Adopted Levels, Gammas

History

		Туре	Author	11150	Citatio	n	Literature Cutoff Date
		Full Evaluation	C. J. Chiara and F.	G. Kondev	NDS 111,141	(2010)	1-Oct-2009
$Q(\beta^{-}) = -4464 l$ Note: Current e	0; S(1 valuat	n)=8395 7; $S(p)$ = tion has used the	6637.5 4; $Q(\alpha)=1969$. following Q record -4	.3 <i>13</i> 201 4.44E+3 3 8	2Wa38 394 6 6637.5	3 1969.5	<i>12</i> 2003Au03.
				²⁰⁴ Pb I	Levels		
			Cro	ss Reference	(XREF) Flags		
		A $204 \text{ Tl } \beta^{-}$ B 204 Pb IT C $204 \text{ Bi } \varepsilon \varepsilon$ D $208 \text{ Po } \alpha \varepsilon$ E 198 Pt(HI) F $204 \text{ Hg}(\alpha)$ G $204 \text{ Pb}(\gamma)$	decay decay (66.93 min) lecay decay pxng) $4n\gamma$) \prime')	$\begin{array}{lll} H & & 204 \mathrm{Pb}(\\ I & & 204 \mathrm{Pb}(\\ J & & 204 \mathrm{Pb}(\\ K & & 204 \mathrm{Pb}(\\ L & & 204 \mathrm{Pb}(\\ M & & & 204 \mathrm{Pb}(\\ N & & & \mathrm{Coulor} \end{array}$	e,e') n,n' γ) n,n') p,p') IAR d,d') α,α') mb excitation	0 205 P 206 Q 206 R 209 S 209	5 Tl(p,2n γ), 204 Pb(p,p' γ) 6 Pb(p,t) 6 Pb(118 Sn,X γ) 9 Bi(μ^{-} ,5n γ) 9 Bi(π^{-} ,5n γ)
E(level) [†]	\mathbf{J}^{π}	T _{1/2}	XREF			Co	omments
0.0	0+	≥1.4×10 ¹⁷ y	ABCDEFGHIJKLMNOP	PQRS $\% \alpha = 3$ $T_{1/2}$: $T_{1/2}$: $T_{1/2}$: Charg (19) Charg $\Delta <$ opt spe fm ² from from from from from Isotop 198 (19) Neutr Δr_n diff Charg Penni	? 1958Ri23 and $_2=1.4\times10^{17}$ y a agrees with ado ge radius measure 78Eu01). ge radius different $r^2>(^{204}$ Pb, 206 Pb ical shifts (1973) ctroscopy (1987) 2 18 from laser m atomic-beam m isotope shifts measure 36An06, 1987D 75Ke05), two-pron density radiu $_{n-p}=0.22$ fm 9 (ferent potential ge density meass m	1966Ka23 nd $E(\alpha) =$ pted $Q(\alpha)$ red: $$ nces mea $\sigma) = -0.101$ 3Le16), $-$ 7Di06); Δ spectrosc laser reso σ of K x r. σ of K x r. σ shifts (red: with i06, 1983 bhoton las us relative (1976Gi05 $\Delta r_{n-p} = 0.0$ ured with neasureme	3 report α decay with =2600 keV; however, this =1969.5 keV 12. $e^{1/2}=5.4795$ fm 15 from (e,e) asured: 1 fm ² 17 combining x-ray and -0.105 fm ² 2 from collinear laser $a < r^2 > (^{204}Pb, ^{208}Pb) = -0.2231$ copy (1986An06), -0.2080 fm ² 23 onance (1983Th03), -0.220 fm ² 9 ray (1983Bo08), -0.238 fm ² 5 (2005Wa34). above methods (1973Le16, 5), reanalysis of same data with 0 fm 1 (1977Fr15). a (e,e) (1987Ca02). ent (2001Sc41).
899.165 25	2+	2.88 ps <i>3</i>	BCD FGHIJKLMNOP	$\begin{array}{c} QRS & Q=+0 \\ & E(levo \\ & shift \\ J^{\pi}: L: \\ & B(E2) \\ & 0.1 \\ & (19) \\ & (19) \\ & T_{1/2}: \\ & Q: Fr \\ & (10) \\ \end{array}$	0.23 9 (1978Jo0 el): Other: 1980 ft of −2.0 keV, =2 in (d,d'), (α,)↑=0.166 2 (197 51 15 (1972Ha 84Pa02); ratio of 62Na06), 1.7 (1 From B(E2)↑= om Coulomb ep 74O[02)	4); μ <0.0)Ho19 me in muonia, α'), (p,t); 78Jo04). (59), 0.146 of B(E2) 1965An13 0.166 2 (xcitation r	D2 (1986Bi13) easure E=897.17 <i>13</i> , an isomer c atom. ; 899.15γ E2 to 0 ⁺ . Others: 0.166 <i>9</i> (1974O102), 6 <i>15</i> (1971Gr31), and 0.174 \uparrow (²⁰⁴ Pb)/B(E2) \uparrow (²⁰⁶ Pb)=1.7 <i>2</i> 3). 1978Jo04). reorientation. Other: +0.19 <i>14</i>
1274.13 5	4+	265 ns 6	BC F HIJKLMNOP	P RS Q=0.4 B(E4)	44 2 (1989Ra17)↑≈0.029	'); μ=+0.2	224 3

²⁰⁴Pb Levels (continued)

E(level) [†]	J^{π}	T _{1/2}		XREF	Comments
					J^{π} : L=4 in (p,t), (d,d'); 374.76 γ E2 to 2 ⁺ .
					$1_{1/2}$: weighted average of 238 hs 12 (1963Sa19), 280 hs 12 (1967Li12) and 260 hs 10 (1978So02) in ²⁰⁴ Pb IT decay
					μ : Weighted average of +0.216 20 (1955Kr06) by angular
					correlation attenuation, +0.226 8 (1963Sa19) and +0.220 12
					(1967Li12) by differential angular correlation method, and $10.224.4$ (1974Lu03) by TDPAD
					+0.2244 (1974L005) by 1DFAD. B(E4): from (e.e').
1351.23 4	2+		С	IJKLM P	J^{π} : L=2 in (p,t); 452.0 γ M1+E2 to 2 ⁺ .
1563.42 6	4+		BC	I KLM OP	J^{π} : L=4 in (p,t); 289.30 γ M1+E2 to 4 ⁺ ; 663.43 γ to 2 ⁺ .
1582.7 7	0^{+}	65 ps 20		L OP	XREF: L(1579)O(1582.7)P(1582).
					J^{*} : E0 to g.s. True: From ce(t) (1086Ka07) in (p.2ma)
1582.78.5	2+		С	I L OP	XREF: L(1579)O(1582.76)P(1582).
10021100	-		-		J^{π} : 683.6 γ M1+E2 to 2 ⁺ ; 1582.8 γ E2 to 0 ⁺ .
1604.82 7	3+		С	I	J ^{π} : 705.7 γ M1+E2 to 2 ⁺ ; 330.6 γ M1(+E2) to 4 ⁺ .
1665.27 7	2+		C	I KLM P	XREF: K(1660)L(1663)M(1660)P(1663).
1691 10 9	1(+)			т	J^{+} : L=2 in (p,t); 1005.3 γ E2 to U ⁺ ; /00.1 γ M1(+E2) to 2 ⁺ .
1712 25 6	(3^+)			T	J^{π} : 361 1 γ and 813 1 γ D(+O)'s to 2 ⁺ levels and 438 0 γ to 4 ⁺
1,12,20 0	(0)			-	imply $J^{\pi}=2^+,3;$ 438.0 $\gamma(\theta)$ most likely rules out stretched E2,
					E1; Also, 604.0 γ (M1+E2) from 2316.29-keV 2 ⁺ level
					favors π =(+); nonobservation in (d,d') and in (p,t) favors
1720 00 12	0^{+}	<20 ps		T OP	unnatural parity. I^{π} : E0 to a s : I = 0 in (p t)
1729.99 12	0	<20 ps		1 01	$T_{1/2}$: From ce(t) (1986Ka07) in (p.2n γ).
1761.10 6	2+			I	J^{π} : 1761.1 γ E2 to 0 ⁺ , 861.9 γ M1+E2 to 2 ⁺ .
1817.54 5	4+		С	I LM P	XREF: M(1820).
1972 11 10	1			T 171	J^{A} : L=4 in (p,t); 918.26 γ E2 to 2 ⁺ .
18/2.11 10	1			I KL	I^{π} : 1872 1 $_{2}$ D to 0 ⁺
1933.29 8	1			I	J^{π} : 1933.3 γ D to 0 ⁺ .
1948.34 6	3+		С	IK	XREF: K(1950).
					J^{π} : 1049.2 γ M1+E2 (Δ J=1) to 2 ⁺ , 674.1 γ (M1+E2) to 4 ⁺ .
1060 30 7	$(2)^{+}$			тр	Additional information 1. I^{π} : I = 2 in (n t)
2065.33 7	(2) 5 ⁺		С	I	J^{π} : 501.72 γ M1(+E2) to 4 ⁺ : 791.20 γ M1+E2 to 4 ⁺ : 1573.0 γ
					(E1+M2) from the 6^- level at 3638 keV.
2105.50 6	2+		_	I P	J^{π} : L=2 in (p,t); 2105.5 γ E2 to 0 ⁺ .
2158.02 8	(4^{+})		C	ILP	J ^A : 883.8 γ to 4 ⁺ ; 1258.9 γ to 2 ⁺ ; possible feeding by 934.13 γ
2185.88.8	9-	66.93 min 10	BC EF	TLMPS	%IT=100
2100100 0	-	00000 11111 10	20 21		XREF: L(2180)M(2180).
					J^{π} : 622.2 γ and 911.74 γ E5's to 4 ⁺ levels, L=9 in (p,t), (d,d').
					Proposed configuration= $\nu[(f_{5/2})^{-1}(i_{13/2})^{-1}]$.
					$T_{1/2}$: Weighted average of 67.5 min 5 (1956He50), 66.9 min 7 (1058Pa04), 66 min 2 (1072Si22), 67.2 min 0 (1077Sm7V)
					and 68.4 min 24 (2001L i17) in 204 Pb IT decay
2201.93 11	(2,3,4+)			I	J^{π} : 850.7 γ to 2 ⁺ .
2238.47? 16	5,6		С		J ^{π} : 964.32 γ to 4 ⁺ ; direct population in ²⁰⁴ Bi ε decay
	-		_		$(J^{\pi}=6^{+}).$
2258.15 5	5-		C	ILP	XREF: P(2257). M_{2} 440 464 E1 to 4 [±] , 082 084 E1(+M2) to 4 [±] , 1 = 5 in (= 1)
					J . 440.407 E1 10 4 , $303.307 \text{ E1}(+102)$ 10 4 ; L=3 III (p,l) (doublet with 2264 43-keV level): direct population in 204 Bi
					ε decay $(J^{\pi}=6^+)$.

²⁰⁴Pb Levels (continued)

E(level) [†]	\mathbf{J}^{π}	T _{1/2}		XREF		Comments
2264.42 6	7-	$0.45 \ \mu s + 10 - 3$	С		Р	XREF: P(2257?).
		,				J^{π} : 78.54 γ E2 to 9 ⁻ ; 990.4 γ E3 to 4 ⁺ .
						$T_{1/2}$; from ²⁰⁴ Bi ε decay (1978So02).
						Possible configuration= $v[(p_1,p_1)^{-1}(p_1,p_2)^{-1}]$
2269.01 10	1.2^{+}			тм		$I^{\pi}: 2269.0 \text{ to } 0^+$
2303.92.7	3+			T		I^{π} : 740.4 γ (M1+E2) to 4 ⁺ : 721.2 γ M1+E2 to 2 ⁺ .
2311.6.6	1			G		$I^{\pi}: 2311.6 \text{ p} \text{ to } 0^+$
2316.29 6	2+			Ī		J^{π} : 586.3 γ E2 to 0 ⁺ : 965.1 γ (M1+E2) to 2 ⁺ .
2338.44 6	$(4)^{-}$		С	I		J^{π} : 80.15 γ M1(+E2) to 5 ⁻ and 1064.32 γ E1+M2 to 4 ⁺
						implies $J^{\pi}=4^{-},5^{-}$; however, a 5 ⁻ assignment requires
						$\delta(1064.32)=0.3$, which is ruled out by $\alpha(K)\exp in^{204}Bi$
						ε decay.
2386.19 9	5+		С	I		J^{π} : 822.9 γ M1+E2 (ΔJ =1) to 4 ⁺ ; 1780.33 γ from the 5 ⁻
						level at 4166 keV.
2400.34 7	$1^+, 2^+, 3^+$			I		J^{π} : 1501.1 γ M1+E2 to 2 ⁺ .
2405.27 7	7-		С		Р	XREF: P(2399).
						J^{π} : 219.41 γ E2 to 9 ⁻ ; 147.36 γ to 5 ⁻ ; L=(7) in (p,t).
2408.97 11	3			I		J^{π} : 1509.8 γ D+Q to 2 ⁺ .
2432.99 13	0^{+}			I	OP	XREF: P(2430).
						J^{π} : E0 to 0 ⁺ .
2434.24 6	6-		С			J^{π} : 169.83 γ M1+E2 to 7 ⁻ ; 176.09 γ M1(+E2) to 5 ⁻ ;
						368.30γ to 5 ⁺ .
2475.37 11	1,2,3,4+			I		J^{π} : 1576.1 γ to 2 ⁺ .
2480.43 7	6-		C			J^{π} : 222.15 γ M1 to 5 ⁻ ; 216.11 γ M1(+E2) to 7 ⁻ .
2491.25 7	3+		C	I	Р	XREF: P(2500).
						J [*] : 1139.82– and 1592.5–keV M1+E2's to 2 ⁺ ; $\gamma(\theta)$ in
0507 16 6	<i>c</i> –		~			$(n,n'\gamma)$ rules out 1',2'.
2507.16.6	5		C	L	Р	XKEF: $P(2505)$.
						J^{-1} : L=5 in (p,t); 248.95 γ M1(+E2) to 5 ; 168.4 γ (M1) to
0510 759 16	(4)		~			4.
2515.75? 10	(4)		C	-		J^{*} : weak direct population in Z^{*} Bi \mathcal{E} decay $(J^{*}=0^{+})$.
2524.90 8	(1,2,3)			1		J^{*} : 11/3./ γ and 1023./ γ to 2°. $I\gamma(11/3./\gamma)$ and $I_{2}(1625.7_{2})$ consistent with the two transitions being
						$I\gamma(1023.7\gamma)$ consistent with the two transitions being
2546 07 11				т		upoies.
2540.97 11	2+3			T		I^{π} : 1650 6y D(+O) to 2 ⁺ : 1275 6y to 4 ⁺
2591 50 8	123			T		J^{π} : 1692 32 D(+Q) to 2 ⁺
2620.60.8	3-			нт им ми	ΓP	$B(F3)^{+}=0.66.4$
2020.00 0	5			IIIJKLIII		XREF K(2630)I (2618)M(2617)
						$I^{\pi}: L=3$ in (n.t), (d.d'), (α, α').
						$\beta_2 = 0.0878 \ 14 \ (1976Gi10) \text{ and } 0.121 \ (1994Hi01).$
						B(E3): from 1978Sp08 in Coul. ex.
2627 47 10	(5^{+})		C	т		I^{π} · 1353 3 γ (M1) to 4 ⁺ · direct feeding in ²⁰⁴ Bi ε decay
2027.17 10	(5)		C	-		$(J^{\pi}=6^{+})$
2654.67 11	$1.2^{+}.3$			I	p	XREF: p(2660?).
	, ,-					J^{π} : 1755.5 γ D(+Q) to 2 ⁺ ; $\Delta J=0$ E1 ruled out by
						$1755.5\gamma(\theta)$ in $(n,n'\gamma)$.
2666.20 8	2+			I	р	XREF: p(2660?).
						J^{π} : 2666.2 γ E2 to 0 ⁺ .
2696.71 10	7-		С			J^{π} : 291.36 γ M1+E2 to 7 ⁻ , 510.67 γ to 9 ⁻ , 438.46 γ to 5 ⁻ .
2719.33 9	5+		С	I		J ^{π} : 1155.9 γ M1+E2 to 4 ⁺ ; 1155.9 $\gamma(\theta)$ in (n,n' γ) favors
						$\Delta J=1$ transition; direct population in ²⁰⁴ Bi ε decay
						$(J^{\pi}=6^{+}).$
2731.92 18	5-,6-,7-		С			J^{π} : 251.70 γ M1 to 6 ⁻ .
2732.03 11	1,2,3			I		J^{π} : 1380.8 γ D(+Q) to 2 ⁺ .

²⁰⁴Pb Levels (continued)

E(level) [†]	\mathbf{J}^{π}	XR	EF		Comments					
2766.94 11	$(2^+,3,4)$	I			J^{π} : 1492.8 γ to 4 ⁺ : the lack of direct feeding in ²⁰⁴ Bi ε decay ($J^{\pi}=6^+$).					
2808 3	6 ⁺	_	LM	Р	XREF: L(2804)M(2810).					
					J^{π} : L=6 in (p,t).					
					Proposed dominant configuration= $\nu[(f_{5/2})^{-1}(f_{7/2})^{-1}](\nu^{-2})_{0+}$.					
2829 <i>3</i>				Р						
2861.63? 18	(5-,6,7)	С			J ^{π} : 164.92 γ to 7 ⁻ ; direct population in ²⁰⁴ Bi ε decay (J ^{π} =6 ⁺).					
2887.18 11	2,3	C I	L		XREF: L(2884).					
					J^{π} : 1988.0 γ D(+Q) to 2 ⁺ .					
2890.03? 16	(5 ⁻ ,6 ⁻)	C		_	J ^{π} : 631.88 γ (M1+E2) to 5 ⁻ ; direct feeding in ²⁰⁴ Bi ε decay (J ^{π} =6 ⁺).					
2897 3	4 ⁺	6	L	Р	J^{n} : L=4 in (p,t).					
2912.98 9	5 5-	C	м		J ^{**} : 1095.08 γ E1+M2 to 4 [*] ,405.8 2γ (M1) to 5 [*] ; 1181.5 γ M1(+E2) from 6 [*] . π : 1102 for and 1645.60 γ E1(+M2)'s to 4 ⁺ ; 514 for (E2) to 7 ⁻ .					
2919.08 0	$(5.6.7)^{-}$	C			J^{π} : 663 43 γ (M1 E2) to 7 ⁻					
2928.89 6	5-	C			J^{π} : 1111.35 γ and 1654.79 γ E1(+M2)'s to 4 ⁺ levels: strong population in					
	-	-			204 Bi ε decay ($J^{\pi}=6^+$) favors 5 ⁻					
2941.9? <i>3</i>	$(4^{-}, 5^{-}, 6^{-})$	С			J^{π} : 683.39 γ (M1) to 5 ⁻ .					
2945.58 18	10 ^{-‡}	F			Proposed configuration= $v[(p_{1/2})^{-1}(f_{5/2})^{-2}(i_{1/2/2})^{-1}]$					
3023.45 9	$(5.6)^{-}$	c			J^{π} : 765.37 γ (M1) to 5 ⁻ , 617.80 γ to 7 ⁻ .					
3029.28 6	5-	c			J^{π} : 1211.72 γ and 1755.28 γ E1(+M2)'s to 4 ⁺ ; 522.22 γ M1 to 6 ⁻ .					
≈3050			Μ							
3092.25 5	5-	С			J^{π} : 1274.76 γ and 1818.10 γ E1's to 4 ⁺ ; 827.62 γ to 7 ⁻ .					
3105.29 7	6-	C			J^{π} : 847.19 γ M1+E2 to 5 ⁻ ; 841.10-keV M1(+E2) to 7 ⁻ .					
3147 3	$(2)^{+}$	_		Р	J^{π} : L=2 in (p,t).					
3170.377	5-	C	m		XREF: $m(3180)$.					
	+				$J^{*}: 1896.21\gamma EI(+M2) to 4^{\circ}; 736.07\gamma MI(+E2) to 6$.					
3191.68 18	11-+	EF	m	S	XREF: $m(3180)$.					
					J [*] : 240.27 MI+E2 to 10; 1005.77 E2 to 9.					
3108 602 16	5-67-	C			Proposed configuration= $v[(p_{1/2})^{-1}(1_{5/2})^{-1}(1_{3/2})^{-1}]$. $I^{\pi}: 0.34 \ 1.34$ to $7^{-1}: 0.41$ (by to 5^{-1}					
3215 36 8	5+,0,7	C			J^{-} : 1652 100 M1(+F2) to A^{+} : direct feeding in ²⁰⁴ Bi c decay (I^{π} -6 ⁺)					
3226 3	$(2)^+$	C		Р	J^{π} : I =2 in (n t)					
3232.27 8	5-	С		·	J^{π} : 1414.74 γ E1(+M2) to 4 ⁺ : 725.15 γ M1+E2 to 5 ⁻ : direct feeding in					
					²⁰⁴ Bi ε decay $(J^{\pi}=6^+)$.					
3301.73 9	5-	С			J^{π} : 1043.63 γ M1(+E2) to 5 ⁻ ; 821.13 γ (M1) to 6 ⁻ ; 1037.34 γ (E2) to 7 ⁻ .					
3377.4 7	1	G			J^{π} : 3377.4 γ D to 0 ⁺ .					
3397.62 7	6-	С			J^{π} : 1139.82 γ M1 to 5 ⁻ ; 1133.03 γ M1(+E2) to 7 ⁻ .					
3420 30	(3)-			Р	J^{π} : L=3 in (p,t).					
3425.2? 3	5-,6-	C		_	J^{π} : 1167.01 γ (M1+E2) to 5 ⁻ ; direct feeding in ²⁰⁴ Bi ε decay ($J^{\pi}=6^+$).					
≈3450	$(10)^+$			Р	J^{n} : L=10 in (p,t).					
	+				Proposed configuration= $\nu[(1_{13/2})^{-2}](\nu^{-2})_{0+}$.					
3516.4 <i>3</i>	12++	EF	M	P S	XREF: M(3500?)P(3510).					
					$J^{n}: 324.7\gamma E1(+M2) \text{ to } 11^{-}.$					
2570 5					Proposed configuration= $\nu[(i_{13/2})^{-2}](\nu^{-2})_{0+}$.					
≈3570.5			LM		XREF: $L(3561?)M(3580?)$. E(layal): average of 2561 keV in (d d') and 2580 keV in (a d'): these may					
					E(level): average of 5501 keV iii (d,d) and 5580 keV iii (α, α); these inay					
3638.05.6	6-	C			I^{π} · 718 41 γ M1(+E2) to 5 ⁻ · 1232 91 γ M1(+E2)'s to 7 ⁻ · 1573 0 E1+M2 to					
5050.05 0	0	C			5^+ .					
3656.3 <i>3</i>	1	G			J^{π} : 3656.3 γ D to 0 ⁺ .					
≈3719		-	L							
3733.40? 10	6 ⁻ ,7 ⁻	С	М		XREF: M(3740?).					
					J^{π} : 1299.1 γ M1(+E2) to 6 ⁻ ; 1328.21 γ M1(+E2) to 7 ⁻ .					
3768.67 7	5-,6-	C			J^{π} : 1703.27 γ E1(+M2) to 5 ⁺ , 1334.50-keV M1 to 6 ⁻ .					
5782.28 8	5-	C	L		XKEF: $L(57/8)$.					

²⁰⁴Pb Levels (continued)

E(level) [†]	J^{π}	T _{1/2}	XR	EF			Comments
3810 <i>30</i>	$(2)^{+}$			M	Р	_	J^{π} : 1964.82 γ E1 to 4 ⁺ ; 1348.4 γ M1(+E2) to 6 ⁻ . XREF: M(3820).
							E(level): from (p,t); two nearby levels were observed in (d,d') at 3799 and 3824 keV, but it is not clear which, if either, corresponds
							to this level. $I^{\pi} \cdot I = 2$ in (p t)
3842.8? <i>5</i> 3876 532 23	$(5,6^+)$ $(5^- 6^+)$		C				J^{π} : 2279.4 γ to 4 ⁺ ; direct feeding in ²⁰⁴ Bi ε decay ($J^{\pi}=6^+$). I^{π} : 1612 15 γ to 7 ⁻ : 2312 9 γ to 4 ⁺
3891.76? <i>12</i>	(5 ⁻ ,6 ⁻)		c				J^{π} : 1826.42 γ E1(+M2) to 5 ⁺ ; direct feeding in ²⁰⁴ Bi ε decay
3893.2 6	2+	17 fs 3	G				$(J^{*}=6^{-})$. J^{π} : 3893.2 γ E2 to 0 ⁺ .
3949 <i>4</i>	(6) ⁺			LM	Р		T _{1/2} : from B(E2) \uparrow =0.018 <i>3</i> in (γ , γ'). XREF: L(3951)M(3970?).
3996.33 19	(5,6 ⁺)		С	1			J^{π} : L=6 in (p,t). XREF: l(4004).
							J ^{π} : 2433.3 γ and 2721.2 γ to 4 ⁺ levels; direct feeding in ²⁰⁴ Bi ε
3997.89? 14	(5,6,7)-		С	1			XREF: I(4004).
							J ^{α} : 1517.46 γ M1(+E2) to 6 ⁻ levels; direct feeding in ²⁰⁴ Bi ε decay (J ^{π} =6 ⁺).
4032.83? 23	$(5,6^+)$		С	m			XREF: $m(4030)$.
4039 22 4	(5.6^{+})		C	m			J^{*} : 2/58.8 γ to 4 ⁺ ; direct feeding in ²⁰⁺ Bi ε decay ($J^{*}=6^{+}$). XREF: m(4030)
4039.2. 4	(5,0)		C	m			J^{π} : 2475.6y and 2765.3y to 4 ⁺ levels; direct feeding in ²⁰⁴ Bi ε
4068 09 16	$(5^{-} 6^{+})$		C				decay $(J^{+}=0^{+})$. I^{π} : 2250 28 α and 2794 4 α to 4 ⁺ levels 1803 95 α to 7 ⁻
4076.37 13	$(5^{-}, 5^{-})^{-}$		C				J^{π} : 1569.3 γ M1(+E2) to 5 ⁻ ; 971.21 γ to 6 ⁻ ; 2802.1 γ to 4 ⁺ ; direct fooding in 2^{04} Bi c decay ($I^{\pi}_{-}6^{+}$)
4081.05 9	(5,6 ⁺)		С				J^{π} : 2263.38 γ and 2517.74 γ to 4 ⁺ levels; direct feeding in ²⁰⁴ Bi ε decay (J^{π} =6 ⁺).
4094.43 9	6-		С		р		XREF: $p(4100)$. $M_{1} = 1226 G_{11} M_{1}(+E2) to 57 + 1680 05 + M_{1}(+E2) to 77 + 1 = 7 in (a t)$
	(5)-		6				$J = 1850.09 \text{ MI}(\pm 22) \text{ to } 5$, $1089.059 \text{ MI}(\pm 22) \text{ to } 7$, $L = 7 \text{ III}(p,t)$ for 4100 keV 30 level.
4111.47 10	(5)		C		р		XREF: $p(4100)$. J ^{π} : 473.40 γ M1(+E2) to 6 ⁻ , 2837.33 γ to 4 ⁺ ; L=7 in (p,t) for 4100
4115.21 14	6-		C		n		keV <i>30</i> level. XREF: p(4100).
	Ū.		-		Ρ		J^{π} : 1856.92 γ M1(+E2) to 5 ⁻ ; 1850.65 γ M1(+E2) to 7 ⁻ ; L=7 in
4129.57 11	(5,6)		С	М			(p,t) 101 4100 KeV 50 level. XREF: M(4120?).
							J ^{π} : 2566.14 γ to 4 ⁺ levels; 1791.17 γ to 4 ⁻ ; direct feeding in ²⁰⁴ Bi ε decay (J ^{π} =6 ⁺).
4134.8 4	14+‡		EF			S	J^{π} : 618.4 γ E2 to 12 ⁺ .
4140				v			Proposed configuration= $\nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}].$
4140	5-		C	ĸ			I^{π} : 1731 68 γ M1(+E2) to 6 ⁻ 1761 0 γ E2 to 7 ⁻
4172.44? 14	(5.6^+)		C				I^{π} : 2898 (by to 4 ⁺) direct feeding in ²⁰⁴ Bi ε decay ($I^{\pi}=6^{+}$)
4184.02 7	6-		c				J^{π} : 1092.1 γ M1(+E2) to 5 ⁻ , 1778.45 γ M1(+E2) to 7 ⁻ .
4190				K			
4229.81? 20	(5,6)		C				J ^{π} : 2955.6 γ to 4 ⁺ , 1891.37 γ to 4 ⁻ ; direct feeding in ²⁰⁴ Bi ε decay $(J^{\pi}=6^+)$.
4244.01? 16	(5,6 ⁺)		C				J ^{π} : 2680.9 γ to 4 ⁺ ; direct feeding in ²⁰⁴ Bi ε decay (J ^{π} =6 ⁺).
4250.24 11	(5,6 ⁺)		С	M			XREF: M(4270?). J ^{π} : 2686.82 γ and 2976.9 γ to 4 ⁺ levels; direct feeding in ²⁰⁴ Bi ε

²⁰⁴Pb Levels (continued)

E(level) [†]	J^{π}	T _{1/2}	X	REF			Comments			
							decay $(J^{\pi}=6^+)$.			
4286.12 <i>14</i> 4290	6-		C	K			J ^{π} : 1589.42 γ M1(+E2) to 7 ⁻ ; 2028.1 γ E2(+M1) to 5 ⁻ .			
4302.0 4	15+‡		EF			S	J^{π} : 167.2 γ M1(+E2) to 14 ⁺ .			
1210				V			Proposed configuration= $\nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}].$			
4340	2+	40 fs 4	G	м			XRFF: M(4400?)			
1379.03 20	2	1.0 13 7	U U				J^{π} : 4379.0 γ E2 to 0 ⁺ .			
							$T_{1/2}$: From B(E2) \uparrow =0.044 5 in (γ, γ').			
4460				K						
4530				K						
4596.2 8	1		G				J^{π} : 4569.1 γ D to 0 ⁺ .			
4620				K						
4650	$(11)^{-}$			K	п		\overline{M} , \overline{I} –11 in (n t)			
4655 10	(11)				r		J. L=11 III (p,t). Proposed configuration $-\nu f(i, \dots)^{-1} (h, \dots)^{-1} (n^{-2})$.			
1005 5 1	1 (+ +		_			_	Proposed configuration= $v[(1_{13/2})^{-1}(1_{9/2})^{-1}](v^{-1})_{0+}$.			
4887.74	16++		F			S	J^{n} : 585./ γ M1+E2 to 15 ⁺ ; 752.9 γ E2 to 14 ⁺ .			
4000 1 2	1						Proposed configuration= $\nu[(f_{5/2})^{-2}(1_{13/2})^{-2}].$			
4922.1 3	1		G				$J^{*}: 4922.0\gamma D \text{ to } 0^{+}.$			
4933.2 3	1		G				$J^{*}: 4953.1\gamma D 10 0^{+}$. $I^{\pi}: 4090.2\gamma D to 0^{+}$			
4980.37 20	$(6)^+$		G		D		J . 4960.57 D to 0 . I^{π} : I -6 in (p.t)			
5012.0.3	1		G		r		J = 0 In (p,t). $I^{\pi} = 5011.9 \text{ y}$ D to 0^+			
5100.30	$(9)^{-}$		U U		Р		J^{π} : L=9 in (n.t).			
5283.2 5	(1.2^+)		G		-		J^{π} : 5283.1 γ to 0 ⁺ .			
5348.7.4	16+‡		EF			S	J^{π} : 1046.7 γ M1(+E2) to 15 ⁺ : 1214.0 γ E2(+M3) to 14 ⁺ .			
0010171	10						Proposed configuration= $v[(f_{5'})^{-1}(p_{2'})^{-1}(i_{12'})^{-2}]$.			
5365.9 6	(1.2^{+})		G				J^{π} : 5365.8 γ to 0 ⁺ .			
5398.8 5	1		G				J^{π} : 5398.7 γ D to 0 ⁺ .			
5520 <i>30</i>	(9)-				Р		J^{π} : L=9 in (p,t).			
5610.3 9	$(1,2^+)$		G				J^{π} : 5610.2 γ to 0 ⁺ .			
5664.5 4	17-‡		EF			S	J^{π} : 315.9 γ E1 to 16 ⁺ .			
							Proposed configuration= $\nu[(p_{1/2})^{-1}(i_{13/2})^{-3}]$.			
5675.0 12	$(1,2^+)$		G				J^{π} : 5674.9 γ to 0 ⁺ .			
5776.7 4	1		G				J^{π} : 5776.6 γ D to 0 ⁺ .			
5795.6 6	1		G				J^{π} : 5795.5 γ D to 0 ⁺ .			
5811.4 5	1		G				J [*] : 4912.1 γ to 2'; 5811.3 γ D to 0'.			
5828.4 5 5838 5 1	1		G				$J^{\pi}: 5828.5\gamma D to 0^{+}$			
5877 9 6	(12^{+})		G				J = 5030.47 D = 1000. $I^{\pi} = 5877 8_{22}$ to 0^{+}			
5890.7 5	$(1,2^+)$		G				J^{π} : 5890.6 γ to 0 ⁺ .			
5910 30	(9)				Р		J^{π} : L=9 in (p,t).			
5943.9 8	$(1,2^+)$		G				J^{π} : 5044.6y to 2 ⁺ ; 5943.8y to 0 ⁺ .			
5967.7 5	1		G				J^{π} : 5967.6 γ D to 0 ⁺ .			
5981.3 <i>3</i>	1		G				J^{π} : 5981.2 γ D to 0 ⁺ .			
5998.4 8	$(1,2^+)$		G				J^{π} : 5998.3 γ to 0 ⁺ .			
6008.8 7	1		G				J^{π} : 6008.7 γ D to 0 ⁺ .			
6020.2 6	1		G				J^{n} : 6020.1 γ D to 0 ⁺ .			
6054.1 15	1		G				$J^{*}: 6054.0\gamma D \text{ to } 0^{+}.$			
0006.9 8	1		G				J ^Δ : 0000.8γ D to U ⁺ .			
6073.0 5	17+		F				J^{π} : 1185.3 γ D to 16 ⁺ .			
<pre>//</pre>							Proposed configuration= $\nu[(f_{5/2})^{-1}(i_{13/2})^{-3}]$.			
6074.3 11	1 (1.2 [±])		G				$J^{\prime\prime}: 60/4.2\gamma D \text{ to } 0^{+}.$			
0084.5 8	$(1,2^{+})$		G				$J^{*}: 0084.4\gamma \text{ to } 0^{+}.$			

²⁰⁴Pb Levels (continued)

E(level) [†]	J^{π}	XREF		Comments
6098.2 5	19 ^{-‡}	EF	S	XREF: E(6094.1). J^{π} : 433.7 γ E2 to 17 ⁻ . Proposed configuration= $\nu[(f_{5,\alpha})^{-1}(i_{12,\alpha})^{-3}]$.
6105.0 9	(1.2^{+})	G		J^{π} : 5205.8v to 2 ⁺ : 6105.0v to 0 ⁺ .
6148.4 5	1	G		J^{π} : 6148.3 γ D to 0 ⁺ .
6161.3 6	$(1,2^{+})$	G		J^{π} : 6161.2 γ to 0 ⁺ .
6194.5 8	1	G		J^{π} : 6194.4 γ D to 0 ⁺ .
6210.1 6	$(1,2^+)$	G		J^{π} : 6210.0 γ to 0 ⁺ .
6229.2 20	$(1,2^{+})$	G		J^{π} : 6229.1 γ to 0 ⁺ .
6254.4 6	1	G		J^{π} : 6254.3 γ D to 0 ⁺ .
6277.1 9	1	G		J^{π} : 6277.0 γ D to 0 ⁺ .
6323.0 5	1	G		J^{π} : 6322.9 γ D to 0 ⁺ .
6410.9? 6	1	G		J^{π} : 6410.9 γ D to 0 ⁺ .
6419.6? <i>11</i>	$(1,2^{+})$	G		J^{π} : 6419.6 γ to 0 ⁺ .
6457.0 9	$(1,2^{+})$	G		J^{π} : 6456.9 γ to 0 ⁺ .
6469.3? 7	$(1,2^{+})$	G		J^{π} : 6469.3 γ to 0 ⁺ .
7402.3 5	(20) [‡]	F	S	J^{π} : 1304.1 γ D+Q to 19 ⁻ .
				Proposed configuration= $\pi[(h_{9/2})(h_{11/2})^{-1}]\nu[(p_{1/2})^{-2}(i_{13/2})^{-2}].$
7849.4 6	(21) [‡]	F		J^{π} : 447.1 γ D+Q to (20).
				Proposed configuration= $\pi[(h_{9/2})(h_{11/2})^{-1}]\nu[(p_{1/2})^{-2}(i_{13/2})^{-2}].$
8126.1 6	(22)‡	F		J^{π} : 276.7 γ D+Q to 21.
				Proposed configuration= $\pi[(h_{9/2})(h_{11/2})^{-1}] \nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}].$

[†] From a least-squares fit to $E\gamma$, except as noted. [‡] From (α ,4n γ) based on $\gamma(\theta)$ and mult.

					Adopte	d Levels, Gam	mas (continue	<u>d)</u>
						γ (²⁰⁴ Pb))	
E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
899.165	2+	899.15 <i>3</i>	100	0.0 0+	E2		0.00821 12	B(E2)(W.u.)=4.69 5 α (K)=0.00647 9; α (L)=0.001323 19; α (M)=0.000317 5; α (N+)=9.73×10 ⁻⁵ 14 α (N)=8.02×10 ⁻⁵ 12; α (O)=1.562×10 ⁻⁵ 22; α (P)=1.473×10 ⁻⁶
1274.13	4+	374.76 7	100 16	899.165 2+	E2		0.0613	21 B(E2)(W.u.)=0.00382 9 α (K)=0.0390 6; α (L)=0.01681 24; α (M)=0.00426 6; α (N+)=0.001291 18
		1274	0.013 3	0.0 0+	[E4]		0.01771	α (N)=0.001077 <i>15</i> ; α (O)=0.000200 <i>3</i> ; α (P)=1.370×10 ⁻⁵ <i>20</i> B(E4)(W.u.)=2.3 <i>6</i> α (K)=0.01288 <i>18</i> ; α (L)=0.00365 <i>6</i> ; α (M)=0.000905 <i>13</i> ; α (N+)=0.000279 <i>4</i>
1351.23	2+	452.0 [@] 1	≈28 [@]	899.165 2+	M1+E2 [@]	+0.80 [@] 12	0.101 8	$\begin{aligned} &\alpha(N) = 0.000230 \ 4; \ \alpha(O) = 4.45 \times 10^{-5} \ 7; \ \alpha(P) = 4.08 \times 10^{-6} \ 6 \\ &E_{\gamma}, I_{\gamma}: \ from \ ^{204} Pb \ IT \ decay. \\ &\alpha(K) = 0.081 \ 7; \ \alpha(L) = 0.0154 \ 9; \ \alpha(M) = 0.00366 \ 18; \\ &\alpha(N+) = 0.00113 \ 6 \end{aligned}$
		1351.2 [@] 1	100 [@]	0.0 0+	E2 [@]		0.00378 6	$\alpha(N)=0.00093 5; \alpha(O)=0.000183 10; \alpha(P)=1.82\times10^{-5} 13$ $\alpha(K)=0.00305 5; \alpha(L)=0.000536 8; \alpha(M)=0.0001259 18;$ $\alpha(N+)=6.37\times10^{-5} 9$
1563.42	4+	289.30 5	100 20	1274.13 4+	M1+E2	+0.09 2	0.468	$\begin{aligned} \alpha(N) &= 3.19 \times 10^{-5} 5; \ \alpha(O) &= 6.29 \times 10^{-6} 9; \ \alpha(P) &= 6.36 \times 10^{-7} 9; \\ \alpha(IPF) &= 2.48 \times 10^{-5} 4 \\ \alpha(K) &= 0.383 6; \ \alpha(L) &= 0.0656 10; \ \alpha(M) &= 0.01537 22; \\ \alpha(N+) &= 0.00477 7 \\ \alpha(N) &= 0.00391 6; \ \alpha(O) &= 0.000778 11; \ \alpha(P) &= 8.31 \times 10^{-5} 12 \end{aligned}$
1582.7	0+	663.43 ^b 15 683.5 10	0.88 88 100	899.165 2 ⁺ 899.165 2 ⁺	[E2]		0.01446	δ: from (n,n'γ). E_{γ} : from ²⁰⁴ Pb IT decay. $\alpha(K)=0.01098$ <i>16</i> ; $\alpha(L)=0.00264$ <i>4</i> ; $\alpha(M)=0.000642$ <i>10</i> ; $\alpha(N+)=0.000197$ <i>3</i> $\alpha(N)=0.0001627$ <i>24</i> ; $\alpha(O)=3.13\times10^{-5}$ <i>5</i> ; $\alpha(P)=2.74\times10^{-6}$ <i>4</i>
		1582.7 10		0.0 0+	E0			B(E2)(W.u.)=0.81 25 E_{γ} : from (p,2n γ). E_{γ} : From (p,2n γ). Mult.: ce(K)(1582.7)/ce(K)(683.5)>14 (1989Tr14).
1582.78	2+	683.6 [@] 1	100 [@]	899.165 2+	M1+E2 [@]	-0.18 [@] 2	0.0465	$\alpha(K)=0.0381$ 6; $\alpha(L)=0.00639$ 10; $\alpha(M)=0.001492$ 22; $\alpha(N+)=0.000463$ 7
		1582.8 [@] 1	≈3 [@]	0.0 0+	E2 [@]		0.00289 4	$\begin{aligned} \alpha(N) &= 0.000379 \ 6; \ \alpha(O) = 7.56 \times 10^{-5} \ 11; \ \alpha(P) = 8.09 \times 10^{-6} \ 12 \\ \alpha(K) &= 0.00229 \ 4; \ \alpha(L) = 0.000388 \ 6; \ \alpha(M) = 9.07 \times 10^{-5} \ 13; \\ \alpha(N+) &= 0.0001191 \ 17 \\ \alpha(N) &= 2.30 \times 10^{-5} \ 4; \ \alpha(O) = 4.55 \times 10^{-6} \ 7; \ \alpha(P) = 4.67 \times 10^{-7} \ 7; \\ \alpha(IPF) &= 9.11 \times 10^{-5} \ 13 \end{aligned}$

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 $^{204}_{82} \mathrm{Pb}_{122}\text{-}8$

						Adopted	Levels, Gamm	as (continued)	
							$\gamma(^{204}\text{Pb})$ (conti	nued)	
E _i (level)	\mathbf{J}_i^{π}	${\rm E_{\gamma}}^{\ddagger}$	Ι _γ ‡#	\mathbf{E}_f J	\mathbf{J}_{f}^{π}	Mult. [‡]	δ^{\ddagger}	$lpha^\dagger$	Comments
1604.82	3+	330.6 1	100 21	1274.13 4	1 ⁺	M1(+E2)	≈+0.1	≈0.325	$\frac{\alpha(K) \approx 0.266; \ \alpha(L) \approx 0.0454; \ \alpha(M) \approx 0.01064; \\ \alpha(N+) \approx 0.00330 \\ \alpha(N) \approx 0.00270; \ \alpha(O) \approx 0.000520; \ \alpha(D) \approx 5.75 \times 10^{-5}$
		705.7 1	53 6	899.165 2	2+	M1+E2	+0.30 4	0.0412 9	$\alpha(N) \approx 0.00270; \ \alpha(O) \approx 0.000539; \ \alpha(P) \approx 5.75 \times 10^{-5}$ $E_{\gamma}, Mult., \delta$: from $(n, n'\gamma)$. $\alpha(K) = 0.0338 \ 8; \ \alpha(L) = 0.00569 \ 11; \ \alpha(M) = 0.00133 \ 3;$ $\alpha(N+) = 0.000413 \ 8$ $\alpha(N) = 0.000238 \ 7; \ \alpha(Q) = 6.74 \times 10^{-5} \ 12; \ \alpha(D) = 7.10 \times 10^{-6} \ 15$
1665.27	2+	766.1 [@] 1	100 [@]	899.165 2	2+	M1(+E2)@	+0.11 [@] 4	0.0350 6	$\alpha(\mathbf{K}) = 0.000338 \ 7, \ \alpha(\mathbf{C}) = 0.74 \times 10^{-17} \ 7.5 \ \alpha(\mathbf{F}) = 1.19 \times 10^{-17} \ F_{\gamma}, \text{Mult.}, \delta: \text{ from } (\mathbf{n}, \mathbf{n}' \gamma).$ $\alpha(\mathbf{K}) = 0.0288 \ 5; \ \alpha(\mathbf{L}) = 0.00479 \ 8; \ \alpha(\mathbf{M}) = 0.001119 \ 17;$
									α (N+)=0.000347 6 α (N)=0.000284 5: α (O)=5.67×10 ⁻⁵ 9: α (P)=6.09×10 ⁻⁶ 10
		1665.3 [@] 1	≈96 [@]	0.0 0)+	E2 [@]		0.00267 4	$\alpha(K)=0.00209 \ 3; \ \alpha(L)=0.000350 \ 5; \ \alpha(M)=8.18\times10^{-5} \ 12; \\ \alpha(N+)=0.0001469 \ 21 \\ \alpha(N)=2.07\times10^{-5} \ 3; \ \alpha(O)=4.10\times10^{-6} \ 6; \ \alpha(P)=4.24\times10^{-7} \ 6;$
1 (01 10	(()		~ ~ @			5 c.@			α (IPF)=0.0001216 <i>17</i>
1681.19	I(+)	$782.0 \ I$	≈92 [@] 100 [@]	899.165 2	2+)+	D+Q D [@]			δ : +0.1 or +3.7 in (n,n' γ).
1712.25	(3^{+})	$361.1^{\textcircled{0}}$	100 [@]	1351.23 2	2 ⁺	$D(+Q)^{(a)}$			
		438.0 [@] 1	≈21 [@]	1274.13 4	1 ⁺				
1500.00	0	813.1 [@] 1	≈17 [@]	899.165 2	2+	$D(+Q)^{@}$			
1729.99	0^+	1730 I		0.0 0)⊤ >+	E0			E_{γ} ,Mult.: from (p,2n γ). ce(K)(E0)/ce(K)(E2)>5 (1986Ka0/).
1701.10	2	409.9 ^a 1 861.9 [@] 1	$\approx 13^{-1}$	899.165 2	2 2 ⁺	M1+E2 [@]	+1.4 [@] 4	0.015 3	α (K)=0.0119 24; α (L)=0.0022 4; α (M)=0.00051 8; α (N+)=0.000158 25
									α (N)=0.000130 20; α (O)=2.6×10 ⁻⁵ 4; α (P)=2.6×10 ⁻⁶ 5
		1761.1 [@] 1	≈79 [@]	0.0 0)+	E2 [@]		0.00246 4	$\alpha(K)=0.00189 \ 3; \ \alpha(L)=0.000313 \ 5; \ \alpha(M)=7.31\times10^{-5} \ 11; \ \alpha(N+)=0.000182 \ 3$
1817.54	4+	212.70 15	2.7 5	1604.82 3	3+	(M1)		1.103	$\begin{array}{l} \alpha(\mathrm{N}) = 1.83 \times 10^{-6} \ 3; \ \alpha(\mathrm{O}) = 3.67 \times 10^{-6} \ 6; \ \alpha(\mathrm{P}) = 3.81 \times 10^{-6} \ 6; \\ \alpha(\mathrm{IPF}) = 0.0001596 \ 23 \\ \alpha(\mathrm{K}) = 0.900 \ 13; \ \alpha(\mathrm{L}) = 0.1547 \ 22; \ \alpha(\mathrm{M}) = 0.0362 \ 6; \end{array}$
		543.27 15	1.25 13	1274.13 4	4 ⁺	(M1)		0.0867	$\alpha(N+)=0.01125\ 16$ $\alpha(N)=0.00921\ 13;\ \alpha(O)=0.00184\ 3;\ \alpha(P)=0.000196\ 3$ $\alpha(K)=0.0711\ 10;\ \alpha(L)=0.01195\ 17;\ \alpha(M)=0.00279\ 4;$ $\alpha(N+)=0.000866\ 13$
		918.26 <i>15</i>	100 7	899.165 2	2+	E2		0.00788 11	$ \begin{aligned} &\alpha(\mathrm{N}) = 0.000709 \ 10; \ \alpha(\mathrm{O}) = 0.0001415 \ 20; \ \alpha(\mathrm{P}) = 1.517 \times 10^{-5} \\ & 22 \\ &\alpha(\mathrm{K}) = 0.00622 \ 9; \ \alpha(\mathrm{L}) = 0.001259 \ 18; \ \alpha(\mathrm{M}) = 0.000301 \ 5; \\ &\alpha(\mathrm{N}+) = 9.25 \times 10^{-5} \ 13 \end{aligned} $

From ENSDF

						Adopte	d Levels, Ga	mmas (contin	ued)					
	γ (²⁰⁴ Pb) (continued)													
E _i (level)	\mathbf{J}_i^{π}	${\rm E}_{\gamma}^{\ddagger}$	Ι _γ ‡#	\mathbf{E}_{f}	\mathbf{J}_f^{π}	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments					
	_								$\alpha(K)=0.00622 \ 9; \ \alpha(L)=0.001259 \ 18; \ \alpha(M)=0.000301 \ 5; \ \alpha(M)=0.000301 \ 5;$					
									$\alpha(N)=7.62\times10^{-5}$ 11: $\alpha(O)=1.485\times10^{-5}$ 21: $\alpha(P)=1.407\times10^{-6}$ 20					
1872.11	1	1872.1 [@] 1	$100^{@}$	0.0	0^{+}	$D^{@}$								
1933.29	1	1034.1 [@] 1	≈12 [@]	899.165	2+	_								
		1933.3 [@] 1	100 [@]	0.0	0^{+}	D [@]								
1948.34	3+	365.5 [@] 1	≈71 [@]	1582.78	2+	(M1+E2) [@]		0.16 10	α (K)=0.12 9; α (L)=0.027 9; α (M)=0.0064 18; α (N+)=0.0020 6 α (N)=0.0016 5; α (O)=0.00032 10; α (P)=2.9×10 ⁻⁵ 15					
		597.2 [@] 1	100 [@]	1351.23	2+	(M1+E2) [@]		0.044 24	$\alpha(K)=0.035\ 21;\ \alpha(L)=0.007\ 3;\ \alpha(M)=0.0016\ 7;\ \alpha(N+)=0.00048$					
		_	_			_			α (N)=0.00039 16; α (O)=8.E-5 4; α (P)=8.E-6 4					
		674.1 [@] 1	≈58 [@]	1274.13	4+	(M1+E2) [@]		0.032 18	α (K)=0.026 <i>15</i> ; α (L)=0.0047 <i>20</i> ; α (M)=0.0011 <i>5</i> ;					
									$\alpha(N+)=0.00035\ 15$					
		1040 200 1		900 165	2+		24^{0}	0.00750.25	$\alpha(N) = 0.00028 \ 12; \ \alpha(O) = 5.6 \times 10^{-5} \ 24; \ \alpha(P) = 6.E - 6.3$					
		1049.2 - 1	≈94 -	899.105	2.	MI+E2	-2.4 - 2	0.00750 25	$\alpha(\mathbf{K})=0.00005 21; \alpha(\mathbf{L})=0.001104; \alpha(\mathbf{M})=0.0002018; \alpha(\mathbf{N}+)=8.05\times10^{-5} 23$					
									$\alpha(N)=6.62 \times 10^{-5}$ <i>19</i> ; $\alpha(O)=1.30 \times 10^{-5}$ <i>4</i> ; $\alpha(P)=1.31 \times 10^{-6}$ <i>5</i> 5, 1040 04 25 x scap in ²⁰⁴ Pi a decay has $5 < 1.0 < 50\%$ F2					
									o: $1049.04\ 25\ \gamma$ seen in ²⁵ Bi ε decay has $o<1.0\ (<50\%\ E2$ admixture) according to 1984Dz05. This is possibly a different					
1060.20	$(2)^+$	277 (@)		1500 70	2+	$\mathbf{D} \cdot \mathbf{O}^{0}$			y.					
1900.39	$(2)^{*}$	3/7.0 = 1	$\approx 41^{\circ}$	1382.78	2 · 2+	D+Q -			$0: -0.1 \text{ or } -1.8 \ln (n, n \gamma).$					
		1061.2° 1	$\sim 30^{-1}$	1551.25 800-165	2 2+	$D \cup O^{(0)}$			$\delta = 0.2 \text{ or } + 1.6 \text{ in } (n n'a)$					
2065 33	5+	501 72 10	25.0.24	1563 42	∠ ⊿+	D+Q M1(+E2)	101^{0} 1	0 106 3	$a_{\rm c}(K) = 0.0870.22; a_{\rm c}(L) = 0.0147.4; a_{\rm c}(M) = 0.00343.8;$					
2005.55	5	301.72 10	23.9 24	1505.42	4	$MII(\pm L2)$	+0.1 <i>1</i>	0.100 5	$\alpha(N+)=0.001065\ 23$					
									$\alpha(N)=0.000873 \ 19; \ \alpha(O)=0.000174 \ 4; \ \alpha(P)=1.86\times10^{-5} \ 5$					
		791.20 9	100 7	1274.13	4+	M1+E2	$-1.2^{@} 2$	0.0196 20	α (K)=0.0158 17; α (L)=0.00289 24; α (M)=0.00068 6; α (N+)=0.000211 18					
									$\alpha(N)=0.000173 \ 14; \ \alpha(O)=3.4\times10^{-5} \ 3; \ \alpha(P)=3.5\times10^{-6} \ 4$					
2105.50	2+	754.3 [@] 1	≈69 [@]	1351.23	2^{+}									
		1206.3 [@] 1	≈53 [@]	899.165	2^{+}									
		2105.5 [@] 1	100 [@]	0.0	0^+	E2 [@]		0.00197 3	α (K)=0.001373 20; α (L)=0.000221 3; α (M)=5.13×10 ⁻⁵ 8; α (N+)=0.000329 5					
									α (N)=1.301×10 ⁻⁵ <i>19</i> ; α (O)=2.59×10 ⁻⁶ <i>4</i> ; α (P)=2.72×10 ⁻⁷ <i>4</i> ; α (IPF)=0.000313 <i>5</i>					
2158.02	(4 ⁺)	883.8 [@] 1	≈33 [@]	1274.13	4+									
		1258.9 [@] 1	$100^{@}$	899.165	2^{+}									

						Adopted L	evels, Ga	mmas (continued)	
						<u> </u>	(²⁰⁴ Pb) (c	ontinued)	
	E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	$lpha^{\dagger}$	Comments
	2185.88	9-	622.2 2	0.24 4	1563.42 4+	E5		0.417	α(K)=0.1596 23; α(L)=0.190 3; α(M)=0.0519 8; α(N+)=0.01592 23 α(N)=0.01329 19; α(O)=0.00246 4; α(P)=0.0001725 25 B(E5)(W.u.)=0.58 11 Eγ,Iγ,Mult.: from 204Pb IT decay. B(E5)(W.u.): The contributions from 119.8γ and 368.0γ were not taken into account. Compare to B(E5)(W.u.)=0.51 17 in 202Pb
			911.74 <i>15</i>	100.0 14	1274.13 4+	E5		0.0958	α(K)=0.0544 8; α(L)=0.0308 5; α(M)=0.00809 12; α(N+)=0.00249 4 α(N)=0.00207 3; α(O)=0.000390 6; α(P)=3.10×10-5 5 B(E5)(W.u.)=3.63 8 Eγ,Iγ,Mult.: from 204Pb IT decay. B(E5)(W.u.): The contributions from 119.8γ and 368.0γ were not taken into account. Compare to B(E5)(W.u.)=3.8 4 in 202Pb.
11	2201.93 2238.47? 2258.15	(2,3,4 ⁺) 5,6 5 ⁻	850.7 [@] 1 964.32 15 440.46 10	100 [@] 100 4.2 7	1351.23 2 ⁺ 1274.13 4 ⁺ 1817.54 4 ⁺	E1		0.01251	$\alpha(K)=0.01032\ 15;\ \alpha(L)=0.001679\ 24;\ \alpha(M)=0.000390\ 6;\ \alpha(N+)=0.0001197\ 17$
			592.5 ^{@b} 1 983.98 3	≈3 [@] 100 5	1665.27 2 ⁺ 1274.13 4 ⁺	E1(+M2)	<0.11	0.0028 3	$a(N) = 9.83 \times 10^{-1} I^4, a(O) = 1.93 \times 10^{-5} S, a(P) = 1.87 \times 10^{-5} S$ I_{γ} : from (n,n' γ), not seen in ²⁰⁴ Bi ε . $a(K) = 0.00235 2I; a(L) = 0.00037 4; a(M) = 8.5 \times 10^{-5} I0;$ $a(N+) = 2.6 \times 10^{-5} 3$ $a(N) = 2.15 \times 10^{-5} 24; a(O) = 4.2 \times 10^{-6} 5; a(P) = 4.4 \times 10^{-7} 5$
	2264.42	7-	(6.26 3)	≈0.0004	2258.15 5-	[E2]		1.19×10 ⁶ 4	$\begin{array}{c} a(N)=2.15\times10^{-2.4}, a(O)=4.5\times10^{-5}, a(T)=4.4\times10^{-5}\\ B(E2)(W.u.)\approx 0.6\\ \alpha(M)=9.2\times10^{5}, 3; \alpha(N+)=2.72\times10^{5}, 8 \end{array}$
			78.54 8	27 4	2185.88 9-	E2		18.2	$\alpha(N)=2.30\times10^{5} 7; \ \alpha(O)=4.05\times10^{4} 12; \ \alpha(P)=1.19\times10^{5} 4$ $\alpha(L)=13.52 \ 20; \ \alpha(M)=3.57 \ 6; \ \alpha(N+)=1.066 \ 16$ $\alpha(N)=0.900 \ 14; \ \alpha(O)=0.1599 \ 24; \ \alpha(P)=0.00593 \ 9$ P(T2)(W,r) = 0.15 + 4.6
			990.4 2	100 <i>10</i>	1274.13 4+	E3		0.01581	$\begin{aligned} \alpha(K) = 0.01165 \ 17; \ \alpha(L) = 0.00315 \ 5; \ \alpha(M) = 0.000776 \ 11; \\ \alpha(N+) = 0.000239 \ 4 \\ \alpha(N) = 0.000197 \ 3; \ \alpha(O) = 3.80 \times 10^{-5} \ 6; \ \alpha(P) = 3.43 \times 10^{-6} \ 5 \\ B(E3)(W.u.) = 0.11 \ +3-4 \end{aligned}$
	2269.01 2303.92	1,2 ⁺ 3 ⁺	2269.0 [@] 1 721.2 [@] 1	100 [@] 100 [@]	0.0 0 ⁺ 1582.78 2 ⁺	M1+E2		0.027 15	$\alpha(K)=0.022 \ 12; \ \alpha(L)=0.0040 \ 17; \ \alpha(M)=0.0009 \ 4; \ \alpha(N+)=0.00029 \ 12 \ \alpha(N)=0.00024 \ 10; \ \alpha(O)=4.7\times10^{-5} \ 20; \ \alpha(P)=4.8\times10^{-6} \ 24 \ Mult: \ A_2=-0.11 \ 8 \ in \ (n, n'\gamma)$
			740.4 [@] 1	≈100 [@]	1563.42 4+	(M1+E2) [@]		0.025 14	$\alpha(K)=0.021$ 12; $\alpha(L)=0.0037$ 16; $\alpha(M)=0.0009$ 4;

From ENSDF

 $^{204}_{82} \mathrm{Pb}_{122} \text{--} 11$

 $^{204}_{82}\text{Pb}_{122}\text{--}11$

E _i (level)	\mathbf{J}_i^{π}	E _γ ‡	Ι _γ ‡#	E_f	\mathbf{J}_f^{π}	Mult. [‡]	δ^{\ddagger}	$lpha^\dagger$	Comments
									α(N+)=0.00027 12 $α(N)=0.00022 9; α(O)=4.4×10^{-5} 19; α(P)=4.5×10^{-6} 23$ Mult.: from (n,n'γ), δ is -0.3 or -15; the large quadrupole component favors M1+E2 over E1+M2.
2303.92	3+	1404.8 [@] 1	≈44 [@]	899.165	2^{+}				
2311.6	1	2311.6 <mark>&</mark> 6	100 <mark>&</mark>	0.0	0^{+}	D&			
2316.29	2+	586.3 [@] 1	≈78 [@]	1729.99	0+	E2 [@]		0.0203	$\alpha(K)=0.01493 \ 21; \ \alpha(L)=0.00404 \ 6; \ \alpha(M)=0.000993 \ 14; \ \alpha(N+)=0.000303 \ 5 \ \alpha(N)=0.000251 \ 4; \ \alpha(O)=4.79\times10^{-5} \ 7; \ \alpha(P)=3.99\times10^{-6} \ 6$
		604.0 [@] 1	100 [@]	1712.25	(3+)	(M1+E2) [@]		0.042 24	$\alpha(K)=0.034 \ 20; \ \alpha(L)=0.006 \ 3; \ \alpha(M)=0.0015 \ 6; \ \alpha(N+)=0.00047 \ 19 \ \alpha(N)=0.00038 \ 16; \ \alpha(O)=8.E-5 \ 4; \ \alpha(P)=8.E-6 \ 4 \ Mult.: \ \delta=-0.3 \ or \ -7; \ the \ large \ quadrupole \ component \ favors \ M1+E2 \ over \ E1+M2.$
		965.1 [@] 1	≈56 [@]	1351.23	2+	(M1+E2) [@]		0.013 7	$\alpha(K)=0.011 \ 6; \ \alpha(L)=0.0019 \ 8; \ \alpha(M)=0.00044 \ 18; \\ \alpha(N+)=0.00014 \ 6 \\ \alpha(N)=0.00011 \ 5; \ \alpha(O)=2.2\times10^{-5} \ 9; \ \alpha(P)=2.3\times10^{-6} \ 11 \\ Mult.: \ \delta=+1.0 \ or \ +2.5.$
		1417.1 [@] 1	≈56 [@]	899.165	2+				
		2316.3 [@] 1	≈31 [@]	0.0	0+	E2 [@]		0.00181 3	α (K)=0.001157 <i>17</i> ; α (L)=0.000184 <i>3</i> ; α (M)=4.26×10 ⁻⁵ <i>6</i> ; α (N+)=0.000424 <i>6</i> α (N)=1.081×10 ⁻⁵ <i>16</i> ; α (O)=2.15×10 ⁻⁶ <i>3</i> ; α (P)=2.27×10 ⁻⁷ <i>4</i> : α (PE)=0.000411 <i>6</i>
2338.44	(4) ⁻	80.15 7	79 8	2258.15	5-	M1(+E2)	0.19 4	3.76 21	$\alpha(L)=2.87 \ 16; \ \alpha(M)=0.68 \ 5; \ \alpha(N+)=0.211 \ 13 \ \alpha(N)=0.174 \ 11; \ \alpha(O)=0.0340 \ 19; \ \alpha(P)=0.00328 \ 6$
		1064.32 4	100 13	1274.13	4+	E1(+M2) [@]	≈+0.2 [@]	≈0.00356	$\alpha(K) \approx 0.00293; \ \alpha(L) \approx 0.000481; \ \alpha(M) \approx 0.0001121$ $\alpha(N) \approx 2.84 \times 10^{-5}; \ \alpha(O) \approx 5.65 \times 10^{-6}; \ \alpha(P) \approx 5.91 \times 10^{-7}$
2386.19	5+	320.85 15	26 5	2065.33	5+				a(14)~2.04×10 , a(0)~5.05×10 , a(1)~5.91×10
		822.9 1	100 15	1563.42	4+	M1+E2 [@]	+1.5 [@] 5	0.016 4	$\alpha(K)=0.013 \ 4; \ \alpha(L)=0.0024 \ 5; \ \alpha(M)=0.00056 \ 11; \ \alpha(N+)=0.00017 \ 4$
									$\alpha(N)=0.00014 3; \alpha(O)=2.8\times10^{-5} 0; \alpha(P)=2.8\times10^{-5} / F_{c}$
2400.34	$1^+.2^+.3^+$	735.1 [@] 1	≈15 [@]	1665.27	2+				2y. nom (iiii 7).
	- ,- ,-	817.6 [@] 1	≈11 [@]	1582.78	2+				
		1501.1 [@] 1	100@	899.165	2+	M1+E2 [@]		0.0048 17	$\alpha(K)=0.0039 \ 14; \ \alpha(L)=0.00064 \ 21; \ \alpha(M)=0.00015 \ 5; \\ \alpha(N+)=0.00013 \ 4 \\ \alpha(N)=3.8\times10^{-5} \ 13; \ \alpha(O)=7.5\times10^{-6} \ 25; \ \alpha(P)=8.E-7 \ 3; \\ \alpha(IPF)=8.7\times10^{-5} \ 23$

					<mark>as</mark> (continue	<u>d)</u>			
						<u> </u>	²⁰⁴ Pb) (conti	nued)	
E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	E_f	\mathbf{J}_f^{π}	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
2405.27	7-	140.80 10	41 4	2264.42	7-	M1+E2	1.0 5	2.5 6	α (K)=1.6 8; α (L)=0.70 12; α (M)=0.18 4; α (N+)=0.054 11 α (N)=0.045 9; α (O)=0.0083 15; α (P)=0.00055 5
		147.36 <i>15</i> 219.41 <i>9</i>	5.9 <i>14</i> 100 7	2258.15 2185.88	5- 9-	E2		0.312	$\alpha(K)=0.1358 \ 19; \ \alpha(L)=0.1314 \ 19; \ \alpha(M)=0.0342 \ 5; \ \alpha(N+)=0.01029 \ 15 \ \alpha(N)=0.00864 \ 13; \ \alpha(O)=0.001567 \ 23; \ \alpha(P)=8.22\times10^{-5} \ 12$
2408.97 2432.99	3 0 ⁺	1509.8 [@] 1 751.8 [@] 1	100 [@] 100 [@]	899.165 1681 19	2^+ $1^{(+)}$	D+Q [@]	≈+0.07 [@]		a(r) 0.0000 r 10, a(0) 0.001007 20, a(r) 0.22/10 12
2434.24	6-	2433 <i>1</i> 29.0 2	2.8 10	0.0 2405.27	0^+ 7^-	E0			E_{γ} ,Mult.: from (p,2n γ).
		169.83 15	25 4	2264.42	7-	M1+E2	0.5 3	1.81 25	α (K)=1.4 3; α (L)=0.312 20; α (M)=0.075 7; α (N+)=0.0231 19 α (N)=0.0191 17; α (O)=0.00370 24; α (P)=0.0034 3
		176.09 5	100 7	2258.15	5-	M1(+E2)	<0.6	1.71 <i>16</i>	$\alpha(\mathbf{K}) = 1.36 \ 18; \ \alpha(\mathbf{L}) = 0.273 \ 11; \ \alpha(\mathbf{M}) = 0.065 \ 4; \ \alpha(\mathbf{N}+) = 0.0201 \ 10 \ (\mathbf{M}) = 0.01(5 \ 0; \ \alpha(\mathbf{N}) = 0.00224 \ 12; \ \alpha(\mathbf{M}) = 0.000215 \ 20 \ \mathbf{M}$
		368.30 20	44 9	2065.33	5+				$\alpha(N)=0.0165$ 9; $\alpha(O)=0.00524$ 15; $\alpha(P)=0.000515$ 20
2475.37 2480.43	1,2,3,4 ⁺ 6 ⁻	1576.2 ^{^w 1} 216.11 <i>15</i>	100 [@] 100 <i>11</i>	899.165 2264.42	2+ 7-	M1		1.055	$\alpha(K)=0.861 \ I3; \ \alpha(L)=0.1479 \ 21; \ \alpha(M)=0.0347 \ 5; \ \alpha(N+)=0.01076 \ I6$
		222.15 15	66 7	2258.15	5-	M1(+E2)	<0.3	0.95 4	$\alpha(N)=0.00881 \ 13; \ \alpha(O)=0.001756 \ 25; \ \alpha(P)=0.000188 \ 3 \\ \alpha(K)=0.77 \ 3; \ \alpha(L)=0.1365 \ 20; \ \alpha(M)=0.0321 \ 5; \\ \alpha(N+)=0.00995 \ 14 \\ (O) = 0.00816 \ (22 \times (O) = 0.001620 \ 24 \times (D) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (D) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (D) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (D) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (D) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ 24 \times (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.0001620 \ (O) = 0.0001620 \ (O) = 0.000170 \ 5 \\ (O) = 0.00816 \ (O) = 0.$
2491.25	3+	1139.82 7	100	1351.23	2+	M1+E2 [@]	≈-0.5 [@]	≈0.01121	$\begin{aligned} \alpha(\mathbf{N}) &= 0.00816\ 12;\ \alpha(\mathbf{O}) &= 0.001620\ 24;\ \alpha(\mathbf{P}) &= 0.000170\ 3\\ \alpha(\mathbf{K}) &\approx 0.00921;\ \alpha(\mathbf{L}) &\approx 0.001531;\ \alpha(\mathbf{M}) &\approx 0.000357;\\ \alpha(\mathbf{N}+) &\approx 0.0001119 \end{aligned}$
									$\alpha(N) \approx 9.07 \times 10^{-5}; \ \alpha(O) \approx 1.81 \times 10^{-5}; \ \alpha(P) \approx 1.93 \times 10^{-6}; \ \alpha(IPF) \approx 1.189 \times 10^{-6} \ I_{\gamma}; \ \text{from } (n,n'\gamma).$
		1592.5 [@] 1	≈54 [@]	899.165	2+	M1+E2 [@]	≈-1.0 [@]	≈0.00423	$\alpha(K) \approx 0.00337; \alpha(L) \approx 0.000556; \alpha(M) \approx 0.0001296$ $\alpha(N) \approx 3.29 \times 10^{-5}; \alpha(O) \approx 6.55 \times 10^{-6}; \alpha(P) \approx 6.95 \times 10^{-7};$
2507.16	5-	168.4 <i>3</i>	62	2338.44	(4)-	(M1)		2.12	$\alpha(\text{IF}) \approx 0.001216$ $\alpha(\text{K}) = 1.73 \ 3; \ \alpha(\text{L}) = 0.299 \ 5; \ \alpha(\text{M}) = 0.0700 \ 11; \ \alpha(\text{N}+) = 0.0217 \ 4$ $\alpha(\text{N}) = 0.0178 \ 3; \ \alpha(\text{D}) = 0.00355 \ 6; \ \alpha(\text{D}) = 0.000379 \ 6$
		248.95 5	100 7	2258.15	5-	M1(+E2)	<0.45	0.67 5	$\alpha(N)=0.0175$ 5, $\alpha(L)=0.00575$ 5, $\alpha(M)=0.00575$ 5 $\alpha(N=0.0545; \alpha(L)=0.0079$ 23; $\alpha(M)=0.0231$ 5; $\alpha(N+)=0.00715$ 14 $\alpha(N)=0.00587$ 11; $\alpha(O)=0.00116$ 2; $\alpha(D)=0.000120$ 7
2513 759	(4)	950.33 15	100	1563 42	4+				a(19) - 0.00367 11, a(0) = 0.00110 3, a(r) = 0.000120 7
2524.90	(123)	$1173.7^{@}$ 1	≈59 [@]	1351.23	2+				
2021.00	(1,2,3)	1625.7 [@] J	100@	899.165	$\frac{1}{2^{+}}$				

From ENSDF

						Adopted Le	evels, Gamma	s (continued)	
						$\gamma(^2$	204Pb) (contin	ued)	
E _i (level)	\mathbf{J}_i^{π}	Eγ‡	$I_{\gamma}^{\ddagger \#}$	E_{f}	\mathbf{J}_{f}^{π}	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
2546.97		1647.8 [@] 1	100 [@]	899.165	2+				
2549.76	$2^{+}.3$	1275.6 [@] 1	100@	1274.13	4+				
		1650.6 [@] 1	20 [@]	899.165	2+	$D(+Q)^{\textcircled{a}}$			
2591.50	1,2,3	1240.3 [@] 1	27 [@]	1351.23	2+				
		1692.3 [@] 1	100 [@]	899.165	2+	$D(+Q)^{\textcircled{a}}$			
2620.60	3-	1057.1 [@] 1	≈10 [@]	1563.42	4+	$D(+Q)^{(a)}$			
		1721.5 [@] 1	100@	899.165	2+	D+Q [@]	≈+0.04 [@]		
2627.47	(5 ⁺)	1353.3 [@] 1	100 [@]	1274.13	4+	(M1)		0.00825 12	$\alpha(\mathbf{K})=0.00676 \ 10; \ \alpha(\mathbf{L})=0.001106 \ 16; \ \alpha(\mathbf{M})=0.000258 \ 4; \\ \alpha(\mathbf{N}+)=0.0001240 \\ \alpha(\mathbf{N})=6.54\times10^{-5} \ 10; \ \alpha(\mathbf{O})=1.307\times10^{-5} \ 19; \\ \alpha(\mathbf{P})=1 \ 407\times10^{-6} \ 20; \ \alpha(\mathbf{DF})=4 \ 41\times10^{-5} \ 7$
2654 67	$12^{+}3$	1755 5@ 1	$100^{@}$	899 165	2+	$D(+0)^{\textcircled{0}{0}}$			
2656.20	2+ 2+	$1767.0^{@}$ 1	$\approx 30^{@}$	899 165	$\frac{2}{2^+}$	D(1Q)			
2000.20		2666.2 [@] 1	~50 100 [@]	0.0	0 ⁺	E2 [@]		0.001653 24	$\begin{aligned} &\alpha(\text{K}) = 0.000898 \ 13; \ \alpha(\text{L}) = 0.0001406 \ 20; \ \alpha(\text{M}) = 3.26 \times 10^{-5} \\ &5; \ \alpha(\text{N}+) = 0.000581 \\ &\alpha(\text{N}) = 8.25 \times 10^{-6} \ 12; \ \alpha(\text{O}) = 1.644 \times 10^{-6} \ 23; \\ &\alpha(\text{P}) = 1.748 \times 10^{-7} \ 25; \ \alpha(\text{IPF}) = 0.000571 \ 8 \end{aligned}$
2696.71	7-	216.40 <i>20</i> 291.36 <i>15</i>	38 <i>3</i> 100 <i>12</i>	2480.43 2405.27	6 ⁻ 7 ⁻	M1+E2	0.84	0.323	α (K)=0.250 4; α (L)=0.0553 8; α (M)=0.01336 19; α (N+)=0.00411 6 α (N)=0.00339 5; α (O)=0.000658 10; α (P)=6.06×10 ⁻⁵ 9
		438.46 ^b 15	83 17	2258.15	5-				
		510.67 15	45 7	2185.88	9-				
2719.33	5+	1155.9 [@] 1	≈43 [@]	1563.42	4+	M1+E2 [@]		0.009 4	$\alpha(K)=0.007 \ 3; \ \alpha(L)=0.0012 \ 5; \ \alpha(M)=0.00028 \ 11; \\ \alpha(N+)=9.E-5 \ 4 \\ \alpha(N)=7.E-5 \ 3; \ \alpha(O)=1.4\times10^{-5} \ 6; \ \alpha(P)=1.5\times10^{-6} \ 7; \\ \alpha(IPF)=1.7\times10^{-6} \ 5 $
		1445.2 [@] 1	100@	1274.13	4+				
2731.92	5-,6-,7-	251.70 20	100	2480.43	6-	M1		0.691	α (K)=0.564 8; α (L)=0.0967 14; α (M)=0.0227 4; α (N+)=0.00703 10 α (N)=0.00576 9; α (O)=0.001148 17; α (P)=0.0001227 18
2732.03	1,2,3	1380.8 [@] 1	100 [@]	1351.23	2+	D(+Q) [@]			
2766.94	$(2^+, 3, 4)$	1492.8 [@] 1	100@	1274.13	4+				
2861.63?	(5-,6,7)	164.92 15	100	2696.71	7-				
2887.18	2,3	1988.0 [@] 1	100 [@]	899.165	2+	D(+Q) [@]			
2890.03?	(5 ⁻ ,6 ⁻)	631.88 15	0.10 2	2258.15	5-	(M1+E2)	< 0.8	0.050 8	$\alpha(K)=0.041$ 7; $\alpha(L)=0.0071$ 10; $\alpha(M)=0.00166$ 21;

From ENSDF

 $^{204}_{82}\text{Pb}_{122}\text{-}14$

	Adopted Levels, Gammas (continued)												
						γ (²⁰⁴ Pb) (c	continued)						
E _i (level)	\mathbf{J}_i^π	${\rm E_{\gamma}}^{\ddagger}$	Ι _γ ‡#	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments					
2912.98	5-	405.82 15	100 13	2507.16 5-	(M1)		0.188	$\begin{aligned} \alpha(N+) &= 0.00051\ 7\\ \alpha(N) &= 0.00042\ 6;\ \alpha(O) &= 8.4 \times 10^{-5}\ 11;\ \alpha(P) &= 8.8 \times 10^{-6}\ 14\\ \alpha(K) &= 0.1541\ 22;\ \alpha(L) &= 0.0261\ 4;\ \alpha(M) &= 0.00611\ 9;\\ \alpha(N+) &= 0.00190\ 3\\ \alpha(N) &= 0.001553\ 22;\ \alpha(O) &= 0.000310\ 5;\ \alpha(P) &= 3.31 \times 10^{-5}\ 5 \end{aligned}$					
		432.53 15	20.7	2480.43 6-				$u(\mathbf{n}) = 0.001555 22, u(0) = 0.000510 5, u(\mathbf{r}) = 5.51 \times 10^{-5} 5$					
		654.88 15	53 10	2258.15 5-	(M1+E2)	<0.8	0.046 8	$\alpha(K)=0.037\ 7;\ \alpha(L)=0.0064\ 9;\ \alpha(M)=0.00151\ 20;\ \alpha(N+)=0.00047\ 6$					
		1095.08 25	87 13	1817.54 4+	E1+M2	0.79 16	0.014 4	$\alpha(N)=0.00038 5; \alpha(O)=7.6\times10^{-5} 10; \alpha(P)=8.0\times10^{-6} 13 \alpha(K)=0.012 3; \alpha(L)=0.0021 5; \alpha(M)=0.00049 12; \alpha(N+)=0.00015 4 \alpha(N+)=0.00015 4 \alpha(N+)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.000015 4 \alpha(N)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.00015 4 \alpha(N)=0.000015 4 \alpha(N)=0.000015 4 \alpha(N)=0.00000000000000000000000000000000000$					
2919.68	5-	412.30 12	13.7 19	2507.16 5-	M1(+E2)	< 0.42	0.170 11	$\begin{array}{l} \alpha(\mathrm{N}) = 0.00013 \ 3; \ \alpha(\mathrm{O}) = 2.5 \times 10^{-5} \ 6; \ \alpha(\mathrm{P}) = 2.6 \times 10^{-5} \ 6 \\ \alpha(\mathrm{K}) = 0.139 \ 9; \ \alpha(\mathrm{L}) = 0.0241 \ 11; \ \alpha(\mathrm{M}) = 0.00564 \ 23; \\ \alpha(\mathrm{N}+) = 0.00175 \ 8 \end{array}$					
		514.4 2	11.6 9	2405.27 7-	(E2)		0.0274	$ \begin{array}{l} \alpha(\mathrm{N}) = 0.00143 \ 6; \ \alpha(\mathrm{O}) = 0.000285 \ 13; \ \alpha(\mathrm{P}) = 3.01 \times 10^{-5} \ 17 \\ \alpha(\mathrm{K}) = 0.0196 \ 3; \ \alpha(\mathrm{L}) = 0.00595 \ 9; \ \alpha(\mathrm{M}) = 0.001476 \ 21; \\ \alpha(\mathrm{N}+) = 0.000450 \ 7 \end{array} $					
		661.58 12	100 9	2258.15 5-	M1(+E2)	<0.22	0.0509 11	$\begin{aligned} \alpha(N) &= 0.000374 \ 6; \ \alpha(O) = 7.08 \times 10^{-5} \ 10; \ \alpha(P) = 5.59 \times 10^{-6} \ 8\\ \alpha(K) &= 0.0418 \ 10; \ \alpha(L) = 0.00700 \ 14; \ \alpha(M) = 0.00163 \ 4; \\ \alpha(N+) &= 0.000507 \ 10\\ \alpha(N) &= 0.000415 \ 8; \ \alpha(O) = 8.28 \times 10^{-5} \ 17; \ \alpha(P) = 8.87 \times 10^{-6} \ 19 \end{aligned}$					
		971.21 20 1102.16 7	10.3 9 20 3	1948.34 3 ⁺ 1817.54 4 ⁺	E1(+M2)	<0.24	0.0030 9	$\alpha(K)=0.0024 \ 7; \ \alpha(L)=0.00039 \ 13; \ \alpha(M)=9.E-5 \ 3; \ \alpha(N+)=2.9\times10^{-5} \ 10 \ \alpha(N)=2.3\times10^{-5} \ 8; \ \alpha(O)=4.6\times10^{-6} \ 16; \ \alpha(P)=4.8\times10^{-7} \ 17;$					
		1645.60 8	27 3	1274.13 4+	E1(+M2)	0.16 <i>12</i>	0.0016 5	$\alpha(\text{IPF})=7.88\times10^{-7} \ 24$ $\alpha(\text{K})=0.0011 \ 5; \ \alpha(\text{L})=0.00017 \ 8; \ \alpha(\text{M})=3.9\times10^{-5} \ 18; \ \alpha(\text{N}+)=0.000280 \ 6$ $\alpha(\text{N})=1.0\times10^{-5} \ 5; \ \alpha(\text{O})=2.0\times10^{-6} \ 9; \ \alpha(\text{P})=2.1\times10^{-7} \ 10; \ \alpha(\text{IPF})=0.000268 \ 11$					
2927.72	(5,6,7) ⁻	447.08 <i>15</i> 522.70 <i>20</i> 663 43 <i>15</i>	100 <i>13</i> 32 <i>3</i> ≈83	2480.43 6 ⁻ 2405.27 7 ⁻ 2264 42 7 ⁻	(F2 M1)		0 033 18	$\alpha(\mathbf{K}) = 0.027$ 16: $\alpha(\mathbf{I}) = 0.0050$ 21: $\alpha(\mathbf{M}) = 0.0012$ 5:					
		565.75 15		2207.72 /	(122,1911)		0.055 10	$\alpha(N+)=0.00036 \ 15$ $\alpha(N+)=0.00036 \ 15$ $\alpha(N)=5.00012 \ 5, \ \alpha(N)=6.0012 \ 5, \ $					
2928.89	5-	421.61 8	9.9 7	2507.16 5-	M1(+E2)	<0.6	0.153 17	$\alpha(K) = 0.125 \ I^2, \ \alpha(C) = 0.5710 \ 2.5, \ \alpha(K) = 0.0052 \ 4; \\ \alpha(K+) = 0.00160 \ I^2, \ \alpha(D) = 0.00206 \ 2.5 \ (D) = 0.5510 \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 2.5 \ 10^{-5} \ 1$					
		670.72 3	100 7	2258.15 5-	M1(+E2)	<0.66	0.045 6	$\begin{aligned} \alpha(N) &= 0.00131 \ 10; \ \alpha(O) &= 0.000260 \ 20; \ \alpha(P) &= 2.7 \times 10^{-3} \ 3\\ \alpha(K) &= 0.036 \ 5; \ \alpha(L) &= 0.0062 \ 7; \ \alpha(M) &= 0.00146 \ 15; \\ \alpha(N+) &= 0.00045 \ 5\\ \alpha(N) &= 0.00037 \ 4; \ \alpha(O) &= 7.4 \times 10^{-5} \ 8; \ \alpha(P) &= 7.8 \times 10^{-6} \ 9 \end{aligned}$					

From ENSDF

 $^{204}_{82} \text{Pb}_{122} \text{--} 15$

					Adopted Lev	els, Gammas (continued)	
					γ ⁽²⁰	⁴ Pb) (continued	<u>l)</u>	
E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	$I_{\gamma}^{\ddagger \#}$	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	$lpha^{\dagger}$	Comments
2928.89	5-	1111.35 4	12.9 11	1817.54 4+	E1(+M2)	<0.14	0.0024 3	$\alpha(K)=0.00197\ 24;\ \alpha(L)=0.00031\ 5;\ \alpha(M)=7.1\times10^{-5}\ 11;\ \alpha(N+)=2.3\times10^{-5}\ 4$
								α (N)=1.8×10 ⁻⁵ 3; α (O)=3.6×10 ⁻⁶ 6; α (P)=3.7×10 ⁻⁷ 6; α (IPF)=1.166×10 ⁻⁶ 20
		1654.79 <i>14</i>	4.9 7	1274.13 4+	E1(+M2)	<0.25	0.0016 3	$\alpha(K)=0.0011 \ 3; \ \alpha(L)=0.00017 \ 5; \ \alpha(M)=4.0\times10^{-5} \ 11; \\ \alpha(N+)=0.000286 \ 5 \\ \alpha(N)=1.0\times10^{-5} \ 2: \ \alpha(O)=2.0\times10^{-6} \ 6: \ \alpha(D)=2.0\times10^{-7} \ 1:0\times10^{-7} \ 1:0\times$
								$\alpha(N)=1.0\times10^{-5}$ 3; $\alpha(O)=2.0\times10^{-6}$ 6; $\alpha(P)=2.2\times10^{-7}$ 6; $\alpha(IPF)=0.000273$ 7
2941.9?	(4 ⁻ ,5 ⁻ ,6 ⁻)	683.39 ^b 15	100	2258.15 5-	(M1)		0.0475	α (K)=0.0390 <i>6</i> ; α (L)=0.00651 <i>10</i> ; α (M)=0.001521 <i>22</i> ; α (N+)=0.000472 <i>7</i>
								$\alpha(N)=0.000386\ 6;\ \alpha(O)=7.71\times10^{-5}\ 11;\ \alpha(P)=8.27\times10^{-6}$
2945.58	10-	759.8 ^a 2	100 ^a	2185.88 9-	M1+E2 ^{<i>a</i>}	7 ^{<i>a</i>} +12-3	0.0121 10	$\alpha(\mathbf{K})=0.0093 \ 9; \ \alpha(\mathbf{L})=0.00206 \ 12; \ \alpha(\mathbf{M})=0.00050 \ 3; \ \alpha(\mathbf{N}+)=0.000153 \ 9$
								$\alpha(N)=0.000126\ 7;\ \alpha(O)=2.44\times10^{-5}\ 14;\ \alpha(P)=2.22\times10^{-6}$
3023.45	(5,6)-	543.27 15	27 27	2480.43 6-	M1		0.0867	$\alpha(M)=0.0711 \ 10; \ \alpha(L)=0.01195 \ 17; \ \alpha(M)=0.00279 \ 4; \ \alpha(M+)=0.000866 \ 13$
								α (N)=0.000709 <i>10</i> ; α (O)=0.0001415 <i>20</i> ; α (P)=1.517×10 ⁻⁵ 22
		617.80 20	59 6	2405.27 7-				
		765.37 15	100 13	2258.15 5-	(M1)		0.0354	$\alpha(K)=0.0291 4$; $\alpha(L)=0.00484 7$; $\alpha(M)=0.001129 16$; $\alpha(N+)=0.000350 5$
3029.28	5-	100.32 10	6.0 5	2928.89 5-	M1(+E2)	<0.6	8.9 5	α (N)=0.000287 4; α (O)=5.73×10 ⁻⁵ 8; α (P)=6.15×10 ⁻⁶ 9 α (K)=6.6 10; α (L)=1.7 4; α (M)=0.42 11; α (N+)=0.13 4 α (N)=0 11 3; α (O)=0.020 5; α (P)=0.00171 5
		109.1 <i>3</i>	3.9 26	2919.68 5-				
		332.20 20	5.0 5	2696.71 7-				
		522.22 15	21 3	2507.16 5-	M1		0.0962	$\alpha(\mathbf{K})=0.0789 \ 11; \ \alpha(\mathbf{L})=0.01327 \ 19; \ \alpha(\mathbf{M})=0.00310 \ 5; \\ \alpha(\mathbf{N}+)=0.000962 \ 14 \\ \alpha(\mathbf{N})=0.000788 \ 11; \ \alpha(\mathbf{O})=0.0001572 \ 22; \ \alpha(\mathbf{P})=1.685\times10^{-5} $
		518 71 15	14724	2480 43 6-	M1(+E2)	<0.56	0.077.8	24 $\alpha(K) = 0.063.7; \alpha(L) = 0.0108.0; \alpha(M) = 0.00254.10;$
		570.77 15	17.7 27	2700.75 0	WII(TE2)	NU.30	0.077 0	$\alpha(N+)=0.00076$ 6 $\alpha(N+)=0.00076$ 6
		595.13 15	12.4 18	2434.24 6-				$\alpha(N)=0.00064$ 5; $\alpha(O)=0.000128$ 10; $\alpha(P)=1.36\times10^{-5}$ 13
		690.74 7	32 3	2338.44 (4) ⁻	M1+E2	0.6 3	0.038 6	α (K)=0.031 5; α (L)=0.0053 7; α (M)=0.00125 16; α (N+)=0.00039 5
		771.31 15	13.2 <i>21</i>	2258.15 5-	(E2+M1)	>0.35	0.022 11	α (N)=0.00032 4; α (O)=6.3×10 ⁻⁵ 9; α (P)=6.6×10 ⁻⁶ 10 α (K)=0.018 9; α (L)=0.0032 13; α (M)=0.0008 3;

 $^{204}_{82}\text{Pb}_{122}\text{--}16$

	Adopted Levels, Gammas (continued)											
						γ ⁽²⁰⁴	Pb) (continued)					
E_i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	I_{γ} ^{‡#}	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments				
3029.28	5-	1211.72 5	100 11	1817.54 4+	E1(+M2)	<0.15	0.0021 3	$ \begin{array}{c} \alpha(\mathrm{N}+)=0.00023 \ 9 \\ \alpha(\mathrm{N})=0.00019 \ 8; \ \alpha(\mathrm{O})=3.8\times10^{-5} \ 15; \ \alpha(\mathrm{P})=3.8\times10^{-6} \ 18 \\ \alpha(\mathrm{K})=0.00170 \ 22; \ \alpha(\mathrm{L})=0.00026 \ 4; \ \alpha(\mathrm{M})=6.1\times10^{-5} \ 10; \\ \alpha(\mathrm{N}+)=3.8\times10^{-5} \ 3 \\ \alpha(\mathrm{N})=1.54\times10^{-5} \ 24; \ \alpha(\mathrm{O})=3.1\times10^{-6} \ 5; \ \alpha(\mathrm{P})=3.2\times10^{-7} \ 5; \end{array} $				
		1755.28 6	41 4	1274.13 4+	E1(+M2)	<0.16	0.00141 12	α (IPF)=1.89×10 ⁻⁵ 4 α (K)=0.00089 10; α (L)=0.000134 17; α (M)=3.1×10 ⁻⁵ 4; α (N+)=0.000359 6 α (D)=5.0 10=6 10 α (D)=1.56 10=6 20 α (D)=1.65 10=7 21				
3092.25	5-	585.02 15	14.8 22	2507.16 5-	M1(+E2)	<0.75	0.062 10	$\begin{array}{l} \alpha(\mathrm{N}) = 7.8 \times 10^{\circ} - 10; \ \alpha(\mathrm{O}) = 1.56 \times 10^{\circ} - 20; \ \alpha(\mathrm{P}) = 1.65 \times 10^{\circ} - 21; \\ \alpha(\mathrm{IPF}) = 0.000350 \ 6 \\ \alpha(\mathrm{K}) = 0.051 \ 8; \ \alpha(\mathrm{L}) = 0.0088 \ 11; \ \alpha(\mathrm{M}) = 0.00206 \ 24; \ \alpha(\mathrm{N}+) = 0.00064 \\ 8 \end{array}$				
		611.88 <i>15</i> 753.79 <i>12</i>	11.8 <i>19</i> 50 <i>4</i>	2480.43 6 ⁻ 2338.44 (4) ⁻	M1(+E2)	<0.72	0.033 5	α (N)=0.00052 6; α (O)=0.000104 13; α (P)=1.09×10 ⁻⁵ 16 α (K)=0.027 4; α (L)=0.0045 6; α (M)=0.00106 12; α (N+)=0.00033 4				
		827.62 <i>15</i> 834.16 8	23 <i>4</i> 52 5	2264.42 7 ⁻ 2258.15 5 ⁻	M1(+E2)	<0.6	0.026 3	$\alpha(N)=0.00027 \ 3; \ \alpha(O)=5.4\times10^{-5} \ 6; \ \alpha(P)=5.7\times10^{-6} \ 8$ $\alpha(K)=0.0212 \ 22; \ \alpha(L)=0.0036 \ 3; \ \alpha(M)=0.00083 \ 7; \ \alpha(N+)=0.000258 \ 22$ $\alpha(N+)=0.000258 \ 22$				
		934.13 <i>15</i> 1027.59 <i>25</i> 1274.76 <i>4</i>	13.3 <i>19</i> 3.3 7 100 <i>11</i>	2158.02 (4 ⁺) 2065.33 5 ⁺ 1817.54 4 ⁺	E1(+M2)	<0.16	0.0019 3	$\alpha(K)=0.00158\ 22;\ \alpha(L)=0.00024\ 4;\ \alpha(M)=5.6\times10^{-5}\ 10;\alpha(N+)=5.9\times10^{-5}\ 3\alpha(N)=1.43\times10^{-5}\ 24;\ \alpha(O)=2.8\times10^{-6}\ 5;\ \alpha(P)=3.0\times10^{-7}\ 5;$				
		1818.10 2	24.1 19	1274.13 4+	E1		0.001294 19	$\alpha(\text{IPF})=4.17\times10^{-5} 8$ $\alpha(\text{K})=0.000751 \ 11; \ \alpha(\text{L})=0.0001112 \ 16; \ \alpha(\text{M})=2.56\times10^{-5} \ 4; \ \alpha(\text{N}+)=0.000406$ $\alpha(\text{N})=6.47\times10^{-6} \ 9; \ \alpha(\text{O})=1.289\times10^{-6} \ 18; \ \alpha(\text{P})=1.364\times10^{-7} \ 19;$				
3105.29	6-	597.83 15	≈22	2507.16 5-	(M1)		0.0674	α (IPF)=0.000398 6 α (K)=0.0553 8; α (L)=0.00927 13; α (M)=0.00217 3; α (N+)=0.000672 10				
		841.10 <i>12</i>	28 3	2264.42 7-	M1(+E2)	< 0.89	0.024 4	$ \begin{array}{l} \alpha(\mathrm{N}) = 0.000550 \ 8; \ \alpha(\mathrm{O}) = 0.0001097 \ 16; \ \alpha(\mathrm{P}) = 1.177 \times 10^{-5} \ 17 \\ \alpha(\mathrm{K}) = 0.019 \ 4; \ \alpha(\mathrm{L}) = 0.0033 \ 5; \ \alpha(\mathrm{M}) = 0.00077 \ 12; \ \alpha(\mathrm{N}+) = 0.00024 \\ 4 \end{array} $				
		847.19 8	100 17	2258.15 5-	M1+E2	0.6 5	0.022 5	$\alpha(N)=0.00020 \ 3; \ \alpha(O)=3.9\times10^{-5} \ 6; \ \alpha(P)=4.1\times10^{-6} \ 7$ $\alpha(K)=0.018 \ 5; \ \alpha(L)=0.0031 \ 7; \ \alpha(M)=0.00073 \ 15; \ \alpha(N+)=0.00023$ 5 $\alpha(N)=0.00019 \ 4; \ \alpha(O)=3.7\times10^{-5} \ 8; \ \alpha(P)=3.9\times10^{-6} \ 9$				

 $^{204}_{82} Pb_{122} \text{--} 17$

$\gamma(^{204}\text{Pb})$ (continued)

E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	$\mathbf{E}_f \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
3170.37	5-	141.00 <i>20</i> 257.50 <i>15</i> 736.07 <i>15</i>	0.43 <i>14</i> 0.71 <i>14</i> 6.1 <i>7</i>	3029.28 5- 2912.98 5- 2434.24 6-	M1(+E2)	<0.55	0.036 4	$\alpha(K)=0.030 \ 3; \ \alpha(L)=0.0050 \ 4; \ \alpha(M)=0.00117 \ 9;$
		831.95 <i>15</i>	8.6 14	2338.44 (4)-	M1(+E2)	<0.94	0.024 5	$\alpha(N+)=0.00036\ 3$ $\alpha(N)=0.000296\ 22;\ \alpha(O)=5.9\times10^{-5}\ 5;\ \alpha(P)=6.3\times10^{-6}\ 6$ $\alpha(K)=0.020\ 4;\ \alpha(L)=0.0034\ 6;\ \alpha(M)=0.00078\ 13;$ $\alpha(N+)=0.00024\ 4$
		911.96 <i>15</i>	100 14	2258.15 5-	(M1)		0.0225	$\alpha(N)=0.00020 \ 4; \ \alpha(O)=4.0\times10^{-5} \ 7; \ \alpha(P)=4.2\times10^{-6} \ 8 \\ \alpha(K)=0.0185 \ 3; \ \alpha(L)=0.00307 \ 5; \ \alpha(M)=0.000715 \ 10; \\ \alpha(N+)=0.000222 \ 4 \\ \alpha(N+)=0.000212 \ 4 \\ \alpha(N+)=0.000212 \ 4 \\ \alpha(N+)=0.000102 \ 2 \\ \alpha(N+)$
		1105.4 2	1.79 14	2065.33 5+	E1		0.00209 3	$\alpha(N)=0.000182 \ 3; \ \alpha(O)=3.62\times 10^{-5} \ 5; \ \alpha(P)=3.90\times 10^{-5} \ 6$ $\alpha(K)=0.001748 \ 25; \ \alpha(L)=0.000265 \ 4; \ \alpha(M)=6.10\times 10^{-5} \ 9; \ \alpha(N+)=1.97\times 10^{-5} \ 3$
		1607.2 2	2.0 3	1563.42 4+	(E1+M2)	0.45 12	0.0032 9	$\alpha(N)=1.544\times10^{-5}\ 22;\ \alpha(O)=3.06\times10^{-6}\ 5;\ \alpha(P)=3.18\times10^{-7}\ 5;\ \alpha(IPF)=9.25\times10^{-7}\ 15$ $\alpha(K)=0.0025\ 8;\ \alpha(L)=0.00041\ 13;\ \alpha(M)=0.00010\ 3;$ $\alpha(N+)=0.000244\ 6$
		1896.27 8	11.6 <i>11</i>	1274.13 4+	E1(+M2)	<0.16	0.00138 9	$\alpha(N)=2.4\times10^{-5} \ 8; \ \alpha(O)=4.9\times10^{-6} \ 15; \ \alpha(P)=5.2\times10^{-7} \ 16; \\ \alpha(IPF)=0.000214 \ 15 \\ \alpha(K)=0.00078 \ 8; \ \alpha(L)=0.000117 \ 14; \ \alpha(M)=2.7\times10^{-5} \ 3; \\ \alpha(N+)=0.000460 \ 7$
3191.68	11-	246.2 ^{<i>a</i>} 2	3.00 ^{<i>a</i>} 20	2945.58 10-	M1+E2 ^{<i>a</i>}	0.09 ^a 5	0.730 12	$\alpha(N)=6.8\times10^{-6} \ 8; \ \alpha(O)=1.36\times10^{-6} \ 16; \ \alpha(P)=1.44\times10^{-7} \ 17; \\ \alpha(IPF)=0.000451 \ 8 \\ \alpha(K)=0.596 \ 11; \ \alpha(L)=0.1027 \ 15; \ \alpha(M)=0.0241 \ 4; \\ \alpha(N)=0.00746 \ 11 $
		1005.7 ^{<i>a</i>} 2	100 ^{<i>a</i>} 5	2185.88 9-	E2 ^a		0.00659 10	$\alpha(N)=0.006129; \alpha(O)=0.001219 18; \alpha(P)=0.0001299 21 \alpha(K)=0.00525 8; \alpha(L)=0.001019 15; \alpha(M)=0.000243 4; \alpha(N+)=7.46\times10^{-5} 11 \alpha(N)=6.15\times10^{-5} 9; \alpha(O)=1.201\times10^{-5} 17; \alpha(P)=1.160\times10^{-6}$
3198.60?	5 ⁻ ,6,7 ⁻	934.13 <i>15</i> 941 0 5	100 <i>14</i> 36 <i>17</i>	2264.42 7^{-}				17
3215.36	5+	1652.10 <i>14</i>	71 10	1563.42 4+	M1(+E2)	<0.81	0.0047 5	$\alpha(K)=0.0037 \ 4; \ \alpha(L)=0.00060 \ 7; \ \alpha(M)=0.000140 \ 15; \ \alpha(N+)=0.000224 \ 21$
		1941.19 6	100 10	1274.13 4+	E2(+M1)	>0.33	0.0028 7	$\begin{aligned} &\alpha(N)=3.6\times10^{-5} \ 4; \ \alpha(O)=7.1\times10^{-6} \ 8; \ \alpha(P)=7.6\times10^{-7} \ 9; \\ &\alpha(IPF)=0.000181 \ 16 \\ &\alpha(K)=0.0021 \ 5; \ \alpha(L)=0.00034 \ 9; \ \alpha(M)=7.9\times10^{-5} \ 19; \\ &\alpha(N+)=0.00033 \ 8 \\ &\alpha(N)=2.0\times10^{-5} \ 5; \ \alpha(O)=4.0\times10^{-6} \ 10; \ \alpha(P)=4.3\times10^{-7} \ 11; \\ &\alpha(IPF)=0.00031 \ 7 \end{aligned}$

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$\gamma(^{204}\text{Pb})$ (continued)

E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	$E_f \qquad J_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	$lpha^\dagger$	Comments
3232.27	5-	304.45 15	13.1 25	2927.72 (5,6,7)-				
		604.73 15	22 3	$2627.47 (5^+)$	M1 + E2	124	0.022.5	$\alpha(K) = 0.010.5$, $\alpha(I) = 0.0025.6$, $\alpha(M) = 0.00082.14$
		123.13 11	90 5	2307.10 3	MIT+E2	1.5 4	0.023 3	$\alpha(\mathbf{K})=0.0195; \alpha(\mathbf{L})=0.00356; \alpha(\mathbf{M})=0.0008514; \alpha(\mathbf{N}+)=0.000265$
								$\alpha(N)=0.00021 \ 4; \ \alpha(O)=4.1\times10^{-5} \ 8; \ \alpha(P)=4.1\times10^{-6} \ 9$
		973.80 20	45 3	2258.15 5-		0.10.7	0.0000.5	
		1414.74 10	100 11	1817.54 4*	E1(+M2)	0.18 7	0.0020 5	$\alpha(K)=0.0015 4; \alpha(L)=0.00024 7; \alpha(M)=5.6\times10^{-5} 15; \alpha(N+)=0.000130 3$
								$\alpha(N)=1.4\times10^{-5} 4; \alpha(O)=2.8\times10^{-6} 8; \alpha(P)=3.0\times10^{-7} 9; \alpha(IPF)=0.000112 3$
		1669.3 2	8.2 16	1563.42 4+	E1		0.001322 19	$\alpha(K)=0.000865 \ 13; \ \alpha(L)=0.0001285 \ 18; \ \alpha(M)=2.95\times10^{-5} \ 5; \ \alpha(N+)=0.000299$
								$\alpha(N)=7.48\times10^{-6}$ 11; $\alpha(O)=1.489\times10^{-6}$ 21;
								α (P)=1.572×10 ⁻⁷ 22; α (IPF)=0.000290 4
		1958.10 25	41 6	1274.13 4+				
3301.73	5-	821.13 15	48 7	2480.43 6-	(M1)		0.0295	$\alpha(K)=0.0243 4; \alpha(L)=0.00403 6; \alpha(M)=0.000940 14; \alpha(N+)=0.000291 4$
							0.00/0.0	α (N)=0.000239 4; α (O)=4.76×10 ⁻⁵ 7; α (P)=5.12×10 ⁻⁶ 8
		1037.34 18	31.4	2264.42 7	(E2)		0.00620 9	$\alpha(K)=0.00496$ /; $\alpha(L)=0.000950$ 14; $\alpha(M)=0.000226$ 4; $\alpha(N+)=6.95\times10^{-5}$ 10
								$\alpha(N)=5.72\times10^{-5} 8; \alpha(O)=1.119\times10^{-5} 16; \alpha(P)=1.087\times10^{-6}$
		1043.63 10	100 12	2258.15 5-	M1(+E2)	<0.6	0.0146 14	$\alpha(K)=0.0120 \ 11; \ \alpha(L)=0.00200 \ 17; \ \alpha(M)=0.00047 \ 4; \ \alpha(N+)=0.000145 \ 12$
								$\alpha(N)=0.000118 \ 10: \ \alpha(O)=2.36\times10^{-5} \ 20: \ \alpha(P)=2.53\times10^{-6} \ 23$
		1697.06 20	4.6 7	1604.82 3+				
3377.4	1	3377.4 ^{&} 7	100 <mark>&</mark>	$0.0 0^+$	D ^{&}			
3397.62	6-	455.92 ^b 15	15 3	2941.9? (4 ⁻ ,5 ⁻ ,6 ⁻	.)			
		468.22 12	60 5	2928.89 5-	M1(+E2)	< 0.58	0.117 12	$\alpha(K)=0.095 \ 11; \ \alpha(L)=0.0165 \ 13; \ \alpha(M)=0.0039 \ 3; \ \alpha(N+)=0.00120 \ 9$
								$\alpha(N)=0.00099\ 7;\ \alpha(O)=0.000196\ 15;\ \alpha(P)=2.06\times10^{-5}\ 20$
		477.80 15	20 3	2919.68 5-	M1(+E2)	< 0.63	0.109 13	α (K)=0.089 <i>11</i> ; α (L)=0.0155 <i>14</i> ; α (M)=0.0036 <i>3</i> ; α (N+)=0.00113 <i>10</i>
								α (N)=0.00092 8; α (O)=0.000184 16; α (P)=1.93×10 ⁻⁵ 21
		1133.03 7	100 9	2264.42 7-	M1(+E2)	<0.56	0.0120 10	α (K)=0.0099 <i>8</i> ; α (L)=0.00163 <i>12</i> ; α (M)=0.00038 <i>3</i> ; α (N+)=0.000119 <i>9</i>
								$\alpha(N)=9.7\times10^{-5}$ 7; $\alpha(O)=1.93\times10^{-5}$ 14; $\alpha(P)=2.07\times10^{-6}$ 16;
		1139 82 7	65.7	2258 15 5-	M1		0.01272	$\alpha(\text{IFF})=9.7\times10^{-7} \text{ o}$ $\alpha(\text{K})=0.01047.15; \alpha(\text{L})=0.001721.24; \alpha(\text{M})=0.000401.6;$
		11.57.027	057	2230.13 5	1411		0.01272	$\alpha(N+)=0.0001257\ 18$

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					Adopted Le	evels, Gamm	as (continued)
					<u> γ(</u>	²⁰⁴ Pb) (contin	nued)	
E _i (level)	\mathbf{J}_i^π	E_{γ}^{\ddagger}	Ι _γ ‡#	\mathbf{E}_f J	f Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
3425.2?	5 ⁻ ,6 ⁻	1167.01 25	100	2258.15 5-	(M1+E2)	<0.82	0.0106 15	$\alpha(N)=0.0001019 \ 15; \ \alpha(O)=2.03\times10^{-5} \ 3; \ \alpha(P)=2.19\times10^{-6} \ 3; \ \alpha(IPF)=1.308\times10^{-6} \ 19 \ \alpha(K)=0.0087 \ 12; \ \alpha(L)=0.00144 \ 18; \ \alpha(M)=0.00034 \ 5; \ \alpha(N+)=0.00017 \ 14 \ \alpha(N)=8.5\times10^{-5} \ 11; \ \alpha(O)=1.70\times10^{-5} \ 22; \ \alpha(P)=1.82\times10^{-6} \ 25 \ \alpha(IPF)=2.19\times10^{-6} \ 3 \ \alpha(IPF)=2.19\times10^{-6} \ \alpha$
3516.4	12+	324.7 ^{<i>a</i>} 2	100 ^{<i>a</i>}	3191.68 11-	E1(+M2) ^{<i>a</i>}	0.03 ^{<i>a</i>} 3	0.026 4	2); $\alpha(\text{IPF})=2.8\times10^{-6}$ 3 $\alpha(\text{K})=0.0210$ 25; $\alpha(\text{L})=0.0036$ 6; $\alpha(\text{M})=0.00084$ 15; $\alpha(\text{N}+)=0.00026$ 5
3638.05	6-	240.40 15	15.6 20	3397.62 6-	M1(+E2)	<0.51	0.73 6	$\begin{aligned} &\alpha(N) = 0.00021 \ 4; \ \alpha(O) = 4.1 \times 10^{-5} \ 8; \ \alpha(P) = 3.9 \times 10^{-6} \ 8\\ &\alpha(K) = 0.59 \ 6; \ \alpha(L) = 0.108 \ 3; \ \alpha(M) = 0.0255 \ 5; \\ &\alpha(N+) = 0.00789 \ 15 \\ &\alpha(N) = 0.00648 \ 12; \ \alpha(O) = 0.00128 \ 3; \ \alpha(P) = 0.000131 \ 9 \end{aligned}$
		336.38 20 532.72 10	2.9 6 68 8	3301.73 5 ⁻ 3105.29 6 ⁻	M1(+E2)	< 0.65	0.082 10	α (K)=0.066 9; α (L)=0.0115 11; α (M)=0.00270 25; α (N+)=0.00084 8
		709.13 15	72 12	2928.89 5-	(M1)		0.0432	$\begin{aligned} &\alpha(N) = 0.00069 \ 7; \ \alpha(O) = 0.000136 \ I3; \ \alpha(P) = 1.44 \times 10^{-5} \ I7 \\ &\alpha(K) = 0.0355 \ 5; \ \alpha(L) = 0.00591 \ 9; \ \alpha(M) = 0.001380 \ 20; \\ &\alpha(N+) = 0.000428 \ 6 \end{aligned}$
		710.48 15	72 12	2927.72 (5,6	(M1) (M1)		0.0430	$\begin{aligned} &\alpha(N) = 0.000351 \ 5; \ \alpha(O) = 6.99 \times 10^{-5} \ 10; \ \alpha(P) = 7.51 \times 10^{-6} \ 11 \\ &\alpha(K) = 0.0353 \ 5; \ \alpha(L) = 0.00588 \ 9; \ \alpha(M) = 0.001373 \ 20; \\ &\alpha(N+) = 0.000426 \ 6 \end{aligned}$
		718.41 7	46 3	2919.68 5-	M1(+E2)	< 0.53	0.039 4	$ \begin{aligned} &\alpha(N) = 0.000349 \ 5; \ \alpha(O) = 6.96 \times 10^{-5} \ 10; \ \alpha(P) = 7.47 \times 10^{-6} \ 11 \\ &\alpha(K) = 0.032 \ 3; \ \alpha(L) = 0.0053 \ 4; \ \alpha(M) = 0.00125 \ 9; \\ &\alpha(N+) = 0.00039 \ 3 \end{aligned} $
		1157.59 5	26 3	2480.43 6-	M1(+E2)	<0.57	0.0113 9	$\alpha(N)=0.000317\ 22;\ \alpha(O)=6.3\times10^{-5}\ 5;\ \alpha(P)=6.7\times10^{-6}\ 6\\ \alpha(K)=0.0093\ 8;\ \alpha(L)=0.00154\ 12;\ \alpha(M)=0.00036\ 3;\\ \alpha(N+)=0.000114\ 9\\ \alpha(N)=9.1\times10^{-5}\ 7;\ \alpha(O)=1.82\times10^{-5}\ 14;\ \alpha(P)=1.95\times10^{-6}\ 16;$
		1203.72 6	100 12	2434.24 6-	M1(+E2)	<0.36	0.0107 4	$\begin{array}{l} \alpha(\mathrm{IPF}) = 2.21 \times 10^{-6} \ I4 \\ \alpha(\mathrm{K}) = 0.0088 \ 4; \ \alpha(\mathrm{L}) = 0.00145 \ 5; \ \alpha(\mathrm{M}) = 0.000338 \ I2; \\ \alpha(\mathrm{N}+) = 0.000112 \ 4 \\ \alpha(\mathrm{N}) = 8.6 \times 10^{-5} \ 3; \ \alpha(\mathrm{O}) = 1.71 \times 10^{-5} \ 6; \ \alpha(\mathrm{P}) = 1.84 \times 10^{-6} \ 7; \end{array}$
		1232.91 9	20.0 24	2405.27 7-	M1(+E2)	<0.75	0.0094 11	$\begin{aligned} &\alpha(\text{IPF})=7.30\times10^{-6}\ 22\\ &\alpha(\text{K})=0.0077\ 9;\ \alpha(\text{L})=0.00127\ 14;\ \alpha(\text{M})=0.00030\ 4;\\ &\alpha(\text{N}+)=0.000103\ 11\\ &\alpha(\text{N})=7.5\times10^{-5}\ 8;\ \alpha(\text{O})=1.50\times10^{-5}\ 17;\ \alpha(\text{P})=1.60\times10^{-6}\ 19; \end{aligned}$
		1373.7 2	20 <i>3</i>	2264.42 7-	M1(+E2)		0.0058 22	$\alpha(\text{IPF})=1.15\times10^{-5} \ 10$ $\alpha(\text{K})=0.0047 \ 18; \ \alpha(\text{L})=0.0008 \ 3; \ \alpha(\text{M})=0.00018 \ 7;$ $\alpha(\text{N}+)=0.00010 \ 3$ $\alpha(\text{N})=4.7\times10^{-5} \ 16; \ \alpha(\text{O})=9.\text{E}-6 \ 4; \ \alpha(\text{P})=1.0\times10^{-6} \ 4;$ $\alpha(\text{IPF})=4.1\times10^{-5} \ 11$

From ENSDF

 $^{204}_{82} \text{Pb}_{122}\text{--}20$

					Adopted	Levels, Gam	mas (continue	<u>ed)</u>
					Í	γ(²⁰⁴ Pb) (cor	ntinued)	
E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	$\mathbf{E}_f \qquad \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	$lpha^\dagger$	Comments
3638.05	6-	1380.05 20	11.6 12	2258.15 5-	M1(+E2)	<1.4	0.0065 14	$\begin{aligned} &\alpha(\mathrm{K}) = 0.0053 \ 12; \ \alpha(\mathrm{L}) = 0.00087 \ 18; \ \alpha(\mathrm{M}) = 0.00020 \ 5; \\ &\alpha(\mathrm{N}+) = 0.000110 \ 21 \\ &\alpha(\mathrm{N}) = 5.2 \times 10^{-5} \ 11; \ \alpha(\mathrm{O}) = 1.03 \times 10^{-5} \ 22; \ \alpha(\mathrm{P}) = 1.10 \times 10^{-6} \ 25; \end{aligned}$
		1573.0 2	13.6 20	2065.33 5+	E1+M2	0.53 11	0.0040 9	$\alpha(\text{IPF})=4.7\times10^{-5} 8$ $\alpha(\text{K})=0.0031 7; \ \alpha(\text{L})=0.00052 \ 13; \ \alpha(\text{M})=0.00012 \ 3;$ $\alpha(\text{N}+)=0.000222 \ 5$ $\alpha(\text{N})=3.1\times10^{-5} \ 8; \ \alpha(\text{O})=6.2\times10^{-6} \ 15; \ \alpha(\text{P})=6.6\times10^{-7} \ 16;$ $\alpha(\text{IPF})=0.000184 \ 12$
3656.3	1	3656.3 <mark>&</mark> 3	100 <mark>&</mark>	$0.0 0^+$	D&			
3733.40?	6-,7-	1299.1 2	38 6	2434.24 6-	M1(+E2)	<1.0	0.0079 13	$\alpha(K)=0.0064 \ 11; \ \alpha(L)=0.00107 \ 17; \ \alpha(M)=0.00025 \ 4; \ \alpha(N)=6 \ 3\times 10^{-5} \ 10; \ \alpha(Q)=1 \ 26\times 10^{-5} \ 20; \ \alpha(P)=1 \ 34\times 10^{-6} \ 22;$
		1328.21 10	100 12	2405.27 7-	M1(+E2)	<0.5	0.0082 5	$\alpha(\text{IPF})=2.4\times10^{-5} 3$ $\alpha(\text{K})=0.0067 4; \ \alpha(\text{L})=0.00110 7; \ \alpha(\text{M})=0.000256 15;$ $\alpha(\text{N}+)=0.000114 6$
		1468.82 25	50 <i>50</i>	2264.42 7-	(M1)		0.00676 <i>10</i>	$\begin{aligned} \alpha(N) &= 6.5 \times 10^{-5} \ 4; \ \alpha(O) &= 1.30 \times 10^{-5} \ 8; \ \alpha(P) &= 1.39 \times 10^{-6} \ 9; \\ \alpha(IPF) &= 3.41 \times 10^{-5} \ 16 \\ \alpha(K) &= 0.00550 \ 8; \ \alpha(L) &= 0.000897 \ 13; \ \alpha(M) &= 0.000209 \ 3; \\ \alpha(N+) &= 0.0001583 \ 2 \\ \alpha(N) &= 5.30 \times 10^{-5} \ 8; \ \alpha(O) &= 1.059 \times 10^{-5} \ 15; \ \alpha(P) &= 1.141 \times 10^{-6} \\ 16; \ \alpha(IPF) &= 9.36 \times 10^{-5} \ 14 \end{aligned}$
3768.67	5 ⁻ ,6 ⁻	1475.08 25 2169.4 5 663.43 7 745.28 12	22 4 10 2 20 20 37 5	2258.15 5 ⁻ 1563.42 4 ⁺ 3105.29 6 ⁻ 3023.45 (5,6) ⁻	M1(+E2)	<0.24	0.0372 9	$\alpha(K)=0.0306\ 8;\ \alpha(L)=0.00510\ 11;\ \alpha(M)=0.00119\ 3;$ $\alpha(N+)=0.000370\ 8$ $\alpha(N)=0.000303\ 7;\ \alpha(O)=6.04\times10^{-5}\ 13;\ \alpha(P)=6.47\times10^{-6}\ 15$
		1261.71 <i>25</i> 1334.50 <i>10</i>	6.8 <i>12</i> 15.6 <i>16</i>	2507.16 5 ⁻ 2434.24 6 ⁻	M1		0.00854 12	$\alpha(K)=0.00701 \ 10; \ \alpha(L)=0.001147 \ 16; \ \alpha(M)=0.000267 \ 4; \ \alpha(N+)=0.0001205 \ \alpha(N)=6.78\times10^{-5} \ 10; \ \alpha(O)=1.354\times10^{-5} \ 19; \ \alpha(P)=1.459\times10^{-6}$
		1703.27 5	100 8	2065.33 5+	E1(+M2)	<0.21	0.00151 21	$\begin{aligned} & \alpha(\text{IP})=0.78\times10^{-10}, \ \alpha(\text{O})=1.55\times10^{-175}, \ \alpha(\text{I})=1.455\times10^{-175}, \ \alpha(\text{I})=3.77\times10^{-5}, \ \alpha(\text{K})=0.00100, \ 17; \ \alpha(\text{L})=0.00015, \ 3; \ \alpha(\text{M})=3.5\times10^{-5}, \ 7; \ \alpha(\text{N}+)=0.000321, \ 6\\ & \alpha(\text{N})=9.0\times10^{-6}, \ 18; \ \alpha(\text{O})=1.8\times10^{-6}, \ 4; \ \alpha(\text{P})=1.9\times10^{-7}, \ 4; \end{aligned}$
3782.28	5-	2493.9 ^b 20 611.88 <i>15</i> 1348.4 <i>4</i>	0.8 <i>4</i> 26 <i>4</i> 24.0 <i>17</i>	1274.13 4 ⁺ 3170.37 5 ⁻ 2434.24 6 ⁻	M1(+E2)	<0.87	0.0074 10	α (IPF)=0.000310 7 α (K)=0.0060 9; α (L)=0.00099 13; α (M)=0.00023 3; α (N+)=0.000110 13

From ENSDF

 $^{204}_{82}\text{Pb}_{122}\text{--}21$

				(continued)					
						$\gamma(^{204}\text{Pb})$	(continue	ed)	
E _i (level)	J_i^π	${\rm E_{\gamma}}^{\ddagger}$	$I_{\gamma}^{\ddagger \#}$	\mathbf{E}_{f}	\mathbf{J}_f^{π}	Mult. [‡]	δ^{\ddagger}	$lpha^{\dagger}$	Comments
3782.28	5-	1524.07 8	100 8	2258.15	5-	M1(+E2)	<0.62	0.0058 5	$\alpha(N)=5.9\times10^{-5} 8; \alpha(O)=1.17\times10^{-5} 15; \alpha(P)=1.25\times10^{-6} 17; \alpha(IPF)=3.8\times10^{-5} 4 \alpha(K)=0.0047 4; \alpha(L)=0.00076 6; \alpha(M)=0.000177 13; \alpha(N+)=0.000170 12 \alpha(N)=4.5\times10^{-5} 4; \alpha(O)=9.0\times10^{-6} 7; \alpha(P)=9.6\times10^{-7} 8;$
		1964.82 <i>10</i>	39 4	1817.54	4+	E1		0.001293 18	$\alpha(\text{IPF})=0.000115\ 8$ $\alpha(\text{K})=0.000661\ 10;\ \alpha(\text{L})=9.77\times10^{-5}\ 14;\ \alpha(\text{M})=2.24\times10^{-5}$ $4;\ \alpha(\text{N}+)=0.000512\ 8$ $\alpha(\text{N})=5.68\times10^{-6}\ 8;\ \alpha(\text{O})=1.132\times10^{-6}\ 16;$ $\alpha(\text{P})=1.200\times10^{-7}\ 17;\ \alpha(\text{IPF})=0.000505\ 7$
		2176.9 5	5.0 8	1604.82	3+				
3842.8?	$(5,6^+)$	2279.4 5	100	1563.42	4+				
3876.53?	$(5^{-}, 6^{+})$	1612.15 25	100 20	2264.42	7^{-}				
		2312.9 5	36 8	1563.42	4+				
3891.76?	5-,6-	1826.42 10	100	2065.33	5+	E1(+M2)	< 0.20	0.00144 16	α (K)=0.00087 <i>13</i> ; α (L)=0.000133 <i>23</i> ; α (M)=3.1×10 ⁻⁵ <i>6</i> ; α (N+)=0.000409 <i>7</i>
									α (N)=7.8×10 ⁻⁶ 14; α (O)=1.5×10 ⁻⁶ 3; α (P)=1.6×10 ⁻⁷ 3; α (IPF)=0.000399 8
3893.2	2+	3893.2 ^{&} 6	100 ^{&}	0.0	0+	E2 ^{&}		0.001619 23	$\alpha(K)=0.000455\ 7;\ \alpha(L)=6.93\times10^{-5}\ 10;\ \alpha(M)=1.598\times10^{-5}\ 23;\ \alpha(N+)=0.001079$ $\alpha(N)=4.05\times10^{-6}\ 6;\ \alpha(Q)=8.09\times10^{-7}\ 12;\ \alpha(P)=8.70\times10^{-8}$
									$I_{3; \alpha}(\text{IPF})=0.001074 I_{5}$ B(E2)(Wu)=0.52 I0
3996.33	$(5,6^{+})$	1054.44 20	100 9	2941.9?	$(4^{-}, 5^{-}, 6^{-})$				B(E2)(()) 0.52 10
		1931.08 20	18 5	2065.33	5+				
		2433.3 5	36 9	1563.42	4+				
		2721.2 5	36 9	1274.13	4+				
3997.89?	(5,6,7) ⁻	1517.46 12	0.46 5	2480.43	6-	M1(+E2)	<0.65	0.0058 5	$\alpha(K)=0.0047 \ 4; \ \alpha(L)=0.00077 \ 6; \ \alpha(M)=0.000178 \ 14; \\ \alpha(N+)=0.000166 \ 12 \\ \alpha(N)=4.5\times10^{-5} \ 4; \ \alpha(O)=9.0\times10^{-6} \ 8; \ \alpha(P)=9.7\times10^{-7} \ 9; \\ \alpha(PF)=0.000111 \ 8 $
4032.83?	(5,6 ⁺)	1794.34 20	56 8	2238.47?	5,6				u(m) = 0.000111 0
		2758.8 5	100 17	1274.13	4+				
4039.2?	$(5,6^{+})$	2475.6 5	100 25	1563.42	4+				
10 60 00	(#	2765.3 5	50 25	1274.13	4+				
4068.09	(5,6 ⁺)	1803.95 25	100 14	2264.42	/				
		2250.28 20	29 7	1817.54	4				
4076 37	$(5)^{-}$	2194.4 J 071 01 00	29-14 <100	12/4.13	4 6 ⁻				
4070.37	(3)	1569.3 2	52 6	2507.16	5-	M1(+E2)	<0.5	0.0055 3	α (K)=0.00442 24; α (L)=0.00072 4; α (M)=0.000168 9; α (N+)=0.000193 10

 $^{204}_{82} \text{Pb}_{122}\text{-}22$

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	Adopted Levels, Gammas (continued)											
						$\gamma(^2$	^{.04} Pb) (co	ntinued)				
E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\ddagger}	Ι _γ ‡#	E_f	\mathbf{J}_{f}^{π}	Mult. [‡]	δ^{\ddagger}	a^{\dagger}	Comments			
									$\alpha(N)=4.26\times10^{-5}\ 23;\ \alpha(O)=8.5\times10^{-6}\ 5;\ \alpha(P)=9.2\times10^{-7}\ 5;$ $\alpha(PE)=0\ 000141\ 7$			
4076.37	$(5)^{-}$	2471.31 20	9.4 15	1604.82	3+				<i>u</i> (111)=0.0001417			
	(-)	2802.1 5	63	1274.13	4+							
4081.05	$(5,6^+)$	2263.38 10	100 16	1817.54	4+							
		2517.74 10	68 8	1563.42	4+							
4094.43	6-	924.16 15	12 3	3170.37	5-							
		1165.19 20	9.6 16	2928.89	5-		.0.01	0.0101 16				
		1181.3 2	15 3	2912.98	5	MI(+E2)	<0.91	0.0101 10	$\alpha(\mathbf{K})=0.0083\ 13;\ \alpha(\mathbf{L})=0.00138\ 20;\ \alpha(\mathbf{M})=0.00032\ 3;$ $\alpha(\mathbf{N}_{\pm})=0.000104\ 15$			
									$\alpha(N) = 8.2 \times 10^{-5} 12 \cdot \alpha(O) = 1.62 \times 10^{-5} 24 \cdot \alpha(D) = 1.7 \times 10^{-6} 3$			
									$\alpha(\text{IPF})=4.1\times10^{-6} 5$			
		1614.30 20	25 3	2480.43	6-			0.0046.0				
		1689.05 12	100 10	2405.27	7-	M1(+E2)	< 0.58	0.0046 3	$\alpha(K)=0.00363\ 24;\ \alpha(L)=0.00059\ 4;\ \alpha(M)=0.000138\ 9;$			
									$\alpha(N+)=0.000251.15$			
									$\alpha(N) = 3.49 \times 10^{\circ} 22; \ \alpha(O) = 7.0 \times 10^{\circ} 5; \ \alpha(P) = 7.5 \times 10^{\circ} 5; \ \alpha(P) = 7.5 \times 10^{\circ} 5;$			
		1836.6.2	12.1.21	2258 15	5-	M1(+E2)	<11	0.0036.5	$\alpha(M) = 0.00020972$ $\alpha(K) = 0.00274 \cdot \alpha(L) = 0.000456 \cdot \alpha(M) = 0.00010414 \cdot$			
		1050.0 2	12.1 21	2200.10	5	MII(122)	N 111	0.000000	$\alpha(N+)=0.00032.4$			
									$\alpha(N) = 2.6 \times 10^{-5} 4$; $\alpha(O) = 5.3 \times 10^{-6} 8$; $\alpha(P) = 5.6 \times 10^{-7} 8$;			
									α (IPF)=0.00028 4			
4111.47	(5)-	473.40 15	58 12	3638.05	6-	M1(+E2)	< 0.83	0.106 19	$\alpha(K)=0.086\ 17;\ \alpha(L)=0.0153\ 20;\ \alpha(M)=0.0036\ 5;$			
									α (N+)=0.00112 14			
									$\alpha(N)=0.00092 \ 11; \ \alpha(O)=0.000181 \ 24; \ \alpha(P)=1.9\times10^{-5} \ 3$			
		941.0 5	50 23	3170.37	5-							
		2046.0 5	35 8	2065.33	5' 4 ⁺							
4115 01	<i>(</i> -	2837.33 10	100 15	12/4.13	4'	(M1 + E2)	.0.(2	0.0072 6	(K) = 0.0050 = 5.00(1) = 0.00007 = 0.000000 = 0.0000000 = 10.00000000000			
4113.21	0	1383.02 23	519	2751.92	5,0,7	(M1+E2)	< 0.05	0.0072-0	$\alpha(\mathbf{N}) = 0.0009 3; \alpha(\mathbf{L}) = 0.00097 3; \alpha(\mathbf{M}) = 0.000220 13;$ $\alpha(\mathbf{N}_{\pm}) = 0.000122 9$			
									$\alpha(N) = 5.7 \times 10^{-5} 5$; $\alpha(O) = 1.14 \times 10^{-5} 10$; $\alpha(P) = 1.23 \times 10^{-6} 11$;			
									$\alpha(\text{IPF}) = 5.2 \times 10^{-5} 4$			
		1709.9 2	49 11	2405.27	7-	(M1+E2)	<1.1	0.0042 6	$\alpha(\mathbf{K}) = 0.0033 5; \alpha(\mathbf{L}) = 0.00053 8; \alpha(\mathbf{M}) = 0.000124 18;$			
									α(N+)=0.00025 4			
									$\alpha(N)=3.1\times10^{-5}$ 5; $\alpha(O)=6.3\times10^{-6}$ 9; $\alpha(P)=6.7\times10^{-7}$ 11;			
									α (IPF)=0.00021 3			
		1850.65 <i>35</i>	31 6	2264.42	7-	M1(+E2)	< 0.37	0.00393 12	$\alpha(K)=0.00298 \ 9; \ \alpha(L)=0.000484 \ 15; \ \alpha(M)=0.000112 \ 4;$			
									α (N+)=0.000355 11			
									$\alpha(N)=2.86\times10^{-5}$ 9; $\alpha(O)=5.71\times10^{-6}$ 18; $\alpha(P)=6.15\times10^{-7}$ 20;			
		1956 00 20	100 11	2259 15	<i>ב</i> -	MICEO	-1.0		α (IPF)=0.000320 9 (N) 2.4×10=5 5 × (O) 4.8×10=6 10 × (D) 5.2×10=7 11			
		1836.92 20	100 11	2238.13	3	MI(+E2)	<1.9		$\alpha(IN) = 2.4 \times 10^{-5}$ 3; $\alpha(O) = 4.8 \times 10^{-5}$ 10; $\alpha(P) = 5.2 \times 10^{-5}$ 11; $\alpha(IDE) = 0.00028$ 6			
									u(111) - 0.000200			

 $^{204}_{82}\text{Pb}_{122}\text{--}23$

I

$\gamma(^{204}\text{Pb})$ (continued)

E _i (level)	\mathbf{J}_i^π	E_{γ}^{\ddagger}	$I_{\gamma}^{\ddagger \#}$	$E_f J_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments
4129.57	(5,6)	1791.17 20 2064.2 ^b 5 2566.14 10 2854.9 5	38 8 33 8 100 <i>17</i> 17 8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				
4134.8	14+	618.4 ^{<i>a</i>} 2	100 ^{<i>a</i>}	3516.4 12 ⁺	E2 ^{<i>a</i>}		0.0180	$\alpha(K)=0.01340 \ 19; \ \alpha(L)=0.00347 \ 5; \ \alpha(M)=0.000850 \ 12; \ \alpha(N+)=0.000260 \ 4 \ \alpha(N)=0.000215 \ 3; \ \alpha(Q)=4.12\times10^{-5} \ 6; \ \alpha(P)=3.49\times10^{-6} \ 5$
4166.03	5-	1468.82 25	34 <i>34</i>	2696.71 7-				$u(1)=0.000215.5, u(0)=4.12\times10^{-5}, u(1)=5.49\times10^{-5}$
		1658.9 2	14.9 <i>14</i>	2507.16 5-	(M1)		0.00510 8	$\alpha(K)=0.00404\ 6;\ \alpha(L)=0.000657\ 10;\ \alpha(M)=0.0001529\ 22;\ \alpha(N+)=0.000248\ 4$
								$\alpha(N)=5.88\times10^{-6}, \alpha(O)=7.76\times10^{-717}, \alpha(P)=8.56\times10^{-712}, \alpha(IPF)=0.000201$ 3
		1685.9 2	26 3	2480.43 6-	M1(+E2)	<1.1	0.0043 7	$\alpha(K)=0.0034$ 5; $\alpha(L)=0.00055$ 8; $\alpha(M)=0.000128$ 19; $\alpha(N+)=0.00023$ 3
								$\alpha(N)=3.3\times10^{-5} 5; \alpha(O)=6.5\times10^{-6} 10; \alpha(P)=7.0\times10^{-7} 11; \alpha(IPF)=0.000194 25$
		1731.68 14	100 8	2434.24 6-	M1(+E2)	<0.58	0.0044 3	$\alpha(K)=0.00341\ 22;\ \alpha(L)=0.00056\ 4;\ \alpha(M)=0.000129\ 8;\ \alpha(N+)=0.000275\ 16$
								α (N)=3.28×10 ⁻⁵ 21; α (O)=6.6×10 ⁻⁶ 4; α (P)=7.0×10 ⁻⁷ 5; α (IPF)=0.000235 13
		1761.0 2	35 4	2405.27 7-	E2		0.00246 4	$\alpha(K)=0.00189 \ 3; \ \alpha(L)=0.000313 \ 5; \ \alpha(M)=7.31\times10^{-5} \ 11; \ \alpha(N+)=0.000182 \ 3$
								α (N)=1.85×10 ⁻⁵ 3; α (O)=3.67×10 ⁻⁶ 6; α (P)=3.81×10 ⁻⁷ 6; α (IPF)=0.0001595 23
		1780.33 25	579	2386.19 5+	(E1+M2)	0.66 20	0.0039 11	$\alpha(K)=0.0029 \ 10; \ \alpha(L)=0.00049 \ 16; \ \alpha(M)=0.00011 \ 4; \ \alpha(N+)=0.000330 \ 22$
								$\alpha(N)=2.9\times10^{-5} \ 10; \ \alpha(O)=5.8\times10^{-6} \ 19; \ \alpha(P)=6.2\times10^{-7} \ 21; \ \alpha(PF)=0.00029 \ 4$
								$ δ: from α(K)exp of 1984Dz05 in ε decay. Another possibility is M1+E2 with δ<3; however, that is inconsistent with J^{\pi}. Possibly this χ is an M1 E1 doublet$
		1907.23 25	28 5	2258.15 5-	M1+E2	>0.36	0.0029 7	$\alpha(K)=0.0022 \ 6; \ \alpha(L)=0.00035 \ 9; \ \alpha(M)=8.2\times10^{-5} \ 20; \ \alpha(N+)=0.00031 \ 7$
								$\alpha(N)=2.1\times10^{-5} 5; \alpha(O)=4.1\times10^{-6} 11; \alpha(P)=4.4\times10^{-7} 12; \alpha(PF)=0.00029 7$
4170 449	(5 (+)	2100.6 5	6.8 13	2065.33 5+				
4172.44?	(5,6')	1259.08 25 1665.4 2	100 16 13.8 11	2912.98 5 ⁻ 2507.16 5 ⁻	E2,E1			
		1786.38 20	9.3 18	2386.19 5+	,			
4184.02	6-	2898.0 5 1014.19 25	2.7 9 14 3	$12/4.13 \ 4^+$ $3170.37 \ 5^-$				

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Adopted Levels, Gammas (continued)										
γ ⁽²⁰⁴ Pb) (continued)										
E _i (level)	\mathbf{J}_i^{π}	${\rm E}_{\gamma}^{\ddagger}$	Ι _γ ‡#	$\mathbf{E}_f \qquad \mathbf{J}_f^{\pi}$	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments		
4184.02	6-	1092.1 2	20 4	3092.25 5-	M1(+E2)	<0.77	0.0126 16	$\alpha(K)=0.0103 \ 14; \ \alpha(L)=0.00172 \ 21; \ \alpha(M)=0.00040 \ 5; \ \alpha(N+)=0.000125 \ 15$		
		1487.78 25	35 5	2696.71 7-	(M1+E2)	<0.71	0.0060 6	$\begin{aligned} \alpha(N) &= 0.000102 \ 12; \ \alpha(O) &= 2.03 \times 10^{-5} \ 24; \ \alpha(P) &= 2.2 \times 10^{-6} \ 3\\ \alpha(K) &= 0.0049 \ 5; \ \alpha(L) &= 0.00080 \ 8; \ \alpha(M) &= 0.000185 \ 17; \\ \alpha(N+) &= 0.000153 \ 13\\ \alpha(N) &= 4.7 \times 10^{-5} \ 5; \ \alpha(O) &= 9.4 \times 10^{-6} \ 9; \ \alpha(P) &= 1.01 \times 10^{-6} \ 10; \end{aligned}$		
		1749.82 25	49 8	2434.24 6-	(E2+M1)	>1.2	0.0029 5	α (IPF)=9.6×10 ⁻⁵ 8 α (K)=0.0022 4; α (L)=0.00037 6; α (M)=8.6×10 ⁻⁵ 13;		
					()			$\alpha(N+)=0.00020 \ 3$ $\alpha(N)=2.2\times10^{-5} \ 4; \ \alpha(O)=4.3\times10^{-6} \ 7; \ \alpha(P)=4.6\times10^{-7} \ 7;$ $\alpha(P)=0.000176 \ 22$		
		1778.45 20	46 5	2405.27 7-	M1(+E2)	<1.6	0.0037 7	$\alpha(\text{IF}) = 0.00017022$ $\alpha(\text{K}) = 0.0028 \ 6; \ \alpha(\text{L}) = 0.00046 \ 9; \ \alpha(\text{M}) = 0.000108 \ 21;$ $\alpha(\text{N}+) = 0.00027 \ 5$ $\alpha(\text{N}) = 2.7 \times 10^{-5} \ 6; \ \alpha(\text{O}) = 5.4 \times 10^{-6} \ 11; \ \alpha(\text{P}) = 5.8 \times 10^{-7} \ 12;$		
		1925.80 <i>6</i>	100 8	2258.15 5-	M1+E2	<2.3	0.0031 7	$\alpha(\text{IPF})=0.00024 \ 4$ $\alpha(\text{K})=0.0023 \ 5; \ \alpha(\text{L})=0.00037 \ 8; \ \alpha(\text{M})=8.6\times10^{-5} \ 19; \ \alpha(\text{N}+)=0.00034 \ 7$ $\alpha(\text{N})=2.2\times10^{-5} \ 5; \ \alpha(\text{O})=4.4\times10^{-6} \ 10; \ \alpha(\text{P})=4.7\times10^{-7} \ 11; \ (\text{P})=4.7\times10^{-7} \ 11; \ ($		
4229.81?	(5,6)	1891.37 20	100 10	$2338.44 (4)^{-}$ 1274 13 4 ⁺				$\alpha(1PF)=0.00032$ /		
4244.01?	(5,6+)	461.70 <i>15</i> 2680.9 <i>5</i>	32 6 100 <i>13</i>	$3782.28 5^{-}$ $1563.42 4^{+}$						
4250.24	(5,6+)	2183.7 <i>5</i> 2686.82 <i>10</i>	12 <i>3</i> 100 <i>15</i>	2065.33 5 ⁺ 1563.42 4 ⁺						
4286.12	6-	2976.9 5 1589.42 <i>12</i>	6 3 100 <i>12</i>	1274.13 4 ⁺ 2696.71 7 ⁻	M1(+E2)	<0.43	0.00540 23	α (K)=0.00433 <i>19</i> ; α (L)=0.00071 <i>3</i> ; α (M)=0.000164 <i>7</i> ; α (N+)=0.000205 <i>8</i>		
								$\alpha(N)=4.17 \times 10^{-5} \ 17; \ \alpha(O)=8.3 \times 10^{-6} \ 4; \ \alpha(P)=9.0 \times 10^{-7} \ 4; \ \alpha(IPF)=0.000154 \ 6$		
		2028.1 4	36 4	2258.15 5-	E2(+M1)	>0.39	0.0026 6	$\alpha(K)=0.00195; \alpha(L)=0.000307; \alpha(M)=7.1\times10^{-5}16; \alpha(N+)=0.000389$		
		3011.4.5	6.2	1274.13 4+				$\alpha(\text{N})=1.8\times10^{-4}$; $\alpha(\text{O})=3.6\times10^{-6}$ 8; $\alpha(\text{P})=3.8\times10^{-6}$ 9; $\alpha(\text{IPF})=0.00035$ 8		
4302.0	15+	167.2 ^{<i>a</i>} 2	100 ^a	4134.8 14+	M1(+E2) ^{<i>a</i>}	0.00 ^{<i>a</i>} 4	2.17 4	$\alpha(K)=1.77$ 3; $\alpha(L)=0.305$ 5; $\alpha(M)=0.0715$ 11; $\alpha(N+)=0.0222$ 4		
4379.05	2+	4379.0 2	100	0.0 0+	E2		0.001691 24	$\begin{aligned} &\alpha(\mathbf{N}) = 0.0182 \ 3; \ \alpha(\mathbf{O}) = 0.00362 \ 6; \ \alpha(\mathbf{P}) = 0.000387 \ 6 \\ &\alpha(\mathbf{K}) = 0.000368 \ 6; \ \alpha(\mathbf{L}) = 5.58 \times 10^{-5} \ 8; \ \alpha(\mathbf{M}) = 1.285 \times 10^{-5} \ 18; \\ &\alpha(\mathbf{N}+) = 0.001254 \ 1 \\ &\alpha(\mathbf{N}) = 3.26 \times 10^{-6} \ 5; \ \alpha(\mathbf{O}) = 6.51 \times 10^{-7} \ 10; \ \alpha(\mathbf{P}) = 7.02 \times 10^{-8} \ 10; \end{aligned}$		

From ENSDF

 $^{204}_{82} Pb_{122}\text{--}25$

						Adopted	Levels, Gam	mas (continue	<u>d)</u>	
γ ⁽²⁰⁴ Pb) (continued)										
E _i (level)	\mathbf{J}_i^{π}	${\rm E_{\gamma}}^{\ddagger}$	Ι _γ ‡#	E_f	\mathbf{J}_f^{π}	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments	
									α(IPF)=0.001250 18	
			100		0.±	~			B(E2)(W.u.)=1.23 13	
4596.2	1	4596.1 8	100	0.0	0^+	D	0.40.0	0.064.7		
4887.7	16'	585.7 ⁴ 2	804 4	4302.0	15'	M1+E2 ^a	0.44 2	0.064 7	$\alpha(K)=0.052\ 6;\ \alpha(L)=0.0090\ 8;\ \alpha(M)=0.00211\ 1/;$ $\alpha(N+)=0.00065\ 6$	
		550 0 0	1000 5	11210	1.4+	500		0.01150	α (N)=0.00054 5; α (O)=0.000107 9; α (P)=1.13×10 ⁻⁵ 11	
		752.94 2	1004 5	4134.8	14'	E2 ^{ee}		0.01179	$\alpha(K)=0.00909\ 13;\ \alpha(L)=0.00205\ 3;\ \alpha(M)=0.000496\ 7;$ $\alpha(N+)=0.0001520\ 22$	
									α (N)=0.0001256 18; α (O)=2.43×10 ⁻⁵ 4; α (P)=2.19×10 ⁻⁶ 3	
4922.1	1	4922.0 <i>3</i>	100	0.0	0^{+}	D				
4933.2	1	4933.1 <i>3</i>	100	0.0	0^{+}	D				
4980.37	1	4980.3 2	100	0.0	0^{+}	D				
5012.0	1	5011.9 <i>3</i>	100	0.0	0^{+}	D				
5283.2	$(1,2^{+})$	5283.1 5	100	0.0	0+		a			
5348.7	16+	1046.7 ^{<i>u</i>} 2	100 ^{<i>a</i>} 5	4302.0	15+	$M1(+E2)^{a}$	-0.07^{a} 4	0.01577 24	$\alpha(K)=0.01298 \ 19; \ \alpha(L)=0.00214 \ 4; \ \alpha(M)=0.000499 \ 8; \ \alpha(N+)=0.0001546 \ 23$	
		1214.0 ^{<i>a</i>} 3	7.7 ^a 14	4134.8	14+	E2(+M3) ^a	-0.2^{a} 1	0.0062 19	$\alpha(N)=0.0001266 \ 19; \ \alpha(O)=2.53\times10^{-5} \ 4; \ \alpha(P)=2.72\times10^{-6} \ 4 \\ \alpha(K)=0.0050 \ 15; \ \alpha(L)=0.0009 \ 3; \ \alpha(M)=0.00022 \ 8; \\ \alpha(N+)=7.4\times10^{-5} \ 23 \\ (N)=5.71\times10^{-5} \ 10 \ (O)=1.1\times10^{-5} \ 4 \ (D)=1.1\times10^{-6} \ 4 \\ (D)=5.71\times10^{-5} \ 10 \ (D)=1.1\times10^{-6} \ 4 \\ (D)=5.71\times10^{-5} \ 10 \ (D)=1.1\times10^{-6} \ 4 \\ (D)=5.71\times10^{-5} \ 10 \ (D)=1.1\times10^{-6} \ 4 \\ (D)=5.71\times10^{-6} \ 10 \ (D)=1.1\times10^{-6} \ (D)=1.1$	
									$\alpha(N)=5.7\times10^{-5}$ 19; $\alpha(O)=1.1\times10^{-5}$ 4; $\alpha(P)=1.1\times10^{-5}$ 4; $\alpha(IDE)=4.01\times10^{-6}$ 22	
5265 0	$(1, 2^+)$	5265 9 6	100	0.0	0^+				$\alpha(\text{IPF})=4.91\times10^{-2}22$	
5308.8	(1,2)	5308.7.5	100	0.0	0+	D				
5610.3	$(1 2^+)$	5610.2.9	100	0.0	0^{+}	D				
5664 5	(1,2) 17^{-}	$315.9^{a}.2$	100^{a} 5	5348 7	16^{+}	F1 ^{<i>a</i>}		0.0262	$\alpha(K) = 0.0215$ 3: $\alpha(L) = 0.00361$ 5: $\alpha(M) = 0.000843$ 12:	
5001.5	17	515.9 2	100 5	5510.7	10			0.0202	$\alpha(N) = 0.000584$ $\alpha(N+) = 0.0002584$	
		776.7 ^a 2	41.5 ^a 23	4887.7	16+	(E1) ^{<i>a</i>}		0.00399.6	$\alpha(N)=0.000213 3; \alpha(O)=4.13\times10^{-6} 6; \alpha(P)=3.86\times10^{-6} 6$ $\alpha(K)=0.00332 5; \alpha(L)=0.000514 8; \alpha(M)=0.0001189 17;$	
		110.1 2	11.5 25	1007.1	10	(21)		0.00577 0	$a(N+)=3.66\times10^{-5} 6$	
									$\alpha(N)=3.01\times10^{-5} 5; \alpha(O)=5.94\times10^{-6} 9; \alpha(P)=6.04\times10^{-7} 9$	
5675.0	$(1,2^+)$	5674.9 12	100	0.0	0^{+}	_				
5776.7	1	5776.64	100	0.0	0^+	D				
5795.6	1	5795.5 6	100	0.0	0^{+}	D				
5811.4	1	4912.1	100 33	899.165	2 · 0+	D				
5070 1	1	3811.3 3 5929 2 2	0/ 33	0.0	0+	U U			I_{γ} : Lower limit, assuming no other decay branches.	
J020.4 5020 5	1	J020.J J 5020 / /	100	0.0	0+	U D				
2020.2 5877 0	$(1 2^+)$	5877 8 K	100	0.0	0+	D				
5800 7	$(1,2^+)$	5800 6 5	100	0.0	0+					
5943.9	(1,2) $(1,2^+)$	5044 6	30 30	899 165	2+				L. Unner limit assuming no other decay branches	
0110.1	(1,2)	2011.0	50 50	077.105	-				ry. opper mint, assuming no other decay branches.	

l

Adopted Levels, Gammas (continued)												
γ ⁽²⁰⁴ Pb) (continued)												
E_i (level)	\mathbf{J}_i^{π}	E _γ ‡	$I_{\gamma}^{\ddagger \#}$	E_f	\mathbf{J}_{f}^{π}	Mult. [‡]	δ^{\ddagger}	α^{\dagger}	Comments			
5943.9	$(1,2^+)$	5943.8 12	100 30	0.0	0^{+}							
5967.7	1	5967.6 5	100	0.0	0^{+}	D						
5981.3	1	5981.2 <i>3</i>	100	0.0	0^{+}	D						
5998.4	$(1,2^+)$	5998.3 8	100	0.0	0^{+}							
6008.8	1	6008.7 7	100	0.0	0^{+}	D						
6020.2	1	6020.1 6	100	0.0	0^{+}	D						
6054.1	1	6054.0 15	100	0.0	0^{+}	D						
6066.9	1	6066.8 8	100	0.0	0^{+}	D						
6073.0	17	1185.3 ^{<i>a</i>} 2	100 ^a	4887.7	16^{+}	D^{a}						
6074.3	1	6074.2 11	100	0.0	0^{+}	D						
6084.5	$(1,2^{+})$	6084.4 8	100	0.0	0^{+}	_						
6098.2	19-	433.7 ^{<i>a</i>} 2	100 ^{<i>a</i>}	5664.5	17-	E2 ^a		0.0418	α (K)=0.0282 4; α (L)=0.01023 15; α (M)=0.00257 4; α (N+)=0.000780 11			
									$\alpha(N)=0.000650 \ 10; \ \alpha(O)=0.0001218 \ 18; \ \alpha(P)=8.93\times10^{-6} \ 13$			
6105.0	(1.2^{+})	5205.8	100 30	899.165	2+							
	())	6105.0 20	60 30	0.0	0^{+}				I_{α} : Lower limit, assuming no other decay branches.			
6148.4	1	6148.3 5	100	0.0	0^{+}	D			,			
6161.3	$(1,2^{+})$	6161.2 6	100	0.0	0^{+}							
6194.5	1	6194.4 8	100	0.0	0^{+}	D						
6210.1	$(1,2^+)$	6210.0 6	100	0.0	0^{+}							
6229.2	$(1,2^+)$	6229.1 20	100	0.0	0^{+}							
6254.4	1	6254.3 6	100	0.0	0^{+}	D						
6277.1	1	6277.0 9	100	0.0	0^{+}	D						
6323.0	1	6322.9 5	100	0.0	0^{+}	D						
6410.9?	1	6410.9 <mark>b</mark> 6	100	0.0	0^+	D						
6419.6?	$(1,2^+)$	6419.6 ^b 11	100	0.0	0^{+}							
6457.0	$(1,2^+)$	6456.9 9	100	0.0	0^{+}							
6469.3?	(1.2^{+})	6469.3 ^b 7	100	0.0	0^{+}							
7402.3	(20)	1304.1 ^a 2	100 ^a	6098.2	19-	$D+O^{a}$	0.05^{a} 2					
7849.4	(21)	447.1 ^{<i>a</i>} 2	100 ^a	7402.3	(20)	$D+O^a$	-0.05^{a} 8					
8126.1	(22)	276.7 ^{<i>a</i>} 3	100 ^a	7849.4	(21)	D^a	a					

[†] Additional information 2. [‡] From ²⁰⁴Bi ε decay for E(level) below 4.3 MeV and (γ, γ') above, except as noted. [#] I γ 's shown as approx are from $(n,n'\gamma)$ where uncertainties were not reported.

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^{*a*} From $(\alpha, 4n\gamma)$. ^{*b*} Placement of transition in the level scheme is uncertain.

 $^{204}_{82} Pb_{122}\text{--}27$

[@] From $(n,n'\gamma)$.

[&] From (γ, γ') .

Adopted Levels, Gammas



Legend





₈₂ P0₁₂₂



 $^{204}_{\ 82} Pb_{122}$





 $^{204}_{82} Pb_{122}\text{--}31$

 $^{204}_{82} Pb_{122}\text{--}31$

From ENSDF



 $^{204}_{82} Pb_{122}\text{--}32$

 $^{204}_{82} Pb_{122}\text{--}32$

From ENSDF





 $^{204}_{\ 82} Pb_{122}$



 $^{204}_{82} Pb_{122}\text{--}35$

 $^{204}_{82} Pb_{122}\text{--}35$

From ENSDF