^{111}Cd(^{7}Li,4nγ) E=32-50 MeV   1982Du11

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

Enriched target (95%). Measured: γ, $\gamma\gamma$(t), $\gamma\gamma(\theta)$, linear polarization.

^{114}Sb Levels

E(level)‡	J$^{\pi\dagger}$	E(level)‡	J$^{\pi\dagger}$	E(level)‡	J$^{\pi\dagger}$	E(level)‡	J$^{\pi\dagger}$
0	3$^+$	1769.6 8	(9$^-$)	2421.6 8	(11$^-$)	3256.3 11	(12,13,14)$^+$
495.5 7	8$^-$	1938.2 8	(11$^+$)	2538.5 8		3586.6 8	
988.7 8	(7$^-$)	2078.6 8	(10$^-$)	2794.1 8	(12$^-$)	3588.5 13	14
1244.6 8	9$^-$	2081.2 8	12	3011.7 8		3614.8 8	(14$^-$)
1562.3 8	(8$^-$)	2261.8 8	(12$^+$)	3100.0 8	(13$^+$)	3696.9 13	
1680.0 8	(10$^-$)	2374.4 8		3185.2 8	(13$^-$)	4152.2 13	

† From measured multipolarity.
‡ From least-squares fit to Eγ values.

$\gamma(^{114}$Sb)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.†	$\delta^\dagger$	Comments
143.1 3	6.5 15	2081.2	12	1938.2	(11$^+$)			A$_2$=−0.07 10; A$_4$=−0.02 13 Mult.: ΔJ=1.
207.6 8	25 10	1769.6	(9$^-$)	1562.3	(8$^-$)			
258.3 1	56 5	1938.2	(11$^+$)	1680.0	(10$^-$)	E1		A$_2$=−0.23 6; A$_4$=+0.03 9 POL=+0.35 10.
309.1 2	38 4	2078.6	(10$^-$)	1769.6	(9$^-$)	M1(+E2)	+0.03 5	A$_2$=−0.06 5; A$_4$<+0.07 POL=−0.29 12.
323.5 3	11 2	2261.8	(12$^+$)	1938.2	(11$^+$)	(M1+E2)		A$_2$=−0.45 15
342.9 2	29 3	2421.6	(11$^-$)	2078.6	(10$^-$)	M1(+E2)	<0.07	A$_2$=−0.17 6; A$_4$=−0.04 10 POL=−0.46 12.
372.2 3	11 2	2794.1	(12$^-$)	2421.6	(11$^-$)	M1(+E2)	<0.10	A$_2$=−0.08 12 POL=−0.48 15.
391.5 4	7 2	3185.2	(13$^-$)	2794.1	(12$^-$)			A$_2$=−0.15 12 Mult.: ΔJ=1.
401.3‡ 4	6‡ 1	2081.2	12	1680.0	(10$^-$)			A$_2$=+0.09 15
401.3‡ 4	6‡ 1	3586.6		3185.2	(13$^-$)			
427.0 4	6 1	3614.8	(14$^-$)	3185.2	(13$^-$)			
435.2 3	7 1	1680.0	(10$^-$)	1244.6	9$^-$	M1(+E2)	<0.10	A$_2$=−0.12 10 POL=−0.5 2.
454.7 3	16 2	4152.2		3696.9				A$_2$=+0.08 8
488.8 4	8.5 10	3588.5	14	3100.0	(13$^+$)			A$_2$=−0.15 12 Mult.: ΔJ=1.
493.9 2	28 3	988.7	(7$^-$)	495.5	8$^-$	M1(+E2)	+0.07 7	A$_2$=−0.06 4; A$_4$=+0.02 6 POL=−0.45 12.
573.5 3	22 2	1562.3	(8$^-$)	988.7	(7$^-$)			A$_2$=−0.15 10
597.0 3	27 3	3696.9		3100.0	(13$^+$)			A$_2$=+0.40 12 POL=0.0 1 for 597.8+600.3.
600.3 4	11 2	2538.5		1938.2	(11$^+$)			A$_2$=+0.4 2 POL=0.0 1 for 597.8+600.3.
652.0 6	3 1	2421.6	(11$^-$)	1769.6	(9$^-$)			
715.0 6	4 1	2794.1	(12$^-$)	2078.6	(10$^-$)			
749.9 2	49 5	1244.6	9$^-$	495.5	8$^-$	M1+E2	−0.36 11	A$_2$=+0.65 8; A$_4$=+0.04 12

Continued on next page (footnotes at end of table)

$^{111}\text{Cd}(^7\text{Li},4n\gamma)$ E=32-50 MeV   1982Du11 (continued)

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

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[†]	Comments
750.1 *2*	4 *2*	3011.7		2261.8	(12^+)			POL=0.0 *1*. A$_2$, A$_4$, POL are for 749.9+750.1 (weak γ). A$_2$=+0.65 *8*; A$_4$=+0.04 *12* POL=0.0 *1*. A$_2$, A$_4$, POL are for 749.9 (strong γ) +750.1.
764.0 *6*	7 *1*	3185.2	(13^-)	2421.6	(11^-)			
818.4 *6*	6 *1*	3614.8	(14^-)	2794.1	(12^-)			A$_2$=+0.35 *10*
993.7 *5*	7 *2*	3256.3	$(12,13,14)^+$	2261.8	(12^+)	M1+E2	−0.52 *15*	A$_2$=−0.8 *2*
1067.5 *4*	9 *1*	1562.3	(8^-)	495.5	8^-			A$_2$=−0.04 *7*
1073.6 *4*	6 *1*	3011.7		1938.2	(11^+)			
1130.2 *3*	10 *1*	2374.4		1244.6	9^-			A$_2$=+0.40 *10*
1161.9 *2*	32 *3*	3100.0	(13^+)	1938.2	(11^+)	(E2)		A$_2$=+0.39 *8*; A$_4$=−0.08 *12* POL=+0.2 *2*.
1185.3 *2*	100	1680.0	(10^-)	495.5	8^-	E2		A$_2$=+0.39 *6*; A$_4$=−0.09 *8* POL=+0.37 *12*.
1275.1 *3*	22 *2*	1769.6	(9^-)	495.5	8^-	M1+E2	−0.30 *13*	A$_2$=−0.62 *13*; A$_4$=+0.02 *20* POL=−0.12 *20*.

[†] From $\gamma(\theta)$ and pol γ, except for the 749γ, 993γ which are (D+Q) from $\gamma(\theta)$ and are assigned by the evaluators as M1+E2 on the basis of large δ.

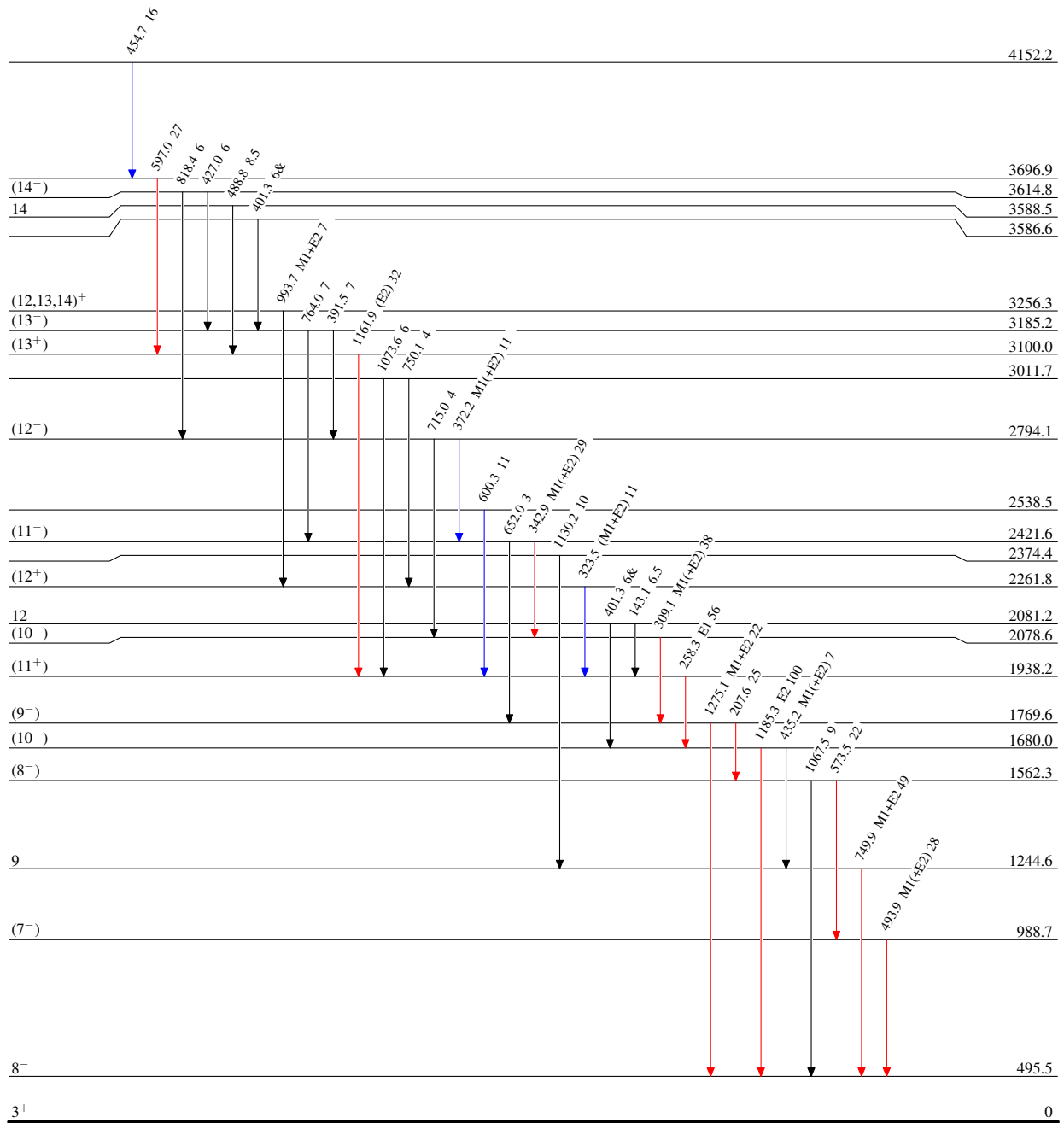[‡] Multiply placed with undivided intensity.

^{111}Cd(^{7}Li,4nγ) E=32-50 MeV   1982Du11

Level Scheme

Intensities: Relative I$_\gamma$

& Multiply placed: undivided intensity given

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$_{63}$