to 8 ⁺ .
4329.5 ^c 3					J	
4346 10					M	
4371.96 4	13 ⁻	54.4 ns 24	FGH		m	μ=6.4 2; Q=-0.90 7 XREF: m(4376). J ^π : 1523γ E2 to 11 ⁻ , RUL. Main configuration=((²⁰⁸ Pb 5 ⁻)(π 1h _{9/2}) ₈₊ ²)13 ⁻ , where 5 ⁻ , ²⁰⁸ Pb at 3198 keV is configuration=((ν 2g _{9/2})(ν 3p _{1/2}) ⁻¹). This configuration is consistent with experimental B(E2) values for deexciting transitions, and also with measured μ (1985Be22,1976Ha56). μ: Differential perturbed angular distribution of γ rays (1985Be22,1989Ra17), adjusted by evaluator for adopted T _{1/2} . Q: Differential perturbed angular distribution of γ rays (1991Be03). Other values: Q=0.87 7, adjusted by evaluator relative to Q(1557)=-0.552, differential perturbed angular distribution of γ rays (1987Ma65,1989Ra17). Q=-0.60 11, adjusted by evaluator relative to Q(1557)=-0.552, differential perturbed angular distribution of γ rays (1983Da01,1989Ra17). T _{1/2} : weighted average of 56.1 ns 14, ce(t) in ²⁰⁹ Bi(t,2nγ) (1988Ma32), and 51 ns 2, γ(t) in ²⁰⁸ Pb(α,2nγ) (1985Be22). See ²⁰⁸ Pb(α,2nγ) for other values.
4382 ^a 1	(5 ⁺)				K m	XREF: m(4376).
4386.9 ^c 3					J	
4469.83 ^{ac} 18	(6 ⁺)			IJK		
4502.63 9	(12 ⁻)		H			J ^π : 1653γ (M1) to 11 ⁻ .
4542.41 ^c 20	(4 ⁺)				J	
4554.0 ^{ac} 4	(7 ⁺)			IJK		
4592.6 ^{bc} 4				IJ		J ^π : J ^π =3 ⁺ is assigned in 1980Gr09 (d,p). 1999KI03 notes it is doubtful since 4592γ (M3) has to compete with E1, M1, and E2 γ-ray transitions that were not observed.
4621.59 ^c 16	(3 ⁺)				J	
4624 ^b 1	(5 ⁺)			I		
4637.71 ^c 21					J	

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Adopted Levels, Gammas (continued) ^{210}Po Levels (continued)

E(level) ^d	J ^π ^e	T _{1/2}	XREF	Comments
4644.9 ^{bc} 5	(6 ⁺)		IJ	
4660.28 ^c 24			J	
4776.89 11	14 ⁻		FGH	J ^π : 405γ M1+E2 to 13 ⁻ , 280γ M2 from 16 ⁺ . Configuration=((²⁰⁸ Pb 6 ⁻)(π 1h _{9/2}) ₈₊ ²)14 ⁻ , where 6 ⁻ , ²⁰⁸ Pb at 4206 keV is configuration=((ν 1i _{11/2})(ν 3p _{1/2}) ⁻¹).
4948.1 ^c 3			J	
4971.28 15	(11 ⁻ ,12 ⁻)		H	J ^π : 599γ to 13 ⁻ , 825γ to (10) ⁻ .
4974.4 ^c 5			J	
4991 1			I	
4998.2 ^c 5			J	
5041 1			I	
5057.65 5	16 ⁺	263 ns 5	FGH	μ=9.84 8; Q=-1.297 20 J ^π : 686γ E3 to 13 ⁻ . Systematics of B(E3) values in the lead region (1985Be22). Main configuration=((²⁰⁸ Pb 5 ⁻)(π 1h _{9/2})(π 1i _{13/2}))16 ⁺ . μ: Differential perturbed angular distribution of γ rays (1985Be22,2014StZZ). Q: Differential perturbed angular distribution of γ rays (1991Be03,2014StZZ). Other value: Q=-1.29 8, adjusted by evaluator relative to Q(1557)=-0.552, differential perturbed angular distribution of γ rays (1986MaZP,1989Ra17). T _{1/2} : weighted average of 265 ns 10, γ(t) (1985Be22), and 262 ns 6, ce(t) (1985Ka07) in ²⁰⁸ Pb(α,2nγ).
5186 1			I	
5270 1			I	
5614.69 21	(17 ⁺)		F	J ^π : 556.9γ D+Q to 16 ⁺ .
6070.26 25	(17 ⁺)		F	J ^π : 1012.6γ D+Q to 16 ⁺ .
6085.31 21	(18 ⁺)		F	J ^π : 1027.7γ Q to 16 ⁺ .
6342.83 22	(19 ⁻)		F	J ^π : Assignment assumes 1285.3γ to be of E3 multipolarity ((19 ⁻ to 16 ⁺). Absence of lifetime for this level supports the expected multipolarity.
6384.63 25	(18 ⁻)		F	J ^π : 769.8γ d to (17 ⁺).
6422.08 25	(18)		F	
6713.5 3	(19 ⁺)		F	J ^π : 328.9γ d to (18 ⁻), 628.2γ D+Q to (18 ⁺).
6983.9 4	(20 ⁻)		F	J ^π : 270.4γ d to (19 ⁺).
6995.0 4	(20 ⁻)		F	J ^π : 281.6γ d to (19 ⁺).
7719.6 5	(21 ⁻)		F	
7989.4 5	(21)		F	J ^π : 1005.5γ (D) to (20 ⁻).
8074.3 4	(23 ⁺)	9.0 ns 14	F	T _{1/2} : from γγ(t) ((¹³ C,α3nγ)-2008Dr03). Possible configuration=π(h _{9/2} i _{13/2}) ⊗ ν[(p _{1/2} ⁻² g _{9/2} j _{15/2}) or (i _{13/2} ⁻¹ j _{15/2})].
8831.1 5	(24 ⁺)		F	J ^π : 756.8γ D+Q to (23 ⁺).
8893.6 6	(23)		F	
9199.3 6	(25)		F	
9420.8 6	(25)		F	
9464.8 6	(25)		F	
9535.1 6	(26)		F	
9567.4 7	(26)		F	
9581.8 6	(26)		F	
9590.1 6	(26)		F	
10084.1 7	(27)		F	

[†] Configuration=(π 1h_{9/2})²; L=5 (α,t), (³He,d).

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Adopted Levels, Gammas (continued) ^{210}Po Levels (continued)

‡ Configuration= $((\pi 1h_{9/2})(\pi 2f_{7/2}))$; L=3 (α,t), ($^3\text{He,d}$).

Configuration= $((\pi 1h_{9/2})(\pi 1i_{13/2}))$; L=6 (α,t), ($^3\text{He,d}$).

@ Configuration= $(\pi 2f_{7/2})^2$.

& Configuration= $((\nu 2g_{9/2})(\nu 3p_{1/2})^{-1})$.

^a Configuration= $((\pi 1h_{9/2})(\pi 2f_{5/2}))$; L=3 (α,t).

^b Configuration= $((\pi 1h_{9/2})(\pi 3p_{3/2}))$; L=1 ($^3\text{He,d}$).

^c From $^{209}\text{Bi}(^3\text{He,d}\gamma)$.

^d From a least-squares fit to γ -ray energies. If $\Delta E\gamma$ not given, ± 0.30 keV assumed for least-squares fitting. Uncertainties of 2665.5γ from 4141 and 279.89γ from 5057-keV level, were increased by 2σ and 3σ during the least-squares fit. These γ -rays differ from least-squares fit values by more than 5σ and between 4 to 5σ , respectively.

^e Spin and parity assignments are based on γ -ray multiplicities, decay patterns, excitation functions in $^{209}\text{Bi}(t,2n\gamma)$; on $\gamma(\theta)$ in $^{208}\text{Pb}(\alpha,2n\gamma)$, and $\gamma\gamma(\theta)$ in ^{210}At ε decay. Assignments for levels populated in $^{209}\text{Bi}(^3\text{He,d})$ and $^{209}\text{Bi}(\alpha,t)$ are based on L-transfer values, and spectroscopic factors which are proportional to $(2J+1)$ for multiplet members. Additional arguments are given with individual levels. Two-proton shell model configurations are based on a comparison between experimental and theoretical level energies (1972He03, 1981LoZZ), and on the agreement between experimental and theoretical γ -ray branching ratios in $^{210}\text{Bi}(t,2n\gamma)$ (1988Ma32). See 1978Ma38 for an energy calculation of high-spin ($J \geq 11$) isomeric states. See 1976K107 for B(E2), B(E3), μ (experimental vs theoretical) of states up to $J^\pi=11^-$. Other: 1972As04. Spin and parity assignments for excited levels 5614.7 keV and above are from ($^{13}\text{C},\alpha 3n\gamma$) dataset, which are based on shell model calculations, γ -ray feeding and multiplicities.

Adopted Levels, Gammas (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [†]	$\delta^\dagger a$	$\alpha\&$	Comments
1181.398	2 ⁺	1181.39 1	100	0.0	0 ⁺	E2		0.00535	B(E2)(W.u.)=0.56 12 $\alpha(K)=0.00428$ 6; $\alpha(L)=0.000812$ 12; $\alpha(M)=0.000193$ 3 $\alpha(N)=4.97\times 10^{-5}$ 7; $\alpha(O)=1.025\times 10^{-5}$ 15; $\alpha(P)=1.270\times 10^{-6}$ 18; $\alpha(\text{IPF})=2.37\times 10^{-6}$ 4
1426.701	4 ⁺	245.31 1	100	1181.398	2 ⁺	E2		0.236	$\alpha(K)=0.1057$ 15; $\alpha(L)=0.0971$ 14; $\alpha(M)=0.0255$ 4 $\alpha(N)=0.00653$ 10; $\alpha(O)=0.001265$ 18; $\alpha(P)=0.0001225$ 18 B(E2)(W.u.)=4.46 18
1473.357	6 ⁺	46.85 5	100	1426.701	4 ⁺	E2		259	$\alpha(L)=192$ 3; $\alpha(M)=51.1$ 8 $\alpha(N)=13.05$ 20; $\alpha(O)=2.47$ 4; $\alpha(P)=0.217$ 4 B(E2)(W.u.)=3.05 9
1556.97	8 ⁺	83.54 8	100	1473.357	6 ⁺	E2		15.97	$\alpha(L)=11.83$ 18; $\alpha(M)=3.16$ 5 $\alpha(N)=0.809$ 12; $\alpha(O)=0.1535$ 23; $\alpha(P)=0.01364$ 20 B(E2)(W.u.)=1.12 4
2187.96	8 ⁺	630.97 1	100	1556.97	8 ⁺	M1+E2	0.52 5	0.0583 19	$\alpha(K)=0.0473$ 16; $\alpha(L)=0.00839$ 23; $\alpha(M)=0.00198$ 6 $\alpha(N)=0.000510$ 14; $\alpha(O)=0.000106$ 3; $\alpha(P)=1.36\times 10^{-5}$ 4
2290.14	2 ⁺	1108.55 7	11.2 11	1181.398	2 ⁺	M1+E2	0.61 31	0.0133 19	$\alpha(K)=0.0108$ 16; $\alpha(L)=0.00186$ 24; $\alpha(M)=0.00044$ 6 $\alpha(N)=0.000112$ 15; $\alpha(O)=2.3\times 10^{-5}$ 3; $\alpha(P)=3.0\times 10^{-6}$ 4; $\alpha(\text{IPF})=3.3\times 10^{-7}$ 4
		2290.22 5	100 2	0.0	0 ⁺	E2		0.00198	$\alpha(K)=0.001303$ 19; $\alpha(L)=0.000213$ 3; $\alpha(M)=4.97\times 10^{-5}$ 7 $\alpha(N)=1.276\times 10^{-5}$ 18; $\alpha(O)=2.66\times 10^{-6}$ 4; $\alpha(P)=3.42\times 10^{-7}$ 5; $\alpha(\text{IPF})=0.000395$ 6
2326.018	6 ⁺	769.20 6 852.66 1	3.7 3 100 1	1556.97 1473.357	8 ⁺ 6 ⁺	M1+E2	0.59 15	0.0259 21	$\alpha(K)=0.0211$ 18; $\alpha(L)=0.0037$ 3; $\alpha(M)=0.00087$ 6 $\alpha(N)=0.000223$ 16; $\alpha(O)=4.7\times 10^{-5}$ 4; $\alpha(P)=6.0\times 10^{-6}$ 5
2382.543	4 ⁺	899.23 14 92.1 2	1.9 3 0.05 2	1426.701 2290.14	4 ⁺ 2 ⁺	(E2)		10.07 18	$\alpha(L)=7.46$ 13; $\alpha(M)=1.99$ 4 $\alpha(N)=0.510$ 9; $\alpha(O)=0.0969$ 17; $\alpha(P)=0.00865$ 15 $E_\gamma, I_\gamma, \text{Mult.}$: from ²¹⁰ At ϵ decay.
		909.00 8 955.84 1	5.9 4 100.0 14	1473.357 1426.701	6 ⁺ 4 ⁺	M1+E2	0.47 17	0.0206 17	$\alpha(K)=0.0168$ 15; $\alpha(L)=0.00289$ 22; $\alpha(M)=0.00068$ 5 $\alpha(N)=0.000175$ 13; $\alpha(O)=3.7\times 10^{-5}$ 3; $\alpha(P)=4.7\times 10^{-6}$ 4
		1201.46 13	6.8 9	1181.398	2 ⁺	E2		0.00518	$\alpha(K)=0.00415$ 6; $\alpha(L)=0.000782$ 11; $\alpha(M)=0.000186$ 3 $\alpha(N)=4.78\times 10^{-5}$ 7; $\alpha(O)=9.88\times 10^{-6}$ 14; $\alpha(P)=1.225\times 10^{-6}$ 18; $\alpha(\text{IPF})=3.80\times 10^{-6}$ 6
2386.784	3 ⁻	960.01 5	11.3 6	1426.701	4 ⁺	E1		0.00292	$\alpha(K)=0.00243$ 4; $\alpha(L)=0.000378$ 6; $\alpha(M)=8.78\times 10^{-5}$ 13 $\alpha(N)=2.25\times 10^{-5}$ 4; $\alpha(O)=4.68\times 10^{-6}$ 7; $\alpha(P)=5.97\times 10^{-7}$ 9
		1205.38 2	100.0 15	1181.398	2 ⁺	E1		0.00197	$\alpha(K)=0.001627$ 23; $\alpha(L)=0.000250$ 4; $\alpha(M)=5.79\times 10^{-5}$ 9 $\alpha(N)=1.485\times 10^{-5}$ 21; $\alpha(O)=3.10\times 10^{-6}$ 5; $\alpha(P)=3.97\times 10^{-7}$ 6; $\alpha(\text{IPF})=1.619\times 10^{-5}$ 23
		2386.8 3	1.0 3	0.0	0 ⁺	[E3]		0.00309	$\alpha(K)=0.00227$ 4; $\alpha(L)=0.000409$ 6; $\alpha(M)=9.68\times 10^{-5}$ 14 $\alpha(N)=2.49\times 10^{-5}$ 4; $\alpha(O)=5.18\times 10^{-6}$ 8; $\alpha(P)=6.57\times 10^{-7}$ 10;

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ‡	$\delta^\ddagger a$	$\alpha^\&$	Comments
									$\alpha(\text{IPF})=0.000286$ 4 E_γ, I_γ : from ^{210}At ε decay.
2393.78	1 ⁺	1212.18 16 2393.79 7	37 6 100 5	1181.398 0.0	2 ⁺ 0 ⁺	M1		0.00295	$\alpha(\text{K})=0.00181$ 3; $\alpha(\text{L})=0.000300$ 5; $\alpha(\text{M})=7.03\times 10^{-5}$ 10 $\alpha(\text{N})=1.81\times 10^{-5}$ 3; $\alpha(\text{O})=3.79\times 10^{-6}$ 6; $\alpha(\text{P})=4.93\times 10^{-7}$ 7; $\alpha(\text{IPF})=0.000740$ 11
2403.282	5 ⁺	20.72	0.10 6	2382.543	4 ⁺	[M1]		214	$\alpha(\text{L})=163.2$ 23; $\alpha(\text{M})=38.8$ 6 $\alpha(\text{N})=10.00$ 14; $\alpha(\text{O})=2.09$ 3; $\alpha(\text{P})=0.270$ 4 I_γ : from I(γ +ce) and $\alpha(\text{M1})=227$.
		77.2 2	6.7 18	2326.018	6 ⁺	M1		4.47 8	$\alpha(\text{L})=3.41$ 6; $\alpha(\text{M})=0.805$ 13 $\alpha(\text{N})=0.207$ 4; $\alpha(\text{O})=0.0434$ 7; $\alpha(\text{P})=0.00560$ 9 I_γ : from I(γ +ce) and $\alpha(\text{M1})=4.68$. Mult.: from ^{210}At ε decay.
		929.93 2	99.6 20	1473.357	6 ⁺	M1+E2	0.72 11	0.0194 12	$\alpha(\text{K})=0.0158$ 10; $\alpha(\text{L})=0.00277$ 16; $\alpha(\text{M})=0.00065$ 4 $\alpha(\text{N})=0.000168$ 9; $\alpha(\text{O})=3.50\times 10^{-5}$ 20; $\alpha(\text{P})=4.5\times 10^{-6}$ 3
		976.55 2	100 2	1426.701	4 ⁺	M1+E2	0.61 20	0.0182 19	$\alpha(\text{K})=0.0148$ 16; $\alpha(\text{L})=0.00257$ 24; $\alpha(\text{M})=0.00061$ 6 $\alpha(\text{N})=0.000156$ 14; $\alpha(\text{O})=3.3\times 10^{-5}$ 3; $\alpha(\text{P})=4.2\times 10^{-6}$ 4
2413.834	3 ⁺	123.77 10	8.4 13	2290.14	2 ⁺	M1,E2		4.5 16	$\alpha(\text{K})=2.6$ 23; $\alpha(\text{L})=1.4$ 6; $\alpha(\text{M})=0.35$ 15 $\alpha(\text{N})=0.09$ 4; $\alpha(\text{O})=0.018$ 7; $\alpha(\text{P})=0.0018$ 4
		987.12 10	15.8 22	1426.701	4 ⁺	M1		0.0215	$\alpha(\text{K})=0.01761$ 25; $\alpha(\text{L})=0.00298$ 5; $\alpha(\text{M})=0.000699$ 10 $\alpha(\text{N})=0.000180$ 3; $\alpha(\text{O})=3.77\times 10^{-5}$ 6; $\alpha(\text{P})=4.89\times 10^{-6}$ 7
		1232.36 3	100 4	1181.398	2 ⁺	M1+E2	1.15 16	0.0081 6	$\alpha(\text{K})=0.0065$ 5; $\alpha(\text{L})=0.00114$ 8; $\alpha(\text{M})=0.000269$ 17 $\alpha(\text{N})=6.9\times 10^{-5}$ 5; $\alpha(\text{O})=1.44\times 10^{-5}$ 9; $\alpha(\text{P})=1.84\times 10^{-6}$ 12; $\alpha(\text{IPF})=9.3\times 10^{-6}$ 5
2438.36	7 ⁺	112.29 10	6.5 11	2326.018	6 ⁺	(M1)		7.98	$\alpha(\text{K})=6.47$ 10; $\alpha(\text{L})=1.151$ 17; $\alpha(\text{M})=0.272$ 4 $\alpha(\text{N})=0.0700$ 10; $\alpha(\text{O})=0.01465$ 21; $\alpha(\text{P})=0.00189$ 3 Mult.: from ^{210}At ε decay.
		250.35 3	76 5	2187.96	8 ⁺	M1		0.832	$\alpha(\text{K})=0.676$ 10; $\alpha(\text{L})=0.1186$ 17; $\alpha(\text{M})=0.0280$ 4 $\alpha(\text{N})=0.00720$ 10; $\alpha(\text{O})=0.001506$ 21; $\alpha(\text{P})=0.000195$ 3 Mult.: $A_2=-0.32$ 6 in $^{208}\text{Pb}(\alpha, 2n\gamma)$ and ce data in $^{209}\text{Bi}(t, 2n\gamma)$.
		881.39 2	100 2	1556.97	8 ⁺	M1+E2	0.56 17	0.0242 22	$\alpha(\text{K})=0.0197$ 18; $\alpha(\text{L})=0.0034$ 3; $\alpha(\text{M})=0.00081$ 7 $\alpha(\text{N})=0.000208$ 16; $\alpha(\text{O})=4.3\times 10^{-5}$ 4; $\alpha(\text{P})=5.6\times 10^{-6}$ 5
		965.01 3	66.5 2	1473.357	6 ⁺	M1+E2	1.0 2	0.0153 17	$\alpha(\text{K})=0.0124$ 14; $\alpha(\text{L})=0.00222$ 21; $\alpha(\text{M})=0.00052$ 5 $\alpha(\text{N})=0.000135$ 13; $\alpha(\text{O})=2.8\times 10^{-5}$ 3; $\alpha(\text{P})=3.6\times 10^{-6}$ 4
2608.58	0 ⁺	214.80 8 1427.2 1	<42 100 49	2393.78 1181.398	1 ⁺ 2 ⁺	E2		0.00380	$\alpha(\text{K})=0.00304$ 5; $\alpha(\text{L})=0.000544$ 8; $\alpha(\text{M})=0.0001286$ 18 $\alpha(\text{N})=3.30\times 10^{-5}$ 5; $\alpha(\text{O})=6.85\times 10^{-6}$ 10; $\alpha(\text{P})=8.60\times 10^{-7}$ 12; $\alpha(\text{IPF})=4.19\times 10^{-5}$ 6
2845.97	(3) ⁻	2608.56 10 459.0 3	38 17	0.0 2386.784	0 ⁺ 3 ⁻	E0 M1		0.1600	$\alpha(\text{K})=0.1305$ 19; $\alpha(\text{L})=0.0226$ 4; $\alpha(\text{M})=0.00531$ 8 $\alpha(\text{N})=0.001367$ 20; $\alpha(\text{O})=0.000286$ 4; $\alpha(\text{P})=3.70\times 10^{-5}$ 6
		1664.57 7	100 9	1181.398	2 ⁺	E1+M2	0.25 5	0.0021 3	$\alpha(\text{K})=0.00152$ 24; $\alpha(\text{L})=0.00025$ 5; $\alpha(\text{M})=5.8\times 10^{-5}$ 10

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)

<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}^{\dagger}</u>	<u>I_{γ}^{\dagger}</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Mult.^{\dagger}</u>	<u>$\delta^{\dagger}\alpha$</u>	<u>$\alpha\&$</u>	<u>Comments</u>
2849.17	11 ⁻	661.17 3	4.88 24	2187.96	8 ⁺	E3		0.0484	$\alpha(\text{N})=1.5\times 10^{-5}$ 3; $\alpha(\text{O})=3.1\times 10^{-6}$ 6; $\alpha(\text{P})=4.0\times 10^{-7}$ 7; $\alpha(\text{IPF})=0.000270$ 6 B(E3)(W.u.)=19.7 11 $\alpha(\text{K})=0.0299$ 5; $\alpha(\text{L})=0.01378$ 20; $\alpha(\text{M})=0.00355$ 5 $\alpha(\text{N})=0.000915$ 13; $\alpha(\text{O})=0.000183$ 3; $\alpha(\text{P})=1.99\times 10^{-5}$ 3
		1292.20 1	100 1	1556.97	8 ⁺	E3		0.00981	B(E3)(W.u.)=3.71 10 $\alpha(\text{K})=0.00749$ 11; $\alpha(\text{L})=0.001751$ 25; $\alpha(\text{M})=0.000427$ 6 $\alpha(\text{N})=0.0001101$ 16; $\alpha(\text{O})=2.26\times 10^{-5}$ 4; $\alpha(\text{P})=2.73\times 10^{-6}$ 4; $\alpha(\text{IPF})=5.15\times 10^{-6}$ 8
2910.059	5 ⁻	506.8 2	1.50 4	2403.282	5 ⁺	E1		0.00998	$\alpha(\text{K})=0.00822$ 12; $\alpha(\text{L})=0.001349$ 19; $\alpha(\text{M})=0.000315$ 5 $\alpha(\text{N})=8.06\times 10^{-5}$ 12; $\alpha(\text{O})=1.664\times 10^{-5}$ 24; $\alpha(\text{P})=2.07\times 10^{-6}$ 3 E _{γ} , I _{γ} , Mult.: from ²¹⁰ At ϵ decay.
		527.4 2	1.5 3	2382.543	4 ⁺	E1		0.00920	$\alpha(\text{K})=0.00758$ 11; $\alpha(\text{L})=0.001239$ 18; $\alpha(\text{M})=0.000290$ 4 $\alpha(\text{N})=7.41\times 10^{-5}$ 11; $\alpha(\text{O})=1.530\times 10^{-5}$ 22; $\alpha(\text{P})=1.91\times 10^{-6}$ 3 Mult.: from ²¹⁰ At ϵ decay.
		1436.70 2	61.0 16	1473.357	6 ⁺	E1		1.57×10^{-3}	$\alpha(\text{K})=0.001205$ 17; $\alpha(\text{L})=0.000184$ 3; $\alpha(\text{M})=4.25\times 10^{-5}$ 6 $\alpha(\text{N})=1.089\times 10^{-5}$ 16; $\alpha(\text{O})=2.27\times 10^{-6}$ 4; $\alpha(\text{P})=2.93\times 10^{-7}$ 4; $\alpha(\text{IPF})=0.0001258$ 18
		1483.39 2	100 2	1426.701	4 ⁺	E1		1.52×10^{-3}	$\alpha(\text{K})=0.001142$ 16; $\alpha(\text{L})=0.0001737$ 25; $\alpha(\text{M})=4.02\times 10^{-5}$ 6 $\alpha(\text{N})=1.030\times 10^{-5}$ 15; $\alpha(\text{O})=2.15\times 10^{-6}$ 3; $\alpha(\text{P})=2.77\times 10^{-7}$ 4; $\alpha(\text{IPF})=0.0001558$ 22
2999.48	(9) ⁻	811.51 1	100 2	2187.96	8 ⁺	E1		0.00398	$\alpha(\text{K})=0.00330$ 5; $\alpha(\text{L})=0.000520$ 8; $\alpha(\text{M})=0.0001208$ 17 $\alpha(\text{N})=3.09\times 10^{-5}$ 5; $\alpha(\text{O})=6.43\times 10^{-6}$ 9; $\alpha(\text{P})=8.15\times 10^{-7}$ 12
		1442.60 3	32.4 16	1556.97	8 ⁺	E1+M2	0.18 3	0.00211 20	$\alpha(\text{K})=0.00164$ 16; $\alpha(\text{L})=0.00026$ 3; $\alpha(\text{M})=6.2\times 10^{-5}$ 7 $\alpha(\text{N})=1.58\times 10^{-5}$ 18; $\alpha(\text{O})=3.3\times 10^{-6}$ 4; $\alpha(\text{P})=4.3\times 10^{-7}$ 5; $\alpha(\text{IPF})=0.0001263$ 21
3016.49	(7) ⁻	578.01 5	19.7 17	2438.36	7 ⁺	E1+M2	0.25 5	0.021 6	$\alpha(\text{K})=0.017$ 5; $\alpha(\text{L})=0.0033$ 9; $\alpha(\text{M})=0.00079$ 22 $\alpha(\text{N})=0.00020$ 6; $\alpha(\text{O})=4.2\times 10^{-5}$ 12; $\alpha(\text{P})=5.3\times 10^{-6}$ 16
		690.6 2	35 7	2326.018	6 ⁺				
		1460 1	<55	1556.97	8 ⁺				
		1543.14 2	100.0 24	1473.357	6 ⁺	E1		1.48×10^{-3}	$\alpha(\text{K})=0.001069$ 15; $\alpha(\text{L})=0.0001624$ 23; $\alpha(\text{M})=3.76\times 10^{-5}$ 6 $\alpha(\text{N})=9.63\times 10^{-6}$ 14; $\alpha(\text{O})=2.01\times 10^{-6}$ 3; $\alpha(\text{P})=2.59\times 10^{-7}$ 4; $\alpha(\text{IPF})=0.000196$ 3
3023.74	(2) ⁻	609.94 10	30 6	2413.834	3 ⁺				
		636.95 5	100 5	2386.784	3 ⁻	M1		0.0672	$\alpha(\text{K})=0.0549$ 8; $\alpha(\text{L})=0.00941$ 14; $\alpha(\text{M})=0.00221$ 3 $\alpha(\text{N})=0.000569$ 8; $\alpha(\text{O})=0.0001192$ 17; $\alpha(\text{P})=1.543\times 10^{-5}$ 22
3026.437	5 ⁻	116.47 3	9.8 13	2910.059	5 ⁻	M1		7.19	$\alpha(\text{K})=5.83$ 9; $\alpha(\text{L})=1.037$ 15; $\alpha(\text{M})=0.245$ 4 $\alpha(\text{N})=0.0630$ 9; $\alpha(\text{O})=0.01318$ 19; $\alpha(\text{P})=0.001703$ 24
		622.83 23	3.9 13	2403.282	5 ⁺	E1		0.00659	$\alpha(\text{K})=0.00545$ 8; $\alpha(\text{L})=0.000877$ 13; $\alpha(\text{M})=0.000205$ 3 $\alpha(\text{N})=5.23\times 10^{-5}$ 8; $\alpha(\text{O})=1.084\times 10^{-5}$ 16; $\alpha(\text{P})=1.360\times 10^{-6}$ 19 Mult.: from ²¹⁰ At ϵ decay.
		639.56 16	8 3	2386.784	3 ⁻	E2		0.0183	$\alpha(\text{K})=0.01352$ 19; $\alpha(\text{L})=0.00363$ 5; $\alpha(\text{M})=0.000896$ 13 $\alpha(\text{N})=0.000230$ 4; $\alpha(\text{O})=4.65\times 10^{-5}$ 7; $\alpha(\text{P})=5.33\times 10^{-6}$ 8

Adopted Levels, Gammas (continued) $\gamma(^{210}\text{Po})$ (continued)

<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_γ^\dagger</u>	<u>I_γ^\dagger</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.†</u>	<u>$\delta^\dagger \alpha$</u>	<u>$\alpha\&$</u>	<u>Comments</u>
		643.8 2	3.40 15	2382.543	4 ⁺	E1		0.00618	Mult.: from ^{210}At ε decay. $\alpha(\text{K})=0.00511$ 8; $\alpha(\text{L})=0.000820$ 12; $\alpha(\text{M})=0.000191$ 3

Adopted Levels, Gammas (continued)

E _i (level)	J ^π _i	E _γ [†]	I _γ [†]	E _f	J ^π _f	Mult. [†]	γ(²¹⁰ Po) (continued)		Comments
							δ [‡] α	α&	
									α(N)=4.89×10 ⁻⁵ 7; α(O)=1.013×10 ⁻⁵ 15; α(P)=1.274×10 ⁻⁶ 18 E _γ ,I _γ ,Mult.: from ²¹⁰ At ε decay.
3026.437	5 ⁻	1553.0 5 1599.70 2	≤0.8 100 3	1473.357 6 ⁺ 1426.701 4 ⁺		E1		1.44×10 ⁻³	α(K)=0.001007 14; α(L)=0.0001527 22; α(M)=3.53×10 ⁻⁵ 5 α(N)=9.05×10 ⁻⁶ 13; α(O)=1.89×10 ⁻⁶ 3; α(P)=2.44×10 ⁻⁷ 4; α(IPF)=0.000235 4
3075.08	(4) ⁻	661.17 3 688.2 1 692.4 2 1648.45 3	9 3 53 8 15 8 100 3	2413.834 3 ⁺ 2386.784 3 ⁻ 2382.543 4 ⁺ 1426.701 4 ⁺		E1		1.42×10 ⁻³	α(K)=0.000958 14; α(L)=0.0001451 21; α(M)=3.36×10 ⁻⁵ 5 α(N)=8.60×10 ⁻⁶ 12; α(O)=1.80×10 ⁻⁶ 3; α(P)=2.32×10 ⁻⁷ 4; α(IPF)=0.000270 4
3094.53	4 ⁺	691.2 2 768.9 5 1667.9 5 1913.10 21	100 14 11 5 9 4 10.0 18	2403.282 5 ⁺ 2326.018 6 ⁺ 1426.701 4 ⁺ 1181.398 2 ⁺		M1+E2 E2	0.67 31	0.042 8	α(K)=0.034 7; α(L)=0.0061 9; α(M)=0.00145 21 α(N)=0.00037 6; α(O)=7.8×10 ⁻⁵ 12; α(P)=9.9×10 ⁻⁶ 16 α(K)=0.00180 3; α(L)=0.000302 5; α(M)=7.08×10 ⁻⁵ 10 α(N)=1.82×10 ⁻⁵ 3; α(O)=3.79×10 ⁻⁶ 6; α(P)=4.83×10 ⁻⁷ 7; α(IPF)=0.000222 4
3111.646	4 ⁻	201.60 3 724.86 2 728.4 4 1684.6 4	29 4 100 11 8 3 13 4	2910.059 5 ⁻ 2386.784 3 ⁻ 2382.543 4 ⁺ 1426.701 4 ⁺		M1 M1+E2 E1		1.520 1.02 27 1.40×10 ⁻³	α(K)=1.235 18; α(L)=0.217 3; α(M)=0.0513 8 α(N)=0.01320 19; α(O)=0.00276 4; α(P)=0.000357 5 α(K)=0.025 5; α(L)=0.0046 7; α(M)=0.00109 15 α(N)=0.00028 4; α(O)=5.8×10 ⁻⁵ 8; α(P)=7.3×10 ⁻⁶ 11 α(K)=0.000924 13; α(L)=0.0001398 20; α(M)=3.23×10 ⁻⁵ 5 α(N)=8.29×10 ⁻⁶ 12; α(O)=1.732×10 ⁻⁶ 25; α(P)=2.24×10 ⁻⁷ 4; α(IPF)=0.000296 5
3125.15	(6) ⁻	721.84 3 799.19 4	100 9 55 4	2403.282 5 ⁺ 2326.018 6 ⁺		E1 E1		0.00496 0.00409	α(K)=0.00410 6; α(L)=0.000653 10; α(M)=0.0001520 22 α(N)=3.89×10 ⁻⁵ 6; α(O)=8.07×10 ⁻⁶ 12; α(P)=1.019×10 ⁻⁶ 15 α(K)=0.00339 5; α(L)=0.000535 8; α(M)=0.0001245 18 α(N)=3.19×10 ⁻⁵ 5; α(O)=6.62×10 ⁻⁶ 10; α(P)=8.39×10 ⁻⁷ 12
3137.99	(8) ⁻	699.51 25 949.97 4 1581.09 4	83 14 100 8 100 6	2438.36 7 ⁺ 2187.96 8 ⁺ 1556.97 8 ⁺		E1 E1+M2 E1+M2		0.00526 0.14 4 0.25 5	α(K)=0.00436 7; α(L)=0.000694 10; α(M)=0.0001617 23 α(N)=4.14×10 ⁻⁵ 6; α(O)=8.58×10 ⁻⁶ 12; α(P)=1.083×10 ⁻⁶ 16 α(K)=0.0033 6; α(L)=0.00055 11; α(M)=0.000129 25 α(N)=3.3×10 ⁻⁵ 7; α(O)=6.9×10 ⁻⁶ 14; α(P)=8.8×10 ⁻⁷ 18 α(K)=0.0017 3; α(L)=0.00028 5; α(M)=6.4×10 ⁻⁵ 12 α(N)=1.7×10 ⁻⁵ 3; α(O)=3.5×10 ⁻⁶ 7; α(P)=4.5×10 ⁻⁷ 8; α(IPF)=0.000213 5
3182.79	10 ⁻	183.31 3 333.61 2 1625.91 6	19.8 25 100 2 14.9 14	2999.48 (9) ⁻ 2849.17 11 ⁻ 1556.97 8 ⁺		M1 M1 M2+E3		1.98 0.378 0.44 32	α(K)=1.612 23; α(L)=0.284 4; α(M)=0.0671 10 α(N)=0.01726 25; α(O)=0.00361 5; α(P)=0.000467 7 α(K)=0.308 5; α(L)=0.0537 8; α(M)=0.01265 18 α(N)=0.00326 5; α(O)=0.000681 10; α(P)=8.81×10 ⁻⁵ 13 α(K)=0.0103 14; α(L)=0.00186 22; α(M)=0.00044 5

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)

<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_γ^\dagger</u>	<u>I_γ^\dagger</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[†]</u>	<u>$\delta^\dagger a$</u>	<u>$\alpha^\&$</u>	<u>Comments</u>
									$\alpha(\text{N})=0.000114$ 13; $\alpha(\text{O})=2.4\times 10^{-5}$ 3; $\alpha(\text{P})=3.1\times 10^{-6}$ 4; $\alpha(\text{IPF})=6.8\times 10^{-5}$ 4

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [†]	$\delta^\ddagger\alpha$	$\alpha^\&$	Comments
3218.98	(6) ⁺	780.62 3	100 3	2438.36	7 ⁺	M1+E2	0.59 18	0.032 4	$\alpha(\text{K})=0.026$ 3; $\alpha(\text{L})=0.0046$ 4; $\alpha(\text{M})=0.00109$ 9 $\alpha(\text{N})=0.000281$ 23; $\alpha(\text{O})=5.9\times 10^{-5}$ 5; $\alpha(\text{P})=7.5\times 10^{-6}$ 7
		1030.6 5	8 3	2187.96	8 ⁺				
		1745.98 29	69 32	1473.357	6 ⁺	M1+E2	3	0.00299	$\alpha(\text{K})=0.00232$ 4; $\alpha(\text{L})=0.000393$ 6; $\alpha(\text{M})=9.24\times 10^{-5}$ 13 $\alpha(\text{N})=2.37\times 10^{-5}$ 4; $\alpha(\text{O})=4.95\times 10^{-6}$ 7; $\alpha(\text{P})=6.31\times 10^{-7}$ 9; $\alpha(\text{IPF})=0.0001630$ 23
3428.59	5 ⁻	316.99 9	20.6 15	3111.646	4 ⁻	M1		0.435	$\alpha(\text{K})=0.354$ 5; $\alpha(\text{L})=0.0618$ 9; $\alpha(\text{M})=0.01455$ 21 $\alpha(\text{N})=0.00375$ 6; $\alpha(\text{O})=0.000784$ 11; $\alpha(\text{P})=0.0001013$ 15 Mult.: from ²¹⁰ At ϵ decay.
		402.15 2	100.0 25	3026.437	5 ⁻	M1		0.228	$\alpha(\text{K})=0.186$ 3; $\alpha(\text{L})=0.0323$ 5; $\alpha(\text{M})=0.00760$ 11 $\alpha(\text{N})=0.00195$ 3; $\alpha(\text{O})=0.000409$ 6; $\alpha(\text{P})=5.29\times 10^{-5}$ 8
		518.3 2	20 10	2910.059	5 ⁻	M1		0.1158	$\alpha(\text{K})=0.0945$ 14; $\alpha(\text{L})=0.01628$ 23; $\alpha(\text{M})=0.00383$ 6 $\alpha(\text{N})=0.000986$ 14; $\alpha(\text{O})=0.000206$ 3; $\alpha(\text{P})=2.67\times 10^{-5}$ 4 Mult.: from ²¹⁰ At ϵ decay.
		1041.7 3	35 10	2386.784	3 ⁻	(E2)		0.00680	$\alpha(\text{K})=0.00539$ 8; $\alpha(\text{L})=0.001073$ 15; $\alpha(\text{M})=0.000257$ 4 $\alpha(\text{N})=6.60\times 10^{-5}$ 10; $\alpha(\text{O})=1.359\times 10^{-5}$ 19; $\alpha(\text{P})=1.663\times 10^{-6}$ 24
		1046.3 3	16.1 20	2382.543	4 ⁺				
		1955.14 6	45 3	1473.357	6 ⁺	E1		1.36×10^{-3}	$\alpha(\text{K})=0.000723$ 11; $\alpha(\text{L})=0.0001088$ 16; $\alpha(\text{M})=2.51\times 10^{-5}$ 4 $\alpha(\text{N})=6.45\times 10^{-6}$ 9; $\alpha(\text{O})=1.348\times 10^{-6}$ 19; $\alpha(\text{P})=1.746\times 10^{-7}$ 25; $\alpha(\text{IPF})=0.000492$ 7 E_γ, I_γ : from ²¹⁰ At ϵ decay.
		2001.7 2	14 1	1426.701	4 ⁺				
3477.26		1289.3 [‡] 2	100 [‡]	2187.96	8 ⁺				
3525.37	6 ⁻	499.06 7	28 5	3026.437	5 ⁻	M1		0.1281	$\alpha(\text{K})=0.1044$ 15; $\alpha(\text{L})=0.0180$ 3; $\alpha(\text{M})=0.00424$ 6 $\alpha(\text{N})=0.001091$ 16; $\alpha(\text{O})=0.000228$ 4; $\alpha(\text{P})=2.96\times 10^{-5}$ 5
		615.26 4	100 6	2910.059	5 ⁻	M1+E2	1.1 2	0.044 6	$\alpha(\text{K})=0.035$ 5; $\alpha(\text{L})=0.0069$ 7; $\alpha(\text{M})=0.00165$ 15 $\alpha(\text{N})=0.00042$ 4; $\alpha(\text{O})=8.7\times 10^{-5}$ 8; $\alpha(\text{P})=1.09\times 10^{-5}$ 12
		1087.02 6	60 7	2438.36	7 ⁺	(E1+M2)	0.29 6	0.0053 12	$\alpha(\text{K})=0.0043$ 10; $\alpha(\text{L})=0.00075$ 19; $\alpha(\text{M})=0.00018$ 5 $\alpha(\text{N})=4.5\times 10^{-5}$ 12; $\alpha(\text{O})=9.5\times 10^{-6}$ 24; $\alpha(\text{P})=1.2\times 10^{-6}$ 3
		1122.0 2	86 20	2403.282	5 ⁺	(E1+M2)	0.39 15	0.007 4	$\alpha(\text{K})=0.006$ 3; $\alpha(\text{L})=0.0010$ 5; $\alpha(\text{M})=0.00023$ 12 $\alpha(\text{N})=6.E-5$ 3; $\alpha(\text{O})=1.2\times 10^{-5}$ 7; $\alpha(\text{P})=1.6\times 10^{-6}$ 9; $\alpha(\text{IPF})=1.42\times 10^{-6}$ 15
		2052.1 3	17 4	1473.357	6 ⁺	(E1)		1.36×10^{-3}	$\alpha(\text{K})=0.000668$ 10; $\alpha(\text{L})=0.0001004$ 14; $\alpha(\text{M})=2.32\times 10^{-5}$ 4 $\alpha(\text{N})=5.95\times 10^{-6}$ 9; $\alpha(\text{O})=1.244\times 10^{-6}$ 18; $\alpha(\text{P})=1.612\times 10^{-7}$ 23; $\alpha(\text{IPF})=0.000561$ 8
3637.49		1250.7 [‡] 2	100 [‡]	2386.784	3 ⁻				
3685.41	7 ⁻	1359.55 7	46 5	2326.018	6 ⁺				
		1497.41 5	100 5	2187.96	8 ⁺	E1		1.51×10^{-3}	$\alpha(\text{K})=0.001124$ 16; $\alpha(\text{L})=0.0001710$ 24; $\alpha(\text{M})=3.96\times 10^{-5}$ 6 $\alpha(\text{N})=1.014\times 10^{-5}$ 15; $\alpha(\text{O})=2.12\times 10^{-6}$ 3; $\alpha(\text{P})=2.73\times 10^{-7}$ 4; $\alpha(\text{IPF})=0.0001650$ 24
		2128.08 15	43 4	1556.97	8 ⁺	E1		1.37×10^{-3}	$\alpha(\text{K})=0.000630$ 9; $\alpha(\text{L})=9.45\times 10^{-5}$ 14; $\alpha(\text{M})=2.18\times 10^{-5}$ 3

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [†]	$\delta^\ddagger a$	$\alpha\&$	Comments
3685.41	7 ⁻	2211.81 22	45 6	1473.357	6 ⁺	E1		1.38×10 ⁻³	$\alpha(\text{N})=5.60\times 10^{-6}$ 8; $\alpha(\text{O})=1.171\times 10^{-6}$ 17; $\alpha(\text{P})=1.519\times 10^{-7}$ 22; $\alpha(\text{IPF})=0.000614$ 9 $\alpha(\text{K})=0.000592$ 9; $\alpha(\text{L})=8.87\times 10^{-5}$ 13; $\alpha(\text{M})=2.05\times 10^{-5}$ 3 $\alpha(\text{N})=5.25\times 10^{-6}$ 8; $\alpha(\text{O})=1.099\times 10^{-6}$ 16; $\alpha(\text{P})=1.426\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000670$ 10
3693.89		1307.1 [‡] 2	100 [‡]	2386.784	3 ⁻				
3699.61	5 ⁻	1312.39 20	19 4	2386.784	3 ⁻	E2		0.00441	$\alpha(\text{K})=0.00354$ 5; $\alpha(\text{L})=0.000648$ 9; $\alpha(\text{M})=0.0001537$ 22 $\alpha(\text{N})=3.95\times 10^{-5}$ 6; $\alpha(\text{O})=8.17\times 10^{-6}$ 12; $\alpha(\text{P})=1.020\times 10^{-6}$ 15; $\alpha(\text{IPF})=1.708\times 10^{-5}$ 25
		1373.58 22	25 6	2326.018	6 ⁺				
		1409.4 2	<18	2290.14	2 ⁺	(E3)		0.00817	$\alpha(\text{K})=0.00631$ 9; $\alpha(\text{L})=0.001399$ 20; $\alpha(\text{M})=0.000340$ 5 $\alpha(\text{N})=8.75\times 10^{-5}$ 13; $\alpha(\text{O})=1.80\times 10^{-5}$ 3; $\alpha(\text{P})=2.19\times 10^{-6}$ 3; $\alpha(\text{IPF})=1.579\times 10^{-5}$ 23
		2226.61 14	32 5	1473.357	6 ⁺	E1+M2	0.61 19	0.0028 7	$\alpha(\text{K})=0.0018$ 6; $\alpha(\text{L})=0.00031$ 10; $\alpha(\text{M})=7.2\times 10^{-5}$ 24 $\alpha(\text{N})=1.9\times 10^{-5}$ 6; $\alpha(\text{O})=3.9\times 10^{-6}$ 13; $\alpha(\text{P})=5.1\times 10^{-7}$ 17; $\alpha(\text{IPF})=0.00058$ 5
		2272.86 7	100 6	1426.701	4 ⁺	E1		1.39×10 ⁻³	$\alpha(\text{K})=0.000566$ 8; $\alpha(\text{L})=8.48\times 10^{-5}$ 12; $\alpha(\text{M})=1.96\times 10^{-5}$ 3 $\alpha(\text{N})=5.02\times 10^{-6}$ 7; $\alpha(\text{O})=1.051\times 10^{-6}$ 15; $\alpha(\text{P})=1.364\times 10^{-7}$ 19; $\alpha(\text{IPF})=0.000711$ 10
3711.01	(5 ⁻)	1307.26 15	59 13	2403.282	5 ⁺				
		2238.17 23	95 13	1473.357	6 ⁺	(E1)		1.38×10 ⁻³	$\alpha(\text{K})=0.000580$ 9; $\alpha(\text{L})=8.70\times 10^{-5}$ 13; $\alpha(\text{M})=2.01\times 10^{-5}$ 3 $\alpha(\text{N})=5.15\times 10^{-6}$ 8; $\alpha(\text{O})=1.078\times 10^{-6}$ 15; $\alpha(\text{P})=1.399\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000688$ 10
3727.34	(6 ⁻)	2284.42 11	100 16	1426.701	4 ⁺				
		201.8 2	9.0 18	3525.37	6 ⁻	M1		1.516	$\alpha(\text{K})=1.231$ 18; $\alpha(\text{L})=0.217$ 3; $\alpha(\text{M})=0.0511$ 8 $\alpha(\text{N})=0.01316$ 19; $\alpha(\text{O})=0.00275$ 4; $\alpha(\text{P})=0.000356$ 5 Mult.: from ²¹⁰ At ϵ decay.
		298.38 10	19 3	3428.59	5 ⁻	M1		0.513	$\alpha(\text{K})=0.417$ 6; $\alpha(\text{L})=0.0729$ 11; $\alpha(\text{M})=0.01719$ 25 $\alpha(\text{N})=0.00443$ 7; $\alpha(\text{O})=0.000926$ 13; $\alpha(\text{P})=0.0001197$ 17 Mult.: from ²¹⁰ At decay.
		602.5 2	7.0 11	3125.15	(6 ⁻)	M1		0.0778	$\alpha(\text{K})=0.0635$ 9; $\alpha(\text{L})=0.01090$ 16; $\alpha(\text{M})=0.00256$ 4 $\alpha(\text{N})=0.000660$ 10; $\alpha(\text{O})=0.0001381$ 20; $\alpha(\text{P})=1.79\times 10^{-5}$ 3 $E_\gamma, I_\gamma, \text{Mult.}$: from ²¹⁰ At ϵ decay.
		701.0 2	27 1	3026.437	5 ⁻	M1		0.0523	$\alpha(\text{K})=0.0427$ 6; $\alpha(\text{L})=0.00730$ 11; $\alpha(\text{M})=0.001716$ 24 $\alpha(\text{N})=0.000442$ 7; $\alpha(\text{O})=9.25\times 10^{-5}$ 13; $\alpha(\text{P})=1.198\times 10^{-5}$ 17 $E_\gamma, I_\gamma, \text{Mult.}$: from ²¹⁰ At ϵ decay.
		817.23 10	100 10	2910.059	5 ⁻	M1+E2	0.53 23	0.030 4	$\alpha(\text{K})=0.024$ 3; $\alpha(\text{L})=0.0042$ 5; $\alpha(\text{M})=0.00100$ 11 $\alpha(\text{N})=0.00026$ 3; $\alpha(\text{O})=5.4\times 10^{-5}$ 6; $\alpha(\text{P})=6.9\times 10^{-6}$ 8
		1289.29 16	88 12	2438.36	7 ⁺				
		1324.1 2	27 1	2403.282	5 ⁺				E_γ, I_γ : from ²¹⁰ At ϵ decay.
		2254.28 12	70 10	1473.357	6 ⁺	E1		1.38×10 ⁻³	$\alpha(\text{K})=0.000574$ 8; $\alpha(\text{L})=8.60\times 10^{-5}$ 12; $\alpha(\text{M})=1.99\times 10^{-5}$ 3

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [†]	$\delta^\dagger\alpha$	$\alpha^\&$	Comments
3779.91	(4,5) ⁻	870.01 8	100 13	2910.059 5 ⁻		M1+E2	≤ 2	0.022 8	$\alpha(\text{N})=5.09\times 10^{-6}$ 8; $\alpha(\text{O})=1.065\times 10^{-6}$ 15; $\alpha(\text{P})=1.382\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000699$ 10 $\alpha(\text{K})=0.018$ 7; $\alpha(\text{L})=0.0031$ 10; $\alpha(\text{M})=0.00074$ 23 $\alpha(\text{N})=0.00019$ 6; $\alpha(\text{O})=4.0\times 10^{-5}$ 13; $\alpha(\text{P})=5.1\times 10^{-6}$ 18 E_γ, I_γ : from ²¹⁰ At ϵ decay.
		2306.2 3	28 2	1473.357 6 ⁺					
		2353.02 9	94 8	1426.701 4 ⁺		E1		1.40×10^{-3}	$\alpha(\text{K})=0.000536$ 8; $\alpha(\text{L})=8.02\times 10^{-5}$ 12; $\alpha(\text{M})=1.85\times 10^{-5}$ 3 $\alpha(\text{N})=4.74\times 10^{-6}$ 7; $\alpha(\text{O})=9.93\times 10^{-7}$ 14; $\alpha(\text{P})=1.289\times 10^{-7}$ 18; $\alpha(\text{IPF})=0.000763$ 11 $\alpha(\text{K})=0.008$ 7; $\alpha(\text{L})=0.0015$ 13; $\alpha(\text{M})=0.0004$ 3 $\alpha(\text{N})=9.E-5$ 8; $\alpha(\text{O})=1.9\times 10^{-5}$ 16; $\alpha(\text{P})=2.5\times 10^{-6}$ 21; $\alpha(\text{IPF})=8.E-5$ 6
3780.20	7 ⁻	1453.7 2	14 4	2326.018 6 ⁺		E1+M2	>0.17	0.010 9	$\alpha(\text{K})=0.00144$ 23; $\alpha(\text{L})=0.00023$ 4; $\alpha(\text{M})=5.4\times 10^{-5}$ 10 $\alpha(\text{N})=1.38\times 10^{-5}$ 25; $\alpha(\text{O})=2.9\times 10^{-6}$ 6; $\alpha(\text{P})=3.7\times 10^{-7}$ 7; $\alpha(\text{IPF})=0.000224$ 5
		1592.25 3	100 4	2187.96 8 ⁺		E1+M2	0.20 5	0.0020 3	
4025.77	(7,8,9) ⁻	1837.79 3	100 4	2187.96 8 ⁺					
		2469.11 14	26 4	1556.97 8 ⁺		(E1+M2)	>0.23	0.0035 19	$\alpha(\text{K})=0.0024$ 17; $\alpha(\text{L})=0.0004$ 3; $\alpha(\text{M})=9.E-5$ 7 $\alpha(\text{N})=2.4\times 10^{-5}$ 18; $\alpha(\text{O})=5.E-6$ 4; $\alpha(\text{P})=7.E-7$ 5; $\alpha(\text{IPF})=0.00062$ 20
4029.1	(4 ⁺)	2602.4 [‡] 3	100 [‡]	1426.701 4 ⁺					
4043.37		1855.4 [‡] 2	100 [‡]	2187.96 8 ⁺					
4105.07		1917.1 [‡] 2	100 [‡]	2187.96 8 ⁺					
4141.08	(6 ⁺)	1702.5 [‡] 2	15 [‡] 10	2438.36 7 ⁺					
		1953.6 [‡] 2	30 [‡] 10	2187.96 8 ⁺					
		2583.8 [‡] 3	100 [‡] 20	1556.97 8 ⁺					
		2665.5 [‡] 4	30 [‡] 10	1473.357 6 ⁺					
4145.32	(10) ⁻	962.61 7	100 7	3182.79 10 ⁻		M1		0.0230	$\alpha(\text{K})=0.0188$ 3; $\alpha(\text{L})=0.00318$ 5; $\alpha(\text{M})=0.000746$ 11 $\alpha(\text{N})=0.000192$ 3; $\alpha(\text{O})=4.02\times 10^{-5}$ 6; $\alpha(\text{P})=5.22\times 10^{-6}$ 8
		1146.47 20	11 5	2999.48 (9) ⁻		(M1)		0.01463	$\alpha(\text{K})=0.01198$ 17; $\alpha(\text{L})=0.00202$ 3; $\alpha(\text{M})=0.000473$ 7 $\alpha(\text{N})=0.0001218$ 17; $\alpha(\text{O})=2.55\times 10^{-5}$ 4; $\alpha(\text{P})=3.31\times 10^{-6}$ 5; $\alpha(\text{IPF})=1.66\times 10^{-6}$ 3
4324.12	(11 ⁻)	178.81 1	7.7 20	4145.32 (10) ⁻					
		1474.94 1	100.0 25	2849.17 11 ⁻		M1		0.00776	$\alpha(\text{K})=0.00628$ 9; $\alpha(\text{L})=0.001051$ 15; $\alpha(\text{M})=0.000246$ 4 $\alpha(\text{N})=6.33\times 10^{-5}$ 9; $\alpha(\text{O})=1.328\times 10^{-5}$ 19; $\alpha(\text{P})=1.725\times 10^{-6}$ 25; $\alpha(\text{IPF})=0.0001005$ 14
		2767.1 4	3.6 5	1556.97 8 ⁺					
4329.5		2003.5 [‡] 3	100 [‡]	2326.018 6 ⁺					
4371.96	13 ⁻	47.8	0.70 5	4324.12 (11) ⁻		[E2]		235	$\alpha(\text{L})=174.4$ 25; $\alpha(\text{M})=46.3$ 7 $\alpha(\text{N})=11.84$ 17; $\alpha(\text{O})=2.24$ 4; $\alpha(\text{P})=0.197$ 3 I_γ : from $\text{I}(\gamma+\text{ce})$ and $\alpha(\text{E}2)=238$.

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. †	$\delta^\ddagger a$	$\alpha\&$	Comments
4371.96	13 ⁻	1522.79 2	100	2849.17	11 ⁻	E2		0.00340	$\alpha(\text{K})=0.00271$ 4; $\alpha(\text{L})=0.000476$ 7; $\alpha(\text{M})=0.0001124$ 16 $\alpha(\text{N})=2.89\times 10^{-5}$ 4; $\alpha(\text{O})=5.99\times 10^{-6}$ 9; $\alpha(\text{P})=7.56\times 10^{-7}$ 11; $\alpha(\text{IPF})=6.94\times 10^{-5}$ 10
4386.9		2059.9 [‡] 5	40 [‡] 15	2326.018	6 ⁺				
		2199.3 [‡] 3	100 [‡] 10	2187.96	8 ⁺				
4469.83	(6 ⁺)	2143.5 [‡] 3	10 [‡] 8	2326.018	6 ⁺				
		2281.9 [‡] 3	20 [‡] 10	2187.96	8 ⁺				
		2913.1 [‡] 3	100 [‡] 15	1556.97	8 ⁺				
4502.63	(12 ⁻)	178.8 2	74 26	4324.12	(11 ⁻)				
		357.13 10	21 7	4145.32	(10) ⁻				
		1653.43 15	100 12	2849.17	11 ⁻	(M1)		0.00592	$\alpha(\text{K})=0.00469$ 7; $\alpha(\text{L})=0.000782$ 11; $\alpha(\text{M})=0.000183$ 3 $\alpha(\text{N})=4.72\times 10^{-5}$ 7; $\alpha(\text{O})=9.88\times 10^{-6}$ 14; $\alpha(\text{P})=1.284\times 10^{-6}$ 18; $\alpha(\text{IPF})=0.000206$ 3
4542.41	(4 ⁺)	2139.2 [‡] 3	60 [‡] 20	2403.282	5 ⁺				
		2159.8 [‡] 3	40 [‡] 10	2382.543	4 ⁺				
		3115.6 [‡] 6	100 [‡] 30	1426.701	4 ⁺				
4554.0	(7 ⁺)	2365.6 [‡] 4	80 [‡] 20	2187.96	8 ⁺				
		2997.9 [‡] 6	100 [‡] 20	1556.97	8 ⁺				
4592.6		4592.5 [‡] 4	100 [‡]	0.0	0 ⁺	[M3]		0.00278	$\alpha(\text{K})=0.001462$ 21; $\alpha(\text{L})=0.000247$ 4; $\alpha(\text{M})=5.80\times 10^{-5}$ 9 $\alpha(\text{N})=1.492\times 10^{-5}$ 21; $\alpha(\text{O})=3.13\times 10^{-6}$ 5; $\alpha(\text{P})=4.07\times 10^{-7}$ 6; $\alpha(\text{IPF})=0.001000$ 14
4621.59	(3 ⁺)	2207.9 [‡] 3	100 [‡] 30	2413.834	3 ⁺				
		2227.7 [‡] 3	30 [‡] 10	2393.78	1 ⁺				
		2238.8 [‡] 4	45 [‡] 15	2382.543	4 ⁺				
		2331.5 [‡] 3	50 [‡] 25	2290.14	2 ⁺				
4637.71		2234.7 [‡] 4	60 [‡] 30	2403.282	5 ⁺				
		2255.1 [‡] 3	100 [‡] 15	2382.543	4 ⁺				
		2311.5 [‡] 4	25 [‡] 10	2326.018	6 ⁺				
4644.9	(6 ⁺)	2456.9 [‡] 5	100 [‡]	2187.96	8 ⁺				
4660.28		2277.8 [‡] 3	75 [‡] 25	2382.543	4 ⁺				
		2334.1 [‡] 4	100 [‡] 40	2326.018	6 ⁺				
4776.89	14 ⁻	274.20 7	7.5 10	4502.63	(12 ⁻)				
		405.5 5	100 10	4371.96	13 ⁻	M1+E2 @	1.1 3	0.13 3	$\alpha(\text{K})=0.101$ 24; $\alpha(\text{L})=0.022$ 3; $\alpha(\text{M})=0.0054$ 6 $\alpha(\text{N})=0.00140$ 15; $\alpha(\text{O})=0.00029$ 4; $\alpha(\text{P})=3.4\times 10^{-5}$ 5 δ : from ce data in ²⁰⁸ Pb(α ,2n γ).
4948.1		2544.8 [‡] 3	50 [‡] 25	2403.282	5 ⁺				
		3474.9 [‡] 5	100 [‡] 50	1473.357	6 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{210}\text{Po})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. †	$\alpha\&$	$I_{(\gamma+ce)}$	Comments
4971.28	(11 ⁻ , 12 ⁻)	599.51 <i>16</i> 825.44 <i>27</i>	100 <i>31</i> 6.9 <i>18</i>	4371.96 4145.32	13 ⁻ (10) ⁻				
4974.4		2786.4 \ddagger <i>5</i>	100 \ddagger	2187.96	8 ⁺				
4998.2		2810.2 \ddagger <i>5</i>	100 \ddagger	2187.96	8 ⁺				
5057.65	16 ⁺	279.89 <i>10</i>	9.0 <i>8</i>	4776.89	14 ⁻	M2 [@]	2.33		$\alpha(\text{K})=1.727$ <i>25</i> ; $\alpha(\text{L})=0.453$ <i>7</i> ; $\alpha(\text{M})=0.1128$ <i>16</i> $\alpha(\text{N})=0.0293$ <i>5</i> ; $\alpha(\text{O})=0.00609$ <i>9</i> ; $\alpha(\text{P})=0.000762$ <i>11</i> B(M2)(W.u.)=0.130 <i>13</i>
		685.69 <i>2</i>	100 <i>3</i>	4371.96	13 ⁻	E3 [@]	0.0438		$\alpha(\text{K})=0.0277$ <i>4</i> ; $\alpha(\text{L})=0.01210$ <i>17</i> ; $\alpha(\text{M})=0.00311$ <i>5</i> $\alpha(\text{N})=0.000801$ <i>12</i> ; $\alpha(\text{O})=0.0001601$ <i>23</i> ; $\alpha(\text{P})=1.755\times 10^{-5}$ <i>25</i> B(E3)(W.u.)=18.4 <i>9</i>
5614.69	(17 ⁺)	556.9 [#]	100	5057.65	16 ⁺	D+Q [#]			
6070.26	(17 ⁺)	1012.6 [#]	100	5057.65	16 ⁺	D+Q [#]			
6085.31	(18 ⁺)	470.7 [#]	100 [#] <i>10</i>	5614.69	(17 ⁺)				
		1027.7 [#]	74 [#] <i>10</i>	5057.65	16 ⁺	Q [#]			
6342.83	(19 ⁻)	257.6 [#]	100 [#] <i>14</i>	6085.31	(18 ⁺)				
		1285.3 [#]	76 [#] <i>19</i>	5057.65	16 ⁺				
6384.63	(18 ⁻)	(42.0)		6342.83	(19 ⁻)			48 <i>5</i>	
		769.8 [#]	100	5614.69	(17 ⁺)	D [#]			
6422.08	(18)	351.8 [#]	100 [#] <i>15</i>	6070.26	(17 ⁺)				
		807.3 [#]	20 [#] <i>10</i>	5614.69	(17 ⁺)				
6713.5	(19 ⁺)	291.3 [#]	54 [#] <i>5</i>	6422.08	(18)				
		328.9 [#]	100 [#] <i>9</i>	6384.63	(18 ⁻)	D [#]			
		628.2 [#]	77 [#] <i>9</i>	6085.31	(18 ⁺)	D+Q [#]			
6983.9	(20 ⁻)	270.4 [#]	100	6713.5	(19 ⁺)	D [#]			
6995.0	(20 ⁻)	281.6 [#]	100	6713.5	(19 ⁺)	D [#]			
7719.6	(21 ⁻)	724.6 [#]	100	6995.0	(20 ⁻)				
7989.4	(21)	1005.5 [#]	100	6983.9	(20 ⁻)	(D) [#]			
8074.3	(23 ⁺)	1079.3 [#]	100 [#] <i>12</i>	6995.0	(20 ⁻)	[E3]			B(E3)(W.u.)=26 <i>6</i>
		1090.3 [#]	17 [#] <i>5</i>	6983.9	(20 ⁻)	[E3]			B(E3)(W.u.)=4.1 <i>15</i>
8831.1	(24 ⁺)	756.8 [#]	100	8074.3	(23 ⁺)	D+Q [#]			
8893.6	(23)	904.3 ^{#b}	100	7989.4	(21)	#			
9199.3	(25)	305.7 ^{#b}	100 [#] <i>22</i>	8893.6	(23)				
		368.0 ^{#b}	33 [#] <i>11</i>	8831.1	(24 ⁺)				I_γ : value is uncertain.
9420.8	(25)	589.7 [#]	100	8831.1	(24 ⁺)				
9464.8	(25)	633.7 [#]	100	8831.1	(24 ⁺)				
9535.1	(26)	704 [#]	100	8831.1	(24 ⁺)				

Adopted Levels, Gammas (continued) $\gamma(^{210}\text{Po})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π
9567.4	(26)	368.1 ^{#b}	100	9199.3	(25)
9581.8	(26)	750.7 [#]	100	8831.1	(24 ⁺)
9590.1	(26)	759 [#]	100	8831.1	(24 ⁺)
10084.1	(27)	502.3 [#]	100	9581.8	(26)

[†] From $^{209}\text{Bi}(t,2n\gamma)$, unless otherwise specified.

[‡] From $^{209}\text{Bi}(^3\text{He},d\gamma)$.

[#] From $(^{13}\text{C},\alpha 3n\gamma)$.

[@] From ce data and $\gamma(\theta)$ in $^{208}\text{Pb}(\alpha,2n\gamma)$.

& [Additional information 1](#).

^a If no value given it was assumed $\delta=1.00$ for E2/M1, $\delta=1.00$ for E3/M2 and $\delta=0.10$ for the other multiplicities.

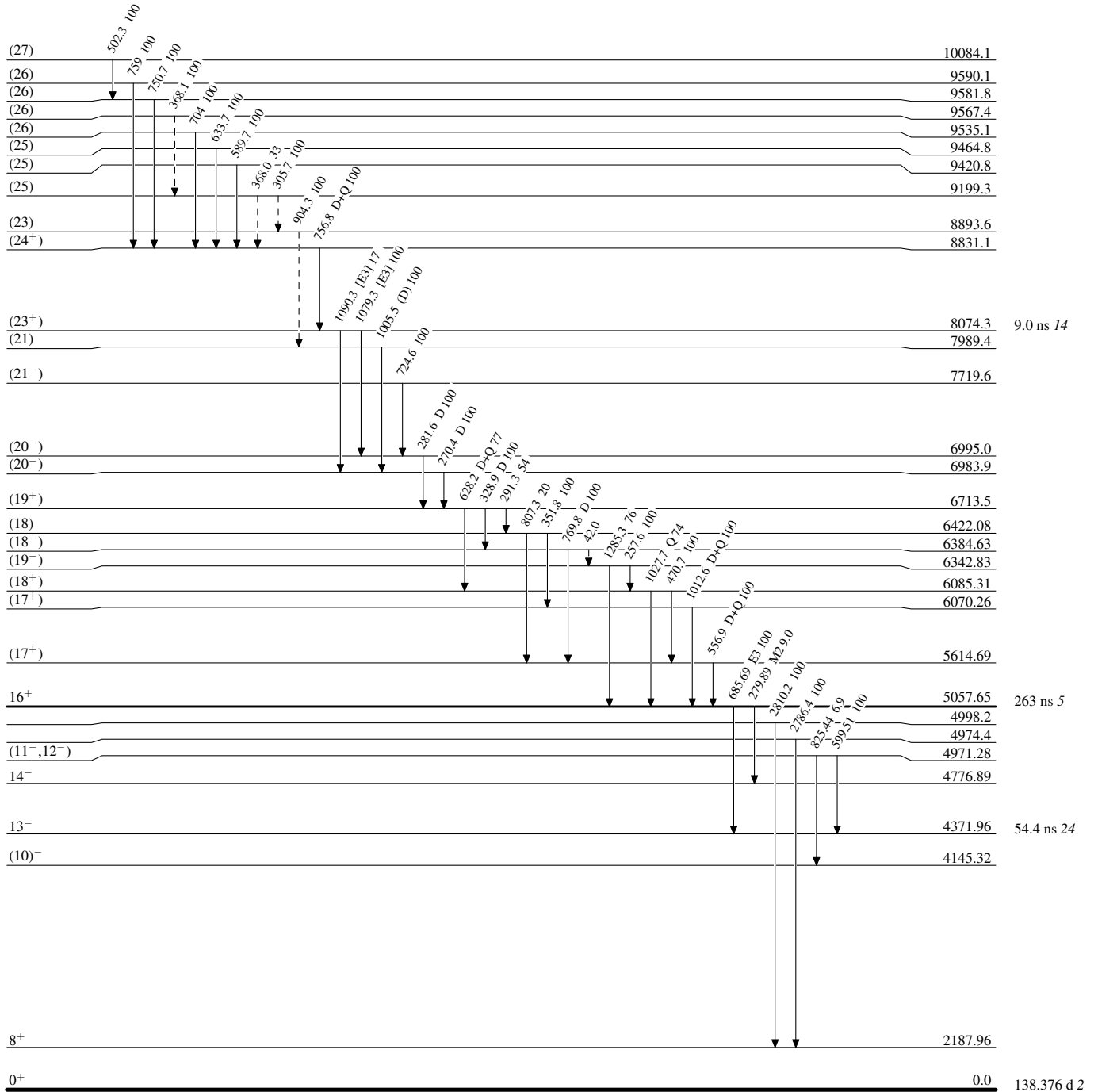
^b Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

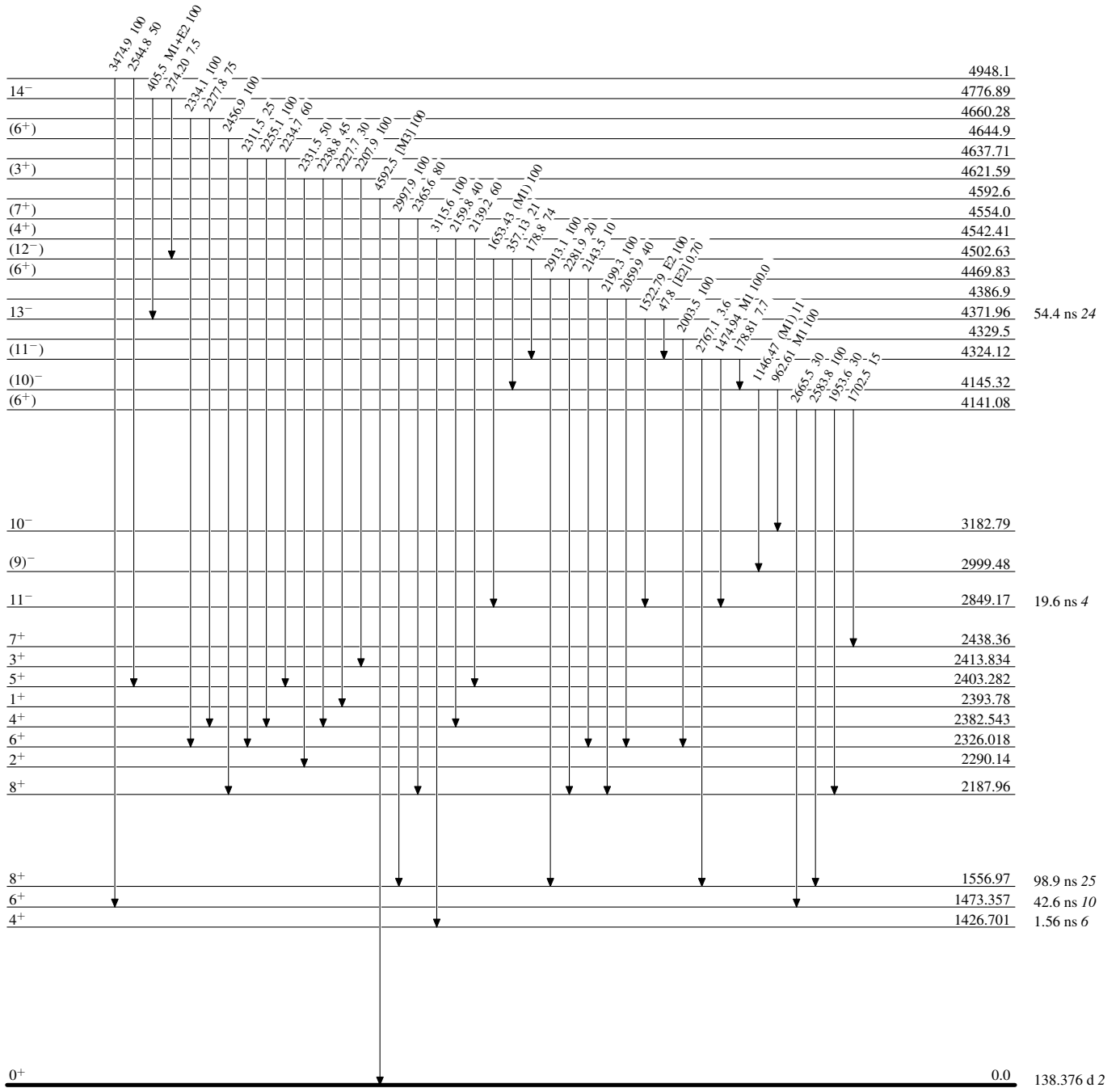
Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

Adopted Levels, Gammas

Level Scheme (continued)

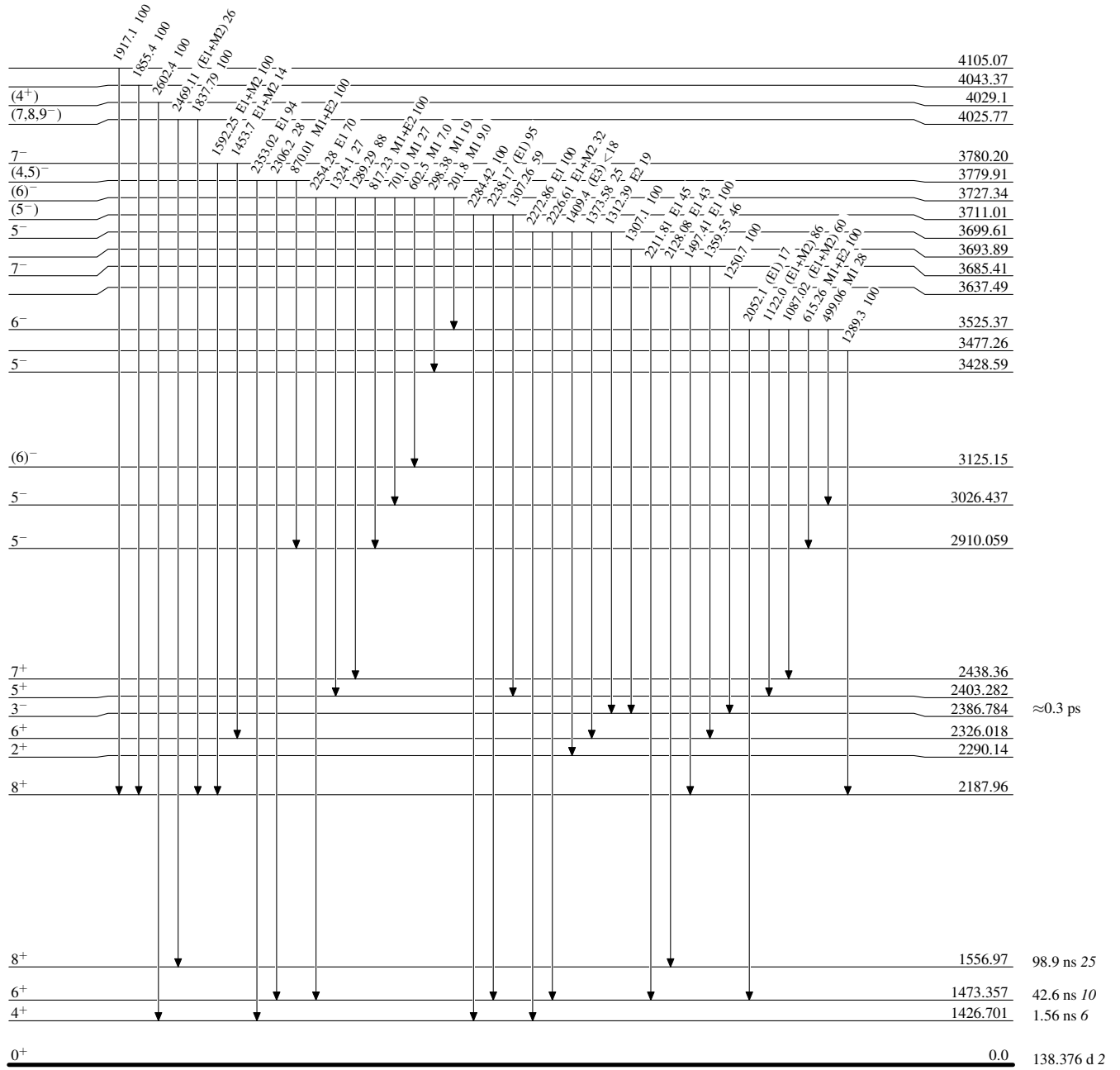
Intensities: Relative photon branching from each level



$^{210}_{84}\text{Po}_{126}$

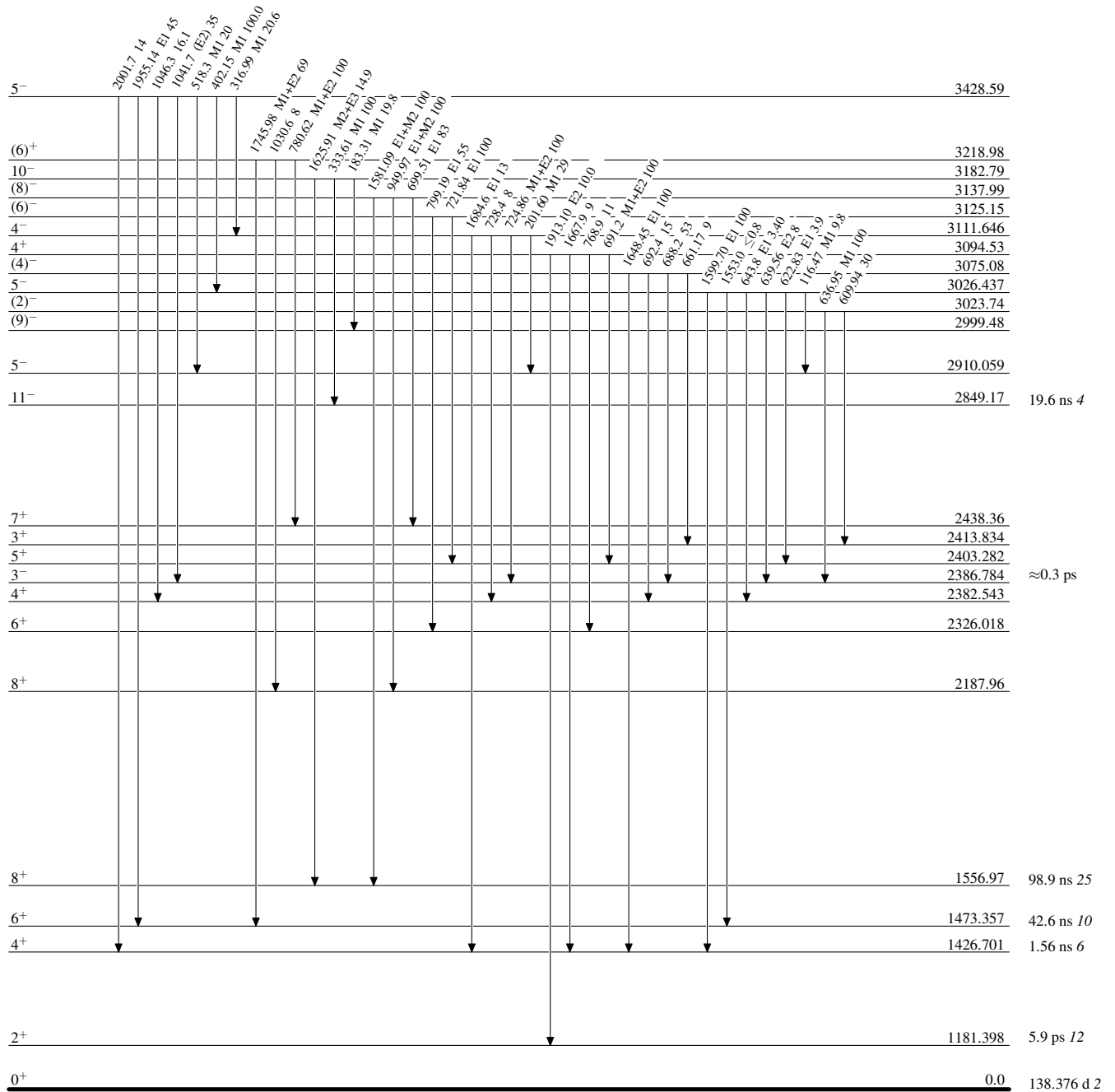
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



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

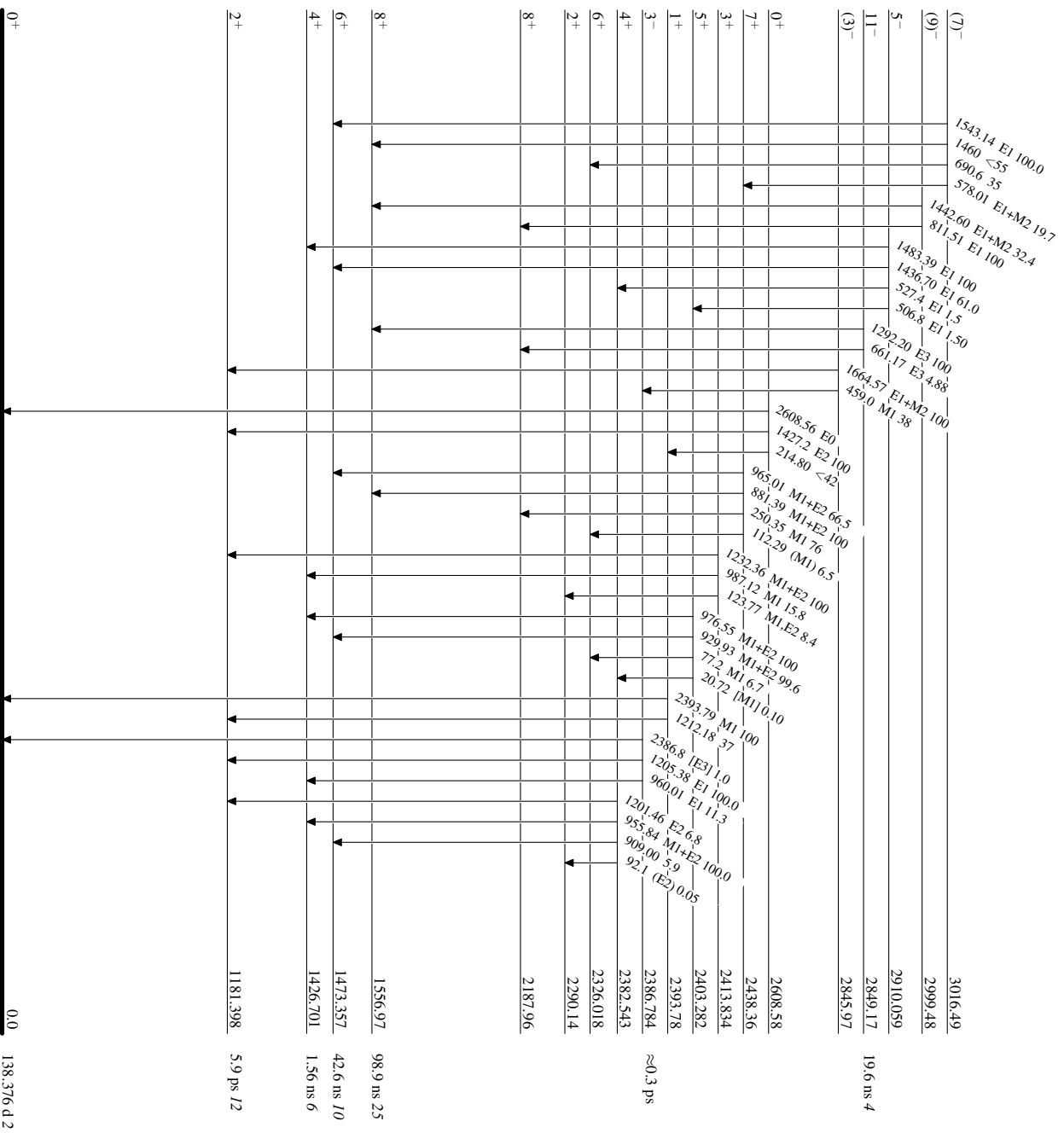
Intensities: Relative photon branching from each level

 $^{210}_{84}\text{Po}_{126}$

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

