

Results: 2 different decay possibilities were found

Dataset #1:

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
²¹¹ ₈₆ Rn	0.0	1/2-	14.6 h 2	α : 27.4 17 %	5965.4 14	²⁰⁷ ₈₄ Po

[Decay Scheme](#) [ENSDF file](#)

Alphas:

Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
5055 4	1.6E-4 % 6	8E-6 3
5179 3	7.1E-4 % 7	3.7E-5 4
5276 3	0.0041 % 4	2.17E-4 20
5466 3	0.0038 % 4	2.10E-4 20
5616 3	0.74 % 7	0.042 4
5783.9 17	17.3 % 11	1.00 6
5852.2 24	9.3 % 6	0.55 4

Electrons:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
Auger L	8.33	7.9 % 9	6.6E-4 7
CE L	51.611 22	13.0 % 21	0.0067 11
Auger K	59.7	0.0065 % 11	3.9E-6 6
CE M	64.401 20	3.5 % 6	0.0022 4
CE N	67.555 20	0.89 % 15	6.0E-4 10
CE O	68.455 20	0.17 % 3	1.15E-4 19
CE P	68.545 20	0.0148 % 24	1.02E-5 17
CE K	74.795 20	0.138 % 21	1.03E-4 15
CE K	143.795 20	0.048 % 8	7.0E-5 12
CE L	150.961 22	0.025 % 4	3.7E-5 6
CE M	163.751 20	0.0058 % 9	9.5E-6 14
CE N	166.905 20	0.00149 % 22	2.5E-6 4
CE O	167.805 20	3.1E-4 % 5	5.2E-7 8
CE P	167.895 20	4.0E-5 % 6	6.8E-8 10
CE L	219.961 22	0.0087 % 14	1.9E-5 3
CE M	232.751 20	0.0021 % 3	4.8E-6 7
CE N	235.905 20	5.3E-4 % 8	1.25E-6 20
CE O	236.805 20	1.11E-4 % 17	2.6E-7 4
CE P	236.895 20	1.42E-5 % 23	3.4E-8 5

Gamma and X-ray radiation:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
XR 1	11.1	5.3 % 9	5.9E-4 10
	68.55 2	0.43 % 7	2.9E-4 5
XR k α 2	76.863	0.052 % 6	4.0E-5 5
XR k α 1	79.29	0.086 % 10	6.8E-5 8
XR k β 3	89.256	0.0104 % 13	9.3E-6 11
XR k β 1	89.807	0.0199 % 24	1.79E-5 22
XR k β 2	92.317	0.0074 % 9	6.8E-6 8
	167.900 20	0.067 % 10	1.13E-4 17
	236.900 20	0.063 % 10	1.49E-4 23

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
68.55 167.900 (2.05E-7)
167.900 68.55 (2.05E-7)

Dataset #2:

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
²¹¹ ₈₆ Rn	0.0	1/2-	14.6 h 2	ϵ : 72.6 17 %	2892 7	²¹¹ ₈₅ At

[Decay Scheme](#) [ENSDF file](#)

Beta+:

Energy (keV)	End-point energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
361.9 31 ?	754 7	0.004 % 4	1.4E-5 14

Mean beta+ energy: 0 keV AP, total beta+ intensity: 0.004 % 4, mean beta+ dose: 0 MeV/Bq-s AP

Electrons:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
Auger L	8.52	44.3 % 23	0.00377 20
CE K	20.27 10	0.50 % 10	1.01E-4 20
Auger K	61.2	2.3 % 3	0.00140 18
CE K	72.97 10	3.0 % 5	0.0022 4
CE K	96.07 10	1.40 % 11	0.00134 11
CE L	98.51 10	0.13 % 3	1.2E-4 3

CE M	111.68 10	0.031 % 7	3.4E-5 8
CE N	114.96 10	0.0081 % 19	9.3E-6 21
CE O	115.89 10	0.0016 % 4	1.9E-6 5
CE P	115.99 10	2.1E-4 % 4	2.4E-7 4
CE L	151.21 10	3.37 % 23	0.0051 4
CE K	154.47 10	0.61 % 4	9.5E-4 6
CE M	164.38 10	0.89 % 6	0.00146 10
CE K	166.37 10	0.144 % 16	2.4E-4 3
CE N	167.66 10	0.231 % 16	3.9E-4 3
CE O	168.59 10	0.046 % 3	7.7E-5 5
CE P	168.69 10	0.0049 % 3	8.2E-6 6
CE L	174.31 10	0.250 % 16	4.4E-4 3
CE M	187.48 10	0.059 % 4	1.11E-4 7
CE N	190.76 10	0.0153 % 10	2.93E-5 19
CE O	191.69 10	0.00328 % 22	6.3E-6 4
CE P	191.79 10	4.5E-4 % 3	8.7E-7 6
CE L	232.71 10	0.58 % 4	0.00136 9
CE L	244.61 10	0.026 % 3	6.2E-5 7
CE M	245.88 10	0.154 % 10	3.8E-4 3
CE N	249.16 10	0.040 % 3	9.9E-5 7
CE O	250.09 10	0.0079 % 5	1.99E-5 13
CE P	250.19 10	8.6E-4 % 6	2.14E-6 14
CE K	254.77 10	0.36 % 3	9.2E-4 7
CE M	257.78 10	0.0060 % 7	1.56E-5 17
CE N	261.06 10	0.00156 % 17	4.1E-6 5
CE O	261.99 10	3.3E-4 % 4	8.8E-7 10
CE P	262.09 10	4.6E-5 % 5	1.21E-7 13
CE K	274.77 10	0.0224 % 18	6.1E-5 5
CE K	320.67 10	0.045 % 3	1.43E-4 10
CE L	333.01 10	0.089 % 7	2.98E-4 24
CE M	346.18 10	0.0222 % 18	7.7E-5 6
CE K	346.47 10	0.68 % 5	0.00237 17
CE N	349.46 10	0.0058 % 5	2.02E-5 16
CE O	350.39 10	0.00123 % 10	4.3E-6 3
CE P	350.49 10	1.66E-4 % 13	5.8E-7 5
CE L	353.01 10	0.0038 % 3	1.36E-5 11
CE M	366.18 10	9.0E-4 % 7	3.3E-6 3
CE N	369.46 10	2.32E-4 % 18	8.6E-7 7
CE O	370.39 10	4.9E-5 % 4	1.81E-7 14
CE P	370.49 10	6.4E-6 % 5	2.37E-8 19
CE L	398.91 10	0.0075 % 5	3.01E-5 20
CE M	412.08 10	0.00177 % 12	7.3E-6 5
CE N	415.36 10	4.6E-4 % 3	1.90E-6 13

CE O	416.29 10	9.6E-5 % 6	4.0E-7 3
CE P	416.39 10	1.27E-5 % 8	5.3E-8 4
CE L	424.71 10	0.276 % 20	0.00117 8
CE M	437.88 10	0.070 % 5	3.08E-4 22
CE N	441.16 10	0.0182 % 13	8.0E-5 6
CE O	442.09 10	0.0037 % 3	1.64E-5 12
CE P	442.19 10	4.4E-4 % 3	1.92E-6 14
CE K	578.37 10	1.81 %	0.0104
CE K	582.67 10	0.32 % 9	0.0019 5
CE L	656.61 10	0.329 %	0.00216
CE L	660.91 10	0.058 % 18	3.8E-4 12
CE M	669.78 10	0.078 %	5.23E-4
CE N	673.06 10	0.0202 %	1.36E-4
CE O	673.99 10	0.00431 %	2.91E-5
CE M	674.08 10	0.014 % 4	1.0E-4 3
CE P	674.09 10	5.85E-4 %	3.95E-6
CE N	677.36 10	0.0038 % 12	2.6E-5 8
CE O	678.29 10	7.8E-4 % 24	5.3E-6 16
CE P	678.39 10	1.1E-4 % 3	7.3E-7 22
CE K	757.67 10	0.117 % 10	8.8E-4 7
CE K	770.27 10	0.063 % 4	4.8E-4 3
CE L	835.91 10	0.0204 % 16	1.70E-4 13
CE K	838.97 10	0.0253 % 16	2.12E-4 14
CE L	848.51 10	0.0140 % 9	1.19E-4 8
CE M	849.08 10	0.0048 % 4	4.1E-5 3
CE K	850.97 10	0.11 % 3	9.0E-4 25
CE K	851.67 10	0.110 % 13	9.3E-4 11
CE N	852.36 10	0.00124 % 10	1.06E-5 8
CE O	853.29 10	2.64E-4 % 22	2.25E-6 18
CE P	853.39 10	3.7E-5 % 3	3.1E-7 3
CE M	861.68 10	0.00341 % 23	2.94E-5 20
CE N	864.96 10	8.8E-4 % 6	7.6E-6 5
CE O	865.89 10	1.85E-4 % 12	1.60E-6 11
CE P	865.99 10	2.39E-5 % 16	2.07E-7 14
CE L	917.21 10	0.0054 % 4	5.0E-5 3
CE L	929.21 10	0.018 % 5	1.7E-4 5
CE L	929.91 10	0.023 % 3	2.2E-4 3
CE M	930.38 10	0.00131 % 9	1.22E-5 8
CE N	933.66 10	3.39E-4 % 22	3.16E-6 21
CE O	934.59 10	7.1E-5 % 5	6.7E-7 4
CE P	934.69 10	9.3E-6 % 6	8.7E-8 6
CE M	942.38 10	0.0043 % 12	4.0E-5 11
CE M	943.08 10	0.0056 % 7	5.3E-5 6

CE N	945.66 10	0.0011 % 3	1.0E-5 3
CE N	946.36 10	0.00146 % 17	1.38E-5 16
CE O	946.59 10	2.4E-4 % 7	2.2E-6 6
CE P	946.69 10	3.3E-5 % 9	3.1E-7 9
CE O	947.29 10	3.1E-4 % 4	2.9E-6 3
CE P	947.39 10	4.0E-5 % 5	3.8E-7 4
CE K	1030.97 10	0.109 % 8	0.00112 8
CE L	1109.21 10	0.0214 % 16	2.37E-4 18
CE M	1122.38 10	0.0051 % 4	5.8E-5 4
CE N	1125.66 10	0.00133 % 10	1.49E-5 11
CE O	1126.59 10	2.80E-4 % 21	3.15E-6 23
CE P	1126.69 10	3.7E-5 % 3	4.2E-7 3
CE K	1267.17 10	0.053 % 6	6.7E-4 7
CE L	1345.41 10	0.0085 % 11	1.14E-4 15
CE M	1358.58 10	0.0020 % 3	2.7E-5 4
CE N	1361.86 10	5.1E-4 % 7	6.9E-6 9
CE O	1362.79 10	1.08E-4 % 15	1.47E-6 20
CE P	1362.89 10	1.50E-5 % 19	2.0E-7 3
CE K	1709.27 20	4.8E-4 % 10	8.3E-6 16
CE L	1787.51 20	9.7E-5 % 19	1.7E-6 3
CE M	1800.68 20	2.3E-5 % 5	4.2E-7 8
CE N	1803.96 20	6.1E-6 % 12	1.09E-7 22
CE O	1804.89 20	1.3E-6 % 3	2.3E-8 5
CE P	1804.99 20	1.7E-7 % 3	3.1E-9 6

Gamma and X-ray radiation:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
XR 1	11.4	31.5 % 19	0.00359 22
XR k α 2	78.948	18.8 % 12	0.0148 9
XR k α 1	81.517	31.0 % 19	0.0253 16
XR k β 3	91.73	3.76 % 23	0.00344 21
XR k β 1	92.315	7.2 % 4	0.0066 4
XR k β 2	94.9	2.67 % 17	0.00254 16
	116.0 1	0.091 % 10	1.05E-4 11
	168.7 1	6.8 % 5	0.0114 8
	176.0 1	0.064 % 14	1.12E-4 24
	191.8 1	0.91 % 6	0.00174 11
	250.2 1	6.0 % 4	0.0151 10
	262.1 1	0.222 % 24	5.8E-4 6
	350.5 1	0.40 % 3	0.00140 11
	370.5 1	1.36 % 11	0.0050 4

	416.4 1	3.49 % 23	0.0145 10
	442.2 1	23.1 % 16	0.102 7
Annihil.	511.0	0.008 % 8	
	592.3 1	0.263 % 25	0.00156 15
	674.1 1	45.4 %	0.306
	678.4 1	29.0 % 18	0.197 12
	684.7 1	0.59 % 5	0.0040 3
	853.4 1	4.6 % 3	0.0395 25
	866.0 1	7.9 % 5	0.069 4
	934.7 1	3.68 % 23	0.0344 22
	946.7 1	5.0 % 14	0.047 13
	947.4 1	16.3 % 19	0.155 18
	992.5 ?	1.36 % 15	0.0135 15
	1012.5 1	0.213 % 20	0.00216 20
	1044.7 4	0.059 % 18	6.2E-4 19
	1115.5 3 ?	0.09 % 5	0.0010 5
	1126.7 1	22.2 % 16	0.251 18
	1181.3 1	1.45 % 11	0.0172 13
	1242.9 2	0.068 % 14	8.5E-4 17
	1318.3 1	0.127 % 15	0.00167 19
	1362.9 1	32.7 % 22	0.45 3
	1435.1 2	0.068 % 9	9.8E-4 14
	1531.8 3	0.045 % 23	7E-4 3
	1538.8 2	4.7 % 5	0.073 8
	1805.0 2	0.118 % 23	0.0021 4
	1992.7 2	0.50 % 3	0.0100 7
	2129.0 3 ?	0.0045 % 18	1.0E-4 4

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

116.0 176.0, 370.5, 674.1, 947.4, 1044.7, 1318.3, 1992.7
168.7 176.0 (5.70E-10), 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5 (5.70E-10), 416.4 (5.70E-10), 592.3 (5.70E-10), 678.4 (5.70E-10), 684.7 (5.70E-10), 946.7 (5.70E-10), 947.4, 992.5 (5.70E-10), 1012.5 (5.70E-10), 1362.9 (5.70E-10), 1538.8 (5.70E-10)
176.0 116.0, 168.7 (5.70E-10), 191.8 (5.70E-10), 250.2 (5.70E-10), 262.1, 350.5, 370.5, 416.4, 442.2 (5.70E-10), 674.1 (5.70E-10), 678.4, 684.7, 853.4, 866.0 (5.70E-10), 934.7, 946.7, 947.4 (5.70E-10), 992.5, 1012.5, 1044.7, 1115.5, 1126.7, 1181.3, 1242.9, 1318.3, 1362.9, 1435.1, 1531.8, 1805.0, 1992.7, 2129.0
191.8 176.0 (5.70E-10), 250.2, 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5 (5.70E-10), 416.4 (5.70E-10), 592.3 (5.70E-10), 674.1, 678.4 (5.70E-10), 684.7 (5.70E-10), 934.7, 946.7 (5.70E-10), 992.5 (5.70E-10), 1012.5 (5.70E-10), 1242.9, 1362.9 (5.70E-10), 1538.8 (5.70E-10)
250.2 176.0 (5.70E-10), 191.8, 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5 (5.70E-10), 416.4 (5.70E-10), 592.3 (5.70E-10), 674.1, 678.4 (5.70E-10), 684.7 (5.70E-10), 866.0, 946.7 (5.70E-10), 992.5 (5.70E-10), 1012.5 (5.70E-10), 1362.9 (5.70E-10), 1538.8 (5.70E-10)

262.1 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 416.4, 442.2 (5.70E-10),
 592.3, 674.1 (5.70E-10), 684.7, 853.4, 866.0 (5.70E-10), 934.7, 947.4 (5.70E-10),
 1126.7
 350.5 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 442.2 (5.70E-10), 674.1 (5.70E-
 10),
 866.0 (5.70E-10), 947.4 (5.70E-10), 1012.5, 1181.3, 2129.0
 370.5 116.0, 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 442.2 (5.70E-10),
 674.1, 866.0 (5.70E-10), 947.4, 992.5, 1044.7, 1242.9, 1318.3, 1435.1,
 1992.7
 416.4 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 262.1, 442.2 (5.70E-10),
 674.1 (5.70E-10), 684.7, 853.4, 866.0 (5.70E-10), 934.7, 946.7, 947.4 (5.70E-10),
 1115.5, 1126.7
 442.2 176.0 (5.70E-10), 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5 (5.70E-10), 416.4 (5.70E-10),
 592.3 (5.70E-10), 674.1, 678.4 (5.70E-10), 684.7 (5.70E-10), 946.7 (5.70E-10),
 992.5 (5.70E-10), 1012.5 (5.70E-10), 1362.9 (5.70E-10), 1538.8 (5.70E-10)
 592.3 168.7 (5.70E-10), 191.8 (5.70E-10), 250.2 (5.70E-10), 262.1, 442.2 (5.70E-10), 674.1 (5.70E-
 10),
 684.7, 853.4, 866.0 (5.70E-10), 934.7, 946.7, 947.4 (5.70E-10),
 1115.5, 1126.7
 674.1 116.0, 176.0 (5.70E-10), 191.8, 250.2, 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5,
 416.4 (5.70E-10), 442.2, 592.3 (5.70E-10), 678.4 (5.70E-10), 684.7 (5.70E-10),
 934.7, 946.7 (5.70E-10), 992.5 (5.70E-10), 1012.5 (5.70E-10), 1126.7, 1242.9,
 1318.3, 1362.9 (5.70E-10), 1435.1, 1538.8 (5.70E-10), 1805.0
 678.4 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 442.2 (5.70E-10), 674.1 (5.70E-
 10),
 684.7, 853.4, 866.0 (5.70E-10), 934.7, 947.4 (5.70E-10), 1126.7
 684.7 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 262.1, 416.4, 442.2 (5.70E-10),
 592.3, 674.1 (5.70E-10), 678.4, 866.0 (5.70E-10), 947.4 (5.70E-10)
 853.4 176.0, 262.1, 416.4, 592.3, 678.4, 947.4
 866.0 176.0 (5.70E-10), 250.2, 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5 (5.70E-10), 416.4 (5.70E-
 10),
 592.3 (5.70E-10), 678.4 (5.70E-10), 684.7 (5.70E-10), 934.7,
 946.7 (5.70E-10), 992.5 (5.70E-10), 1012.5 (5.70E-10), 1242.9, 1362.9 (5.70E-10),
 1538.8 (5.70E-10)
 934.7 176.0, 191.8, 262.1, 416.4, 592.3, 674.1, 678.4, 866.0
 946.7 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 416.4, 442.2 (5.70E-10),
 592.3, 674.1 (5.70E-10), 866.0 (5.70E-10), 947.4 (5.70E-10)
 947.4 116.0, 168.7, 176.0 (5.70E-10), 262.1 (5.70E-10), 350.5 (5.70E-10), 370.5, 416.4 (5.70E-10),
 592.3 (5.70E-10), 678.4 (5.70E-10), 684.7 (5.70E-10), 853.4, 946.7 (5.70E-10),
 992.5 (5.70E-10), 1012.5 (5.70E-10), 1044.7, 1115.5, 1181.3,
 1362.9 (5.70E-10), 1531.8, 1538.8 (5.70E-10)
 992.5 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 370.5, 442.2 (5.70E-10),
 674.1 (5.70E-10), 866.0 (5.70E-10), 947.4 (5.70E-10)
 1012.5 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 350.5, 442.2 (5.70E-10),
 674.1 (5.70E-10), 866.0 (5.70E-10), 947.4 (5.70E-10)
 1044.7 116.0, 176.0, 370.5, 947.4
 1115.5 176.0, 416.4, 592.3, 947.4
 1126.7 176.0, 262.1, 416.4, 592.3, 674.1, 678.4
 1181.3 176.0, 350.5, 947.4
 1242.9 176.0, 191.8, 370.5, 674.1, 866.0
 1318.3 116.0, 176.0, 370.5, 674.1
 1362.9 168.7 (5.70E-10), 176.0, 191.8 (5.70E-10), 250.2 (5.70E-10), 442.2 (5.70E-10), 674.1 (5.70E-
 10),
 866.0 (5.70E-10), 947.4 (5.70E-10)
 1435.1 176.0, 370.5, 674.1
 1531.8 176.0, 947.4
 1538.8 168.7 (5.70E-10), 191.8 (5.70E-10), 250.2 (5.70E-10), 442.2 (5.70E-10), 674.1 (5.70E-10),
 866.0 (5.70E-10), 947.4 (5.70E-10)
 1805.0 176.0, 674.1
 1992.7 116.0, 176.0, 370.5
 2129.0 176.0, 350.5