$\begin{array}{c c c c c c c c c c c c c c c c c c c $			т	A (1	History	
Full Evaluation F. G. Kondev NDS 177, 307, 2021 4-00-2021 Q(β^{-})=-4214 14; S(n)=5845 19; S(p)=2873 13; Q(α)=4110 30 2021Wa16 203 Bi Levels Coss Reference (XREF) Flags A 200 Bi IT decay p 201 T(14E,3ny) C 207 At α decay F 207 T(14E,3ny) C 207 At α decay F 198 P(110,6ny) C 2003 7; μ =399 J3 F(100 Colspan="2") At α decay (J=100,000,000,000,000,000,000,000,000,000			Type	Author	Citation	Literature Cutoff Date
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		Fi	ill Evaluation	F. G. Kond	lev NDS 177, 509, 2021	4-Jul-2021
$\frac{2^{30} \text{Bi Levels}}{2}$ $\frac{4}{2^{30} \text{Bi I}} \text{IT decay} D 2^{30} \text{Ti}(3^{3}\text{He}_{3}\text{ny}) \\ B 2^{30} \text{For } decay E 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay F 2^{30} \text{Ti}(1^{3}\text{He}_{3}\text{ny}) \\ C 2^{37} \text{At } a \ decay C 2^{37} \text{At } a \ decay C 2^{37} \text{At } a \ decay C^{37} \text{At } a $	$Q(\beta^{-}) = -4214 I_{-}^{2}$	4; S(n)=8845 <i>19</i> ;	S(p)=2873 13;	Q(α)=4110	<i>30</i> 2021Wa16	
$\frac{Cross Reference (XREF) Flags}{A} = \frac{203}{203} \text{Bi IT decay D} = \frac{203}{203} \text{Ti}(^{2}\text{He},3ny) \\ B = \frac{203}{203} \text{Po } decay E = \frac{203}{203} \text{Ti}(^{2}\text{He},3ny) \\ C = 207 \text{At } \alpha \ decay F = \frac{198}{198} \text{Pi}(^{11}\text{B},6ny) \\ C = \frac{207}{2} \text{Ti} (\alpha \ decay F = \frac{198}{198} \text{Pi}(^{11}\text{B},6ny) \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{198}{198} \text{Pi}(^{11}\text{B},6ny) \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{198}{198} \text{Pi}(^{11}\text{B},6ny) \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{198}{198} \text{Pi}(^{11}\text{B},6ny) \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{Comments} \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{Comments} \\ C = \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{C}) \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{C}) \frac{100}{2} \text{Ti}(\alpha \ decay F = \frac{100}{100} \text{Ti}) \frac{100}{100} \text{C}) \frac{100}{2} \text{Ti} (100) \frac{100}{10} \text{Ti}) \frac{100}{10} \text{Ti} 0 \text{Ti})$					²⁰³ Bi Levels	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				Cros	ss Reference (XREF) Flags	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				A $203Bi$ B $203Pc$	IT decay D 203 Tl(3 He	$(e,3n\gamma)$
E(level) $J^{\#\#}$ $T_{1/2}$ XREFComments09/2 ⁻ 11.76 h.5ABCDE $\% e^+\% \beta^+ = 100$ $Q_= -0.93$ 7; $\mu = 3.999$ 13 P_1 atomic beam (1995)(150), π from μ . $T_{1/2}$: From 1960\$21. Others: 11.5 h 10 (1958Fr53), 12.3 h 7 				C 207 At	α decay F ¹⁹⁸ Pt(¹¹ B	β,6ηγ)
0 ⁶ 9/2 ⁻ 11.76 h 5 ABCDE %ε+%β ⁴ =100 Q=-0.93 7; μ=+3.99 J 3 P ² : atomic beam (1959[L50), π from μ. T _{1/2} : From 1960St21. Others: 11.5 h 0 (1958Fr53), 12.3 h 7 (1956St05) and 12 h 17 h 10 (1958Fr53), 12.3 h 7 (1956St05) and 12 h 17 h 10 (1958Fr53), 12.3 h 7 (1956St05) and 12 h 17 h 10 (1958Fr53), 12.3 h 7 (1956St05) and 12 h 17 h 10 (1958Fr53), 12.3 h 7 (1956St05) and 12 h 17 h 10 (1958Fr53), 12.3 h 7 (1956St02) and 12 h 1957C11. B DE P ² : 883.49 M1+E2 to 9/2 ⁻ ; no direct feeding in ²⁰³ Po ε decay (P [±] =5/2 ⁻). P38.73 ^k 7 7/2 ⁻ AB D P ² : 908.69 M1+E2 to 9/2 ⁻ ; no direct feeding in ²⁰³ Po ε decay (P [±] =5/2 ⁻). P39.53 ^k 8 5/2 ⁻ AB D P ² : 908.69 M1+E2 to 9/2 ⁻ ; direct feeding in ²⁰³ Po ε decay (P [±] =5/2 ⁻). P39.53 ^k 8 13 13/2 ⁻ DE P ² : 932.59 E2 to 9/2 ⁻ ; no direct feeding in ²⁰³ Po ε decay (P [±] =5/2 ⁻). P39.73 ^k 7 7/2 ⁻ AB D P ² : 1908.69 M1+E2 to 9/2 ⁻ . P30.73 ^k 7 12/- P109.99 ^b 7 7/2 ⁻ B D P ² : 19174 M1+E2 to 5/2 ⁻ . 1090.99 M1+E2 to 9/2 ⁻ . P ² : 189.59 E3 to 7/2 ⁻ ; 204.79 M1+E2 to 9/2 ⁻ . P ³ : 189.59; E3 to 7/2 ⁻ ; 204.79 M1+E2 to 9/2 ⁻ . P ³ : 189.59; E3 to 7/2 ⁻ ; 204.79 M1+E2 to 9/2 ⁻ . P ³ : 189.59; E3 to 7/2 ⁻ ; 204.79 M2(+E3) to 5/2 ⁻ . T _{1/2} : Weighted average of 311 ms 13 (189.59(t)); 320 ms 50 (204.79(t)); 200 ms 30 (893.59(t)) and 304 ms 5 (908.69(t)) in 1984L0.6. configuration=π(h ₂₀) ^{2⁺¹} (89(5 ⁻) (1984L0.61). configuration=π(h ₂₀) ^{2⁺¹} (89(5 ⁻) (1984L0.61). p ³³ T1(² He,3ny). 1231.4 ⁴ 9/2 ⁻ D P ^{2⁻} : 140.29 M1+E2 to 7/2 ⁻ ; 240.47 M1+E2 to 11/2 ⁻ . 1247.85 ⁴ 21 13/2 ⁻ D P ^{2⁻} : 140.29 M1+E2 to 7/2 ⁻ ; 348.29 M1 te 2/2 ⁻ was assigned in ²⁰³³ T1(² He,3ny). 1231.4 ⁴ 9/2 ⁻ D P ^{2⁻} : 112.75 M1(+E2) to 9/2 ⁻ . 1248.5 ⁴ 9 3/2 ⁺ 410 ps 30 B D P ² : 172.57 M1(+E2) to 9/2 ⁻ . T _{1/2} : From 175cc(K)-215cc(K)(21 in ²⁰³ Po ε decay (1986Be07). T _{1/2} : From 175cc(K)-215cc(K)(21 in ²⁰³ Po ε decay (1986Be07). T _{1/2} : From 175cc(K)-215cc(K)(21 in ²⁰³ Po ε decay (1986Be07). T _{1/2} : From 175cc(K)=215cc(K)(21 in ²⁰³ Po ε decay (1986Be07). T _{1/2} : From 17	E(level) [†]	J ^{##}	T _{1/2}	XREF		Comments
$\begin{array}{cccc} Q=-0.93 & 7; \mu=+3.999 & 13 \\ F: \mbox{ atomic beam (1959Li50), r from } \mu, \\ T_{1/2}: From 1960St21. Others: 11.5 h / 0 (195SF53), 12.3 h 7 \\ (1956St05) \mbox{ and } 2h h / (1950Ne77), \\ \mu: Recommended in 2019St2V, \\ \mu=+4.017 & 13 in 1996Ca02 using the gas cell laser spectroscopy technique. (2001Bi23,2016St14); \\ Others: -0.67 7 (1996Ca02) \mbox{ ad } -0.68 6 (1959Li50), \\ 6 (203,209)=2.77 7 in relative units (1959Ca11), \\ 6 (203,209)=2.77 7 in relative units (1959Ca11), \\ 883.45 & 8 & 5/2^- \\ 993.54 & 8 & 5/2^- \\ 998.73 & 7 & 7/2^- \\ 998.73 & 7 & 7/2^- \\ 998.73 & 7 & 7/2^- \\ 998.73 & 7 & 7/2^- \\ 998.73 & 13/2^- \\ 1098.21 & 9 & 1/2^+ \\ 305 \ ms 5 & AB \\ D & F: 932.57 \ E2 to 9/2^-; no direct feeding in ^{203} Po \varepsilon decay (I^{\pi}=5/2^-), \\ F: 197.57 & 1000.99 & 7 & 7/2^- \\ 1098.21 & 9 & 1/2^+ \\ 305 \ ms 5 & AB \\ D & F: 197.4 \ M1+E2 \ to 5/2^-, 1090.99 \ M1+E2 \ to 9/2^-, \\ 1098.21 & 9 & 1/2^+ \\ 305 \ ms 5 & AB \\ D & F: 197.4 \ M1+E2 \ to 5/2^-, 1090.99 \ M1+E2 \ to 9/2^-, \\ T_{1/2}'' & 305 \ ms 5 & AB \\ D & F: 197.4 \ M1+E2 \ to 5/2^-, 1090.99 \ M1+E2 \ to 9/2^-, \\ T_{1/2}'' & 305 \ ms 5 & AB \\ D & F: 197.4 \ M1+E2 \ to 5/2^-, 1090.99 \ M1+E2 \ to 9/2^-, \\ 1098.21 & 9 & 1/2^+ \\ 305 \ ms 5 & AB \\ D & F: 197.4 \ M1+E2 \ to 7/2^-; 204.7 \ M2(+E3) \ to 5/2^-, \\ T_{1/2}'' \ Wighted average of 311 \ ms .3 \ (189.57(01), 320 \ ms 50 \ (204.77(01), 290 \ ms 30 \ (893.57(1)) \ and 304 \ ms 5 \ (908.67(1)) \ in 1984Lo16. \\ configuration=\pi(f_{1/2})^{-1} \ b M(E100) \ T^-, \\ 1247.83^{2} \ 21 \ 15/2^- \ D \\ F: 140.27 \ M1+E2 \ to 7/2^-; 348.27 \ M1+E2 \ to 1/2^-, \\ 1247.83^{2} \ 21 \ 15/2^- \ D \\ F: 140.27 \ M1+E2 \ to 7/2^-; 348.27 \ M1+E2 \ to 1/2^-, \\ 1248.53^{2} \ 21 \ 15/2^- \ D \\ F: 175.27 \ M1(+E2) \ to 7/2^-; 348.27 \ M1+E2 \ to 1/2^-, \\ 1248.53^{2} \ 21 \ 15/2^- \ D \\ F: 175.27 \ M1(+E2) \ to 7/2^-; 348.27 \ M1+E2 \ to 1/2^-, \\ 1248.53^{2} \ 21 \ 15/2^- \ D \\ F: 175.27 \ M1(+E2) \ to 7/2^-; 348.27 \ M1+E2 \ to 1/2^-, \\ 1248.53^{2} \ 21 \ 15/2^- \ D \\ F: 175.27 \ M1(+E2) \ to 7/2^-; 348.27 \$	0@	9/2-	11.76 h 5	ABCDE	$\% \varepsilon + \% \beta^+ = 100$	
$ \begin{array}{cccc} F & addite (1959) L2019, A 1001 \mu.\\ T_{1/2}: From 19603221. Others: 11.5 h 10 (1958Fr53), 12.3 h 7 \\ (1956505) and 12 h (19500477),\\ \mu: Recommended in 2019StZV, \mu=+4.017 13 in 1996Ca02 using the gas cell laser spectroscopy technique (2001Bi23,2016St14);\\ Others: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca11),\\ 0~chers: -0.67 7 (1996Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca02) and -0.68 6 (1959L150),\\ 6(203,209=2.77 7 in relative units (1995Ca02) and -0.68 6 (1959L150),\\ 0~chers: -0.67 7 (127 B D F: 197.49 M1+E2 to 9/2^-; no direct feeding in 203Po s decay (J#=5/2^-),\\ 1098.21 9 1/2^{4} 305 ms 5 AB D F. 197.59 M1 (+E2 to 7/2, 204.79 M2(+E3) to 5/2^-,\\ T_{1/2}: Weighted average of 311 ms J3 (189.59 (t0), 320 ms 50 (204.79 (t0), 200 ms 30 (893.59 (t0)) and 304 ms 5 (908.69 (t0)) in 1984L016,\\ configuration=\pi(h_{2/2})^{1}(495.7) (1984L016),\\ 1123.72 8 (7/2)^{-} B D F^{2}: 124.89 M1+E2 to 7/2^{-}, 204.79 (E2) to 11/2^{-}, strong direct feeding in 203Po s decay (J#=5/2^{-}). Note, that J#=9/2^{-} was assigned in 203Po s decay (J#=5/2^{-}). Note, that J#=9/2^{-} was assigned in 203Po s decay (J#=5/2^{-}). Note, that J#=9/2^{-} was assigned in 203Po s decay (J#=5/2^{-}). Note, that J#=9/2^{-} was assigned in 203Po s decay (J#=5/2^{-}). Note, that $					Q=-0.93 7; μ =+3.999 13	(0) π from $($
$\begin{array}{cccc} & (1956305) \text{ and } 12 \text{ h} I (1950\text{ Net} 7), & (1) & (2) &$					$T_{1/2}$: From 1960St21. Oth	hers: 11.5 h 10 (1958Fr53), 12.3 h 7
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					(1956St05) and 12 h 1	(1950Ne77).
$\begin{array}{cccc} & {\rm Cell raser spectroscopy technique (2001Bi23,2016St14);}\\ & {\rm Others: -0.67\ 7\ (1996Ca20)\ and -0.68\ 6\ (19591.50),}\\ & \delta < r^2 > (203,209) = 2.77\ 7\ in relative units\ (1995Ca11),}\\ & 883.35^{\frac{6}{6}}\ 16\ 11/2^{-} & {\rm B}\ {\rm DE} & J^{\rm F}\ 883.4y\ {\rm M1} + {\rm E2}\ to\ 9/2^{-}\ in\ otirect\ feeding\ in\ ^{203}{\rm Po\ e\ decay\ }\ (J^{\pi}=5/2^{-}),}\\ & 908.73^{\frac{6}{6}}\ 7\ 7/2^{-} & {\rm AB}\ {\rm D} & J^{\pi}\ 893.5y\ {\rm E2}\ to\ 9/2^{-}\ in\ otirect\ feeding\ in\ ^{203}{\rm Po\ e\ decay\ }\ (J^{\pi}=5/2^{-}),}\\ & 908.73^{\frac{6}{6}}\ 7\ 7/2^{-} & {\rm AB}\ {\rm D} & J^{\pi}\ 893.5y\ {\rm E2}\ to\ 9/2^{-}\ in\ otirect\ feeding\ in\ ^{203}{\rm Po\ e\ decay\ }\ (J^{\pi}=5/2^{-}),}\\ & 1090.99^{\frac{6}{7}\ 7\ 7/2^{-} & {\rm AB}\ {\rm D} & J^{\pi}\ 932.5y\ {\rm E2}\ to\ 9/2^{-}\ 1000\ 9y\ {\rm M1} + {\rm E2}\ to\ 9/2^{-},\\ & 1098.21\ 9\ 1/2^{+}\ 305\ {\rm ms\ 5}\ {\rm AB}\ {\rm D} & J^{\pi}\ 193.5y\ {\rm E1}\ to\ 9/2^{-}\ 1000\ 9y\ {\rm M1} + {\rm E2}\ to\ 9/2^{-},\\ & 1098.21\ 9\ 1/2^{+}\ 305\ {\rm ms\ 5}\ {\rm AB}\ {\rm D} & J^{\pi}\ 193.5y\ {\rm E1}\ to\ 7/2^{-}\ 1000\ 9y\ {\rm M1} + {\rm E2}\ to\ 9/2^{-},\\ & 1098.21\ 9\ 1/2^{+}\ 305\ {\rm ms\ 5}\ {\rm AB}\ {\rm D} & J^{\pi}\ 193.5y\ {\rm E1}\ to\ 7/2^{-}\ 1000\ 9y\ {\rm M1} + {\rm E2}\ to\ 9/2^{-},\\ & 1098.21\ 9\ 1/2^{+}\ 305\ {\rm ms\ 5}\ {\rm MB}\ {\rm D} & J^{\pi}\ 193.5y\ {\rm E1}\ to\ 7/2^{-}\ 1000\ 9y\ {\rm M1}\ {\rm H2}\ to\ 9/2^{-},\\ & 1123.72\ 8\ (7/2)^{-}\ {\rm B}\ {\rm D} & J^{\pi}\ 124.4y\ {\rm M1}\ {\rm H2}\ {\rm to\ 7/2}^{-}\ 204.7y\ {\rm M2}\ {\rm (E2)\ to\ 11/2^{-}\ 1yt\ {\rm ms\ mall\ a\ admixtures\ 6\ configuration\ \pi(\pi_{1/2})^{+1}\ 9y(3\ 3\)\ and\ configura\ 1032^{-}\ 324.4y\ 10\ 1/2^{-}\ 124.4x\ 33^{2}\ $					μ : Recommended in 2019	StZV. μ =+4.017 13 in 1996Ca02 using the gas
Others: $-0.67 7$ (1996Ca02) and -0.68δ (1959Li50). $\delta < r^2 > (203, 209) = 2.77 7$ in relative units (1995Ca11). 883.35 $\ensuremath{^{\circ}}$ / 6 11/2 ⁻ B B D $\beta < r^2 > (203, 209) = 2.77 7$ in relative units (1995Ca11). 893.53 $\ensuremath{^{\circ}}$ $\ensuremath{^{\circ}}$ / 7 / 7 / 7 893.53 $\ensuremath{^{\circ}}$ $\ensuremath{^{\circ}}$ / 7 / 7 / 7 B D $\beta < r^2 > (203, 209) = 2.77 7$ in relative units (1995Ca11). 908.73 $\ensuremath{^{\circ}}$ 7 / 7 / 7 908.73 $\ensuremath{^{\circ}}$ 7 / 7 / 7 B D $\beta < r^2 > 932.53 \ensuremath{^{\circ}}$ / 8 1090.99 $\ensuremath{^{\circ}}$ 7 / 7 / 2 B D $\beta < r^2 > 932.53 \ensuremath{^{\circ}}$ / 109.57 / 1090.97 M1+E2 to 9/2 ⁻ . 1098.21 9 1/2 ⁺ 305 ms 5 AB D $\ensuremath{^{\circ}}$ / 197.4 M1+E2 to 5/2 ⁻ . T1/2 ⁺ 305 ms 5 AB D $\ensuremath{^{\circ}}$ / 198.5 y E3 to 7/2 ⁻ . 1098.21 9 1/2 ⁺ 305 ms 5 AB D $\ensuremath{^{\circ}}$ / 187.5 X E3 to 7/2 ⁻ . 1123.72 8 (7/2) ⁻ B					O: using gas cell laser spe	ectroscopy technique (2001Bi23.2016St14):
$ \begin{split} \delta < r^{2} < (203,209) = 2.77 7 \text{ in relative units (1995Ca11).} \\ 883.35^{\&} 16 & 11/2^{-} \\ 8 \text{ B} & D \\ J^{\pi} : 883.4y \text{ M1+E2 to 9/2^{-}; no direct feeding in $^{203} \text{Po ε decay } (J^{\pi} = 5/2^{-}). \\ 908.73^{\&} 7 & 7/2^{-} \\ 908.73^{\&} 7 & 7/2^{-} \\ 932.53^{\&} 18 & 13/2^{-} \\ 1090.99^{b} 7 & 7/2^{-} \\ 1098.21 9 \\ 1/2^{+} \\ 305 \text{ ms } 5 \\ \textbf{M} & D \\ J^{\pi} : 932.5y \text{ E2 to } 9/2^{-}; no direct feeding in $^{203} \text{Po ε decay } (J^{\pi} = 5/2^{-}). \\ 1098.21 9 \\ 1/2^{+} \\ 305 \text{ ms } 5 \\ \textbf{M} & D \\ J^{\pi} : 197.4y \text{ M1+E2 to } 9/2^{-}; no direct feeding in $^{203} \text{Po ε decay } (J^{\pi} = 5/2^{-}). \\ 1098.21 9 \\ 1/2^{+} \\ 305 \text{ ms } 5 \\ \textbf{M} & D \\ J^{\pi} : 197.4y \text{ M1+E2 to } 5/2^{-}, 1090.9y \text{ M1+E2 to } 9/2^{-}. \\ T_{1/2} : \text{Weighted average of } 311 \text{ ms } 13 (189.5y(10), 320 \text{ ms } 50 (204.7y(10), 290 \text{ ms } 30 (893.5y(10) \text{ and } 304 \text{ ms } 5 (908.6y(10) \text{ in } 1984Lo16. \\ \text{configuration} = \pi(h_{7/2})^{+1} (9x(5^{-}) (1984Lo16)). \\ \text{configuration} = \pi(h_{7/2})^{+1} (9x(5^{-}) (1984Lo16)). \\ 1123.72 8 \\ (7/2)^{-} \\ \textbf{B} & D \\ J^{\pi} : 144.8y \text{ M1+E2 to } 7/2^{-}; 346.2y \text{ M1+E2 to } 11/2^{-}; \\ \text{strong direct feeding in $^{203} \text{ Po ε decay } (J^{\pi} = 5/2^{-}). \\ \text{Note, that } J^{\pi} = 9/2^{-} \text{ was assigned in } \\ 1231.4 4 \\ 9/2^{-} \\ 1247.85^{\&} 21 \\ 15/2^{-} \\ 1248.53^{\&} 21 \\ 13/2^{-} \\ 1248.53^{\&} 21 \\ 13/2^{-} \\ 127.16 \\ 19 \\ (7/2)^{-} \\ \textbf{B} & D \\ J^{\pi} : 140.2y \text{ M1+E2 to } 13/2^{-}; 346.4y \text{ to } 11/2^{-}. \\ 1248.53^{\&} 21 \\ 13/2^{-} \\ \textbf{D} \\ J^{\pi} : 186.5y \text{ M1(+E2) to } 7/2^{-}; 1277.5y \text{ M1(+E2) to } 9/2^{-}; direct feeding in $^{203} \text{ Po ε decay } (J^{\pi} = 5/2^{-}). \\ 1352.85 8 \\ 7/2^{-} \\ \textbf{B} & D \\ J^{\pi} : 201.8y \text{ M1+E2 to } 1/2^{-}; 1352.8y \text{ M1 to } 1/2^{-}. \\ 1408.9 6 \\ 13/2^{-} \\ 1408.9 6 \\ 13/2^{-} \\ \textbf{D} \\ J^{\pi} : 126.5y \text{ M1(+E2) to } 1/2^{-}. \\ \textbf{B} \\ J^{\pi} : 126.5y \text{ M1(+E2) to } 1/2^{-}. \\ \textbf{B} \\ J^{\pi} : 126.5y \text{ M1(+E2) to } 1/2^{-}. \\ \textbf{B} \\ J^{\pi} : 201.8y \text{ M1+E2 to } 1/2^{-}. \\ \textbf{B} \\ J^{\pi} : 201.8y \text{ M1+E2 to } 1/2^{-}. \\ \textbf{B} \\ $					Others: -0.67 7 (1996C	Ca02) and $-0.68 \ 6 \ (1959Li50)$.
883.35 ⁶ 16 11/2 ⁻ B DE J^{2} : 883.4y M1+E2 to 9/2 ⁻ ; no direct feeding in ²⁰³ Po ε decay $(J^{\pi}=5/2^{-})$. 893.54 ⁶ 8 5/2 ⁻ AB D J^{π} : 908.6y M1+E2 to 9/2 ⁻ . 908.73 ⁶ 7 7/2 ⁻ B D J^{π} : 908.6y M1+E2 to 9/2 ⁻ . 1003.90 ε decay $(J^{\pi}=5/2^{-})$. 1090.99 ^b 7 7/2 ⁻ B D J^{π} : 908.6y M1+E2 to 9/2 ⁻ . 1009.90 http://dist.org/d	8 -				$\delta < r^2 > (203, 209) = 2.77$ 7 in	relative units (1995Ca11).
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	883.35 ^{x} 16	11/2-		B DE	J^{π} : 883.4 γ M1+E2 to 9/2 ⁻ ($J^{\pi}=5/2^{-}$).	; no direct feeding in ²⁰³ Po ε decay
908.73 $\overset{6}{\times}$ 77/2 $^{-}$ ABD f^{7} : 908.6y M1+E2 to 9/2 $^{-}$.932.53 $\overset{8}{\times}$ 1813/2 $^{-}$ DE f^{7} : 932.5y E2 to 9/2 $^{-}$; no direct feeding in 203 Po ε decay (J^{π} =5/2 $^{-}$).1090.99 b 77/2 $^{-}$ BD J^{r} : 197.4y M1+E2 to 5/2 $^{-}$, 1090.9y M1+E2 to 9/2 $^{-}$.1098.21 91/2 $^{+}$ 305 ms 5ABD $\%$ IT=100 J^{r} : 189.5y E3 to 7/2 $^{-}$; 204.7y M2(+E3) to 5/2 $^{-}$. $T_{1/2}$: Weighted average of 311 ms 13 (189.5y(t)), 320 ms 50 (204.7y(t)), 290 ms 30 (893.5y(t)) and 304 ms 5 (908.6y(t)) in 1984Lo16.1123.72 8(7/2) $^{-}$ BD J^{r} : 214.8y M1+E2 to 7/2 $^{-}$, 240.4y (E2) to 11/2 $^{-}$; strong direct feeding in 203 Po ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 Po ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 Po ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$). Note, that J^{π} =9/2 $^{-}$ was assigned in 203 PO ε decay (J^{π} =5/2 $^{-}$).1231.4 49/2 $^{-}$ D J^{r} : 1(A.2y M1+E2 to 1/2 $^{-}$; 348.2y M1+E2 to 11/2 $^{-}$.1247.85d 2115/2 $^{-}$ D J^{r} : 1(A.9y M1+E2 to 1/2 $^{-}$; 348.2y M1+E2 to 11/2 $^{-}$.1248.53d 2115/	893.54 8	5/2-		AB D	J^{π} : 893.5 γ E2 to 9/2 ⁻ ; dir	ect feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$).
932.53% 18 $13/2^-$ DE $J^{\mu}: 932.5Y$ E2 to $9/2^-$; no direct feeding in 205 Po e decay $(J^{\mu}=5/2^-)$.1090.99 b 77/2 ⁻ BD $J^{\pi}: 197.4Y$ M1+E2 to $5/2^-$, 1090.9Y M1+E2 to $9/2^-$.1098.21 9 $1/2^+$ 305 ms 5ABD $J^{\pi}: 197.4Y$ M1+E2 to $5/2^-$, 1090.9Y M1+E2 to $9/2^-$.1098.21 9 $1/2^+$ 305 ms 5ABD $J^{\pi}: 189.5Y$ E3 to $7/2^-$; 204.7Y M2(+E3) to $5/2^-$. $T_{1/2}:$ Weighted average of 311 ms 13 (189.5y(t)), 320 ms 50(204.7y(t)), 290 ms 30 (893.5y(t)) and 304 ms 5 (908.6y(t)) in1984Lo16.configuration: Dominant (99.9%) configuration= $\pi(s_{1/2}^{+1})$ with small admixtures of configuration= $\pi(h_{2/2})^{+1} \otimes v(3^-)$ and1123.72 8 $(7/2)^-$ BD $J^{\pi}: 140.2Y$ M1+E2 to $7/2^-$, 240.4Y (E2) to 11/2 ⁻ , istrong direct feeding in 203 Po e decay $(J^{\pi}=5/2^-)$. Note, that $J^{\pi}=9/2^-$ was assigned in1231.4 49/2 ⁻ D $J^{\pi}: 140.2Y$ M1+E2 to $7/2^-$; 348.2Y M1+E2 to 11/2 ⁻ .1247.85 ^a 2113/2 ⁻ DE $J^{\pi}: 135.3Y$ M1+E2 to $13/2^-$; 348.2Y M1+E2 to $11/2^-$.1248.53 ^d 2113/2 ⁻ DE $J^{\pi}: 186.5Y$ M1(+E2) to $7/2^-$; 1277.5Y M1(+E2) to $9/2^-$; direct feeding in 203 Po e decay $(J^{\pi}=5/2^-)$.1298.9 5 $(7/2.9/2,11/2)^-$ D $J^{\pi}: 261.8Y$ M1+E2 to $1/2^-$; 149.3Y E1 to $5/2^-$.132.98 ^c 9 $3/2^+$ 410 ps 30B $J^{\pi}: 261.8Y$ M1+E2 to $7/2^-$; 1352.8Y M1 to $9/2^-$; direct feeding in 203 Po e decay $(J^{\pi}=5/2^-)$.1408.9 6 $13/2^-$ B $J^{\pi}: 161.0Y$ M1(+E2) to $7/2^-$; 1352.8Y M1 to $9/2^-$; direct feeding in 203 Po e	908.73 [°] 7	7/2-		AB D	J^{π} : 908.6 γ M1+E2 to 9/2	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	932.53 ^{&} 18	13/2-		DE	J^{π} : 932.5 γ E2 to 9/2 ⁻ ; no	direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$).
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1090.990 7	1/2 $1/2^+$	305 ms 5	B D AR D	J^{π} : 197.4 γ M1+E2 to 5/2 %IT=100	, 1090.9 γ M1+E2 to 9/2 .
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1090.21 9	1/2	505 113 5		J^{π} : 189.5 γ E3 to 7/2 ⁻ ; 20-	4.7 γ M2(+E3) to 5/2 ⁻ .
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					$T_{1/2}$: Weighted average of	f 311 ms 13 (189.5 γ (t)), 320 ms 50
$\begin{array}{c} \text{configuration: Dominant (99.9\%) configuration=\pi(s_{1/2}^{+1}) \text{ with small} \\ admixtures of configuration=\pi(h_{7/2})^{+1} \otimes v(3^{-}) \text{ and} \\ configuration=\pi(h_{9/2})^{+1} \otimes v(5^{-}) (1984\text{Lo16}). \\ 1123.72 & (7/2)^{-} & \text{B} \ D & J^{\pi}: 214.8\gamma \text{ M1}+\text{E2 to } 7/2^{-}, 240.4\gamma \text{ (E2) to } 11/2^{-}; \text{ strong direct feeding} \\ in ^{203}\text{Po } \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). \text{ Note, that } J^{\pi}=9/2^{-} \text{ was assigned in} \\ 203^{-}\text{Ti}(^{3}\text{He},3n\gamma). \\ 1241.85^{a} 21 & 15/2^{-} & \text{D} & J^{\pi}: 140.2\gamma \text{ M1}+\text{E2 to } 7/2^{-}; 348.2\gamma \text{ M1}+\text{E2 to } 11/2^{-}. \\ 1248.53^{a} 21 & 13/2^{-} & \text{DE} & J^{\pi}: 315.3\gamma \text{ M1}+\text{E2 to } 13/2^{-}; 364.4\gamma \text{ to } 11/2^{-}. \\ 1277.16 & 19 & (7/2)^{-} & \text{B} \ D & J^{\pi}: 186.5\gamma \text{ M1}(+\text{E2) to } 7/2^{-}; 1277.5\gamma \text{ M1}(+\text{E2) to } 9/2^{-}; \\ 1298.9 & 5 & (7/2,9/2,11/2)^{-} & \text{D} & J^{\pi}: 175.2\gamma \text{ M1}(+\text{E2) to } 7/2^{-}; 1277.5\gamma \text{ M1}(+\text{E2) to } 9/2^{-}. \\ 1312.98^{c} 9 & 3/2^{+} & 410 \text{ ps } 30 & \text{B} \ D & J^{\pi}: 214.8\gamma \text{ M1}+\text{E2 to } 1/2^{+}; 419.3\gamma \text{ E1 to } 5/2^{-}. \\ T_{1/2}: \text{ From } 175.cc(\text{K})-215cc(\text{K})(\text{At}) \text{ in } ^{203}\text{Po} \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). \\ 1352.85 & 7/2^{-} & \text{B} \ D & J^{\pi}: 261.8\gamma \text{ M1}(+\text{E2) to } 7/2^{-}; 1352.8\gamma \text{ M1 to } 9/2^{-}; \text{ direct feeding in } ^{203}\text{Po} \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). \\ 1408.9 & 6 & 13/2^{-} & \text{D} & J^{\pi}: 161.0\gamma \text{ M1}(+\text{E2) to } 15/2^{-}. \\ 1479.3 & 5 & (5/2^{-},7/2^{-},9/2^{-}) & \text{D} & J^{\pi}: 161.0\gamma \text{ M1}(+\text{E2) to } 1/2^{-}. \end{array}$					$(204.7\gamma(t)), 290 \text{ ms } 30^{\circ}$	$(893.5\gamma(t))$ and 304 ms 5 (908.6 $\gamma(t)$) in
admixtures of configuration= $\pi(f_{7/2})^{+1}\otimes v(3^{-})$ and configuration= $\pi(h_{9/2})^{+1}\otimes v(5^{-})$ (1984Lo16). 1123.72 8 (7/2) ⁻ B D J^{π} : 214.8 γ M1+E2 to 7/2 ⁻ , 240.4 γ (E2) to 11/2 ⁻ ; strong direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$). Note, that $J^{\pi}=9/2^{-}$ was assigned in ²⁰³ TI(³ He,3n γ). 1231.4 4 9/2 ⁻ D J^{π} : 140.2 γ M1+E2 to 7/2 ⁻ ; 348.2 γ M1+E2 to 11/2 ⁻ . 1247.85 ^a 21 15/2 ⁻ DE J^{π} : 315.3 γ M1+E2 to 13/2 ⁻ ; 364.4 γ to 11/2 ⁻ . 1248.53 ^a 21 13/2 ⁻ DE J^{π} : $\gamma(\theta)$ in (α ,4n γ), M1 to 11/2 ⁻ . 1277.16 19 (7/2) ⁻ B D J^{π} : 186.5 γ M1(+E2) to 7/2 ⁻ ; 1277.5 γ M1(+E2) to 9/2 ⁻ ; direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$). 1298.9 5 (7/2,9/2,11/2) ⁻ D J^{π} : 175.2 γ M1(+E2) to 1/2 ⁻ . 1312.98 ^c 9 $3/2^{+}$ 410 ps 30 B D J^{π} : 214.8 γ M1+E2 to 1/2 ⁺ ; 419.3 γ E1 to 5/2 ⁻ . T _{1/2} : From 175ce(K)-215ce(K)(\Deltat) in ²⁰³ Po ε decay (1986Be07). 1352.85 8 7/2 ⁻ B D J^{π} : 261.8 γ M1+E2 to 7/2 ⁻ ; 1352.8 γ M1 to 9/2 ⁻ ; direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$). 1408.9 6 13/2 ⁻ D J^{π} : 161.0 γ M1(+E2) to 15/2 ⁻ . 1479.3 5 (5/2 ⁻ ,7/2 ⁻ ,9/2 ⁻) D J^{π} : 126.5 γ M1(+E2) to 7/2 ⁻ .					configuration: Dominant (99.9%) configuration= $\pi(s_{1/2}^{+1})$ with small
$\begin{array}{ccc} \text{configuration} = \pi(h_{9/2})^{+1} \otimes \nu(5^{-}) \ (1984Lo16). \\ 1123.72 \ 8 & (7/2)^{-} & \text{B} \ D & J^{\pi}: 214.8\gamma \ \text{M1} + \text{E2 to } 7/2^{-}, 240.4\gamma \ (\text{E2}) \ \text{to } 11/2^{-}; \ \text{strong direct feeding} \\ \text{in } {}^{203}\text{Po} \ \varepsilon \ \text{decay} \ (J^{\pi} = 5/2^{-}). \ \text{Note, that } J^{\pi} = 9/2^{-} \ \text{was assigned in} \\ {}^{203}\text{Tl}({}^{3}\text{He},3n\gamma). \\ 1231.4 \ 4 & 9/2^{-} & \text{D} & J^{\pi}: 140.2\gamma \ \text{M1} + \text{E2 to } 7/2^{-}; \ 348.2\gamma \ \text{M1} + \text{E2 to } 11/2^{-}. \\ 1247.85^{a} \ 21 & 15/2^{-} & \text{DE} & J^{\pi}: 315.3\gamma \ \text{M1} + \text{E2 to } 13/2^{-}; \ 364.4\gamma \ \text{to } 11/2^{-}. \\ 1248.53^{a} \ 21 & 13/2^{-} & \text{DE} & J^{\pi}: \gamma(\theta) \ \text{in} \ (\alpha,4n\gamma), \ \text{M1 to } 11/2^{-}. \\ 1277.16 \ 19 & (7/2)^{-} & \text{B} \ D & J^{\pi}: 165.5\gamma \ \text{M1}(+\text{E2}) \ \text{to } 7/2^{-}; \ 1277.5\gamma \ \text{M1}(+\text{E2}) \ \text{to } 9/2^{-}; \ \text{direct feeding} \\ \text{in } {}^{203}\text{Po} \ \varepsilon \ \text{decay} \ (J^{\pi} = 5/2^{-}). \\ 1298.9 \ 5 & (7/2,9/2,11/2)^{-} & \text{D} & J^{\pi}: 175.2\gamma \ \text{M1}(+\text{E2}) \ \text{to } 9/2^{-}; \ 1372.98^{\circ} \ 9 & 3/2^{+} & 410 \ \text{ps } 30 & \text{B} \ D & J^{\pi}: 214.8\gamma \ \text{M1} + \text{E2 to } 1/2^{+}; \ 419.3\gamma \ \text{E1 to } 5/2^{-}. \\ 1312.98^{c} \ 9 & 3/2^{+} & 410 \ \text{ps } 30 & \text{B} \ D & J^{\pi}: 261.8\gamma \ \text{M1} + \text{E2 to } 1/2^{-}; \ 1352.8\gamma \ \text{M1 to } 9/2^{-}; \ \text{direct feeding in} \\ {}^{203}\text{Po} \ \varepsilon \ \text{decay} \ (J^{\pi} = 5/2^{-}). \\ 1408.9 \ 6 & 13/2^{-} & \text{D} & J^{\pi}: 161.0\gamma \ \text{M1}(+\text{E2}) \ \text{to } 1/2^{-}. \\ 1479.3 \ 5 & (5/2^{-},7/2^{-},9/2^{-}) & \text{D} & J^{\pi}: 126.5\gamma \ \text{M1}(+\text{E2}) \ \text{to } 5/2^{-}. \\ \end{array}$					admixtures of configura	tion= $\pi(f_{7/2})^{+1} \otimes \nu(3^{-})$ and
1125.72 8 $(7/2)$ BD $J^{+2}: 244.89 \text{ M1}+E2 \text{ to } 7/2: 240.49 \text{ (E2) to } 11/2: \text{ strong direct feeding in } 203 \text{ PO} \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). \text{ Note, that } J^{\pi}=9/2^{-} \text{ was assigned in } 203 \text{ TI}(^{3}\text{He},3ny). $ 1231.4 4 $9/2^{-}$ D $J^{\pi}: 140.29 \text{ M1}+E2 \text{ to } 7/2^{-}; 348.29 \text{ M1}+E2 \text{ to } 11/2^{-}. $ 1247.85 ^a 2115/2^{-}D $J^{\pi}: 315.39 \text{ M1}+E2 \text{ to } 7/2^{-}; 364.49 \text{ to } 11/2^{-}. $ 1248.53 ^a 2113/2^{-}DE $J^{\pi}: \gamma(\theta) \text{ in } (\alpha,4n\gamma), \text{ M1 to } 11/2^{-}. $ 1277.16 19 $(7/2)^{-}$ BD $J^{\pi}: 186.59 \text{ M1}(+E2) \text{ to } 7/2^{-}; 1277.59 \text{ M1}(+E2) \text{ to } 9/2^{-}; \text{ direct feeding in } 203 \text{ Po } \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). $ 1298.9 5 $(7/2,9/2,11/2)^{-}$ D $J^{\pi}: 175.29 \text{ M1}(+E2) \text{ to } 9/2^{-}. $ 1312.98 ^c 9 $3/2^{+}$ 410 ps 30BD $J^{\pi}: 214.89 \text{ M1}+E2 \text{ to } 1/2^{+}; 419.39 \text{ E1 to } 5/2^{-}. $ 1352.85 8 $7/2^{-}$ BD $J^{\pi}: 261.89 \text{ M1}+E2 \text{ to } 7/2^{-}; 1352.89 \text{ M1 to } 9/2^{-}; \text{ direct feeding in } 203 \text{ Po } \varepsilon \text{ decay } (J^{\pi}=5/2^{-}). $ 1408.9 6 $13/2^{-}$ D $J^{\pi}: 161.09 \text{ M1}(+E2) \text{ to } 15/2^{-}. $ 1479.3 5 $(5/2^{-},7/2^{-},9/2^{-})$ D $J^{\pi}: 126.57 \text{ M1}(+E2) \text{ to } 7/2^{-}. $	1102 70 8	(7/2)-		D D	configuration= $\pi(h_{9/2})^{+1}$	$\otimes v(5^{-})$ (1984Lo16).
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1123.72 8	(7/2)		ВД	$J^{*:} 214.8\gamma \text{ M1+E2 to } 1/2$ in $^{203}\text{Po s decay} (I^{\pi}=5)$, 240.4 γ (E2) to 11/2; strong direct recalling (2 ⁻) Note that $I^{\pi} = 9/2^{-}$ was assigned in
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					203 Tl(3 He,3n γ).	2). Note, that 5 972 was assigned in
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1231.4 4	9/2-		D	J^{π} : 140.2 γ M1+E2 to 7/2	; 348.2γ M1+E2 to $11/2^-$.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$1247.85^{\text{cl}} 21$	$\frac{15}{2^{-13}}$		DE	J^{π} : 315.3 γ M1+E2 to 13/2 J^{π} : $\alpha(\theta)$ in $(\alpha 4n\alpha)$ M1 to	2^{-} ; 364.4 γ to 11/2 ⁻ .
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1277.16 19	$(7/2)^{-}$		B D	J^{π} : 186.5 γ M1(+E2) to 7/2	2^{-1} ; 1277.5 γ M1(+E2) to 9/2 ⁻ ; direct feeding
1298.9 5 $(7/2,9/2,11/2)^-$ D $J^{\pi}: 175.2\gamma \text{ M1}(+\text{E2}) \text{ to } 9/2^$ 1312.98 ^C 9 $3/2^+$ 410 ps 30 B D $J^{\pi}: 214.8\gamma \text{ M1} + \text{E2 to } 1/2^+; 419.3\gamma \text{ E1 to } 5/2^$ 1352.85 8 $7/2^-$ B D $J^{\pi}: 261.8\gamma \text{ M1} + \text{E2 to } 7/2^-; 1352.8\gamma \text{ M1 to } 9/2^-; \text{ direct feeding in } 203 \text{ Po } \varepsilon \text{ decay } (1986 \text{Be07}).$ 1408.9 6 $13/2^-$ D $J^{\pi}: 161.0\gamma \text{ M1}(+\text{E2}) \text{ to } 15/2^$ 1479.3 5 $(5/2^-, 7/2^-, 9/2^-)$ D $J^{\pi}: 126.5\gamma \text{ M1}(+\text{E2}) \text{ to } 7/2^$					in ²⁰³ Po ε decay ($J^{\pi}=5$)	/2 ⁻).
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1298.9 5	$(7/2,9/2,11/2)^{-}$	410 ma 20	D	J^{π} : 175.2 γ M1(+E2) to 9/2	2 ⁻ .
1352.85 8 $7/2^-$ BD $J^{\pi_1}: 261.8\gamma$ M1+E2 to $7/2^-; 1352.8\gamma$ M1 to $9/2^-;$ direct feeding in 203 Po ε decay $(J^{\pi}=5/2^-).$ 1408.9 6 $13/2^-$ D $J^{\pi_1}: 161.0\gamma$ M1(+E2) to $15/2^$ 1479.3 5 $(5/2^-, 7/2^-, 9/2^-)$ D $J^{\pi_1}: 126.5\gamma$ M1(+E2) to $7/2^$	1312.90 9	5/2	410 ps 50	עם	$J = 214.07 \text{ IVI1} + E2 \text{ IO} 1/2^{-3}$ T _{1/2} : From 175ce(K)=215	(1986Be07)
203 Po ε decay $(J^{\pi}=5/2^{-})$.1408.9 6 $13/2^{-}$ D J^{π} : 161.0 γ M1(+E2) to 15/2 ⁻ .1479.3 5 $(5/2^{-},7/2^{-},9/2^{-})$ D J^{π} : 126.5 γ M1(+E2) to 7/2 ⁻ .	1352.85 8	7/2-		B D	J^{π} : 261.8 γ M1+E2 to 7/2	; 1352.8 γ M1 to 9/2 ⁻ ; direct feeding in
1479.3 5 $(5/2^-, 7/2^-, 9/2^-)$ D J ^{π} : 126.5 γ M1(+E2) to 15/2 ⁻ .	1408 9 6	13/2-		л	²⁰⁵ Po ε decay ($J^{\pi}=5/2^{-1}$ I^{π} : 161 (by M1(+F2)) to 15). 5/2 ⁻
	1479.3 5	(5/2 ⁻ ,7/2 ⁻ ,9/2 ⁻))	D	J^{π} : 126.5 γ M1(+E2) to 7/2	2 ⁻ .

Continued on next page (footnotes at end of table)

²⁰³Bi Levels (continued)

E(level) [†]	$J^{\pi \#}$	T _{1/2}	XREF	Comments
1483.4 6	$(13/2)^{-}$		D	J^{π} : 235.5 γ M1+E2 to 13/2 ⁻ .
1488.14 ^d 10	5/2+		В	J^{π} : 175.2 γ M1(+E2) to 3/2 ⁺ ; 389.9 γ E2 to 1/2 ⁺ .
1494.5 6	$(15/2^{-})$		D	J^{π} : 246.6 γ (M1) to 15/2 ⁻ .
1499.04 24	$(17/2^{-})$		DE	J^{π} : 250.5 γ to 13/2 ⁻ ; 251.4 γ to 15/2 ⁻ .
1561.1° 6	$13/2^+$		D	J^{π} : 677.7 γ E1 to 11/2 ⁻ .
15/5.0 0	(1/2)		D D D	J [*] : 32/./ γ MI+E2 to 15/2.
1672.68.25	(3/2) 15/2 ⁻		DE	J': 480.17 E2 to 9/2; direct reeding in (PO & decay ($J = 3/2$). $I^{\pi} \cdot 424.2\gamma \text{ M1}(+\text{E2})$ to $13/2^{-1}$
1714.4 5	$(9/2)^{-}$		D	J^{π} : 361.6 γ M1(+E2) to 7/2 ⁻ ; non observation in ²⁰³ Po ε decay $(J^{\pi}=5/2^{-})$ would argue against $J^{\pi}=5/2^{-}$ and 7/2 ⁻ .
1892.6 ^{<i>f</i>} 6	$13/2^{+}$		D	J^{π} : 1009.2 γ E1 to 11/2 ⁻ .
1903.52^{f} 23	$17/2^{+}$		DE	J^{π} : 404.5y E1 to 17/2 ⁻ , 655.6y E1 to 15/2 ⁻ .
1990.6 ^{<i>f</i>} 3	21/2+	90 ns 7	DE	$\mu = 2.793 \ 42$ $\mu_{\pi} = 27 \ 10^{-2} \ 17/2^{+2}$
				$T_{1/2}$: Using 655.6 γ (t) and 883.4 γ (t) in ²⁰³ Tl(³ He,3n γ) (1982Lo14).
				Other: 90 ns 26 in 203 Tl(α ,4n γ) (1978Hu02) using a two isomers fit to ce γ (t) spectra.
				μ : From g-factor=0.266 4 in ²⁰³ Tl(α ,4n γ) (1982Hu07,2014StZZ) deduced using γ (t) spectra produced by gating on 315 γ , 883 γ and 932 γ that occur in decay of both the 21/2 ⁺ isomer and the 25/2 ⁺ isomer at 2042, keV
2028.6? 10			D	
2041.5 ^f 6	$25/2^+$	194 ns 30	Е	μ =3.33 5
				J^{π} : 50.9 γ E2 to 21/2 ⁺ .
				T _{1/2} : From ²⁰³ Tl(α ,4n γ) (1978Hu02) using a two isomers fit to ce γ (t) spectra.
2 000 1 <i>C</i>	(21.12+)		_	μ : From g-factor=0.266 4 in ²⁰³ Tl(α ,4n γ) (1982Hu07,2014StZZ).
2088.1 6 2135.89 <i>10</i>	$(21/2^+)$ $(3/2,5/2)^+$		B	J^{-1} : 184.6 γ (E2) to $1/2^{-1}$. J^{π} : 822.9 γ M1(+E2) to $3/2^{+}$, 1037.7 γ to $1/2^{+}$, 1242.4 γ E1 to $5/2^{-1}$;
2021 16 11	(2)(2,5)(2) +			direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$).
2231.10 11	(3/2,5/2)		В	J^{π} : (43.09 M1(+E2) to 5/2°, 1133.1γ to 1/2°; direct feeding in 200 P0 ε decay (J^{π} =5/2°).
2287.06? 12	(3/2,5/2+)		В	J [*] : 799.0 γ to 5/2 ⁺ ; 973.9 γ to 3/2 ⁺ ; 1188.7 γ to 1/2 ⁺ ; direct feeding in ²⁰³ Po ε decay (J [#] =5/2 ⁻).
2566.72? 14	(3/2 ⁻ ,5/2,7/2)		В	J ^{π} : 1475.7 γ to 7/2 ⁻ , 1673.0 γ to 5/2 ⁻ ; direct feeding in ²⁰³ Po ε decay (J ^{π} =5/2 ⁻).
2689.45? 10	(3/2 ⁻ ,5/2,7/2)		В	J^{π} : 1201.6 γ to 5/2 ⁺ , 1780.7 γ to 7/2 ⁻ ; direct feeding in ²⁰³ Po ε decay $(J^{\pi}=5/2^{-})$.
2731.0 ^{<i>f</i>} 6	$27/2^{+}$		Е	J^{π} : 689.6 γ M1+E2 to 25/2 ⁺ .
2752.14 14	(3/2,5/2,7/2)		В	J^{π} : 1264.0y to 5/2 ⁺ ; direct feeding in ²⁰³ Po ε decay ($J^{\pi}=5/2^{-}$).
2855.4 6	27/2+		Е	J^{π} : 813.7 γ M1 to 25/2 ⁺ .
3032.2 ⁸ 7	29/2-	22.4 ns 9	E	J^{π} : 301.3 γ E1 to 27/2 ⁺ .
				$T_{1/2}$: Weighted average of 19.1 ns 20 (301 γ (t)), 23.3 ns 10 (689 γ (t))
3130.52 17	(3/2,5/2 ⁺)		В	and 22.0 ns 20 (814 γ (t)) in ²⁰⁵ II(α ,4n γ) (19/8Hu02). J ^{π} : 1817.5 γ to 3/2 ⁺ ; 2032.5 γ to 1/2 ⁺ ; 2236.9 γ to 5/2 ⁻ ; direct feeding in ²⁰³ Po c decay (I^{π} =5/2 ⁻)
3529.7 <mark>8</mark> 7	31/2-		EF	J^{π} : 497.5 γ M1 to 29/2 ⁻ .
3529.7+x [‡]			F	Additional information 1.
$3704.7 + x^{\ddagger} 10$			- я	
3826.0 ^g 7	33/2-		E	J^{π} : 296.3 γ M1 to 31/2 ⁻ .
3950.7+x [‡] 15	,		F	. '
$4288.7 + x^{\ddagger} 18$			F	
			•	

Continued on next page (footnotes at end of table)

²⁰³Bi Levels (continued)

E(level) [†]	J ^{π#}	T _{1/2}	XREF	Comments
4470.1 7	35/2-		E	J^{π} : 644.1 γ M1 to 33/2 ⁻ .
4544.3 9	$(37/2)^{-}$	4.13 ns 7	Е	J^{π} : 74.2 γ M1 to 35/2 ⁻ .
				$T_{1/2}$: Weighted average of 4.03 ns 10 (296 γ (t)), 4.21 ns 10 (498 γ (t)) and 4.21
				ns 20 (644 γ (t)) in ²⁰³ Tl(α ,4n γ) (1978Hu02).
4730.7+x [‡] 20			F	
5247.7+x [‡] 23			F	
5824.7+x [‡] 25			F	

[†] From a least-squares fit to $E\gamma$, unless otherwise stated. [‡] From ¹⁹⁸Pt(¹¹B,6n γ).

From deduced transition multipolarities in ²⁰³Po ε decay, ²⁰³Tl(³He,3n γ) and ²⁰³Tl(α ,4n γ), and multiple decay branches. Specific details are given with each level.

^{*@*} Configuration= $\pi(h_{9/2}^{+1})$.

& Dominant configuration= $\pi(h_{9/2}^{+1})\otimes 2^+$.

^{*a*} Dominant configuration= $\pi(h_{9/2}^{+1})\otimes 4^+$.

^b Dominant configuration= $\pi(f_{7/2}^{+1})$.

^c Dominant configuration= $\pi(d_{3/2}^{+1})$.

- ^{*d*} Dominant configuration= $\pi(d_{5/2}^{+1})$.
- ^{*e*} Dominant configuration= $\pi(i_{13/2}^{+1})$.
- $f \text{ Configuration} = \pi(h_{9/2}^{+1}) \otimes \nu(f_{5/2}^{-1}, i_{13/2}^{-1})_{4^-}.$ $g \text{ Configuration} = \pi(h_{9/2}^{+1}) \otimes \nu(i_{13/2}^{-2}).$

I	Adopted Levels, Gammas (continued)												
									γ(²⁰³ Bi)				
	E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\dagger}	I_{γ}^{\dagger}	\mathbf{E}_{f}	J_f^{π}	Mult.	δ^{\dagger}	α^{a}	Comments			
	883.35	11/2-	883.4 [#] 2	100#	0	9/2-	M1+E2	-0.2	0.0258	$\alpha(K)=0.0211 \ 3; \ \alpha(L)=0.00355 \ 5; \ \alpha(M)=0.000832 \ 12$ $\alpha(N)=0.000213 \ 3; \ \alpha(O)=4.35\times10^{-5} \ 6; \ \alpha(P)=5.19\times10^{-6} \ 8$ Mult.: $\alpha(K)\exp=0.018, \ A_2=-0.55 \ 2 \ in \ ^{203}Tl(\alpha,4n\gamma) \ and \ \alpha(K)\exp=0.021, \ K/L=4.8, \ A_2=-0.40 \ 13, \ A_4=0.04 \ 20 \ in \ ^{203}Tl(^{3}He,3n\gamma).$			
	893.54	5/2-	893.5 1	100	0	9/2-	E2		0.00873	δ: From $\gamma(\theta)$ in ²⁰³ Tl(³ He,3nγ) (1982Lo14). $\alpha(K)=0.00684 \ 10; \ \alpha(L)=0.001434 \ 20; \ \alpha(M)=0.000345 \ 5$ $\alpha(N)=8.80\times10^{-5} \ 13; \ \alpha(O)=1.758\times10^{-5} \ 25; \ \alpha(P)=1.93\times10^{-6} \ 3$ Mult.: $\alpha(K)\exp=0.0076 \ 20$ in ²⁰³ Po ε decay (1972Al25); $\alpha(K)\exp=0.006, \ A_2=0.01 \ 40, \ A_4=0.04 \ 60$ in ²⁰³ Tl(³ He,3nγ) (1982Lo14)			
	908.73	7/2-	908.6 <i>1</i>	100	0	9/2-	M1+E2	0.96 20	0.0169 <i>19</i>	$\alpha(K)=0.0137 \ 16; \ \alpha(L)=0.00242 \ 23; \ \alpha(M)=0.00057 \ 6$ $\alpha(N)=0.000146 \ 14; \ \alpha(O)=3.0\times10^{-5} \ 3; \ \alpha(P)=3.5\times10^{-6} \ 4$ Mult., δ : $\alpha(K)exp=0.017 \ 2 \ (1972A125), \ \alpha(K)exp=0.013 \ I, \ K/L=5$ (1969A110) in 203 Po ε decay; Other: $\alpha(K)exp=0.013, \ K/L=6.5, \ A_2=-0.07 \ 10, \ A_4=0.36 \ 15 \ in ^{203}$ Tl(³ He,3ny) (1982Lo14).			
	932.53	13/2-	932.5 [#] 2	100#	0	9/2-	E2		0.00802	$\alpha(K)=0.00632 \ 9; \ \alpha(L)=0.001296 \ 19; \ \alpha(M)=0.000311 \ 5 \\ \alpha(N)=7.94\times10^{-5} \ 12; \ \alpha(O)=1.587\times10^{-5} \ 23; \ \alpha(P)=1.753\times10^{-6} \ 25 \\ \text{Mult.:} \ \alpha(K)\exp=0.0064, \ K/L\leq 6, \ A_2=0.25 \ 32, \ A_4=0.004 \ 50 \ \text{in} \\ {}^{203}\text{Tl}(^3\text{He},3n\gamma) \ (1982\text{Lo14}); \ A_2=+0.21 \ 2 \ \text{in} \ {}^{203}\text{Tl}(\alpha,4n\gamma) \\ (1083\text{He},15) \ (1083\text{He},15$			
	1090.99	7/2-	182.3 <i>1</i>	0.6 3	908.73	7/2-	M1		1.85	$\alpha(K)=1.506\ 22;\ \alpha(L)=0.262\ 4;\ \alpha(M)=0.0617\ 9$ $\alpha(N)=0.01579\ 23;\ \alpha(O)=0.00323\ 5;\ \alpha(P)=0.000384\ 6$ Mult: $\alpha(K)$ are in $\frac{203}{7}$ Po e decay			
			197.4 2	2.9 9	893.54	5/2-	M1+E2	-0.3	1.396				
			1090.9 <i>1</i>	100 6	0	9/2-	M1+E2	0.51 22	0.0134 <i>14</i>	α(K)=0.0110 <i>12</i> ; α(L)=0.00186 <i>17</i> ; α(M)=0.00043 <i>4</i> α(N)=0.000111 <i>10</i> ; α(O)=2.27×10 ⁻⁵ 2 <i>1</i> ; α(P)=2.7×10 ⁻⁶ <i>3</i> Mult.,δ: From a(K)exp=0.011 <i>1</i> in ²⁰³ Po ε decay (1969A110). Others: α(K)exp=0.0019 6 in ²⁰³ Po ε decay (1972A125) and α(K)exp=0.012, A ₂ =-0.041 <i>16</i> , A ₄ =0.03 <i>3</i> in ²⁰³ Tl(³ He,3nγ) (1982Lo14).			
	1098.21	1/2+	189.5 <i>1</i>	100 ^{&} 9	908.73	7/2-	E3		5.63	$\alpha(K)=0.473 \ 7; \ \alpha(L)=3.79 \ 6; \ \alpha(M)=1.050 \ 15$ $\alpha(N)=0.270 \ 4; \ \alpha(O)=0.0501 \ 8; \ \alpha(P)=0.00397 \ 6$ B(E3)(W.u.)=0.0254 9 Mult.: $\alpha(K)\exp=0.49 \ 5 \ (1972A125), \ \alpha(K)\exp=0.47 \ 4 \ (1969A110) \ in \ ^{203}Po \ \varepsilon \ decay; \ \alpha(L)\exp=3.2 \ in \ ^{203}Tl(^{3}He.3ny) \ (1982Lo14).$			
			204.7 1	13 ^{&} 4	893.54	5/2-	M2+E3	3.4 4	4.04 8	$\alpha(K)=0.74$ 9; $\alpha(L)=2.43$ 5; $\alpha(M)=0.668$ 12			

4

From ENSDF

 $^{203}_{83}\mathrm{Bi}_{120}\text{-}4$

L

						Adopted	d Levels, (Gammas (co	ntinued)
							γ (²⁰³ Bi)	(continued)	
E _i (level)	\mathbf{J}_i^π	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_f	\mathbf{J}_f^{π}	Mult.	δ^{\dagger}	α^{a}	Comments
1098.21	$1/2^{+}$	1098.1 ^b 5	≤0.10 ^{&}	0	9/2-	[M4]		0.1210	α (K)=0.0905 <i>13</i> ; α (L)=0.0230 <i>4</i> ; α (M)=0.00570 8
1123.72	(7/2)-	214.8 <i>I</i>	100 8	908.73	7/2-	M1+E2	3.9 1	0.401 7	$\begin{aligned} \alpha(N) &= 0.001471\ 21;\ \alpha(O) &= 0.000297\ 5;\ \alpha(P) &= 3.55 \times 10^{-6}\ 5\\ \alpha(K) &= 0.193\ 4;\ \alpha(L) &= 0.1557\ 22;\ \alpha(M) &= 0.0405\ 6\\ \alpha(N) &= 0.01032\ 15;\ \alpha(O) &= 0.00194\ 3;\ \alpha(P) &= 0.0001653\ 24\\ \text{Mult.,} &\delta:\ \alpha(K) &= 0.21\ 2\ (1972\text{Al25}),\ \alpha(K) &= 0.18\ 2,\ \text{K/L} &= 1.2\\ &(1969\text{Al10})\ \text{in}\ ^{203}\text{Po}\ \varepsilon\ \text{decay.}\ \text{Other:}\ \alpha(K) &= \text{sp} \leq 0.43,\ \text{K/L} \approx 4.3,\\ \text{A}_2 &= 0.06\ 40,\ \text{A}_4 &= 0.1\ 6\ \text{in}\ ^{203}\text{Tl}(^3\text{He},3n\gamma)\ (1982\text{Lo14}). \end{aligned}$
		240.4 [‡] 5	3.3 [‡] 4	883.35	11/2-	(E2)		0.241	$\alpha(K)=0.1101 \ 17; \ \alpha(L)=0.0975 \ 16; \ \alpha(M)=0.0255 \ 5 \\ \alpha(N)=0.00648 \ 11; \ \alpha(O)=0.001217 \ 20; \ \alpha(P)=0.0001027 \ 17 \\ I_{\gamma}: From I_{\gamma}(240\gamma)/I_{\gamma}(1124\gamma)=0.29 \ in \ ^{203}Tl(^{3}He,3n\gamma) \ (1982Lo14). \\ Mult.: \ \alpha(K)exp=0.34 \ in \ ^{203}Tl(^{3}He,3n\gamma) \ (1982Lo14). Note, \ that value \ is also \ consistent \ with \ Mult=M1+E2 \ with \ \delta=1.24 \ +20-17, \\ hut the decay \ scheme \ requires \ Mult=F2 \ .$
		1123.9 <i>1</i>	11.2 12	0	9/2-	M1+E2	3.6 8	0.0062 4	$\alpha(\text{K})=0.0050 \ 3; \ \alpha(\text{L})=0.00093 \ 5; \ \alpha(\text{M})=0.000220 \ 11$ $\alpha(\text{N})=5.6\times10^{-5} \ 3; \ \alpha(\text{O})=1.13\times10^{-5} \ 6; \ \alpha(\text{P})=1.29\times10^{-6} \ 8; \ \alpha(\text{IPF})=4.05\times10^{-7} \ 16$ Mult.: $\alpha(\text{K})\text{exp}=0.005$. Other: A ₂ =0.2 7, A ₄ =0.15 11 in $^{203}\text{Tl}(^{3}\text{He},3n\gamma) \ (1982\text{Lo14}).$
1231.4	9/2-	140.2 [‡] 5	75 [‡]	1090.99	7/2-	M1(+E2)		3.89 7	$\alpha(K)=3.16\ 6;\ \alpha(L)=0.553\ 10;\ \alpha(M)=0.1302\ 23$ $\alpha(N)=0.0333\ 6;\ \alpha(O)=0.00681\ 12;\ \alpha(P)=0.000810\ 14$ Mult.: $\alpha(L)exp=0.50,\ A_2=-0.02\ 9,\ A_4=0.18\ 14\ in\ ^{203}Tl(^3He,3n\gamma)$ (1982L014).
		348.2 [‡] 5	100 [‡]	883.35	11/2-	M1(+E2)		0.309	α (K)=0.252 4; α (L)=0.0435 7; α (M)=0.01020 15 α (N)=0.00261 4; α (O)=0.000533 8; α (P)=6.35×10 ⁻⁵ 10 Mult.: α (K)exp=0.04, A ₂ =-0.05 33, A ₄ =0.3 4 in ²⁰³ Tl(³ He,3n γ) (1982L014)
1247.85	15/2-	315.3 [#] 2	100 [#]	932.53	13/2-	M1+E2	-0.07	0.404	$\alpha(K)=0.329 \ 5; \ \alpha(L)=0.0569 \ 8; \ \alpha(M)=0.01337 \ 19$ $\alpha(N)=0.00342 \ 5; \ \alpha(O)=0.000699 \ 10; \ \alpha(P)=8.31\times10^{-5} \ 12$ Mult.: $\alpha(K)exp=0.37, \ K/L=5.3, \ A_2=-0.25 \ 22, \ A_4=-0.4 \ 4 \ in$ ${}^{203}Tl({}^{3}He,3n\gamma) \ (1982Lo14); \ \alpha(K)exp=0.47, \ A_2=-0.37 \ 1 \ in$ ${}^{203}Tl(\alpha,4n\gamma) \ (1983Hu15).$ $\delta: \ From \ {}^{203}Tl({}^{3}He,3n\gamma) \ (1982Lo14).$
1248.53	13/2-	364.4 [‡] 5 365.2 2	≈7 [‡] 100	883.35 883.35	11/2 ⁻ 11/2 ⁻	M1		0.272	α(K)=0.222 4; α(L)=0.0382 6; α(M)=0.00896 13

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					Ado	pted Levels,	Gammas (cont	inued)	
						γ (²⁰³ Bi) (continued)		
E _i (level)	J_i^π	${\rm E}_{\gamma}^{\dagger}$	I_{γ}^{\dagger}	E_f	\mathbf{J}_f^{π}	Mult.	δ^{\dagger}	α^{a}	Comments
									$\begin{aligned} &\alpha(\text{N})=0.00229 \ 4; \ \alpha(\text{O})=0.000468 \ 7; \ \alpha(\text{P})=5.58\times10^{-5} \ 8\\ &\text{E}_{\gamma}: \ \text{From}^{\ 203}\text{Tl}(\alpha,4n\gamma).\\ &\text{I}_{\gamma}: \ \text{From}^{\ 203}\text{Tl}(^{3}\text{He},3n\gamma).\\ &\text{Mult.:} \ \alpha(\text{K})\text{exp}=0.21, \ A_{2}=-0.26 \ 2 \ \text{in}^{\ 203}\text{Tl}(\alpha,4n\gamma)\\ &(1983\text{Hu15}). \ \alpha(\text{K})\text{exp}=0.26, \ \text{K/L}=6.5, \ A_{2}=-0.20 \ 45,\\ &A_{4}=0.1 \ 6 \ \text{in}^{\ 203}\text{Tl}(^{3}\text{He},3n\gamma) \ (1982\text{Lo14}). \end{aligned}$
1248.53	13/2-	1248.6 [‡] 5	19 [‡]	0	9/2-	E2		0.00459	$\begin{aligned} &\alpha(\text{K}) = 0.00369 \ 6; \ \alpha(\text{L}) = 0.000675 \ 10; \ \alpha(\text{M}) = 0.0001598 \\ &23 \\ &\alpha(\text{N}) = 4.08 \times 10^{-5} \ 6; \ \alpha(\text{O}) = 8.23 \times 10^{-6} \ 12; \\ &\alpha(\text{P}) = 9.39 \times 10^{-7} \ 14; \ \alpha(\text{IPF}) = 8.61 \times 10^{-6} \ 14 \\ &\text{Mult.:} \ \alpha(\text{K}) \exp = 0.004, \ \text{A}_2 = 0.60 \ 11, \ \text{A}_4 = -0.14 \ 16 \ \text{in} \\ &2^{03} \text{Tl}(^3 \text{He}, 3n\gamma) \ (1982 \text{Lo}14). \end{aligned}$
1277.16	(7/2) ⁻	186.5 [‡] 5	100 [‡]	1090.99	7/2-	M1(+E2)	<1.5	1.3 4	$\alpha(K)=1.0 5; \alpha(L)=0.258 14; \alpha(M)=0.064 6$ $\alpha(N)=0.0162 15; \alpha(O)=0.00320 18; \alpha(P)=0.00033 3$ Mult., δ : A ₂ =-0.21 34, A ₄ =-0.4 5, $\alpha(L)\exp=1.2$, but the latter value is too high for the proposed multipolarity, in ²⁰³ Tl(³ He,3n γ) (1982Lo14).
		1277.1 2	23	0	9/2-	M1(+E2)	<1.6	0.0082 22	$\begin{aligned} &\alpha(\mathbf{K}) = 0.0067 \ 18; \ \alpha(\mathbf{L}) = 0.0011 \ 3; \ \alpha(\mathbf{M}) = 0.00026 \ 7 \\ &\alpha(\mathbf{N}) = 6.7 \times 10^{-5} \ 17; \ \alpha(\mathbf{O}) = 1.4 \times 10^{-5} \ 4; \ \alpha(\mathbf{P}) = 1.6 \times 10^{-6} \\ &5; \ \alpha(\mathbf{IPF}) = 1.9 \times 10^{-5} \ 4 \\ &\text{Mult.}, \delta: \ \alpha(\mathbf{K}) \exp = 0.012 \ \text{in} \ {}^{203} \text{Tl}({}^{3}\text{He}, 3n\gamma) \\ &(1982\text{Lo14}). \end{aligned}$
1298.9	(7/2,9/2,11/2) ⁻	175.2 [‡] 5	100 [‡]	1123.72	(7/2)-	M1(+E2)		2.07 4	$\alpha(K)=1.68 \ 3; \ \alpha(L)=0.294 \ 5; \ \alpha(M)=0.0690 \ 12$ $\alpha(N)=0.0177 \ 3; \ \alpha(O)=0.00361 \ 6; \ \alpha(P)=0.000430 \ 7$ Mult.: A ₂ =-0.14 12, A ₄ =-0.21 20, $\alpha(L)$ exp=1.0, but the latter value is too high for the proposed multipolarity, in ²⁰³ Tl(³ He.3ny) (1982Lo14).
1312.98	3/2+	214.8 <i>I</i>	100 8	1098.21	1/2+	M1+E2	3.6 +10-6	0.409 24	$\begin{array}{l} \alpha(\text{K})=0.201\ 24;\ \alpha(\text{L})=0.1558\ 23;\ \alpha(\text{M})=0.0405\ 6\\ \alpha(\text{N})=0.01032\ 15;\ \alpha(\text{O})=0.00194\ 3;\ \alpha(\text{P})=0.000166\ 4\\ \text{B}(\text{M}1)(\text{W.u.})=2.5\times10^{-4}\ +10-9;\ \text{B}(\text{E2})(\text{W.u.})=25.1\ 21\\ \text{Mult.,}\delta:\ \alpha(\text{K})\text{exp}=0.21\ 2\ (1972\text{A}125).\ \text{Other:}\\ \alpha(\text{K})\text{exp}=0.18\ 2,\ \text{K/L}=1.2\ (1969\text{A}110)\ \text{in}\ ^{203}\text{Po}\ \varepsilon\\ \text{decay.} \end{array}$
		419.3 <i>I</i>	16.9 <i>15</i>	893.54	5/2-	E1		0.01439	B(E1)(W.u.)= $6.9 \times 10^{-7} + 10 - 9$ $\alpha(K)=0.01183 \ 17; \ \alpha(L)=0.00196 \ 3; \ \alpha(M)=0.000457 \ 7$ $\alpha(N)=0.0001160 \ 17; \ \alpha(O)=2.33 \times 10^{-5} \ 4;$ $\alpha(P)=2.63 \times 10^{-6} \ 4$ Mult.: $\alpha(K)\exp \le 0.012. \ (1972A125), \ \alpha(K)\exp = 0.008 \ 5$ $(1969A110) \ in \ ^{203}Po \ \varepsilon \ decay$
1352.85	7/2-	261.8 <i>1</i>	84 28	1090.99	7/2-	M1+E2	1.6 3	0.32 5	$\alpha(K)=0.225; \alpha(L)=0.0773; \alpha(M)=0.01925$ $\alpha(N)=0.00491 13; \alpha(O)=0.000953; \alpha(P)=9.2\times10^{-5}6$

6

From ENSDF

I

							γ (²⁰³ B	i) (continu	ed)	
Ei	(level)	J_i^π	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _f	\mathbf{J}_{f}^{π}	Mult.	δ^{\dagger}	α^{a}	Comments
13	352.85	7/2-	1352.9 <i>1</i>	100 12	0 9/	/2-	M1		0.00890	Mult.,δ: α (K)exp=1.53, K/L=2.7, A ₂ =-0.1 3, A ₄ =-0.4 5 in ²⁰³ Tl(³ He,3nγ) (1982Lo14). α (K)=0.00728 11; α (L)=0.001205 17; α (M)=0.000282 4 α (N)=7.20×10 ⁻⁵ 10; α (O)=1.473×10 ⁻⁵ 21; α (P)=1.764×10 ⁻⁶ 25; α (IPF)=4.48×10 ⁻⁵ 7 Mult.: α (K)exp=0.0022, A ₂ =0.08 2, A ₄ =0.04 10 in ²⁰³ Tl(³ He,3nγ) (1982Lo14).
14	408.9	13/2-	161.0 [‡] 5	100 [‡]	1247.85 15	5/2-	M1(+E2)	-0.25	2.53 5	α (K)=2.03 4; α (L)=0.383 7; α (M)=0.0909 16 α (N)=0.0232 4; α (O)=0.00471 8; α (P)=0.000545 10 Mult., δ : α (L)exp \approx 0.36, A ₂ =-0.42 16, A ₄ =-0.10 26 in ²⁰³ Tl(³ He,3n γ) (1982Lo14).
14	179.3	(5/2 ⁻ ,7/2 ⁻ ,9/2 ⁻)	126.5 [‡] 5	100 [‡]	1352.85 7/	/2-	M1(+E2)		5.21 10	α (K)=4.24 8; α (L)=0.743 <i>14</i> ; α (M)=0.175 4 α (N)=0.0447 8; α (O)=0.00914 <i>17</i> ; α (P)=0.001087 <i>20</i> Mult.: A ₂ =-0.14 3, A ₄ =-0.3 4 in ²⁰³ Tl(³ He,3n γ) (1982Lo14).
14	483.4	(13/2) ⁻	235.5 [‡] 5	100 [‡]	1247.85 15	5/2-	M1(+E2)		0.904 14	$\alpha(K)=0.737 \ 12; \ \alpha(L)=0.1279 \ 20; \ \alpha(M)=0.0301 \ 5$ $\alpha(N)=0.00769 \ 12; \ \alpha(O)=0.001571 \ 24; \ \alpha(P)=0.000187 \ 3$ Mult: $\alpha(K)\exp=0.65, \ K/L \ge 1.3, \ A_2=-0.4 \ 9, \ A_4=-0.5 \ 2 \ in \ 2^{03}Tl(^{3}He \ 3n\chi) \ (19821 \ old)$
14	488.14	5/2+	175.2 <i>1</i>	100 9	1312.98 3/	/2+	M1(+E2)	0.2 2	2.02 14	$\alpha(K)=1.63\ 15;\ \alpha(L)=0.296\ 9;\ \alpha(M)=0.070\ 3$ $\alpha(N)=0.0179\ 8;\ \alpha(O)=0.00365\ 12;\ \alpha(P)=0.000427\ 9$ Mult., $\delta:\ \alpha(K)\exp=1.9\ 2\ (1972A125).$ Others: $\alpha(K)\exp=1.6\ 1$,
			389.9 2	37 4	1098.21 1/	/2+	E2		0.0575	$\alpha(K)=0.0366\ 6;\ \alpha(L)=0.01575\ 23;\ \alpha(M)=0.00400\ 6$ $\alpha(N)=0.001020\ 15;\ \alpha(O)=0.000196\ 3;\ \alpha(P)=1.83\times10^{-5}\ 3$ Mult.: $\alpha(K)\exp=0.048\ 11\ (1972Al25).$ Others: $\alpha(K)\exp=0.034\ 11\ (1969Al10).$ All data from ²⁰³ Po ε decay.
14	194.5	(15/2 ⁻)	246.6 [‡] 5	100 [‡]	1247.85 15	5/2-	(M1)		0.796	$\alpha(K)=0.649 \ 10; \ \alpha(L)=0.1125 \ 17; \ \alpha(M)=0.0264 \ 4 \\ \alpha(N)=0.00676 \ 11; \ \alpha(O)=0.001382 \ 21; \ \alpha(P)=0.0001645 \ 25 \\ Mult: \ \alpha(K) \exp(-1 1 \ in \ ^{203}Tl(^3Ha \ 3m)) \ (1982L \ 014) $
14	199.04	(17/2 ⁻)	250.5 2	100	1248.53 13	3/2-			0.2142	$\alpha(K)=0.1015; \ \alpha(L)=0.0838; \ \alpha(M)=0.02178; \ \alpha(N+)=0.00720$ $E_{\gamma}: \ From \frac{203}{2} Tl(\alpha,4n\gamma).$
			251.4 2	35	1247.85 15	5/2-			0.788	
15	561.1	13/2+	677.7 [‡] 5	100 [‡]	883.35 11	1/2-	E1		0.00538	α(K)=0.00446 7; α(L)=0.000706 10; α(M)=0.0001640 23 $α(N)=4.17\times10^{-5} 6; α(O)=8.44\times10^{-6} 12; α(P)=9.77\times10^{-7} 14$ Mult.: α(K)exp=0.001, A ₂ =-0.16 42, A ₄ =0.1 8 in ²⁰³ Tl(³ He,3nγ) (1982Lo14).
15	575.6	(17/2)-	327.7 [‡] 5	100 [‡]	1247.85 15	5/2-	M1(+E2)	-0.05	0.364 6	α (K)=0.297 5; α (L)=0.0512 8; α (M)=0.01204 18 α (N)=0.00308 5; α (O)=0.000629 10; α (P)=7.49×10 ⁻⁵ 11

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$\gamma(^{203}\text{Bi})$ (continued)

E _i (level)	\mathbf{J}_i^{π}	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_f J	\int_{f}^{π} Mult.	δ^{\dagger}	α^{a}	Comments
1609.82	(5/2)-	486.1 <i>1</i>	100	1123.72 (7/2	2) ⁻ E2		0.0329	Mult.,δ: α(K)exp=0.4, K/L≥2, A ₂ =-0.23 25, A ₄ =-0.02 38 in ²⁰³ Tl(³ He,3nγ) (1982Lo14). α(K)=0.0228 4; α(L)=0.00761 11; α(M)=0.00191 3 α(N)=0.000486 7; α(O)=9.43×10 ⁻⁵ 14; α(P)=9.24×10 ⁻⁶ 13 Mult.: α(K)exp=0.029 8 (1972Al25), α(K)exp=0.022 6 (1969Al10) in ²⁰³ Po ε decay; α(K)exp=0.01, A ₂ =0.12 14, A ₄ =-0.18 22 in ²⁰³ Tl(³ He,3nγ) (1982Lo14).
1672.68	15/2-	424.2 [#] 2	100#	1248.53 13/2	2 ⁻ M1(+E2)	0.1	0.180	$\begin{aligned} &\alpha(\text{K}) = 0.1473 \ 21; \ \alpha(\text{L}) = 0.0253 \ 4; \ \alpha(\text{M}) = 0.00594 \ 9 \\ &\alpha(\text{N}) = 0.001518 \ 22; \ \alpha(\text{O}) = 0.000310 \ 5; \ \alpha(\text{P}) = 3.69 \times 10^{-5} \ 6 \\ &\text{Mult.}, \delta: \ \alpha(\text{K}) \exp = 0.16, \ \text{K/L} = 5.3, \ \text{A}_2 = -0.27 \ 40, \ \text{A}_4 = -0.1 \ 7 \ \text{in} \\ & \ 2^{03} \text{Tl}(^3\text{He}, 3n\gamma) \ (1982\text{Lo14}); \ \text{Other:} \ \alpha(\text{K}) \exp = 0.066 \ \text{in} \ ^{203} \text{Tl}(\alpha, 4n\gamma) \\ &(1983\text{Hu15}). \end{aligned}$
1714.4	(9/2)-	361.6 [‡] 5	100 [‡]	1352.85 7/2	- M1(+E2)		0.279	ce(K)/(γ +ce)=0.1782 22; ce(L)/(γ +ce)=0.0306 5; ce(M)/(γ +ce)=0.00719 11 ce(N)/(γ +ce)=0.00184 3; ce(O)/(γ +ce)=0.000376 6; ce(P)/(γ +ce)=4.48×10 ⁻⁵ 7 α (K)=0.228 4; α (L)=0.0392 6; α (M)=0.00920 14 α (N)=0.00235 4; α (O)=0.000481 7; α (P)=5.73×10 ⁻⁵ 9 Mult.: α (K)exp=0.13, K/L=3.3, A ₂ =-0.07 11, A ₄ =0.07 17 in ²⁰³ Tl(³ He,3n γ) (1982Lo14).
1892.6	13/2+	1009.2 [‡] 5	100‡	883.35 11/2	2 ⁻ E1		0.00256	$\alpha(K)=0.00214 \ 3; \ \alpha(L)=0.000329 \ 5; \ \alpha(M)=7.60\times10^{-5} \ 11$ $\alpha(N)=1.94\times10^{-5} \ 3; \ \alpha(O)=3.93\times10^{-6} \ 6; \ \alpha(P)=4.62\times10^{-7} \ 7$ Mult.: $\alpha(K)\exp=0.0012, \ A_2=0.01 \ 9, \ A_4=0.08 \ 14 \ in \ ^{203}Tl(^{3}He, 3n\gamma)$ (1982L014).
1903.52	17/2+	$230.9^{\#} 2$	11 [#]	1672.68 15/2	2- E1		0.0565	$\alpha(K)=0.0459\ 7;\ \alpha(L)=0.00809\ 12;\ \alpha(M)=0.00190\ 3$ $\alpha(N)=0.000481\ 7;\ \alpha(O)=9.54\times10^{-5}\ 14;\ \alpha(P)=1.034\times10^{-5}\ 15$ Mult.: $\alpha(K)\exp=0.05,\ A_2=-0.25\ 3\ in\ ^{203}Tl(\alpha,4n\gamma)\ (1983Hu15).$ E.: From $^{203}Tl(^{3}He\ 3n\gamma)$
		404.5# 2	61 [#]	1499.04 (17,	/2 ⁻) E1		0.01556	$ \begin{aligned} &\alpha(\mathbf{K}) = 0.01279 \ l8; \ \alpha(\mathbf{L}) = 0.00212 \ 3; \ \alpha(\mathbf{M}) = 0.000495 \ 7 \\ &\alpha(\mathbf{N}) = 0.0001258 \ l8; \ \alpha(\mathbf{O}) = 2.52 \times 10^{-5} \ 4; \ \alpha(\mathbf{P}) = 2.84 \times 10^{-6} \ 4 \\ &\text{Mult.:} \ \alpha(\mathbf{K}) \exp = 0.04, \ \text{K/L} = 5.0, \ \text{A}_2 = -0.16 \ 45, \ \text{A}_4 = -0.1 \ 8 \text{ in} \\ & 2^{03} \text{Tl}(^3 \text{He}, 3n\gamma) \ (1982 \text{Lo}14); \ \alpha(\mathbf{K}) \exp = 0.034, \ \text{A}_2 = -0.22 \ 2 \text{ in} \\ & 2^{03} \text{Tl}(\alpha, 4n\gamma) \ (1983 \text{Hu}15). \end{aligned} $
		655.6 [#] 2	100 [#]	1247.85 15/2	2 ⁻ E1		0.00574	$\begin{aligned} &\alpha(\text{K}) = 0.00476\ 7;\ \alpha(\text{L}) = 0.000755\ 11;\ \alpha(\text{M}) = 0.0001754\ 25\\ &\alpha(\text{N}) = 4.46 \times 10^{-5}\ 7;\ \alpha(\text{O}) = 9.02 \times 10^{-6}\ 13;\ \alpha(\text{P}) = 1.043 \times 10^{-6}\ 15\\ &\text{Mult.:}\ \alpha(\text{K}) \text{exp} = 0.005,\ \text{A}_2 = -0.10\ 3,\ \text{A}_4 \approx 0\ \text{in}\ ^{203}\text{Tl}(^3\text{He},3n\gamma)\\ &(1982\text{Lo14});\ \alpha(\text{K}) \text{exp} = 0.0047,\ \text{A}_2 = -0.23\ 2\ \text{in}\ ^{203}\text{Tl}(\alpha,4n\gamma)\ (1983\text{Hu15}). \end{aligned}$
1990.6	21/2+	87.1 [#] 2	100 [#]	1903.52 17/2	2 ⁺ E2		12.07 22	α (L)=8.96 <i>16</i> ; α (M)=2.38 <i>5</i> α (N)=0.605 <i>11</i> ; α (O)=0.1112 <i>20</i> ; α (P)=0.00848 <i>15</i>

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					Ad	opted Levels	, Gamn	nas (continued))
						γ (²⁰³ B	i) (conti	inued)	
E _i (level)	J_i^π	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_f	\mathbf{J}_f^{π}	Mult.	δ^{\dagger}	α^{a}	Comments
					<u> </u>				B(E2)(W.u.)=1.35 +12-10 Mult.: L12/L3=1.22 6 (1983Hu15), L12/L3=1.4 2 (1978Hu02) in 203 Tl(α ,4n γ).
2028.6?		125 ^{‡b} 1	100 [‡]	1903.52	17/2+				
2041.5	25/2+	50.9 [#] 5	100#	1990.6	21/2+	E2		160 9	α (L)=119 6; α (M)=31.4 16 α (N)=8.0 4; α (O)=1.46 8; α (P)=0.110 6 B(E2)(W.u.)=0.75 +15-11 Mult : L12/L3=1.1.2 in ²⁰³ Tl(α 4nz) (1983Hu15)
2088.1	(21/2 ⁺)	184.6 [‡] 5	100 [‡]	1903.52	17/2+	(E2)		0.596 11	$\alpha(K)=0.200 \ 3; \ \alpha(L)=0.295 \ 6; \ \alpha(M)=0.0776 \ 15 \ \alpha(N)=0.0197 \ 4; \ \alpha(O)=0.00368 \ 7; \ \alpha(P)=0.000298 \ 6 \ Mult.: \ \alpha(L)exp=0.33, \ A_2=0.19 \ 35, \ A_4=-0.2 \ 5 \ in \ {}^{203}Tl({}^{3}He \ 3n\chi) \ (19821 \ o14)$
2135.89	(3/2,5/2)+	647.7 1	44 <i>4</i>	1488.14	5/2+	M1(+E2)	<0.5	0.055 5	$\alpha(K)=0.045 \ 4; \ \alpha(L)=0.0077 \ 5; \ \alpha(M)=0.00181 \ 12$ $\alpha(N)=0.00046 \ 3; \ \alpha(O)=9.5\times10^{-5} \ 7; \ \alpha(P)=1.12\times10^{-5} \ 8$ Mult., δ : $\alpha(K)$ exp=0.051 β (1972Al25). Other: $\alpha(K)$ exp=0.04 l (1969Al10). All data are from ²⁰³ Po ε decay.
		822.9 1	51 4	1312.98	3/2+	M1(+E2)	<1.2	0.025 7	$\alpha(K)=0.021\ 6;\ \alpha(L)=0.0036\ 8;\ \alpha(M)=0.00085\ 18$ $\alpha(N)=0.00022\ 5;\ \alpha(O)=4.4\times10^{-5}\ 10;\ \alpha(P)=5.2\times10^{-6}\ 12$ Mult $\delta;\ \alpha(K)$ exp=0.023 10 in ²⁰³ Po ε decay (1972A125).
		1037.7 4	6.0 24	1098.21	$1/2^{+}$				
		1242.4 <i>1</i>	100 6	893.54	5/2-	E1		0.00181	$\alpha(K)=0.001484\ 21;\ \alpha(L)=0.000225\ 4;\ \alpha(M)=5.21\times10^{-5}\ 8$ $\alpha(N)=1.326\times10^{-5}\ 19;\ \alpha(O)=2.70\times10^{-6}\ 4;\ \alpha(P)=3.20\times10^{-7}$ $5;\ \alpha(IPF)=2.91\times10^{-5}\ 4$ Mult: $\alpha(K)$ are p=0.0019 6 in 203 Po c decay (1972A125)
2231.16	(3/2,5/2)+	743.0 1	21 4	1488.14	5/2+	M1(+E2)	<1.9	0.030 12	$\alpha(K)=0.024 \ 10; \ \alpha(L)=0.0044 \ 14; \ \alpha(M)=0.0010 \ 3 \ \alpha(N)=0.0026 \ 8; \ \alpha(O)=5.4\times10^{-5} \ 17; \ \alpha(P)=6.3\times10^{-6} \ 22 \ Mult. \ \delta; \ \alpha(K)\exp=0.033 \ 18 \ in \ ^{203}Po \ \varepsilon \ decay \ (1972A125).$
2287.069	$(2/2, 5/2^{+})$	918.1 <i>1</i> 1133.1 2 1337.9 2	28 4 19 4 100 8	1312.98 1098.21 893.54	3/2 ⁺ 1/2 ⁺ 5/2 ⁻ 5/2 ⁺				
2287.00?	(3/2,3/2)	973.9 2	82 18	1312.98	3/2 3/2+				
2566.72?	(3/2 ⁻ ,5/2,7/2)	1188.7 2 1475.7 2 1658.1 2	37 <i>18</i> 100 <i>27</i> 82 <i>22</i>	1098.21 1090.99 908.73	1/2 ⁺ 7/2 ⁻ 7/2 ⁻				
2689.45?	(3/2 ⁻ ,5/2,7/2)	1075.03 1201.64 1598.53 1780.71	82 22 33 17 75 17 100 17	893.54 1488.14 1090.99 908.73	5/2 5/2 ⁺ 7/2 ⁻ 7/2 ⁻				
2731.0	27/2+	689.6 [#] 2	83 <i>17</i> 100 [#]	893.54 2041.5	5/2 ⁻ 25/2 ⁺	M1(+E2)		0.0503	$\alpha(K)$ =0.0412 6; $\alpha(L)$ =0.00696 10; $\alpha(M)$ =0.001630 23

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$\gamma(^{203}\text{Bi})$ (continued)

E _i (level)	\mathbf{J}_i^{π}	${\rm E_{\gamma}}^{\dagger}$	I_{γ}^{\dagger}	E_f	\mathbf{J}_f^{π}	Mult.	α^{a}	Comments
								α (N)=0.000417 6; α (O)=8.53×10 ⁻⁵ 12; α (P)=1.018×10 ⁻⁵ 15 Mult.: α (K)exp=0.037, A ₂ =-0.49 2 in ²⁰³ Tl(α ,4n γ) (1983Hu15).
2752.14	(3/2,5/2,7/2)	1264.0 <i>1</i>	100	1488.14	5/2+			
2855.4	27/2+	813.7 [#] 2	100 [#]	2041.5	25/2+	M1	0.0327	α (K)=0.0268 4; α (L)=0.00451 7; α (M)=0.001055 15 α (N)=0.000270 4; α (O)=5.52×10 ⁻⁵ 8; α (P)=6.59×10 ⁻⁶ 10 Mult.: α (K)exp=0.027, A ₂ =-0.32 3 in ²⁰³ Tl(α ,4n γ) (1983Hu15).
3032.2	29/2-	176.7 [#] 2	59 [#] 6	2855.4	27/2+	E1	0.1084	$\alpha(K)=0.0875 \ 13; \ \alpha(L)=0.01599 \ 23; \ \alpha(M)=0.00377 \ 6$ $\alpha(N)=0.000952 \ 14; \ \alpha(O)=0.000187 \ 3; \ \alpha(P)=1.99\times10^{-5} \ 3$ B(E1)(W.u.)=5.6×10 ⁻⁷ +6-5 E _y : uncertainty estimated by the evaluator. What is $\alpha(K)=0.022 \ 2 \ i = 2^{23} T (\alpha 4 m) \ (10821 m 15)$
		301.3 [#] 2	100 [#] 10	2731.0	27/2+	E1	0.0301	Mult.: $\alpha(K)\exp[-0.06, A_2=-0.252 \text{ m}] = \Pi(\alpha, 4\mu\gamma)$ (1983Hul3). $\alpha(K)=0.0246 4; \alpha(L)=0.00421 6; \alpha(M)=0.000987 14$ $\alpha(N)=0.000250 4; \alpha(O)=4.99\times10^{-5} 7; \alpha(P)=5.52\times10^{-6} 8$ B(E1)(W.u.)=1.90×10 ⁻⁷ 13 E _y : uncertainty estimated by the evaluator. Mult : $\alpha(K)\exp[-0.010, A_2=-0.232]$ in $2^{203}Tl(\alpha, 4pq)$ (1983Hul5)
3130.52	(3/2,5/2 ⁺)	1817.5 <i>3</i> 2032.5 <i>3</i> 2236.9 <i>2</i>	100 <i>11</i> 37 <i>11</i> 53 <i>11</i>	1312.98 1098.21 893.54	3/2 ⁺ 1/2 ⁺ 5/2 ⁻			Mult.: $a(\mathbf{K})\exp(-0.019, R_2 - 0.25/2)$ in $an (a,407) (1965ft015).$
3529.7	31/2-	497.5 [‡] 2	100 [‡]	3032.2	29/2-	M1	0.1188	α (K)=0.0971 <i>14</i> ; α (L)=0.01656 <i>24</i> ; α (M)=0.00388 <i>6</i> α (N)=0.000993 <i>14</i> ; α (O)=0.000203 <i>3</i> ; α (P)=2.42×10 ⁻⁵ <i>4</i> Mult.: α (K)exp=0.17, A ₂ =-0.46 <i>2</i> in ²⁰³ Tl(α ,4n γ) (1983Hu15).
3704.7+x		175 [@] 1	100 [@]	3529.7+x				
3826.0	33/2-	296.3 [‡] 2	100 [‡]	3529.7	31/2-	M1	0.480	α (K)=0.392 6; α (L)=0.0676 10; α (M)=0.01589 23 α (N)=0.00406 6; α (O)=0.000831 12; α (P)=9.89×10 ⁻⁵ 14 Mult.: α (K)exp=0.41, A ₂ =-0.38 2 in ²⁰³ Tl(α ,4n γ) (1983Hu15).
3950.7+x		246 [@] 1	100 [@]	3704.7+x				
4288.7+x		338 [@] 1	100@	3950.7+x				
4470.1	35/2-	644.1 [‡] 2	100 [‡]	3826.0	33/2-	M1	0.0602	$\alpha(K)=0.0493 \ 7; \ \alpha(L)=0.00833 \ 12; \ \alpha(M)=0.00195 \ 3$ $\alpha(N)=0.000499 \ 7; \ \alpha(O)=0.0001021 \ 15; \ \alpha(P)=1.219\times10^{-5} \ 17$ Mult.: $\alpha(K)\exp=0.05 \ in \ ^{203}Tl(\alpha,4n\gamma) \ (1983Hu15).$
4544.3	(37/2) ⁻	74.2 5	100	4470.1	35/2-	M1	4.55 11	$\alpha(L)=3.48 \ 9; \ \alpha(M)=0.819 \ 20$ $\alpha(N)=0.209 \ 5; \ \alpha(O)=0.0428 \ 11; \ \alpha(P)=0.00509 \ 13$ $B(M1)(W.u.)=0.00235 \ 8$ Mult.: L12/L3>10 in ²⁰³ Tl(α ,4n γ) (1983Hu15).
4730.7+x		442 [@] 1	@	4288.7+x				
5247.7+x		517 [@] 1	@	4730.7+x				
5824.7+x		577 [@] 1	@	5247.7+x				

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 $\gamma(^{203}\text{Bi})$ (continued)

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[†] From ²⁰³Po ε decay, unless otherwise stated.
[‡] From ²⁰³Tl(³He,3nγ).
[#] From ²⁰³Tl(α,4nγ).
[@] From ¹⁹⁸Pt(¹¹B,6nγ).
[&] From ²⁰³Bi IT decay.
^a Additional information 2.
^b Placement of transition in the level scheme is uncertain.

Level Scheme

Intensities: Relative photon branching from each level



 $^{203}_{\ 83}{\rm Bi}_{120}$

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

 $--- \rightarrow \gamma$ Decay (Uncertain)



²⁰³₈₃Bi₁₂₀

Level Scheme (continued)

Intensities: Relative photon branching from each level



²⁰³₈₃Bi₁₂₀