^{113}In(α,3nγ) E=36-48 MeV 1982Va07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

Enriched target (91.5%).
Measured: γ, $\gamma\gamma$, $\gamma(\theta$,t), ce, Ge(Li), Si(Li) detectors, mini orange electron spectrometer.

^{114}Sb Levels

E(level)[†‡]	J$^\pi$[#]	$T_{1/2}$	E(level)[†‡]	J$^\pi$[#]	E(level)[†‡]	J$^\pi$[#]
0	3^+		1939.1 *18*	11^+	3186.7 *18*	13^-
90.2 *10*	4		2079.6 *18*	10^-	3196.5 *18*	13
136.0 *15*	5		2261.8 *18*	12^+	3255.0 *18*	$(12,13,14)^+$
173.7 *18*	6^+		2374.9 *18*		3589.4 *18*	14^-
495.5 *18*	8^-	219 μs	2422.8 *18*	11^-	3614.7 *18*	14^-
989.5 *18*	7^-		2539.4 *18*	12^+	3698.5 *18*	15^+
1245.1 *18*	9^-		2682.8 *18*	$12^+,13^+$	3951.5 *18*	
1562.9 *18*	8^-		2795.4 *18*	12^-	4082.0 *18*	15^-
1680.6 *18*	10^-		3012.2 *18*	$(11^+,12^+)$	4153.1 *18*	16^+
1770.4 *18*	9^-		3100.8 *18*	13^+		

† From least-squares fit to Eγ values.
‡ A different level scheme was adopted in Adopted Levels from (p,nγ) and ε decay. See Adopted Levels.
# From measured multipolarity.

$\gamma(^{114}$Sb)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[†]	δ[†]	Comments
37.7[‡]		173.7	6^+	136.0	5			
45.8[‡]		136.0	5	90.2	4			
90.2[‡]		90.2	4	0	3^+			
143.4 *1*	7.0 *5*	2682.8	$12^+,13^+$	2539.4	12^+	E2(+M1)		A_2=−0.08 *5*; A_4=−0.07 *8* α(K)exp=0.26 *10*
207.5 *1*	28[#] *3*	1770.4	9^-	1562.9	8^-	M1(+E2)		α(K)exp=0.07 *10*
253.0 *1*	0.9 *4*	3951.5		3698.5	15^+			A_2=+0.2 *4*; A_4=−0.2 *5*
258.5 *1*	60 *1*	1939.1	11^+	1680.6	10^-	E1		A_2=−0.207 *8*; A_4=−0.022 *12* α(K)exp=0.014 *3*
309.2 *1*	39.5 *5*	2079.6	10^-	1770.4	9^-	M1+E2	+0.10 *2*	A_2=−0.036 *11*; A_4=+0.022 *12* α(K)exp=0.032 *4*
321.8[‡] *1*		495.5	8^-	173.7	6^+			
322.7 *1*	10 *2*	2261.8	12^+	1939.1	11^+			
343.2 *1*	27.8 *4*	2422.8	11^-	2079.6	10^-	M1+E2	+0.15 *2*	A_2=+0.004 *14*; A_4=+0.02 *2* α(K)exp=0.019 *3*
372.5 *1*	15.2 *4*	2795.4	12^-	2422.8	11^-	D+Q	+0.15 *3*	A_2=+0.005 *25*; A_4=−0.04 *4*
391.2 *1*	13 *1*	3186.7	13^-	2795.4	12^-	M1+E2	+0.07 *5*	A_2=−0.09 *3*; A_4=0.00 *4* α(K)exp=0.010 *2*
401.1 *1*	6 *1*	3196.5	13	2795.4	12^-			A_2=+0.16 *5*; A_4=−0.03 *9*
428.0 *1*	8 *1*	3614.7	14^-	3186.7	13^-	M1+E2	+0.30 *7*	A_2=+0.19 *4*; A_4=−0.13 *6* α(K)exp=0.008 *2*
435.5 *1*	5.0 *5*	1680.6	10^-	1245.1	9^-	M1,E2		A_2=−0.13 *7*; A_4=+0.24 *12* α(K)exp=0.008 *3*
454.6 *1*	17 *1*	4153.1	16^+	3698.5	15^+	M1+E2	+11 *4*	A_2=+0.07 *2*; A_4=+0.20 *4* α(K)exp=0.009 *4*

Continued on next page (footnotes at end of table)

^{113}In(α,3nγ) E=36-48 MeV 1982Va07 (continued)

$\gamma(^{114}Sb)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[†]	Comments
467.3 *1*	3.1 *6*	4082.0	15^-	3614.7	14^-			A_2=+0.07 *11*; A_4=−0.05 *17*
488.6 *1*	8 *1*	3589.4	14^-	3100.8	13^+	E1		A_2=−0.17 *5*; A_4=0.00 *8* α(K)exp≤0.005
494.1 *1*	29.3 *6*	989.5	7^-	495.5	8^-	E2(+M1)		A_2=−0.074 *15*; A_4=0.00 *2* α(K)exp=0.0055 *15*
516.7 *1*	5.7[#] *14*	2079.6	10^-	1562.9	8^-			
573.5 *1*	24.2 *6*	1562.9	8^-	989.5	7^-	M1,E2		A_2=−0.13 *2*; A_4=+0.04 *3* α(K)exp=0.0034 *12*
597.7 *1*	19 *1*	3698.5	15^+	3100.8	13^+	E2		A_2=+0.39 *6*; A_4=−0.19 *7* α(K)exp=0.0036 *9*
600.3 *1*	12.9 *6*	2539.4	12^+	1939.1	11^+	M1+E2	−1.8 *8*	A_2=+0.36 *5*; A_4=+0.17 *9* α(K)exp=0.0032 *13*
652.4 *1*	4.5 *6*	2422.8	11^-	1770.4	9^-	E2		A_2=+0.36 *10*; A_4=+0.04 *17* α(K)exp=0.0045 *12*
715.9 *1*	4 *1*	2795.4	12^-	2079.6	10^-			A_2=+0.8 *4*; A_4=+0.1 *6*
749.6 *1*	29.6 *6*	1245.1	9^-	495.5	8^-			A_2=−0.62 *2*; A_4=−0.02 *2* α(K)exp=0.0033 *9* for 749γ+750γ.
750.4 *1*	5.6 *5*	3012.2	$(11^+,12^+)$	2261.8	12^+			A_2=−0.8 *3*; A_4=+0.1 *3* α(K)exp=0.0033 *9* for 749γ+750γ.
764.0 *1*	4 *1*	3186.7	13^-	2422.8	11^-			A_2=+0.36 *1*; A_4=+0.02 *2*
819.2 *1*		3614.7	14^-	2795.4	12^-			
993.2 *1*	4 *1*	3255.0	$(12,13,14)^+$	2261.8	12^+	M1,E2		A_2=−0.64 *9*; A_4=−0.28 *10* α(K)exp=0.0003 *2*
1067.2 *1*	10.7 *9*	1562.9	8^-	495.5	8^-	M1,E2		A_2=−0.11 *6*; A_4=−0.07 *10* α(K)exp=0.0008 *3*
1073.1 *1*	16.0 *8*	3012.2	$(11^+,12^+)$	1939.1	11^+	M1,E2		A_2=−0.4 *5*; A_4=+0.01 *8* α(K)exp=0.0009 *3*
1129.8 *1*	8.0 *7*	2374.9		1245.1	9^-			A_2=+0.22 *6*; A_4=+0.02 *10* α(K)exp=0.0004 *3*
1161.7 *1*	32 *1*	3100.8	13^+	1939.1	11^+	E2		A_2=+0.35 *2*; A_4=−0.06 *3* α(K)exp=0.0007 *2*
1184.9	100	1680.6	10^-	495.5	8^-	E2		A_2=+0.316 *10*; A_4=−0.109 *16* α(K)exp=0.0009 *1*
1274.9 *1*	36 *1*	1770.4	9^-	495.5	8^-	M1+E2	−1.7 *8*	A_2=−0.57 *3*; A_4=+0.10 *4* α(K)exp=0.0005 *2*

[†] From measured K-conversion coefficients.
[‡] From 1976Ka19.
[#] From $\gamma\gamma$.

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Level Scheme

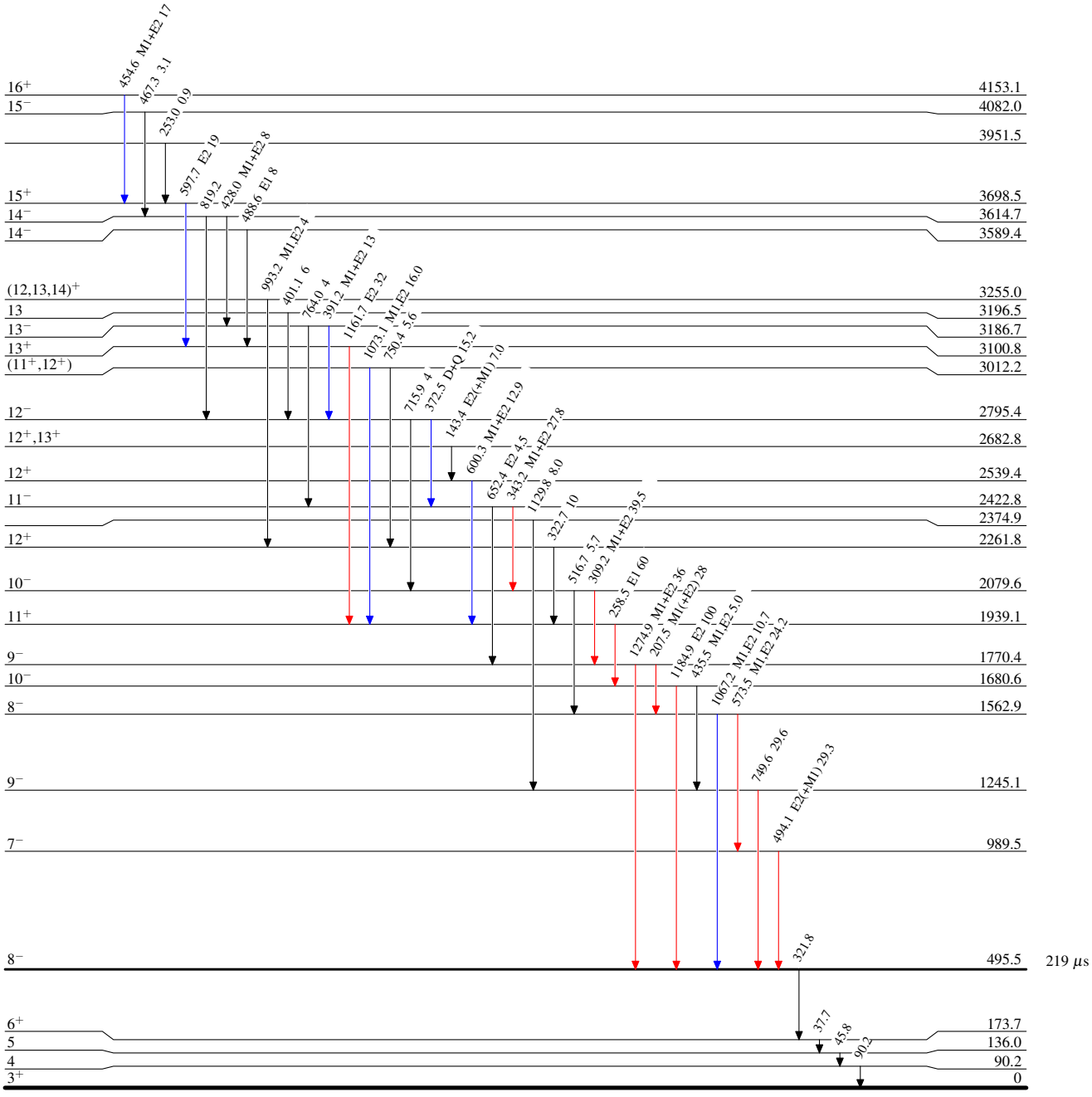
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{114}_{51}Sb_{63}$