

<sup>114</sup>Ag β<sup>-</sup> decay 1984Lu02

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

Parent: <sup>114</sup>Ag: E=0.0; J<sup>π</sup>=1<sup>+</sup>; T<sub>1/2</sub>=4.6 s I; Q(β<sup>-</sup>)=5087 5; %β<sup>-</sup> decay=100.0

Activity: on-line mass separator OSIRIS. <sup>235</sup>U(n,F).

Measured: γ, γγ, βγ, β, Ge(Li), plastic detector.

1984Lu02 determined Q(β<sup>-</sup>) to be 5160 110, compared with 5030 110 (1985Wa02).

The 1984Lu02 work supersedes previous work of 1975BrYN, 1972Wa06, 1971Ro19, and 1971Fo22.

<sup>114</sup>Cd Levels

E(level)	J <sup>π</sup> †	E(level)	J <sup>π</sup> †	E(level)	J <sup>π</sup> †	E(level)	J <sup>π</sup> †
0	0 <sup>+</sup>	1841.95 9	2 <sup>+</sup>	2661.6 3	2 <sup>+</sup>	3267.27 10	1 <sup>+</sup> ,2 <sup>+</sup>
558.47 6	2 <sup>+</sup>	1859.77 8	0 <sup>+</sup>	2702.7 3	2 <sup>+</sup>	3315.7 3	(0,1,2)
1134.49 9	0 <sup>+</sup>	2048.11 18	2 <sup>+</sup>	2800.35 8	(1 <sup>+</sup> ,2 <sup>+</sup> )	3350.8 3	0 <sup>+</sup> ,1 <sup>+</sup>
1209.73 7	2 <sup>+</sup>	2218.86 10	2 <sup>+</sup>	2952.4 3	3 <sup>+</sup>	3445.1 4	
1283.77 10	4 <sup>+</sup>	2455.86 8	1 <sup>-</sup>	3052.73 24	0 <sup>+</sup>	3501.15 8	0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup>
1305.69 24	0 <sup>+</sup>	2553.83 22	0 <sup>+</sup>	3166.84 9	0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup>		
1364.27 6	2 <sup>+</sup>	2637.8 3	0 <sup>+</sup>	3213.2 3	(1,2) <sup>-</sup>		

† From Adopted Levels.

β<sup>-</sup> radiations

E(decay)	E(level)	Iβ <sup>-</sup> †‡	Log ft	Comments
(1586 5)	3501.15	0.29	5.4	av Eβ=600.4 23
(1642 5)	3445.1	0.10	5.9	av Eβ=625.3 23
(1736 5)	3350.8	0.10	6.0	av Eβ=667.4 23
(1771 5)	3315.7	0.06	6.3	av Eβ=683.2 23
(1820 5)	3267.27	0.6	5.3	av Eβ=705.0 23
(1874 5)	3213.2	0.08	6.2	av Eβ=729.3 23
(1920 5)	3166.84	0.29	5.7	av Eβ=750.3 23
(2034 5)	3052.73	0.21	6.0	av Eβ=802.1 23
(2135 5)	2952.4	0.09	6.4	av Eβ=848.0 23
(2287 5)	2800.35	0.06	6.7	av Eβ=917.7 23
(2384 5)	2702.7	0.06	6.8	av Eβ=962.8 24
(2425 5)	2661.6	0.10	6.6	av Eβ=981.8 24
(2449 5)	2637.8	0.10	6.6	av Eβ=992.8 24
(2533 5)	2553.83	1.4	5.5	av Eβ=1031.7 24
(2631 5)	2455.86	0.05	7.0	av Eβ=1077.2 24
(2868 5)	2218.86	0.75	6.0	av Eβ=1187.7 24
(3039 5)	2048.11	0.07	7.2	av Eβ=1267.7 24
(3227 5)	1859.77	1.4	6.0	av Eβ=1356.1 24
(3245 5)	1841.95	0.14	7.0	av Eβ=1364.5 24
(3723 5)	1364.27	0.35	6.8	av Eβ=1589.8 24
(3781 5)	1305.69	0.02	8.1	av Eβ=1617.5 24
(3803 5)	1283.77	0.05	7.7	av Eβ=1627.9 24
(3877 5)	1209.73	1.0	6.5	E(decay): Beta feedings from 1 <sup>+</sup> parent not possible to 1283, 4 <sup>+</sup> . av Eβ=1662.9 24
(3953 5)	1134.49	1.7	6.3	av Eβ=1698.6 24
(4529 5)	558.47	13	5.6	av Eβ=1971.9 24
(5087 5)	0	78	5.1	av Eβ=2237.5 24

Continued on next page (footnotes at end of table)

$^{114}\text{Ag} \beta^-$  decay 1984Lu02 (continued) $\beta^-$  radiations (continued)† From  $\gamma$ -ray transition intensity balance.

‡ Absolute intensity per 100 decays.

 $\gamma(^{114}\text{Cd})$ 

I $\gamma$  normalization: from  $I\beta^-$  (g.s.) +  $\Sigma I(\gamma + \text{ce})$  (g.s.) = 100, and from private communication reported in 1984Lu02. A more recent measurement of the same author gives 0.176 17 (1990Fo07).

$E_\gamma$ †	$I_\gamma$ @	$E_i$ (level)	$J_i^\pi$	$E_f$	$J_f^\pi$
495.57 10	0.50 5	1859.77	0 <sup>+</sup>	1364.27	2 <sup>+</sup>
558.45 ‡ 9	100.0 3	558.47	2 <sup>+</sup>	0	0 <sup>+</sup>
576.10 ‡ 9	8.7 7	1134.49	0 <sup>+</sup>	558.47	2 <sup>+</sup>
651.29 ‡ 7	4.3 2	1209.73	2 <sup>+</sup>	558.47	2 <sup>+</sup>
707.54 13	0.41 5	1841.95	2 <sup>+</sup>	1134.49	0 <sup>+</sup>
725.30 11	0.21 2	1283.77	4 <sup>+</sup>	558.47	2 <sup>+</sup>
742.6 3	0.16 3	2048.11	2 <sup>+</sup>	1305.69	0 <sup>+</sup>
747.4 # 9	0.05 2	1305.69	0 <sup>+</sup>	558.47	2 <sup>+</sup>
805.88 ‡ 8	2.4 2	1364.27	2 <sup>+</sup>	558.47	2 <sup>+</sup>
811.34 11	1.7 1	3267.27	1 <sup>+</sup> , 2 <sup>+</sup>	2455.86	1 <sup>-</sup>
1004.8 3	0.20 4	3052.73	0 <sup>+</sup>	2048.11	2 <sup>+</sup>
1189.37 8	1.1 1	2553.83	0 <sup>+</sup>	1364.27	2 <sup>+</sup>
1209.70 ‡ 6	1.9 1	1209.73	2 <sup>+</sup>	0	0 <sup>+</sup>
1219.3 4	0.21 5	3267.27	1 <sup>+</sup> , 2 <sup>+</sup>	2048.11	2 <sup>+</sup>
1283.40 # 9	0.81 6	1841.95	2 <sup>+</sup>	558.47	2 <sup>+</sup>
1301.23 ‡ 8	6.4 3	1859.77	0 <sup>+</sup>	558.47	2 <sup>+</sup>
1364.35 ‡ 8	2.3 2	1364.27	2 <sup>+</sup>	0	0 <sup>+</sup>
1397.0 2	0.51 6	3445.1		2048.11	2 <sup>+</sup>
1425.6 3	0.73 8	3267.27	1 <sup>+</sup> , 2 <sup>+</sup>	1841.95	2 <sup>+</sup>
1489.8 2	0.97 10	2048.11	2 <sup>+</sup>	558.47	2 <sup>+</sup>
1660.38 ‡ 9	3.6 2	2218.86	2 <sup>+</sup>	558.47	2 <sup>+</sup>
1802.6 4	0.35 8	3166.84	0 <sup>+</sup> , 1 <sup>+</sup> , 2 <sup>+</sup>	1364.27	2 <sup>+</sup>
1842.79 & 15	0.5 & 2	3052.73	0 <sup>+</sup>	1209.73	2 <sup>+</sup>
1842.8 & 15	0.3 & 1	1841.95	2 <sup>+</sup>	0	0 <sup>+</sup>
1903.5 3	0.31 4	3267.27	1 <sup>+</sup> , 2 <sup>+</sup>	1364.27	2 <sup>+</sup>
1957.5 2	0.39 4	3166.84	0 <sup>+</sup> , 1 <sup>+</sup> , 2 <sup>+</sup>	1209.73	2 <sup>+</sup>
1995.63 ‡ 10	6.0 3	2553.83	0 <sup>+</sup>	558.47	2 <sup>+</sup>
2079.3 2	0.49 5	2637.8	0 <sup>+</sup>	558.47	2 <sup>+</sup>
2103.1 2	0.50 5	2661.6	2 <sup>+</sup>	558.47	2 <sup>+</sup>
2136.95 15	0.70 6	3501.15	0 <sup>+</sup> , 1 <sup>+</sup> , 2 <sup>+</sup>	1364.27	2 <sup>+</sup>
*2372.5 4	0.17 4				
2393.9 3	0.32 5	2952.4	3 <sup>+</sup>	558.47	2 <sup>+</sup>
2455.76 # 10	1.8 1	2455.86	1 <sup>-</sup>	0	0 <sup>+</sup>
2608.31 15	0.66 7	3166.84	0 <sup>+</sup> , 1 <sup>+</sup> , 2 <sup>+</sup>	558.47	2 <sup>+</sup>
2702.7 6	0.25 7	2702.7	2 <sup>+</sup>	0	0 <sup>+</sup>
2757.2 4	0.29 3	3315.7	(0,1,2)	558.47	2 <sup>+</sup>
2792.3 2	0.52 5	3350.8	0 <sup>+</sup> , 1 <sup>+</sup>	558.47	2 <sup>+</sup>
2800.3 3	0.26 3	2800.35	(1 <sup>+</sup> , 2 <sup>+</sup> )	0	0 <sup>+</sup>
2942.56 15	0.68 5	3501.15	0 <sup>+</sup> , 1 <sup>+</sup> , 2 <sup>+</sup>	558.47	2 <sup>+</sup>
3213.2 4	0.43 4	3213.2	(1,2) <sup>-</sup>	0	0 <sup>+</sup>

Continued on next page (footnotes at end of table)

---

 $^{114}\text{Ag}$   $\beta^-$  decay **1984Lu02** (continued) $\gamma(^{114}\text{Cd})$  (continued)

† From [1984Lu02](#).

‡ Seen already by [1972Wa06](#) and [1975BrYN](#).

# Seen also by [1972Wa06](#).

@ For absolute intensity per 100 decays, multiply by 0.204 *I*<sub>3</sub>.

& Multiply placed with intensity suitably divided.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

<sup>114</sup>Ag β<sup>-</sup> decay 1984Lu02

Decay Scheme

Intensities: I<sub>(γ+ce)</sub> per 100 decays through this branch  
@ Multiply placed: intensity suitably divided

Legend

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>

