

Results: 3 different decay possibilities were found

Dataset #1:

Authors: B. Singh, S. Singh, H.X. Nguyen and M. Patial Citation: Nuclear Data Sheets 114, 661 (2013)

Parent Nucleus	Parent E(level)	Parent J π	Parent T $_{1/2}$	Decay Mode	GS-GS Q-value (keV)	Daughter Nucleus	Decay Scheme	ENSDF file
$^{211}_{85}\text{At}$	4816.2	(39/2-)	4.23 μs 7	IT		$^{211}_{85}\text{At}$		

Electrons:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
CE L	6.71 3	56.4 %	0.00379
Auger L	8.52	105 % 9	0.0090 7
CE M	19.883 5	14.94 %	0.00297
CE N	23.158 5	3.84 %	8.88E-4
CE O	24.0946	0.747 %	1.80E-4
CE P	24.193	0.0735 %	1.78E-5
Auger K	61.2	2.2 % 5	0.0013 3
CE L	78.5 5	47 % 13	0.037 10
CE M	91.7 5	13 % 4	0.011 3
CE N	95.0 5	3.2 % 9	0.0031 9
CE O	95.9 5	0.63 % 18	6.0E-4 17
CE P	96.0 5	0.064 % 18	6.1E-5 18
CE K	108.0 5	36 % 13	0.039 14
CE K	157.8 5	8.07 %	0.01273
CE L	186.2 5	9.2 % 9	0.0171 17
CE M	199.4 5	2.28 % 24	0.0045 5
CE N	202.7 5	0.59 % 6	0.00120 13
CE O	203.6 5	0.122 % 12	2.5E-4 3
CE P	203.7 5	0.0152 % 19	3.1E-5 4
CE L	236.0 5	7.52 %	0.0178
CE M	249.2 5	1.98 %	0.00493
CE N	252.5 5	0.512 %	0.001292
CE O	253.4 5	0.1020 %	2.59E-4
CE P	253.5 5	0.01103 %	2.80E-5
CE K	339.4 5	6.9 % 8	0.024 3
CE K	415.5 5	11.2 % 16	0.046 7
CE L	417.6 5	7.0 % 8	0.029 3
CE M	430.8 5	1.87 % 21	0.0081 9
CE N	434.1 5	0.49 % 6	0.00211 24
CE O	435.0 5	0.098 % 11	4.3E-4 5
CE P	435.1 5	0.0110 % 12	4.8E-5 5
CE L	493.7 5	1.9 % 3	0.0096 14

CE M	506.9 5	0.46 % 7	0.0023 3
CE N	510.2 5	0.119 % 17	6.1E-4 9
CE O	511.1 5	0.026 % 4	1.30E-4 19
CE P	511.2 5	0.0035 % 5	1.8E-5 3
CE K	593.7 5	0.37 % 5	0.0022 3
CE K	617.9 5	0.61 % 13	0.0038 8
CE L	671.9 5	0.059 % 8	4.0E-4 5
CE M	685.1 5	0.0138 % 18	9.5E-5 12
CE N	688.4 5	0.0036 % 5	2.5E-5 3
CE O	689.3 5	7.6E-4 % 10	5.2E-6 7
CE P	689.4 5	1.02E-4 % 13	7.0E-7 9
CE L	696.1 5	0.26 % 6	0.0018 4
CE M	709.3 5	0.067 % 15	4.8E-4 10
CE N	712.6 5	0.018 % 4	1.2E-4 3
CE O	713.5 5	0.0036 % 8	2.6E-5 6
CE P	713.6 5	4.3E-4 % 9	3.1E-6 7
CE K	971.4 5	0.59 % 6	0.0057 6
CE L	1049.6 5	0.118 % 12	0.00124 13
CE M	1062.8 5	0.028 % 3	3.0E-4 3
CE N	1066.1 5	0.0074 % 8	7.8E-5 8
CE O	1067.0 5	0.00155 % 16	1.65E-5 17
CE P	1067.1 5	2.04E-4 % 21	2.18E-6 22

Gamma and X-ray radiation:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
XR l	11.4	75 % 8	0.0086 9
	24.2 S	0.0105 %	2.5E-6
XR k α 2	78.948	18 % 4	0.014 3
XR k α 1	81.517	29 % 6	0.024 5
XR k β 3	91.73	3.6 % 7	0.0033 7
XR k β 1	92.315	6.8 % 14	0.0063 13
XR k β 2	94.9	2.5 % 5	0.0024 5
	96.0 5	7.0 % 20	0.0067 19
	203.7 5	40 % 4	0.081 8
	253.5 5	81.77 %	0.2073
	435.1 5	89 % 10	0.39 4
	511.2 5	105 % 15	0.54 8
	689.4 5	79 % 10	0.54 7
	713.6 5	23 % 5	0.16 4
	1067.1 5	109 % 11	1.16 12
	1536 1	97 % 10	1.49 15

Gamma Coincidence Data:

For each gamma, the list of gammas in coincidence is given. If experimentally known, an estimate of the average time interval (in seconds) between both gammas is given

E(γ) Coincidence

24.2 96.0 (5.00E-8), 203.7 (8.00E-8), 253.5 (5.00E-8), 435.1 (8.00E-8), 511.2, 689.4, 1067.1 (5.00E-8), 1536 (7.00E-8)
96.0 24.2 (5.00E-8), 203.7 (1.30E-7), 253.5, 435.1 (1.30E-7), 511.2 (5.00E-8), 689.4 (5.00E-8), 713.6 (5.00E-8), 1067.1, 1536 (1.20E-7)
203.7 24.2 (8.00E-8), 96.0 (1.30E-7), 253.5 (1.30E-7), 435.1, 511.2 (8.00E-8), 689.4 (8.00E-8), 713.6 (8.00E-8), 1067.1 (1.30E-7), 1536 (1.00E-8)
253.5 24.2 (5.00E-8), 96.0, 203.7 (1.30E-7), 435.1 (1.30E-7), 511.2 (5.00E-8), 689.4 (5.00E-8), 713.6 (5.00E-8), 1067.1, 1536 (1.20E-7)
435.1 24.2 (8.00E-8), 96.0 (1.30E-7), 203.7, 253.5 (1.30E-7), 511.2 (8.00E-8), 689.4 (8.00E-8), 713.6 (8.00E-8), 1067.1 (1.30E-7), 1536 (1.00E-8)
511.2 24.2, 96.0 (5.00E-8), 203.7 (8.00E-8), 253.5 (5.00E-8), 435.1 (8.00E-8), 689.4, 713.6, 1067.1 (5.00E-8), 1536 (7.00E-8)
689.4 24.2, 96.0 (5.00E-8), 203.7 (8.00E-8), 253.5 (5.00E-8), 435.1 (8.00E-8), 511.2, 1067.1 (5.00E-8), 1536 (7.00E-8)
713.6 96.0 (5.00E-8), 203.7 (8.00E-8), 253.5 (5.00E-8), 435.1 (8.00E-8), 511.2, 1067.1 (5.00E-8), 1536 (7.00E-8)
1067.1 24.2 (5.00E-8), 96.0, 203.7 (1.30E-7), 253.5, 435.1 (1.30E-7), 511.2 (5.00E-8), 689.4 (5.00E-8), 713.6 (5.00E-8), 1536 (1.20E-7)
1536 24.2 (7.00E-8), 96.0 (1.20E-7), 203.7 (1.00E-8), 253.5 (1.20E-7), 435.1 (1.00E-8), 511.2 (7.00E-8), 689.4 (7.00E-8), 713.6 (7.00E-8), 1067.1 (1.20E-7)

Dataset #2:

Authors: F.G. Kondev, S. Lalkovski Citation: Nuclear Data Sheets 112, 707 (2011)

Parent Nucleus	Parent E(level)	Parent J π	Parent T _{1/2}	Decay Mode	GS-GS Q-value (keV)	Daughter Nucleus	Decay Scheme	ENSDF file
²¹¹ ₈₅ At	0.0	9/2-	7.214 h 7	α : 41.80 8 %	5982.4 13	²⁰⁷ ₈₃ Bi		

Alphas:

Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
4895.4 11	2.0E-5 % 20	1.0E-6 10
4997 7	4.2E-4 % 4	2.09E-5 21
5141 2	0.00104 % 17	5.4E-5 9
5210.0 15	0.0038 % 3	2.00E-4 15
5869.5 22	41.80 %	2.453

Gamma and X-ray radiation:

Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
149.697 7	5.0E-5 % 5	7.5E-8 8
222.690 9	3.6E-5 % 4	7.9E-8 8
669.78 11	0.0037 % 3	2.46E-5 20
742.72 15	0.0010 % 3	7.8E-6 22
892.4 3	1.42E-4 % 14	1.27E-6 13

Gamma Coincidence Data:

For each gamma, the list of gammas in coincidence is given. If experimentally known, an estimate of the average time interval (in seconds) between both gammas is given

E(γ) Coincidence
 149.697 742.72
 222.690 669.78
 669.78 222.690
 742.72 149.697

Dataset #3:

Authors: J.K. Tuli, P. Blokhin, J. Kaur, J.Y. Lee and N. Sharma Citation: Nuclear Data Sheets 114, 661 (2013)

Parent Nucleus	Parent E(level)	Parent Jπ	Parent T _{1/2}	Decay Mode	GS-GS Q-value (keV)	Daughter Nucleus	Decay Scheme	ENSDF file
²¹¹ ₈₅ At	0.0	9/2-	7.214 h 7	ε: 58.20 8 %	785.3 25	²¹¹ ₈₄ Po		

Electrons:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
Auger L	8.33	27.6 % 8	0.00229 6
Auger K	59.7	1.57 % 18	9.4E-4 11
CE K	593.90 10	0.0114 % 6	6.8E-5 3
CE L	670.06 10	0.00196 % 9	1.31E-5 6
CE M	682.85 10	4.61E-4 % 22	3.15E-6 15
CE N	686.00 10	1.19E-4 % 6	8.1E-7 4
CE O	686.91 10	2.48E-5 % 12	1.71E-7 8
CE P	687.00 10	3.21E-6 % 15	2.21E-8 11

Gamma and X-ray radiation:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
XR 1	11.1	18.6 % 7	0.00206 8
XR kα2	76.863	12.4 % 3	0.00954 21
XR kα1	79.29	20.7 % 4	0.0164 3
XR kβ3	89.256	2.50 % 5	0.00223 4
XR kβ1	89.807	4.79 % 9	0.00431 8
XR kβ2	92.317	1.77 % 4	0.00163 3
	687.0 1	0.261 % 12	0.00179 8