^{197}Au(^{11}B,6nγ) 1976Be12

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

1976Be12: Ge(Li) detectors were used to measure $\gamma\gamma$(t), $\gamma(\theta)$ and γ(t); broad-range electron spectrometer with Si(Li) detector was used to measure prompt or delayed conversion electrons. Details regarding the beam energy and the target thickness not given by the authors.

^{202}Po Levels

E(level)†	J$^\pi$‡	T$_{1/2}$‡	Comments
0	0$^+$		
677.0 *10*	2$^+$		
1248.0 *15*	4$^+$		
1691.0 *18*	6$^+$		
1691.0+x	8$^+$	85 ns *15*	Additional information 1. E(level): x<40 keV estimated from delayed ce spectrum in 1976Be12. Configuration=$\pi(h^{+2}_{9/2})$.
2217.0+x *8*	9$^-$	≈1.5 ns	T$_{1/2}$: Value between 1-2 ns in 1976Be12. Configuration=$\nu(f^{-1}_{5/2},i^{-1}_{13/2})$.
2603.0+x *8*	11$^-$	100 ns *50*	T$_{1/2}$: Because 912.5γ(t) and 386.0γ(t) are close to the repetition time of beam bursts, value can not be determined accurately. Configuration=$\pi(h^{+1}_{9/2},i^{+1}_{13/2})$.
2897.0+x *11*	11$^-$		
3040.0+x *11*	12$^+$	19 ns *4*	Configuration=$\nu(i^{-2}_{13/2})$.
3435.0+x *15*	13$^-$		
3573.0+x *18*	15$^-$	11 ns *3*	Configuration=$\pi(h^{+2}_{9/2})\nu(p^{-1}_{3/2},i^{-1}_{13/2})$. The assignment is tentative.
3616.0+x *15*	14$^+$		
4072.0+x *18*	16$^+$		

† From a least-square fit to Eγ by assuming ΔEγ=1 keV.
‡ From 1976Be12.

γ(^{202}Po)

E$_\gamma$†	I$_\gamma$‡	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.#	α&	I$_{(\gamma+ce)}$@	Comments
138	5.3 *18*	3573.0+x	15$^-$	3435.0+x	13$^-$	E2	1.899 *27*	15 *5*	α(K)=0.344 *5*; α(L)=1.153 *16*; α(M)=0.307 *4* α(N)=0.0787 *11*; α(O)=0.01503 *21*; α(P)=0.001369 *19*
143	7.7 *26*	3040.0+x	12$^+$	2897.0+x	11$^-$	E1	0.1871 *26*	9 *3*	α(K)=0.1495 *21*; α(L)=0.0287 *4*; α(M)=0.00680 *10* α(N)=0.001728 *24*; α(O)=0.000347 *5*; α(P)=3.96×10^{-5} *6*
386	10 *3*	2603.0+x	11$^-$	2217.0+x	9$^-$	E2	0.0617 *9*	10 *3*	α(K)=0.0383 *5*; α(L)=0.01755 *25*; α(M)=0.00449 *6* α(N)=0.001153 *16*; α(O)=0.0002273 *32*; α(P)=2.376×10^{-5} *33*
437	16 *5*	3040.0+x	12$^+$	2603.0+x	11$^-$	E1	0.01362 *19*	16 *5*	α(K)=0.01118 *16*; α(L)=0.001862 *26*; α(M)=0.000436 *6* α(N)=0.0001115 *16*; α(O)=2.295×10^{-5} *32*; α(P)=2.83×10^{-6} *4*
443	83 *9*	1691.0	6$^+$	1248.0	4$^+$	E2	0.0432 *6*	85 *9*	α(K)=0.0285 *4*; α(L)=0.01102 *15*; α(M)=0.00279 *4*

Continued on next page (footnotes at end of table)

^{197}Au(^{11}B,6nγ) 1976Be12 (continued)

$\gamma(^{202}Po)$ (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[&]	$I_{(\gamma+ce)}$[@]	Comments
									α(N)=0.000717 *10*; α(O)=0.0001423 *20*; α(P)=1.527×10^{-5} *21*
456	17 *5*	4072.0+x	16$^+$	3616.0+x	14$^+$	E2	0.0402 *6*	17 *5*	α(K)=0.0268 *4*; α(L)=0.01002 *14*; α(M)=0.00254 *4* α(N)=0.000651 *9*; α(O)=0.0001294 *18*; α(P)=1.396×10^{-5} *20*
526	42 *13*	2217.0+x	9$^-$	1691.0+x	8$^+$	E1	0.00925 *13*	42 *13*	α(K)=0.00762 *11*; α(L)=0.001246 *17*; α(M)=0.000291 *4* α(N)=7.45×10^{-5} *10*; α(O)=1.538×10^{-5} *22*; α(P)=1.916×10^{-6} *27*
538	19 *6*	3435.0+x	13$^-$	2897.0+x	11$^-$	E2	0.0270 *4*	19 *6*	α(K)=0.01908 *27*; α(L)=0.00598 *8*; α(M)=0.001495 *21* α(N)=0.000384 *5*; α(O)=7.69×10^{-5} *11*; α(P)=8.55×10^{-6} *12*
571	94 *10*	1248.0	4$^+$	677.0	2$^+$	E2	0.02357 *33*	95 *10*	α(K)=0.01692 *24*; α(L)=0.00501 *7*; α(M)=0.001248 *17* α(N)=0.000320 *4*; α(O)=6.44×10^{-5} *9*; α(P)=7.24×10^{-6} *10*
576	23 *7*	3616.0+x	14$^+$	3040.0+x	12$^+$	E2	0.02311 *32*	23 *7*	α(K)=0.01663 *23*; α(L)=0.00489 *7*; α(M)=0.001215 *17* α(N)=0.000312 *4*; α(O)=6.27×10^{-5} *9*; α(P)=7.06×10^{-6} *10*
677	100	677.0	2$^+$	0	0$^+$	E2	0.01621 *23*		α(K)=0.01210 *17*; α(L)=0.00311 *4*; α(M)=0.000764 *11* α(N)=0.0001962 *27*; α(O)=3.97×10^{-5} *6*; α(P)=4.59×10^{-6} *6*
680	31 *9*	2897.0+x	11$^-$	2217.0+x	9$^-$	E2	0.01606 *22*	31 *9*	α(K)=0.01200 *17*; α(L)=0.00307 *4*; α(M)=0.000754 *11* α(N)=0.0001938 *27*; α(O)=3.92×10^{-5} *5*; α(P)=4.54×10^{-6} *6*
912	20 *6*	2603.0+x	11$^-$	1691.0+x	8$^+$	E3	0.02143 *30*	20 *6*	α(K)=0.01517 *21*; α(L)=0.00471 *7*; α(M)=0.001181 *17* α(N)=0.000304 *4*; α(O)=6.16×10^{-5} *9*; α(P)=7.09×10^{-6} *10*

[†] From 1976Be12.
[‡] Deduced by the evaluator from I(γ+ce) and conversion coefficients and relative to Iγ(677γ)=100.
[#] From 1976Be12 based on ce measurement, but values were not given by the authors.
[@] From 1976Be12. ΔI(γ+ce)=10−30% given by the authors. The evaluator assumes ΔI(γ+ce)=10% for I(γ+ce)>50% and ΔI(γ+ce)=30% for I(γ+ce)<50%.
[&] Additional information 2.

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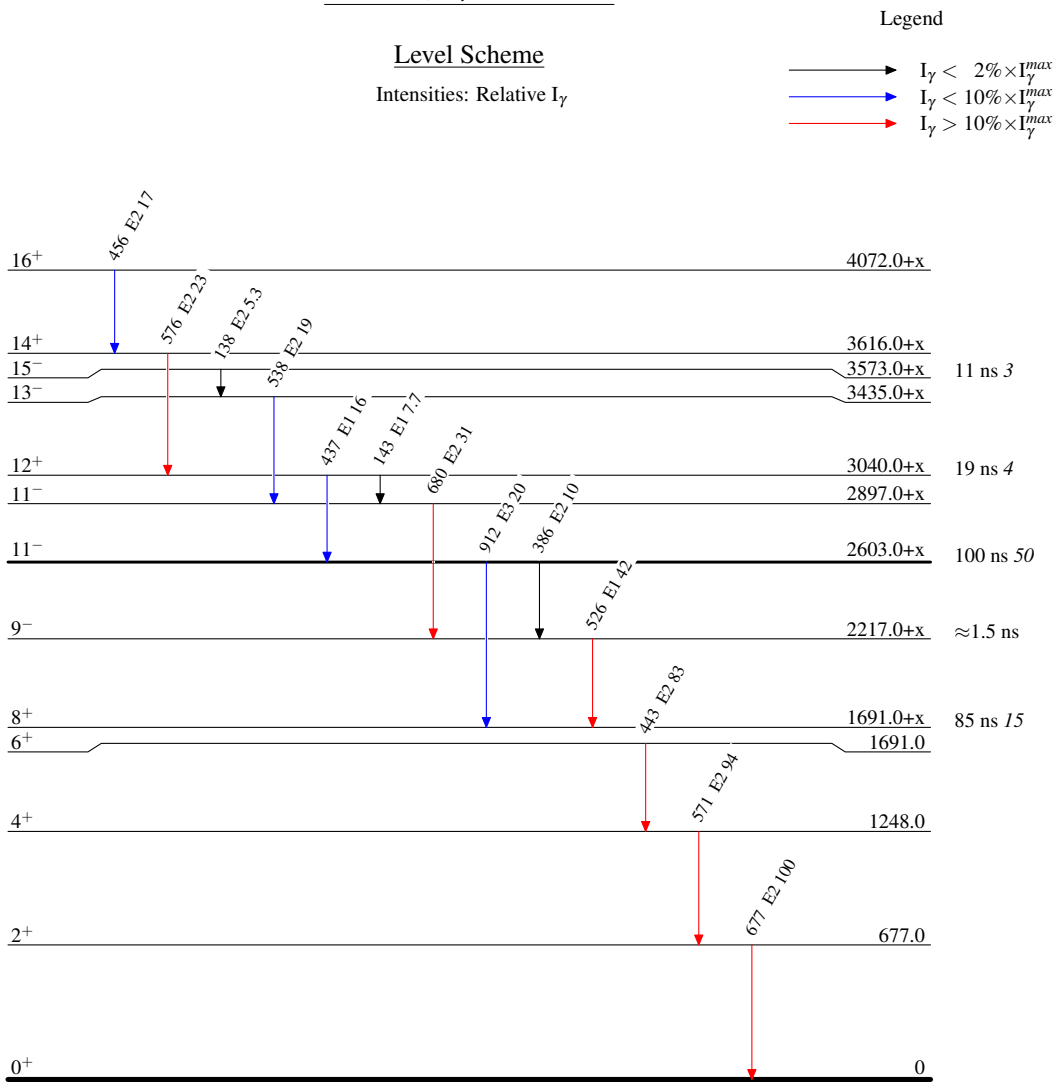
Level Scheme

Intensities: Relative I_γ



$^{202}_{84}Po_{118}$