Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 166, 1 (2020)	20-Apr-2020

Q(β^-)=−3543 *11*; S(n)=8490 *11*; S(p)=3244 *5*; Q(α)=3691 *15* 2017Wa10

^{205}Bi Levels

Cross Reference (XREF) Flags

A ^{205}Po ε decay
B ^{209}At α decay
C ^{204}Pb(^{3}He,d),(α,t)
D ^{205}Tl(^{3}He,3nγ)
E ^{205}Tl(α,4nγ)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0.0#	9/2−	14.91 d *7*	ABCDE	%ε+%β^+=100 μ=+4.065 *7*; Q=−0.81 *3* Jπ: Atomic beam (1959Li50); π from L=5 in ^{204}Pb(^{3}He,d),(α,t) (1973Er08). $T_{1/2}$: From γ(t) in 2004Ku33, based on three different samples that resulted in 33 data set fits for 12 gamma rays with emission probabilities per decay greater than 2%. The measurements were carried out over 60 days. Others: 15.31 d *4* (1961Br19), but no details were presented by the authors, 15.3 d *7* (1958Fr53) and 14.5 d (1951Ka03). μ: From (1997Ki15,2000Pe30) using laser resonant fluorescence spectroscopy technique. Other: +4.16 *10* (1975Ma08). Q: From (2001Bi23,2016St14), corrected from −0.585 *43* (1997Ki15,2000Pe30) using laser resonant fluorescence spectroscopy technique. $\Delta<r^2>$(205,209)=−1.92 *15* (1975Ma08).
795.89@ *11*	11/2−		A DE	Jπ: 795.9γ M1+E2 to 9/2−.
849.84@ *7*	7/2−		A CD	XREF: C(850). Jπ: 849.8γ M1+E2 to 9/2−; L=3 in ^{204}Pb(^{3}He,d),(α,t).
872.39@ *7*	5/2−		A D	Jπ: 872.4γ E2 to 9/2−; 22.6γ to 7/2−.
881.38@ *16*	13/2−		DE	Jπ: 881.3γ E2 to 9/2−; 85.3γ to 11/2−.
1001.23i *7*	7/2−		A CD	XREF: C(1000). Jπ: 128.9 M1 to 5/2−; 151.4γ M1+E2 to 7/2−; 1001.2 M1+E2 to 9/2−; L=3 in ^{204}Pb(^{3}He,d),(α,t).
1044.04 *9*	(9/2)−		A CD	XREF: C(1040). Jπ: 193.8γ (M1) to 7/2−; 248.2γ M1+E2 to 11/2−; 1044.0γ E2(+M1) to 9/2−.
1110.04a *14*	13/2−		DE	Jπ: 314.1γ M1 to 11/2−; 1110.2γ E2 to 9/2−.
1167.72& *15*	15/2−		DE	Jπ: 57.7γ M1(+E2) to 13/2−; 286.2γ M1(+E2) to 13/2−; 873.6γ E1 from 17/2+; 404.4γ M1 from 17/2−.
1194.3 *4*	(9/2,11/2,13/2)−		D	Jπ: 398.4γ M1 to 11/2−; 1194.3γ to 9/2−.
1239.12 *10*	7/2−		A CD	XREF: C(1240). Jπ: 1239.1γ M1+E2 to 9/2−; L=3 in ^{204}Pb(^{3}He,d),(α,t).
1310.1 *5*	(13/2)−		DE	Jπ: 428.8γ M1 (J to J from $\gamma(\theta)$) to 13/2−.
1336.25 *10*	5/2−		A D	Jπ: 335.0γ M1(+E2) to 7/2−; 1336.4γ E2 to 9/2−.
1343.88& *21*	17/2−		DE	Jπ: 176.1γ M1+E2 to 15/2−; 462.6γ (E2) to 13/2−.
1437.0 *6*	(13/2,15/2)−		D	Jπ: 555.6γ M1 to 13/2−.
1472.21 *12*	1/2−		A D	Jπ: 599.8 E2 to 5/2−; 24.9γ (E1) from 1/2+.
1486.64 *9*	3/2−,5/2−		A D	Jπ: 150.4 M1 to 5/2−; 614.2γ M1 to 5/2−;
1497.17j *9*	1/2+	7.9 μs *7*	A D	Jπ: 624.8γ M2 to 5/2−, 24.9γ to 1/2−.

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Adopted Levels, Gammas (continued)

^{205}Bi Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				$T_{1/2}$: From γγ(t) in 1972Al25.
1572.13[a] *22*	(17/2)⁻		DE	Jπ: 228.2γ M1 to 17/2⁻, 404.4γ M1 to 15/2⁻.
1591.9[k] *6*	13/2⁺		CD	XREF: C(1590). Jπ: L=6 in ^{204}Pb(^{3}He,d),(α,t); 796.0γ to 11/2⁻.
1701.2 *4*	15/2⁻		E	Jπ: 533.2γ M1 to 15/2⁻, 591.3γ M1 to 13/2⁻; 340.0γ E1 from 17/2⁺.
1709.19[l] *9*	3/2⁺	105 ps *10*	A D	Jπ: 212.0γ M1+E2 to 1/2⁺; 836.8 E1 to 5/2⁻. $T_{1/2}$: From ceγ(t) using a spectrum produced by gating on E(ce)(K) for 261.0γ(above)-γ(below) the isomer in 1986Be07.
1837.9 *5*	15/2⁻		E	Jπ: 527.8γ (M1) to (13/2⁻); 203.4γ E1 from 17/2⁺.
1960[m] *25*	(3/2)⁻		C	Jπ: L=1 in ^{204}Pb(^{3}He,d),(α,t).
1970.25[n] *10*	5/2⁺		A	Jπ: 261.0γ M1 to 3/2⁺, 473.1γ E2 to 1/2⁺, 1120.6γ to 7/2⁻.
2041.26 *20*	17/2⁺		DE	Jπ: 340.0γ E1 to 15/2⁻, 469.1 E1 to 17/2⁻, 23.8γ from 21/2⁺.
2064.7[b] *4*	21/2⁺	100 ns *6*	DE	μ=2.70 *4* (1982Hu07) Jπ: 720.5γ M2 to 17/2⁻. $T_{1/2}$: From 697.3γ(t) and 881.3γ(t) in 1982Lo14. Other: 80 ns *15* using a two isomers fit to 176ce(K)-γ(t) spectra in 1978Hu02. μ: 2.70 *4* and 2.741 *11* from the measured g-factors of g=0.257 *4* (1982Hu07) and g=0.261 *1* (1981BeYR), respectively. Gamma rays deexciting the 17/2⁺ state were used in conjunction with the perturbed angular distribution method, thus both the 21/2⁺ and the 25/2⁺ isomers contribute to the measured g-factor. The expected difference between the two g-factors is too small to be distinguished in the measurements (1981BeYR,1982Hu07), e.g. g-factor(21/2⁺)=0.30 *2* and g-factor(25/2⁺)=0.26 *1* (1982Hu07).
2139.0[b] *7*	25/2⁺	220 ns *25*	E	μ=3.21 *5* (1982Hu07) Jπ: 74.5γ E2 to 21/2⁺ level; 640.9γ and 1059.1γ from 27/2⁺. $T_{1/2}$: From 1978Hu02 using a two isomers fit to 176ce(K)-g(t) spectra. μ: 3.21 *5* and 3.263 *12* from the measured g-factors of g=0.257 *4* (1982Hu07) and g=0.261 *1* (1981BeYR), respectively. Gamma rays deexciting the 17/2⁺ state were used in conjunction with the perturbed angular distribution method, thus both the 21/2⁺ and the 25/2⁺ isomers contribute to the measured g-factor. The expected difference between the two g-factors is too small to be distinguished in the measurements (1981BeYR,1982Hu07), e.g. g-factor(21/2⁺)=0.30 *2* and g-factor(25/2⁺)=0.26 *1* (1982Hu07).
2140[c] *25*	(5/2)⁻		C	Jπ: L=3 in ^{204}Pb(^{3}He,d),(α,t).
2195.70 *15*	(3/2⁻,5/2⁻,7/2⁻)		A	Jπ: 859.4γ (M1) to 5/2⁻; 225.4γ to 5/2⁺; 1195.0γ to 7/2⁻.
2310[c] *25*	(5/2⁻,7/2⁻)		C	Jπ: L=(3) in ^{204}Pb(^{3}He,d),(α,t).
2386.10[m] *22*	(3/2)⁻		A C	XREF: C(2400). Jπ: L=1 in ^{204}Pb(^{3}He,d),(α,t); 1513.7γ to 5/2⁻.
2424.33 *12*	(3/2,5/2)⁺		A	Jπ: 454.1γ M1(+E2) to 5/2⁺; 715.2γ M1(+E2) to 3/2⁺; 1551.8γ to 5/2⁻.
2447.60 *22*	(3/2,5/2,7/2)		A	Jπ: 1575.2γ to 5/2⁻; direct feeding in ^{205}Po ε decay (Jπ=5/2⁻).
2573.93 *16*	(5/2⁻,7/2)		A	Jπ: 1701.2γ to 5/2⁻; 1724.1γ to 7/2⁻; 2574.2γ to 9/2⁻; direct feeding in ^{205}Po ε decay (Jπ=5/2⁻).
2579.39 *13*	(3/2⁻,5/2,7/2)		A	Jπ: 1707.1γ to 5/2⁻, 1729.2γ to 7/2⁻; direct feeding in ^{205}Po ε decay (Jπ=5/2⁻).
2640[c] *25*	5/2⁻,7/2⁻		C	Jπ: From L=3 in ^{204}Pb(^{3}He,d),(α,t).
2683.63 *16*	(5/2,7/2)		A C	XREF: C(2700). Jπ: 713.3γ to 5/2⁺; 1811.3γ to 5/2⁻; L≥3 in ^{204}Pb(^{3}He,d),(α,t).
2740 *25*			C	L≥3 in ^{204}Pb(^{3}He,d),(α,t).
2780.0 *7*	27/2⁺		E	Jπ: 640.9γ M1+E2 to 25/2⁺.
2790 *35*	(3/2,5/2)⁻		C	Jπ: From L=1+3 in ^{204}Pb(^{3}He,d),(α,t). configuration: 60% *l*=1 ($\pi(p_{3/2})^{+1}$) and 40% *l*=3 ($\pi(f_{5/2})^{+1}$) components (1973Er08).

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Adopted Levels, Gammas (continued)

^{205}Bi Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
2870[c] *35*	$(5/2)^-$		C	Jπ: From L=3 in ^{204}Pb(^{3}He,d),(α,t).
2892.69 *13*	$(3/2,5/2)^+$		A	Jπ: 1183.5γ M1(+E2) to $3/2^+$; direct feeding in ^{205}Po ε decay ($J^\pi=5/2^-$).
2951.12 *17*	$5/2^-$		A C	XREF: C(2930). Jπ: L=3 in ^{204}Pb(^{3}He,d),(α,t); 1242.3γ to $3/2^+$; 1711.8γ to $7/2^-$; direct feeding in ^{205}Po ε decay ($J^\pi=5/2^-$).
3010[c] *35*	$(5/2)^-$		C	Jπ: L=3 in ^{204}Pb(^{3}He,d),(α,t).
3060[c] *35*	$(5/2)^-$		C	Jπ: L=3 in ^{204}Pb(^{3}He,d),(α,t).
3170[m] *35*	$(3/2)^-$		C	Jπ: L=1 in ^{204}Pb(^{3}He,d),(α,t).
3198.0 *7*	$(27/2)^+$		E	Jπ: 416.7γ M1(+E2) to $27/2^+$; 1059.1γ M1 to $25/2^+$ levels.
3200.7 *7*	$29/2^+$		E	Jπ: 420.6γ M1+E2 to $27/2^+$.
3220[m] *35*	$(3/2)^-$		C	Jπ: L=1 in ^{204}Pb(^{3}He,d),(α,t).
3300 *35*			C	
3360 *35*			C	
3379.8[d] *7*	$29/2^-$	2.54 ns *6*	E	Jπ: 599.9γ E1 to $27/2^+$. $T_{1/2}$: From ce(K)(t) for 600γ and 641γ in 1977Br05. Other: 2.45 ns in 1983Hu15.
3390 *35*			C	
3410 *35*			C	
3895.9[d] *7*	$31/2^-$		E	Jπ: 516.2γ M1+E2 to $29/2^-$.
4019.4[e] *8*	$33/2^-$		E	Jπ: 123.9γ M1(+E2) to $31/2^-$.
4171.8[e] *8*	$35/2^-$		E	Jπ: 152.3γ M1(+E2) to $33/2^-$.
4181.3 *7*	$31/2^+$		E	Jπ: 980.5γ M1 to $29/2^+$.
4650.4[f] *8*	$35/2^-$		E	Jπ: 631.3γ M1 to $33/2^-$.
4695.4[f] *8*	$37/2^-$		E	Jπ: 523.6γ M1+E2 to $35/2^-$.
4934.2[e] *8*	$37/2^-$		E	Jπ: 762.4γ M1 to $35/2^-$.
4958.0[g] *7*	$33/2^+$		E	Jπ: 776.2γ M1 to $31/2^+$, 1061.8γ (E1) to $31/2^-$.
5163.9[g] *8*	$35/2^+$		E	Jπ: 205.6γ (M1) to $33/2^+$.
5393.0 *8*	$(35/2,37/2)^+$		E	Jπ: 229.1γ M1 to $35/2^+$.
5406.5 *8*	$39/2^{(-)}$		E	Jπ: 711.1γ d to $37/2^-$.
5484.8[h] *8*	$(37/2)^+$		E	Jπ: 77γ to $39/2^{(-)}$; 320.5γ M1 to $35/2^+$; 550.5γ (E1) to $37/2^-$; 834.8γ (E1) to $35/2^-$.
5580.5? *5*			E	
5875.8 *8*			E	
5931.0[h] *8*	$(39/2)^+$		E	Jπ: 446.2γ (M1) to $(37/2)^+$.
5941.5 *8*			E	
5948?			E	
6452?			E	
6718.8 *13*			E	

[†] From least squares fit to Eγ, unless otherwise stated.

[‡] From the deduced γ-ray transition multipolarities, L values in ^{204}Pb(^{3}He,d),(α,t), and systematics of structures in neighboring nuclei. Specific details are given with each level.

[#] configuration=$\pi(h_{9/2}^{+1})$.

[@] configuration=$\pi(h_{9/2}^{+1})\otimes 2^+$.

[&] configuration=$\pi(h_{9/2}^{+1})\otimes 4^+$.

[a] configuration=$\pi(h_{9/2}^{+1})\nu(p_{1/2}^{-1},f_{5/2}^{-1})$.

[b] configuration=$\pi(h_{9/2}^{+1})\nu(f_{5/2}^{-1},i_{13/2}^{-1})$.

[c] Fragmented configuration=$\pi(f_{5/2}^{+1})$.

[d] configuration=$\pi(h_{9/2}^{+1})\nu(i_{13/2}^{-2})$.

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Adopted Levels, Gammas (continued)

^{205}Bi Levels (continued)

[e] configuration=$\pi(h^{+1}_{9/2})\nu(p^{-1}_{1/2},f^{-1}_{5/2},i^{-2}_{13/2})$.
[f] configuration=$\pi(h^{+1}_{9/2})\nu(f^{-2}_{5/2},i^{-2}_{13/2})$.
[g] configuration=$\pi(h^{+1}_{9/2})\nu(p^{-2}_{1/2},i^{-2}_{13/2})$.
[h] configuration=$\pi(h^{+1}_{9/2})\nu(p^{-1}_{1/2},i^{-3}_{13/2})$.
[i] configuration=$\pi(f^{+1}_{7/2})$.
[j] configuration$\pi(s^{+1}_{1/2})$.
[k] configuration=$\pi(i^{+1}_{13/2})$.
[l] configuration=$\pi(d^{+1}_{3/2})$.
[m] Fragmented configuration=$\pi(p^{+1}_{3/2})$.
[n] configuration=$\pi(d^{+1}_{5/2})$.

Adopted Levels, Gammas (continued)

$\gamma(^{205}Bi)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
795.89	11/2$^-$	795.9 *1*	100	0.0	9/2$^-$	M1+E2	0.9 *5*	0.024 *8*	α(K)=0.020 *7*; α(L)=0.0035 *9*; α(M)=0.00082 *21* α(N)=0.00021 *6*; α(O)=4.3×10^{-5} *11*; α(P)=5.0×10^{-6} *14* Mult.: α(K)exp=0.020 *4* (1972Al25); α(K)exp=0.023 *3*, K/L=5.3, A_2=−0.33 *1*, A_4=−0.04 *1* (1982Lo14); α(K)exp=0.033 *4*; A_2=−0.52 *3*, A_4=0.02 *4* (1977Br05); A_2=−0.53 *1*, A_4=0.02 *1*, P(90°)=0.11 *2* (1989By03); A_2=−0.54 *2*, A_4=0.01 *2* (1983Hu15). δ: From α(K)exp in 1972Al25 using the BrIccMixing program.
849.84	7/2$^-$	849.8 *1*	100	0.0	9/2$^-$	M1+E2	+0.58 *18*	0.0243 *23*	α(K)=0.0198 *19*; α(L)=0.0034 *3*; α(M)=0.00080 *7* α(N)=0.000205 *17*; α(O)=4.2×10^{-5} *4*; α(P)=5.0×10^{-6} *5* Mult.: α(K)exp=0.020 *2* (1972Al25); α(K)exp=0.020 *2* and K/L=6 (1969Al10); α(K)exp=0.023, α(L)exp=0.0043 and α(M)exp=0.00078 (1969Ho37); $\gamma(\theta)$ in 1983He09; α(K)exp=0.019 *2*, K/L=5.3, A_2=−0.06 *2*, A_4=−0.01 *2* (1982Lo14); δ: From α(K)exp and K/L in 1972Al25, 1969Al10, 1969Ho37, and $\gamma(\theta)$ in 1983He09 using the BrIccMixing program. The sign is from $\gamma(\theta)$ (1983He09).
872.39	5/2$^-$	22.6 *2*	0.08 *1*	849.84	7/2$^-$	[M1]		151 *5*	α(L)=115 *4*; α(M)=27.2 *9* α(N)=6.95 *21*; α(O)=1.42 *5*; α(P)=0.169 *6*
		872.4 *1*	100	0.0	9/2$^-$	E2		0.00916	α(K)=0.00716 *10*; α(L)=0.001519 *22*; α(M)=0.000366 *6* α(N)=9.34×10^{-5} *13*; α(O)=1.86×10^{-5} *3*; α(P)=2.04×10^{-6} *3* Mult.: α(K)exp=0.0070 (1972Al25); α(K)exp=0.0070 *7* and K/L=6 (1969Al10); α(K)exp=0.0076, α(L)exp=0.0016 and α(M)exp=0.00019 (1969Ho37); $\gamma(\theta)$ in 1983He09; α(K)exp=0.0070 *11*, A_2=0.04 *2*, A_4=−0.05 *3* (1982Lo14);
881.38	13/2$^-$	85.3 *5*		795.89	11/2$^-$				E_γ: From ^{205}Tl(α,4nγ).
		881.3[‡] *2*	100[‡]	0.0	9/2$^-$	E2		0.00897	α(K)=0.00702 *10*; α(L)=0.001482 *21*; α(M)=0.000357 *5* α(N)=9.10×10^{-5} *13*; α(O)=1.82×10^{-5} *3*; α(P)=1.99×10^{-6} *3* Mult.: α(K)exp=0.0082 *8*, K/L=5.9, A_2=0.21 *1*, A_4=−0.06 *1* (1982Lo14); α(K)exp=0.0093 *11*; A_2=0.27 *3*, A_4=0.02 *4* (1977Br05); A_2=0.29 *1*, A_4=−0.03 *1*, P(90°)=0.53 *2* (1989By03); A_2=0.27 *2*, A_4=−0.04 *2* (1983Hu15).
1001.23	7/2$^-$	128.9 *1*	3.8 *3*	872.39	5/2$^-$	M1(+E2)	≤0.2	4.89 *9*	α(K)=3.95 *9*; α(L)=0.718 *18*; α(M)=0.170 *5* α(N)=0.0434 *13*; α(O)=0.00884 *22*; α(P)=0.001037 *17* Mult.: α(K)exp=4.7 *4* (1972Al25); α(K)exp=5.6 *12* and K/L=6 (1969Al10); α(L)exp=0.69 and α(M)exp=0.20 (1969Ho37). δ: From α(K)exp, α(L)exp and K/L in 1972Al25, 1969Al10 and 1969Ho37, using the BrIccMixing program.
		151.4 *1*	4.6 *3*	849.84	7/2$^-$	M1+E2	0.51 *15*	2.74 *19*	α(K)=2.08 *22*; α(L)=0.50 *3*; α(M)=0.121 *8* α(N)=0.0310 *21*; α(O)=0.0061 *4*; α(P)=0.000659 *11* Mult.: α(K)exp=2.0 *2* (1972Al25); α(K)exp=3.1 *6* and K/L=6 (1969Al10); α(L)exp=0.54 and α(M)exp=0.11 (1969Ho37).

From ENSDF

$^{205}_{83}Bi_{122}$-5

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
									δ: From α(K)exp, α(L)exp and α(M)exp in 1972Al25 and 1969Ho37, using the BrIccMixing program.
1001.23	7/2⁻	1001.2 *1*	100 *5*	0.0	9/2⁻	M1+E2	−0.028 *12*	0.0192	α(K)=0.01572 *22*; α(L)=0.00263 *4*; α(M)=0.000614 *9* α(N)=0.0001570 *22*; α(O)=3.21×10^{-5} *5*; α(P)=3.84×10^{-6} *6* Mult.: α(K)exp=0.013 *1* (1972Al25); α(K)exp=0.012 *1* and K/L=6 (1969Al10); α(K)exp=0.019, α(L)exp=0.0032 and α(M)exp=0.00052 (1969Ho37); γ(θ) in 1983He09. δ: From α(K)exp and K/L in 1972Al25 and 1969Al10, and γ(θ) in 1983He09 using the BrIccMixing program. The sign is from γ(θ) (1983He09).
1044.04	(9/2)⁻	193.8[#] *5*	4.5[#] *7*	849.84	7/2⁻	(M1)		1.557 *25*	α(K)=1.268 *20*; α(L)=0.221 *4*; α(M)=0.0519 *9* α(N)=0.01328 *21*; α(O)=0.00271 *5*; α(P)=0.000323 *6* Mult.: A_2=−0.1 *2*, A_4=0.1 *3* (1982Lo14).
		248.2 *1*	22 *4*	795.89	11/2⁻	M1+E2	1.2 *4*	0.45 *12*	α(K)=0.32 *11*; α(L)=0.096 *6*; α(M)=0.0238 *8* α(N)=0.00608 *21*; α(O)=0.00119 *6*; α(P)=0.000120 *15* Mult.: α(K)exp=0.34 *8* (1972Al25) and 0.25 *15* (1969Al10). δ: From α(K)exp in 1972Al25 and 1969Al10 using the BrIccMixing program.
		1044.0 *1*	100 *12*	0.0	9/2⁻	E2(+M1)		0.01721	α(K)=0.01413 *20*; α(L)=0.00236 *4*; α(M)=0.000551 *8* α(N)=0.0001409 *20*; α(O)=2.88×10^{-5} *4*; α(P)=3.45×10^{-6} *5* Mult.: α(K)exp=0.006 *2* (1972Al25).
1110.04	13/2⁻	314.1[‡] *2*	100[‡] *5*	795.89	11/2⁻	M1		0.409	α(K)=0.334 *5*; α(L)=0.0576 *9*; α(M)=0.01353 *19* α(N)=0.00346 *5*; α(O)=0.000707 *10*; α(P)=8.42×10^{-5} *12* Mult.: α(K)exp=0.38 *4*, A_2=−0.18 *1*, A_4=−0.04 *1* (1982Lo14); α(K)exp=0.42 *4*; A_2=−0.29 *3*, A_4=−0.002 *30* (1977Br05); A_2=−0.25 *2*, A_4=−0.01 *3*, P(90°)=−0.32 *3* (1989By03); A_2=−0.28 *2*, A_4=−0.02 *2* (1983Hu15).
		1110.2[‡] *2*	74[‡] *4*	0.0	9/2⁻	E2		0.00572	α(K)=0.00458 *7*; α(L)=0.000871 *13*; α(M)=0.000207 *3* α(N)=5.29×10^{-5} *8*; α(O)=1.064×10^{-5} *15*; α(P)=1.200×10^{-6} *17*; α(IPF)=2.16×10^{-7} *4* Mult.: α(K)exp=0.0035 *5*, A_2=0.24 *3*, A_4=−0.08 *4* (1982Lo14); A_2=0.30 *1*, A_4=−0.04 *2*, P(90°)=0.66 *7* (1989By03); A_2=0.28 *2*, A_4=−0.03 *2* (1983Hu15).
1167.72	15/2⁻	57.7[‡] *1*	10.0[‡] *5*	1110.04	13/2⁻	M1(+E2)	<0.14	10.2 *8*	α(L)=7.8 *6*; α(M)=1.86 *15* α(N)=0.47 *4*; α(O)=0.096 *7*; α(P)=0.0111 *5* Mult.: α(L3)/α(L1)<0.1 (1977Br05), (α(L1)+α(L2))/α(L3)>10 (1983Hu15). δ: From ^{205}Tl(α,4nγ).
		286.2[‡] *2*	100[‡] *5*	881.38	13/2⁻	M1(+E2)	<0.33	0.509 *21*	α(K)=0.413 *19*; α(L)=0.0732 *17*; α(M)=0.0173 *4* α(N)=0.00441 *9*; α(O)=0.000899 *20*; α(P)=0.000106 *4* Mult.: α(K)exp=0.58 *6*, K/L=7.2, A_2=0.01 *2*, A_4=0.05 *3* (1982Lo14); α(L3)/α(L1)<0.03; A_2=−0.28 *2*, A_4=0.007 *22*

From ENSDF

$^{205}_{83}Bi_{122}$-6

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
									(1977Br05); A_2=−0.27 *1*, A_4=0.00 *2*, P(90°)=−0.33 *3* (1989By03); A_2=−0.28 *2*, A_4=0.00 *2* (1983Hu15). δ: From ^{205}Tl(α,4nγ).
1194.3	(9/2,11/2,13/2)$^-$	398.4[#] *5*	100[#] *15*	795.89	11/2$^-$	M1		0.215	α(K)=0.176 *3*; α(L)=0.0301 *5*; α(M)=0.00707 *11* α(N)=0.00181 *3*; α(O)=0.000370 *6*; α(P)=4.40×10^{-5} *7* Mult.: α(K)exp=0.17 *3* (1982Lo14).
		1194.3[#] *5*	80[#] *12*	0.0	9/2$^-$				
1239.12	7/2$^-$	1239.1 *1*	100	0.0	9/2$^-$	M1+E2	+0.11 *4*	0.01102 *17*	α(K)=0.00905 *14*; α(L)=0.001502 *23*; α(M)=0.000351 *6* α(N)=8.98×10^{-5} *14*; α(O)=1.84×10^{-5} *3*; α(P)=2.20×10^{-6} *4*; α(IPF)=1.382×10^{-5} *21* Mult.: α(K)exp=0.007 *1* (1972Al25); α(K)exp=0.0066 *10* (1969Al10); α(K)exp=0.012 (1969Ho37). δ: From α(K)exp in 1972Al25, 1969Al10 and 1969Ho37, and γ(θ) in 1983He09 using the BrIccMixing program. The sign is from γ(θ) (1983He09).
1310.1	(13/2)$^-$	428.8[‡] *5*	100[‡]	881.38	13/2$^-$	M1		0.177	α(K)=0.1442 *21*; α(L)=0.0247 *4*; α(M)=0.00579 *9* α(N)=0.001482 *22*; α(O)=0.000303 *5*; α(P)=3.61×10^{-5} *6* Mult.: α(K)exp=0.19 *3*, A_2=0.3 *2*, A_4=−0.2 *2* (1982Lo14); A_2=0.29 *7*, A_4=0.04 *8*, P(90°)=0.32 *16* (1989By03).
1336.25	5/2$^-$	335.0 *1*	14 *3*	1001.23	7/2$^-$	M1(+E2)		0.343	α(K)=0.280 *4*; α(L)=0.0483 *7*; α(M)=0.01134 *16* α(N)=0.00290 *4*; α(O)=0.000593 *9*; α(P)=7.06×10^{-5} *10* Mult.: A_2=−0.00 *10* (1982Lo14).
		1336.4 *3*	100 *8*	0.0	9/2$^-$	E2		0.00405	α(K)=0.00327 *5*; α(L)=0.000584 *9*; α(M)=0.0001380 *20* α(N)=3.52×10^{-5} *5*; α(O)=7.12×10^{-6} *10*; α(P)=8.17×10^{-7} *12*; α(IPF)=2.16×10^{-5} *3* Mult.: α(K)exp=0.002 *1* (1969Al10); α(K)exp=0.0020 *3*, A_2=0.11 *3*, A_4=0.11 *5* (1982Lo14).
1343.88	17/2$^-$	176.1[‡] *2*	100[‡] *5*	1167.72	15/2$^-$	M1+E2	0.120 *21*	2.02	α(K)=1.639 *25*; α(L)=0.290 *5*; α(M)=0.0684 *10* α(N)=0.0175 *3*; α(O)=0.00357 *6*; α(P)=0.000423 *6* Mult.: α(L)exp=0.097 *14*, A_2=−0.22 *1*, A_4=−0.08 *1* (1982Lo14); α(L3)/α(L1)=0.014 *5*; A_2=−0.25 *3*, A_4=0.004 *42* (1977Br05); A_2=−0.20 *1*, A_4=0.02 *2*; A_2=−0.22 *2*, A_4=0.00 *3* (1983Hu15). δ: From 1977Br05 in ^{205}Tl(α,4nγ).

From ENSDF

$^{205}_{83}Bi_{122}$-7

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
1343.88	17/2$^-$	462.6[‡] *5*	7.2[‡] *4*	881.38	13/2$^-$	(E2)		0.0371	α(K)=0.0253 *4*; α(L)=0.00891 *13*; α(M)=0.00224 *4* α(N)=0.000571 *9*; α(O)=0.0001104 *16*; α(P)=1.070×10^{-5} *16* Mult.: A_2=0.04 *7*, A_4=−0.02 *9*, P(90°)=0.40 *18* (1989By03). The γ(θ) data are inconsistent with a stretched E2 assignment.
1437.0	(13/2,15/2)$^-$	555.6[#] *5*	100[#]	881.38	13/2$^-$	M1		0.0887	α(K)=0.0726 *11*; α(L)=0.01233 *18*; α(M)=0.00289 *5* α(N)=0.000739 *11*; α(O)=0.0001512 *22*; α(P)=1.80×10^{-5} *3* Mult.: α(K)exp=0.120 *18* (1982Lo14).
1472.21	1/2$^-$	599.8 *1*	100	872.39	5/2$^-$	E2		0.0202	α(K)=0.01479 *21*; α(L)=0.00405 *6*; α(M)=0.001000 *14* α(N)=0.000255 *4*; α(O)=5.00×10^{-5} *7*; α(P)=5.13×10^{-6} *8* Mult.: α(K)exp=0.012 *2* (1972Al25), 0.014 *3* (1969Al10) and 0.016 (1969Ho37).
1486.64	3/2$^-$,5/2$^-$	150.4 *1*	21 *5*	1336.25	5/2$^-$	M1(+E2)	≤0.5	2.99 *20*	α(K)=2.36 *23*; α(L)=0.48 *3*; α(M)=0.115 *9* α(N)=0.0294 *22*; α(O)=0.0059 *4*; α(P)=0.000668 *11* Mult.: α(K)exp=2.4 *7* (1972Al25) and 3.0 *8* (1969Al10). γ(θ) in 1983He09. δ: From α(K)exp in 1972Al25 and 1969Al10 using the BrIccMixing program.
		614.2 *1*	100 *5*	872.39	5/2$^-$	M1		0.0681	α(K)=0.0558 *8*; α(L)=0.00945 *14*; α(M)=0.00221 *4* α(N)=0.000566 *8*; α(O)=0.0001158 *17*; α(P)=1.382×10^{-5} *20* Mult.: α(K)exp=0.058 *6* (1972Al25), 0.065 *9* (1969Al10) and 0.079 (1969Ho37).
1497.17	1/2$^+$	(10.6)		1486.64	3/2$^-$,5/2$^-$				
		24.9 *2*	71 *22*	1472.21	1/2$^-$	[E1]		3.98 *11*	α(L)=3.02 *8*; α(M)=0.746 *20* α(N)=0.183 *5*; α(O)=0.0321 *9*; α(P)=0.00252 *6* B(E1)(W.u.)=2.3×10^{-7} *3* Mult.: From ce data in ^{205}Po ε decay.
		495.9 *2*	14 *7*	1001.23	7/2$^-$	[E3]		0.1063	α(K)=0.0546 *8*; α(L)=0.0385 *6*; α(M)=0.01007 *15* α(N)=0.00258 *4*; α(O)=0.000494 *7*; α(P)=4.52×10^{-5} *7* B(E3)(W.u.)=0.24 *13*
		624.8 *1*	100 *7*	872.39	5/2$^-$	M2		0.1750	α(K)=0.1378 *20*; α(L)=0.0282 *4*; α(M)=0.00680 *10* α(N)=0.001747 *25*; α(O)=0.000356 *5*; α(P)=4.17×10^{-5} *6* B(M2)(W.u.)=0.00024 *6* Mult.: α(K)exp=0.13 *2* (1972Al25), 0.15 *2* (1969Al10) and α(K)exp=0.14 (1969Ho37); α(K)exp=0.30 *5* (1982Lo14).
1572.13	(17/2)$^-$	228.2[‡] *2*	17.4[‡] *7*	1343.88	17/2$^-$	M1(+E2)		0.987	α(K)=0.804 *12*; α(L)=0.1396 *20*; α(M)=0.0328 *5* α(N)=0.00839 *12*; α(O)=0.001715 *25*; α(P)=0.000204 *3* Mult.: A_2=0.00 *5*, A_4=0.05 *6* (1989By03).
		404.4[‡] *2*	100.0[‡] *5*	1167.72	15/2$^-$	M1		0.207	α(K)=0.1687 *24*; α(L)=0.0289 *4*; α(M)=0.00679 *10* α(N)=0.001736 *25*; α(O)=0.000355 *5*; α(P)=4.23×10^{-5} *6* Mult.: α(K)exp=0.20 *2*; A_2=−0.33 *3*, A_4=0.03 *4* (1977Br05); A_2=−0.30 *1*, A_4=0.03 *2*, P(90°)=−0.12 *2* (1989By03);

From ENSDF

$^{205}_{83}Bi_{122}$-8

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
									A_2=−0.31 *2*, A_4=0.02 *3* (1983Hu15); α(K)exp=0.130 *20*, A_2=−0.1 *3*, A_4=0.4 *4* (1982Lo14).
1591.9	13/2$^+$	796.0[#] *5*	100[#]	795.89	11/2$^-$	E1		0.00396	α(K)=0.00329 *5*; α(L)=0.000514 *8*; α(M)=0.0001193 *17* α(N)=3.03×10^{-5} *5*; α(O)=6.15×10^{-6} *9*; α(P)=7.17×10^{-7} *10* Mult.: α(K)exp=0.023 *3*, K/L=5.3, A_2=−0.33 *1*, A_4=−0.04 *1* (1982Lo14).
1701.2	15/2$^-$	533.2[‡] *2*	67[‡] *7*	1167.72	15/2$^-$	M1(+E2)		0.0989	α(K)=0.0809 *12*; α(L)=0.01376 *20*; α(M)=0.00323 *5* α(N)=0.000825 *12*; α(O)=0.0001687 *24*; α(P)=2.01×10^{-5} *3* Mult.: A_2=0.20 *10* (1989By03), consistent with J to J transition.
		591.3[‡] *2*	100[‡] *5*	1110.04	13/2$^-$	M1(+E2)		0.0753	α(K)=0.0616 *9*; α(L)=0.01045 *15*; α(M)=0.00245 *4* α(N)=0.000626 *9*; α(O)=0.0001281 *18*; α(P)=1.528×10^{-5} *22* Mult.: A_2=−0.66 *25*, A_4=−0.03 *31* (1989By03).
1709.19	3/2$^+$	212.0 *1*	18.7 *10*	1497.17	1/2$^+$	M1+E2	+3.0 *4*	0.45 *3*	α(K)=0.231 *25*; α(L)=0.1645 *24*; α(M)=0.0427 *6* α(N)=0.01087 *16*; α(O)=0.00205 *3*; α(P)=0.000177 *4* B(M1)(W.u.)=0.00032 *9*; B(E2)(W.u.)=23 *3* Mult.: α(K)exp=0.22 *2* (1972Al25); α(K)exp=0.25 *3*(1969Al10); α(K)exp=0.45, α(L)exp=0.33 and α(M)exp=0.074 (1969Ho37); γ(θ) in 1983He09. δ: From α(K)exp in 1972Al25 and 1969Al10 using the BrIccMixing program. The sign is from 1983He09.
		222.5 *1*	0.94 *12*	1486.64	3/2$^-$,5/2$^-$	[E1]		0.0617	α(K)=0.0501 *7*; α(L)=0.00888 *13*; α(M)=0.00209 *3* α(N)=0.000528 *8*; α(O)=0.0001046 *15*; α(P)=1.131×10^{-5} *16* B(E1)(W.u.)=1.23×10^{-6} *21*
		836.8 *1*	100 *6*	872.39	5/2$^-$	E1		0.00361	α(K)=0.00300 *5*; α(L)=0.000467 *7*; α(M)=0.0001083 *16* α(N)=2.75×10^{-5} *4*; α(O)=5.59×10^{-6} *8*; α(P)=6.53×10^{-7} *10* B(E1)(W.u.)=2.46×10^{-6} *24* Mult.: α(K)exp=0.0038 *3* (1972Al25); α(K)exp=0.0034 *3* (1969Al10); α(K)exp=0.0035, and α(L)exp=0.00093 (1969Ho37); γ(θ) in 1983He09.
1837.9	15/2$^-$	527.8[‡] *2*	100[‡]	1310.1	(13/2)$^-$	(M1)		0.1016	α(K)=0.0831 *12*; α(L)=0.01414 *20*; α(M)=0.00332 *5* α(N)=0.000848 *12*; α(O)=0.0001733 *25*; α(P)=2.07×10^{-5} *3* Mult.: A_2=−0.14 *6*, A_4=−0.02 *8*, P(90°)=0.17 *16* (1989By03).
1970.25	5/2$^+$	261.0 *1*	100 *6*	1709.19	3/2$^+$	M1+E2	0.33 *+16−24*	0.63 *5*	α(K)=0.51 *5*; α(L)=0.094 *3*; α(M)=0.0221 *6* α(N)=0.00566 *14*; α(O)=0.00115 *4*; α(P)=0.000134 *7* Mult.: α(K)exp=0.44 *4* (1972Al25); α(K)exp=0.59 *6* (1969Al10); α(K)exp=0.58, α(L)exp=0.18, and α(M)exp=0.035 (1969Ho37); γ(θ) in 1983He09. δ: From α(K)exp in 1972Al25, 1969Al10 and 1969Ho37 using the BrIccMixing program.
		473.1 *1*	22.0 *18*	1497.17	1/2$^+$	E2		0.0351	α(K)=0.0241 *4*; α(L)=0.00829 *12*; α(M)=0.00208 *3*

From ENSDF

$^{205}_{83}Bi_{122}$-9

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	α[a]	Comments
								α(N)=0.000530 *8*; α(O)=0.0001027 *15*; α(P)=1.001×10^{-5} *14* Mult.: α(K)exp=0.032 *5* (1972Al25) and 0.031 *6* (1969Al10).
1970.25	5/2$^+$	1120.6[@] *2*	2.8[@] *18*	849.84	7/2$^-$	[E1]	0.00213	α(K)=0.001775 *25*; α(L)=0.000271 *4*; α(M)=6.27×10^{-5} *9* α(N)=1.597×10^{-5} *23*; α(O)=3.25×10^{-6} *5*; α(P)=3.83×10^{-7} *6*; α(IPF)=1.60×10^{-6} *3*
2041.26	17/2$^+$	203.4[‡] *2*	6.3[‡] *4*	1837.9	15/2$^-$	(E1)	0.0768	α(K)=0.0622 *9*; α(L)=0.01115 *16*; α(M)=0.00262 *4* α(N)=0.000663 *10*; α(O)=0.0001310 *19*; α(P)=1.406×10^{-5} *20* Mult.: A_2=−0.20 *3*, A_4=−0.04 *4*(1989By03).
		340.0[‡] *2*	5.6[‡] *3*	1701.2	15/2$^-$	E1	0.0229	α(K)=0.0187 *3*; α(L)=0.00316 *5*; α(M)=0.000740 *11* α(N)=0.000188 *3*; α(O)=3.76×10^{-5} *6*; α(P)=4.19×10^{-6} *6* Mult.: A_2=−0.13 *3*, A_4=−0.04 *4*, P(90°)=0.59 *11* (1989By03).
		469.1[‡] *2*	18.1[‡] *10*	1572.13	(17/2)$^-$	E1	0.01132	α(K)=0.00933 *13*; α(L)=0.001526 *22*; α(M)=0.000356 *5* α(N)=9.04×10^{-5} *13*; α(O)=1.82×10^{-5} *3*; α(P)=2.07×10^{-6} *3* Mult.: α(K)exp=0.0116 *28*; A_2=0.25 *6*, A_4=0.02 *8* (1977Br05); A_2=0.34 *2*, A_4=−0.01 *2*, P(90°)=−0.42 *4* (1989By03); A_2=0.29 *2*, A_4=0.01 *3* (1983Hu15); α(K)exp<0.05, A_2=0.1 *2*, A_4=0.13 *30* (1982Lo14).
		697.4[‡] *2*	100[‡] *5*	1343.88	17/2$^-$	E1	0.00509	α(K)=0.00422 *6*; α(L)=0.000667 *10*; α(M)=0.0001548 *22* α(N)=3.94×10^{-5} *6*; α(O)=7.97×10^{-6} *12*; α(P)=9.24×10^{-7} *13* Mult.: α(K)exp=0.0062 *7*; A_2=0.22 *5*, A_4=0.05 *6* (1977Br05); A_2=0.36 *2*, A_4=0.00 *2*, P(90°)=−0.54 *1* (1989By03); A_2=0.35 *2*, A_4=0.01 *2* (1983Hu15); α(K)exp=0.0050 *8*, A_2=0.25 *1*, A_4=−0.03 *2* (1982Lo14).
		873.6[‡] *2*	21.7[‡] *11*	1167.72	15/2$^-$	E1	0.00333	α(K)=0.00277 *4*; α(L)=0.000430 *6*; α(M)=9.97×10^{-5} *14* α(N)=2.54×10^{-5} *4*; α(O)=5.15×10^{-6} *8*; α(P)=6.02×10^{-7} *9* Mult.: α(K)exp<0.004; A_2=−0.14 *4*, A_4=−0.04 *5* (1977Br05); A_2=−0.14 *3*, A_4=0.00 *4*, P(90°)=0.38 *2* (1989By03); A_2=−0.16 *2*, A_4=0.02 *3* (1983Hu15).
2064.7	21/2$^+$	23.8 *5*		2041.26	17/2$^+$	[E2]	6.7×10^3 *8*	α(L)=5.0×10^3 *6*; α(M)=1.31×10^3 *15* α(N)=3.3×10^2 *4*; α(O)=60 *7*; α(P)=4.5 *5* E_γ: From ^{205}Tl(α,4nγ).
		720.1[‡] *2*	100[‡] *5*	1343.88	17/2$^-$	M2	0.1161	α(K)=0.0921 *13*; α(L)=0.0183 *3*; α(M)=0.00439 *7* α(N)=0.001128 *16*; α(O)=0.000230 *4*; α(P)=2.70×10^{-5} *4* B(M2)(W.u.)=0.0413 *25* Mult.: α(K)exp=0.071 *15* (1977Br05); A_2=0.15 *3*, A_4=0.01 *5*, P(90°)=−0.19 *10* (1989By03); A_2=0.11 *3*, A_4=−0.02 *4* (1983Hu15). B(M2)(W.u.) is a limit, since Iγ(23.8γ) is unknown.
2139.0	25/2$^+$	74.3[‡] *5*	100[‡]	2064.7	21/2$^+$	E2	25.7 *10*	α(L)=19.1 *7*; α(M)=5.07 *18* α(N)=1.29 *5*; α(O)=0.236 *9*; α(P)=0.0179 *7* B(E2)(W.u.)=0.59 *8* Mult.: (α(L1)+α(L2))/α(L3)=1.3 *2* (1983Hu15).

From ENSDF

$^{205}_{83}Bi_{122}$-10

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
2195.70	(3/2⁻,5/2⁻,7/2⁻)	225.4 *2*	26 *3*	1970.25	5/2⁺	[E1]		0.0598	α(K)=0.0486 *7*; α(L)=0.00860 *13*; α(M)=0.00202 *3* α(N)=0.000511 *8*; α(O)=0.0001013 *15*; α(P)=1.096×10^{-5} *16*
		859.4 *2*	39 *12*	1336.25	5/2⁻	(M1)		0.0284	α(K)=0.0233 *4*; α(L)=0.00391 *6*; α(M)=0.000915 *13* α(N)=0.000234 *4*; α(O)=4.78×10^{-5} *7*; α(P)=5.72×10^{-6} *8* Mult.: α(K)exp=0.04 *2* (1972Al25).
		1195.0[b] *4*	46 *23*	1001.23	7/2⁻				
		1323.5 *3*	100 *8*	872.39	5/2⁻				
2386.10	(3/2)⁻	1513.7 *2*	100	872.39	5/2⁻				
2424.33	(3/2,5/2)⁺	454.1 *1*	6.3 *13*	1970.25	5/2⁺	M1(+E2)	≤0.5	0.140 *12*	α(K)=0.114 *10*; α(L)=0.0200 *12*; α(M)=0.0047 *3* α(N)=0.00120 *7*; α(O)=0.000245 *15*; α(P)=2.90×10^{-5} *20* Mult.: α(K)exp=0.14 *3* (1972Al25). δ: From α(K)exp in 1972Al25 using the BrIccMixing program.
		715.2 *2*	11.4 *13*	1709.19	3/2⁺	M1+E2	0.50 *14*	0.039 *3*	α(K)=0.0321 *25*; α(L)=0.0056 *4*; α(M)=0.00131 *8* α(N)=0.000334 *21*; α(O)=6.8×10^{-5} *5*; α(P)=8.1×10^{-6} *6* Mult.: α(K)exp=0.032 *15* (1969Al10). δ: From α(K)exp in 1972Al25 using the BrIccMixing program.
		1551.8 *2*	100 *6*	872.39	5/2⁻	[E1]		1.42×10^{-3}	α(K)=0.001017 *15*; α(L)=0.0001530 *22*; α(M)=3.53×10^{-5} *5* α(N)=8.99×10^{-6} *13*; α(O)=1.83×10^{-6} *3*; α(P)=2.18×10^{-7} *3*; α(IPF)=0.000204 *3*
2447.60	(3/2,5/2,7/2)	1575.2 *2*	100	872.39	5/2⁻				
2573.93	(5/2⁻,7/2)	1701.2 *3*	67 *11*	872.39	5/2⁻				
		1724.1 *2*	100 *11*	849.84	7/2⁻				
		2574.2 *3*	56 *11*	0.0	9/2⁻				
2579.39	(3/2⁻,5/2,7/2)	1578.4 *2*	40 *5*	1001.23	7/2⁻				
		1707.1 *2*	31 *5*	872.39	5/2⁻				
		1729.2 *2*	100 *7*	849.84	7/2⁻				
2683.63	(5/2,7/2)	713.3 *2*	50 *6*	1970.25	5/2⁺				
		1811.3 *2*	100 *9*	872.39	5/2⁻				
2780.0	27/2⁺	640.9[‡] *2*	100[‡]	2139.0	25/2⁺	M1+E2		0.0609	α(K)=0.0499 *7*; α(L)=0.00844 *12*; α(M)=0.00198 *3* α(N)=0.000506 *7*; α(O)=0.0001034 *15*; α(P)=1.235×10^{-5} *18*

From ENSDF

$^{205}_{83}Bi_{122}$-11

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
									Mult.: α(K)exp=0.070 *7*; A_2=−0.60 *3*, A_4=0.00 *4* (1977Br05); A_2=−0.45 *1*, A_4=−0.01 *1*, P(90°)=−0.02 *1* (1989By03); A_2=−0.44 *2*, A_4=−0.02 *2* (1983Hu15).
2892.69	(3/2,5/2)$^+$	1183.5 *1*	100 *9*	1709.19	3/2$^+$	M1(+E2)	≤0.6	0.0115 *10*	α(K)=0.0094 *9*; α(L)=0.00158 *13*; α(M)=0.00037 *3* α(N)=9.4×10^{-5} *8*; α(O)=1.93×10^{-5} *16*; α(P)=2.30×10^{-6} *20*; α(IPF)=4.5×10^{-6} *3* Mult.: α(K)exp=0.009 *2* (1972Al25) and 0.011 *2* (1969Al10). δ: From α(K)exp in 1972Al25 using the BrIccMixing program.
		2020.3 *3*	12 *3*	872.39	5/2$^-$				
2951.12	5/2$^-$	1242.3[b] *4*	100 *40*	1709.19	3/2$^+$				
		1711.8 *4*	50 *20*	1239.12	7/2$^-$				
		1950.0 *2*	50 *10*	1001.23	7/2$^-$				
		2101.1 *3*	50 *10*	849.84	7/2$^-$				
3198.0	(27/2)$^+$	416.7[‡] *5*	100[‡] *6*	2780.0	27/2$^+$	M1(+E2)		0.191	α(K)=0.1557 *23*; α(L)=0.0267 *4*; α(M)=0.00626 *9* α(N)=0.001601 *23*; α(O)=0.000327 *5*; α(P)=3.90×10^{-5} *6* Mult.: A_2=−0.58 *5*, A_4=0.01 *6*, P(90°)=0.16 *5* (1989By03).
		1059.1[‡] *2*	98[‡] *6*	2139.0	25/2$^+$	M1		0.01658	α(K)=0.01362 *19*; α(L)=0.00227 *4*; α(M)=0.000531 *8* α(N)=0.0001357 *19*; α(O)=2.78×10^{-5} *4*; α(P)=3.32×10^{-6} *5* Mult.: A_2=−0.32 *3*, A_4=−0.01 *4*, P(90°)=−0.21 *11* (1989By03).
3200.7	29/2$^+$	420.6[‡] *2*	100[‡]	2780.0	27/2$^+$	M1+E2		0.186	α(K)=0.1519 *22*; α(L)=0.0260 *4*; α(M)=0.00610 *9* α(N)=0.001561 *22*; α(O)=0.000319 *5*; α(P)=3.80×10^{-5} *6* Mult.: A_2=−0.32 *3*, A_4=0.01 *7*, P(90°)=−0.20 *5* (1989By03).
3379.8	29/2$^-$	181.7[‡] *2*	6.7[‡] *4*	3198.0	(27/2)$^+$	E1		0.1012	α(K)=0.0818 *12*; α(L)=0.01488 *22*; α(M)=0.00350 *5* α(N)=0.000886 *13*; α(O)=0.0001744 *25*; α(P)=1.85×10^{-5} *3* B(E1)(W.u.)=7.9×10^{-7} *6* Mult.: A_2=−0.17 *7*, A_4=−0.01 *10* (1989By03).
		599.9[‡] *2*	100[‡] *5*	2780.0	27/2$^+$	E1		0.00684	α(K)=0.00566 *8*; α(L)=0.000905 *13*; α(M)=0.000210 *3* α(N)=5.35×10^{-5} *8*; α(O)=1.081×10^{-5} *16*; α(P)=1.244×10^{-6} *18* B(E1)(W.u.)=3.28×10^{-7} *8* Mult.: α(K)exp=0.0049 *6*; A_2=−0.14 *3*, A_4=0.04 *4* (1977Br05); A_2=−0.18 *2*, A_4=−0.01 *2*, P(90°)=0.45 *4* (1989By03); A_2=−0.18 *2*, A_4=−0.01 *2* (1983Hu15).
3895.9	31/2$^-$	516.2[‡] *2*	100[‡]	3379.8	29/2$^-$	M1(+E2)	≤0.5	0.100 *8*	α(K)=0.081 *7*; α(L)=0.0141 *9*; α(M)=0.00332 *20* α(N)=0.00085 *6*; α(O)=0.000173 *11*; α(P)=2.05×10^{-5} *15* Mult.: α(K)exp=0.082 *10*; A_2=−0.25 *2*, A_4=−0.02 *3* (1977Br05); A_2=−0.28 *2*, A_4=0.00 *2*, P(90°)=−0.09 *3* (1989By03). δ: From 1977Br05.
4019.4	33/2$^-$	123.9[‡] *2*	100[‡]	3895.9	31/2$^-$	M1(+E2)	<0.3	5.41 *14*	α(K)=4.32 *18*; α(L)=0.83 *5*; α(M)=0.197 *12* α(N)=0.050 *3*; α(O)=0.0102 *6*; α(P)=0.00118 *3*

From ENSDF

$^{205}_{83}Bi_{122}$-12

Adopted Levels, Gammas (continued)

γ(^{205}Bi) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	δ	α[a]	Comments
									Mult.: α(L3)/α(L1)<0.1 (1977Br05); A_2=−0.25 *3*, A_4=−0.04 *4* (1989By03). δ: From 1977Br05.
4171.8	35/2$^-$	152.3[‡] *2*	100[‡]	4019.4	33/2$^-$	M1(+E2)	<0.6	2.83 *25*	α(K)=2.2 *3*; α(L)=0.47 *4*; α(M)=0.113 *11* α(N)=0.029 *3*; α(O)=0.0058 *5*; α(P)=0.000644 *11* Mult.: α(L3)/α(L1)<0.2 (1977Br05); A_2=−0.18 *3*, A_4=0.03 *4* (1989By03). δ: From 1977Br05.
4181.3	31/2$^+$	980.5[‡] *2*	100[‡]	3200.7	29/2$^+$	M1		0.0202	α(K)=0.01660 *24*; α(L)=0.00277 *4*; α(M)=0.000649 *9* α(N)=0.0001658 *24*; α(O)=3.39×10^{-5} *5*; α(P)=4.06×10^{-6} *6* Mult.: From γ(θ) and γ-ray polarization in ^{205}Tl(α,4nγ).
4650.4	35/2$^-$	631.3[‡] *2*	100[‡]	4019.4	33/2$^-$	M1		0.0634	α(K)=0.0519 *8*; α(L)=0.00879 *13*; α(M)=0.00206 *3* α(N)=0.000527 *8*; α(O)=0.0001077 *16*; α(P)=1.285×10^{-5} *18* Mult.: A_2=−0.41 *7*, A_4=0.03 *7*, P(90°)=−0.05 *8* (1989By03).
4695.4	37/2$^-$	523.6[‡] *2*	100[‡]	4171.8	35/2$^-$	M1+E2		0.1037	α(K)=0.0849 *12*; α(L)=0.01444 *21*; α(M)=0.00339 *5* α(N)=0.000866 *13*; α(O)=0.0001771 *25*; α(P)=2.11×10^{-5} *3* Mult.: A_2=−0.46 *3*, A_4=−0.02 *4*, P(90°)=−0.19 *5* (1989By03).
4934.2	37/2$^-$	762.4[‡] *2*	100[‡]	4171.8	35/2$^-$	M1		0.0388	α(K)=0.0318 *5*; α(L)=0.00535 *8*; α(M)=0.001252 *18* α(N)=0.000320 *5*; α(O)=6.55×10^{-5} *10*; α(P)=7.82×10^{-6} *11* Mult.: A_2=−0.30 *3*, A_4=0.02 *4*, P(90°)=−0.08 *10* (1989By03).
4958.0	33/2$^+$	776.2[‡] *5*	12.2[‡] *7*	4181.3	31/2$^+$	M1		0.0370	α(K)=0.0303 *5*; α(L)=0.00510 *8*; α(M)=0.001194 *17* α(N)=0.000305 *5*; α(O)=6.25×10^{-5} *9*; α(P)=7.46×10^{-6} *11* Mult.: A_2=−0.62 *8*, A_4=−0.03 *10*, P(90°)=−0.09 *10* (1989By03).
		1061.8[‡] *2*	100[‡] *5*	3895.9	31/2$^-$	(E1)		0.00234	α(K)=0.00195 *3*; α(L)=0.000299 *5*; α(M)=6.92×10^{-5} *10* α(N)=1.762×10^{-5} *25*; α(O)=3.58×10^{-6} *5*; α(P)=4.22×10^{-7} *6* Mult.: A_2=0.31 *6*, A_4=−0.01 *5*, P(90°)=0.8 *4* (1989By03). Note, that the measured A_2 coefficient is in disagreement with such an assignment.
5163.9	35/2$^+$	205.6[‡] *2*	100[‡]	4958.0	33/2$^+$	(M1)		1.320	α(K)=1.075 *16*; α(L)=0.187 *3*; α(M)=0.0440 *7* α(N)=0.01125 *16*; α(O)=0.00230 *4*; α(P)=0.000274 *4* Mult.: A_2=−0.31 *8*, A_4=−0.05 *10* (1989By03).
5393.0	(35/2,37/2)$^+$	229.1[‡] *2*	100[‡]	5163.9	35/2$^+$	M1		0.976	α(K)=0.795 *12*; α(L)=0.1381 *20*; α(M)=0.0325 *5* α(N)=0.00830 *12*; α(O)=0.001697 *25*; α(P)=0.000202 *3* A_2=0.03 *5*, A_4=0.06 *6* (1989By03).
5406.5	39/2$^{(-)}$	711.1[‡] *2*	100[‡]	4695.4	37/2$^-$	D			Mult.: A_2=−0.47 *11*, A_4=0.03 *18*, P(90°)=−0.26 *31* (1989By03).
5484.8	(37/2)$^+$	77[b] *1*		5406.5	39/2$^{(-)}$				E_γ: From ^{205}Tl(α,4nγ).
		320.5[‡] *2*	47.6[‡] *24*	5163.9	35/2$^+$	M1		0.387	α(K)=0.316 *5*; α(L)=0.0545 *8*; α(M)=0.01280 *18* α(N)=0.00327 *5*; α(O)=0.000669 *10*; α(P)=7.97×10^{-5} *12* Mult.: A_2=−0.31 *9*, A_4=−0.06 *13*, P(90°)=−1.14 *50* (1989By03).
		550.5[‡] *2*	19.0[‡] *10*	4934.2	37/2$^-$	(E1)		0.00813	α(K)=0.00672 *10*; α(L)=0.001082 *16*; α(M)=0.000252 *4*

From ENSDF

$^{205}_{83}Bi_{122}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{205}Bi)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[&]	α[a]	Comments
								α(N)=6.41×10^{-5} *9*; α(O)=1.292×10^{-5} *19*; α(P)=1.481×10^{-6} *21* Mult.: A_2=−0.11 *13* (1989By03).
5484.8	(37/2)$^+$	789.4[‡] *2*	28.6[‡] *24*	4695.4	37/2$^-$	(E1)	0.00402	α(K)=0.00334 *5*; α(L)=0.000523 *8*; α(M)=0.0001212 *17* α(N)=3.08×10^{-5} *5*; α(O)=6.25×10^{-6} *9*; α(P)=7.28×10^{-7} *11* Mult.: A_2=0.42 *19* (1989By03), consistent with a J to J transition.
		834.8[‡] *2*	100[‡] *5*	4650.4	35/2$^-$	(E1)	0.00363	α(K)=0.00301 *5*; α(L)=0.000469 *7*; α(M)=0.0001088 *16* α(N)=2.77×10^{-5} *4*; α(O)=5.61×10^{-6} *8*; α(P)=6.56×10^{-7} *10* Mult.: A_2=−0.18 *5*, A_4=0.15 *7* (1989By03).
5580.5?		416.7[‡b] *5*	100[‡]	5163.9	35/2$^+$			
5875.8		482.8[‡] *2*	100[‡]	5393.0	(35/2,37/2)$^+$	(M1)	0.1287	α(K)=0.1052 *15*; α(L)=0.0179 *3*; α(M)=0.00421 *6* α(N)=0.001077 *16*; α(O)=0.000220 *3*; α(P)=2.62×10^{-5} *4* Mult.: A_2=−0.22 *11*, A_4=0.09 *11*, P(90°)=−0.05 *15* (1989By03).
5931.0	(39/2)$^+$	446.2[‡] *2*	100[‡]	5484.8	(37/2)$^+$	(M1)	0.1587	α(K)=0.1297 *19*; α(L)=0.0222 *4*; α(M)=0.00520 *8* α(N)=0.001331 *19*; α(O)=0.000272 *4*; α(P)=3.24×10^{-5} *5* Mult.: A_2=−0.29 *7*, A_4=−0.03 *9*, P(90°)=−0.28 *30* (1989By03).
5941.5		456.7[‡] *2*	100[‡]	5484.8	(37/2)$^+$			A_2=0.11 *5*, A_4=0.01 *3*, P(90°)=0.50 *25* (1989By03).
5948?		462.6[‡b] *5*	100[‡]	5484.8	(37/2)$^+$			
6452?		511[‡b] *1*	100[‡]	5941.5				
6718.8		843[‡] *1*	100[‡]	5875.8				

[†] From ^{205}Po ε decay, unless otherwise stated.
[‡] From ^{205}Tl(α,4nγ).
[#] From ^{205}Tl(^{3}He,3nγ).
[@] Tentatively assigned in ^{205}Po ε decay.
[&] From α(K)exp, α(L)exp, α(M)exp, $\gamma(\theta)$ and the observed multiple decay branches in ^{205}Po ε decay, ^{205}Tl(^{3}He,3nγ) and ^{205}Tl(α,4nγ), unless otherwise stated.
[a] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[b] Placement of transition in the level scheme is uncertain.

From ENSDF
$^{205}_{83}Bi_{122}$-14

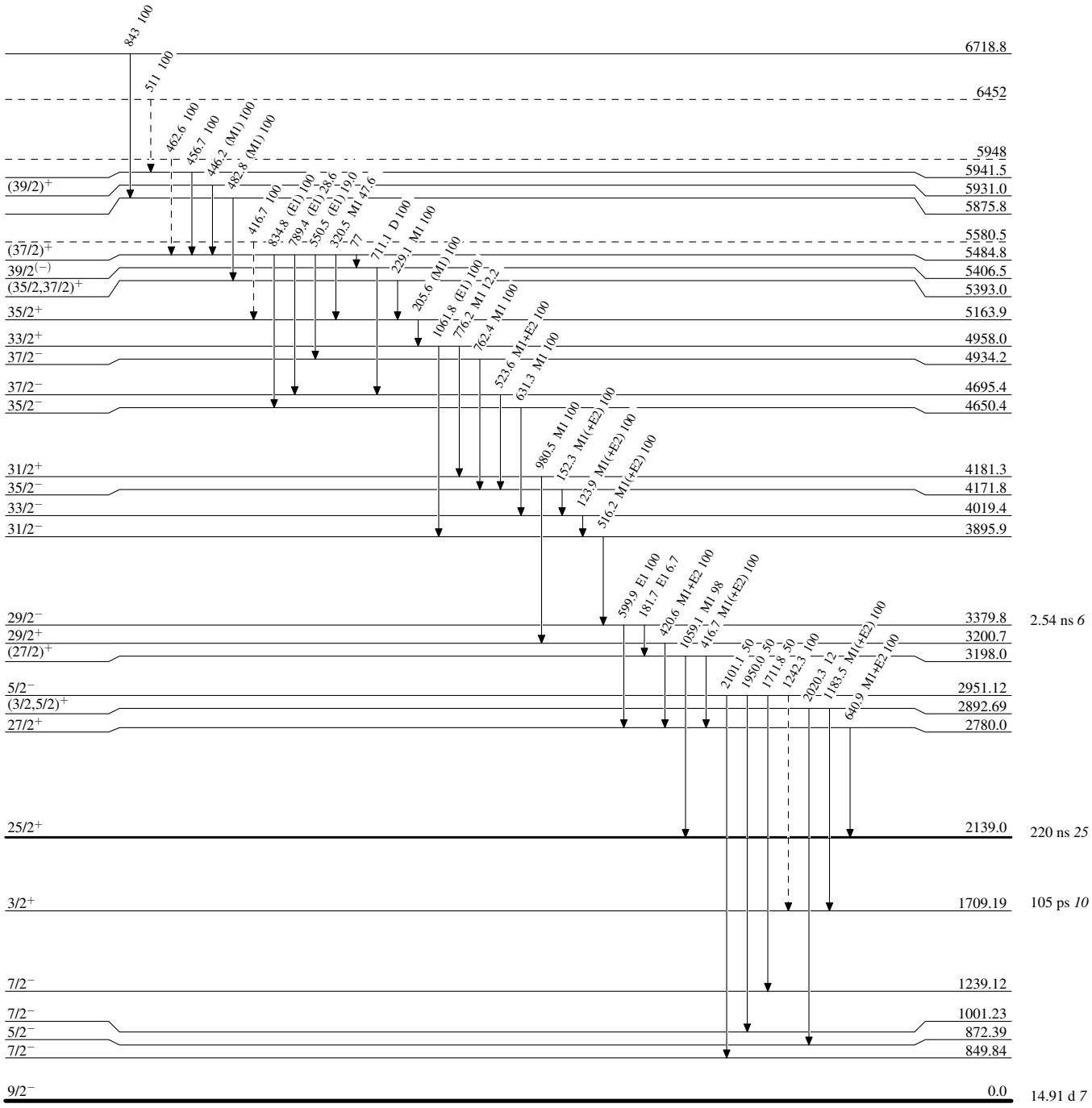
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{205}_{83}Bi_{122}$

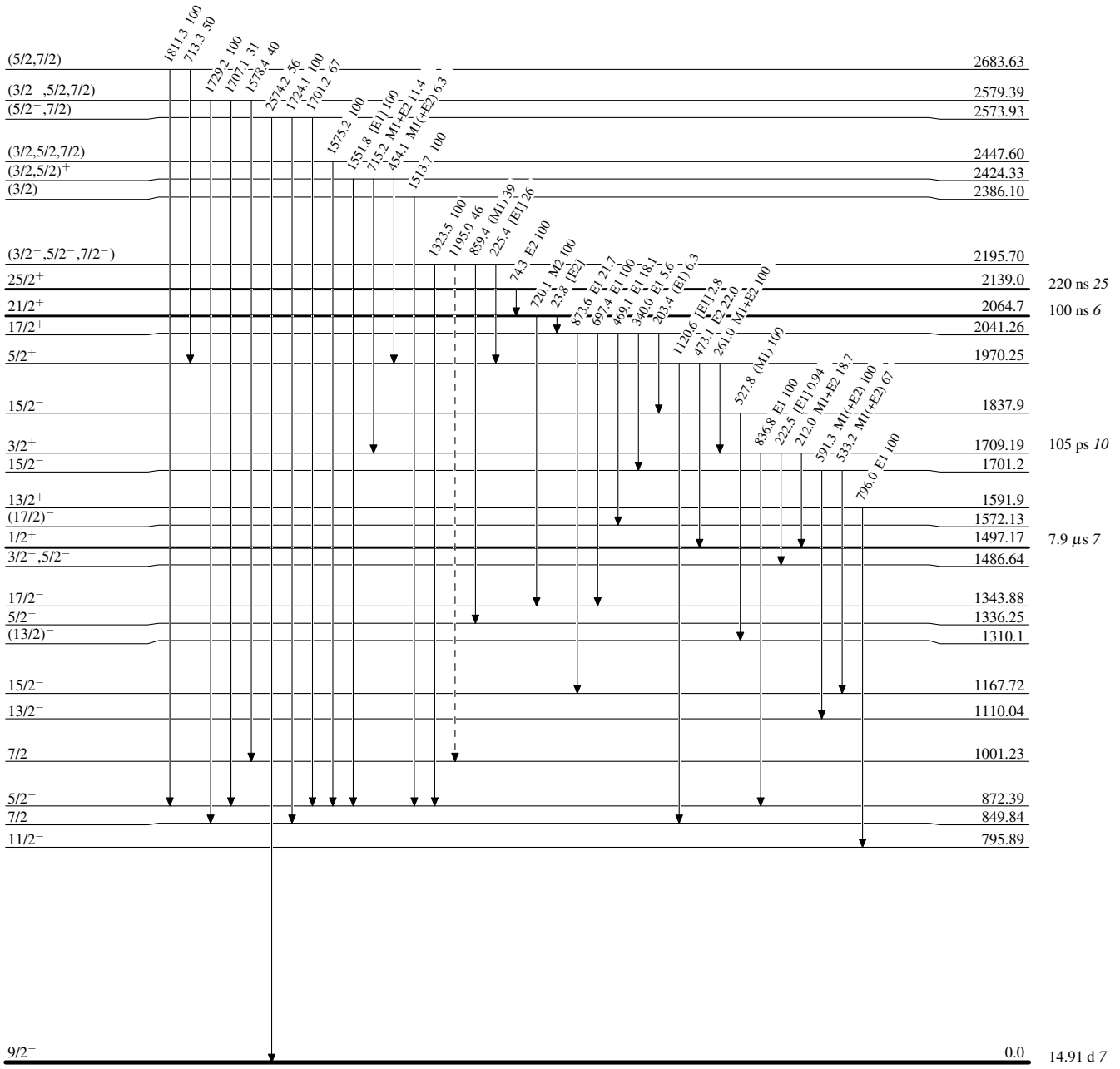
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{205}_{83}Bi_{122}$

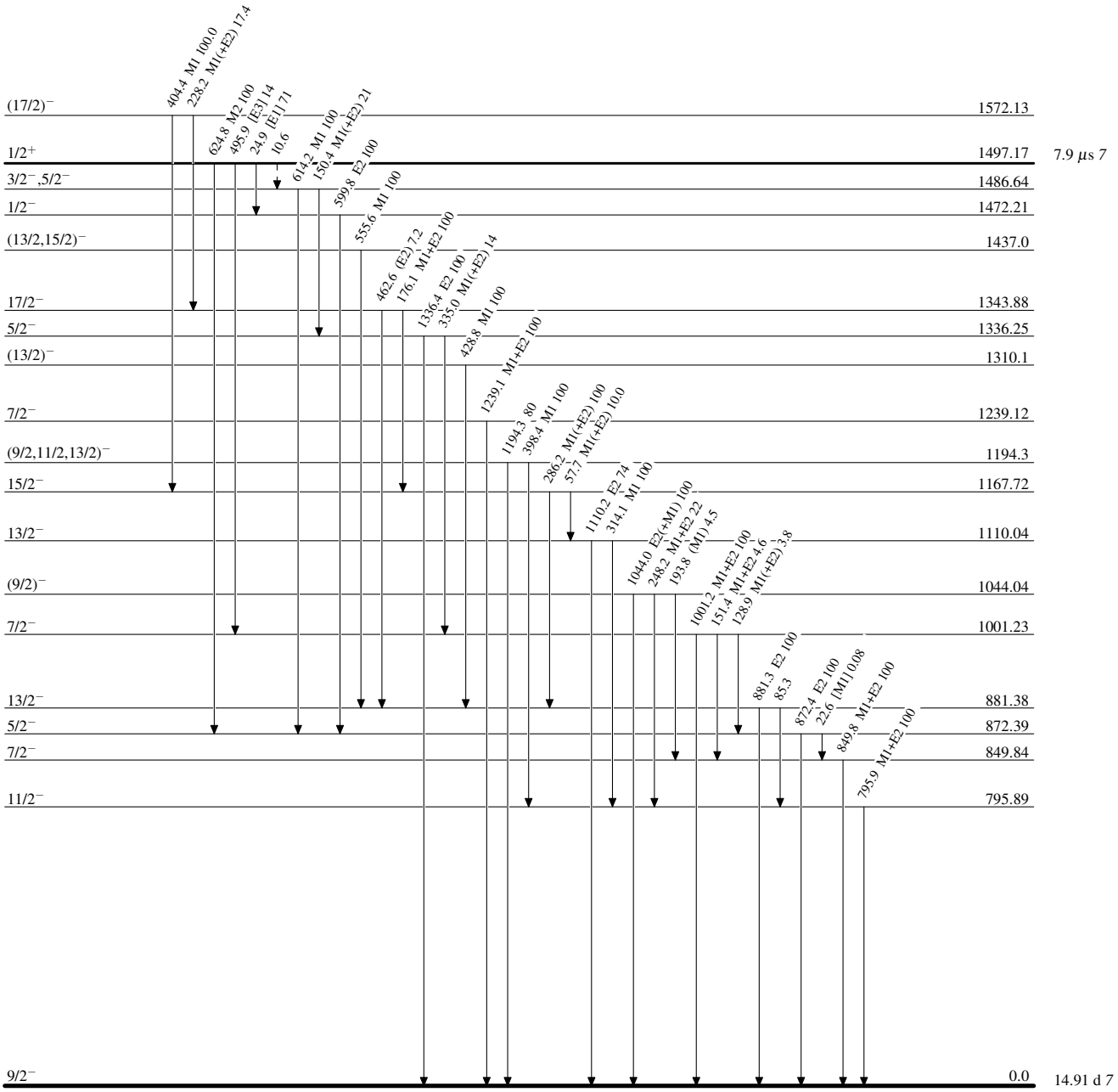
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{205}_{83}Bi_{122}$