

Table 2. Principal Gamma-Rays from Isotopes with Half-lives > 1.0 h

An energy-ordered list of principal γ rays from nuclei whose parent or grandparent half-life exceeds 1.0 h is given in Table 2. The table includes only the most intense γ rays (up to a maximum of four) from each parent. Intensities are absolute (γ 's per 100 parent decays) unless preceded by a †. E_γ for the strongest associated lines from each decay are listed in order of decreasing intensity.

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
1.113		¹¹⁰ Ag(249.79 d) - 116.48	29.9640 7	14.1 4	¹⁴⁰ Ba(12.752 d) - 537.261, 162.660, 304.849
1.642 2	0.0081	¹⁹³ Pt(4.33 d) - 12.634, 135.50	30.332 8		¹⁰⁸ Ag(418 y) - 722.907, 433.937, 614.276
2.1726 4		⁹⁹ Tc(6.01 h) - 140.511, 142.628	30.60 3	0.253 5	²⁰¹ Tl(72.912 h) - 167.43, 135.34, 32.19
6.238 20	1.03 3	¹⁸¹ W(121.2 d) - 136.266, 152.315	30.6383 11	95 1	²⁸ Mg(20.91 h) - 1342.27, 941.72, 400.56
6.29 8		¹²¹ Sn(55 y)	30.77 2		⁹³ Zr(1.53×10 ⁶ y)
6.96 6		⁸⁵ Sr(67.63 m) - 151.159, 129.820, 731.812	30.77 2	0.0006	⁹³ Nb(16.13 y)
7.133 10	4.95 15	¹⁶⁰ Er(28.58 h) - 59.98	30.77 2		⁹⁹ Mo(4.0×10 ³ y)
8.4 2		¹²⁹ Ba(2.16 h) - 182.32, 1459.1, 202.38	30.814 18	0.00031	¹⁸⁹ Os(5.8 h)
8.41031 19	0.158 18	¹⁶⁹ Er(9.40 d) - 109.77987, 118.19018	30.898 4	1.3 calc	¹⁹⁵ Ir(2.5 h) - 98.85, 211.407, 129.70
9.3 1		²²⁷ Ac(21.773 y) - 100, 69.21, 160.26	30.898 4	2.28 15	¹⁹⁵ Pt(4.02 d) - 98.85, 129.70, 129.5
9.396 7	4.90 15	⁸³ Kr(1.83 h) - 32.1473	30.898 4	0.75 3	¹⁹⁵ Au(186.09 d) - 98.85, 129.70, 211.407
~10		¹⁶² Ho(67.0 m) - 185.005, 1220.0, 282.864	31.89 10	0.058 13	¹³⁴ Ce(3.16 d) - 162.306, 130.414, 300.884
10.6 5	0.8	¹³⁷ Ce(9.0 h) - 447.15, 436.59, 433.22	32.1473 16	0.0549 15	⁸³ Kr(1.83 h) - 9.396
11.242 7	1.08 6	¹³⁴ Cs(2.903 h) - 127.5021, 138.733	32.19 3	0.258 5	²⁰¹ Tl(72.912 h) - 167.43, 135.34, 30.60
12.327 6	1.53 9	¹³³ Ba(38.9 h) - 632.56	33.1964 3	0.0745 23	²³⁷ Pu(45.2 d) - 280.40, 298.89, 320.75
12.4	3.0×10 ⁻⁶	⁴⁵ Ca(162.61 d)	33.1964 3	0.126 3	²⁴¹ Am(432.2 y) - 59.5412, 26.3448, 43.423
12.598 15	0.29 3	¹⁵² Eu(96 m) - 89.8492, 18.265, 77.2583	33.568 10	0.200 22	¹⁴⁴ Ce(284.893 d) - 133.515, 80.120, 40.98
12.634 8	0.658	¹⁹³ Pt(4.33 d) - 135.50, 1.642	33.7 3		¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 695.6
12.75 5	0.30 6	²²⁸ Ra(5.75 y) - 13.52, 16.2, 15.5	34.0		²⁵¹ Es(33 h) - 177.7, 152.8, 163.8
13.271 18	0.089 calc	⁷³ As(80.30 d) - 53.440	35.4919 5	6.67 20	¹²⁵ Te(57.40 d) - 109.276, 144.780
13.52 2	1.6	²²⁸ Ra(5.75 y) - 16.2, 12.75, 15.5	35.4919 5	6.68 13	¹²⁵ I(59.408 d)
14.41300 15	9.16 15	⁵⁷ Co(271.79 d) - 122.0614, 136.4743, 692.03	35.7 3		²⁵⁵ Es(39.8 d) - 269.1, 233.6
15.2 1		²²⁷ Ac(21.773 y) - 100, 69.21, 160.26	36.202 16	0.67 6	¹⁸⁹ Ir(13.2 d) - 245.09, 69.537, 59.053
15.5 2	0.16 3	²²⁸ Ra(5.75 y) - 13.52, 16.2, 12.75	37.052 2	39.1 8	⁸⁰ Br(4.4205 h) - 48.786
16.2 1	0.72 8	²²⁸ Ra(5.75 y) - 13.52, 12.75, 15.5	37.09 3	1.84 6	¹⁹⁵ Hg(41.6 h) - 261.75, 560.27, 387.87
16.21 3	0.159 20	¹⁹⁵ Hg(41.6 h) - 261.75, 560.27, 387.87	37.138 10	1.9	¹²¹ Sn(55 y) - 6.29
16.4 3	8.3 17	⁷² Zn(46.5 h) - 145.04, 191.96, 103.14	37.138 10	0.94 10	¹²¹ Te(154 d) - 1102.149, 998.291, 909.847
18.265 7	1.26 21	¹⁵² Eu(96 m) - 89.8492, 77.2583, 12.598	37.9681 7	>2.9	¹⁵⁶ Sm(9.4 h) - 87.4897, 203.818, 165.8452
18.5 5	27.2 6	¹¹² Pd(21.03 h)	38.3 1	8	¹⁶² Ho(67.0 m) - 185.005, 1220.0, 282.864
19.394 2	13.7 7	¹⁷¹ Lu(8.24 d) - 739.78, 667.404, 75.878	38.661 2	0.0105 2	²³⁹ Pu(24110 y) - 51.624, 129.297, 375.045
21.542 3	0.031	¹⁵¹ Sm(90 y)	38.9 1	7.0×10 ⁻⁵	⁹⁵ Tc(61 d) - 204.117, 582.082, 835.149
21.542 3	2.85 12	¹⁵¹ Gd(124 d) - 153.60, 243.282, 174.70	39.51 3	0.30	¹⁹³ Hg(11.8 h) - 257.99, 407.63, 573.25
~22		¹³² I(1.387 h) - 98.0	39.578 4	7.51 23	¹²⁹ I(1.57×10 ⁷ y)
22.510 8	>0.050	¹⁴⁹ Pm(53.08 h) - 285.95, 859.46, 590.88	39.578 4	7.5 2	¹²⁹ Xe(8.88 d) - 196.56
22.510 8	2.32 6	¹⁴⁹ Eu(93.1 d) - 327.526, 277.089, 254.566	39.578 4	2.97 9	¹²⁹ Cs(32.06 h) - 371.918, 411.490, 548.945
23.001 17	0.15 3	²⁵⁵ Fm(20.07 h) - 81.477, 58.477, 80.92	39.757 6	0.07	¹⁰³ Pd(16.991 d) - 357.47, 497.080, 294.978
23.1 1	0.037 6	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 587.2	39.858 4	1.091 25	²¹² Bi(60.55 m) - 727.330, 1620.50, 785.37
23.28 1	6.4 6	¹²⁶ Sn(1×10 ⁵ y) - 87.57, 64.28, 86.94	40.09 5	30	²²⁵ Ra(14.9 d)
23.870 8	16.1 5	¹¹⁹ Sn(293.1 d) - 25.271, 65.66	40.09 5	0.104 9	²²⁹ Pa(1.50 d) - 64.70, 75.12, 115.55
23.870 8	16.1 5	¹¹⁹ Sb(38.19 h)	40.350 3	5.04 4	¹⁸⁶ Re(2.0×10 ⁵ y) - 59.009, 99.362, 87.266
23.9331 2	20.3 11	¹⁷² Hf(1.87 y) - 125.812, 67.35, 81.7513	40.8 1	30.0 20	¹¹⁸ Sb(5.00 h) - 1229.68, 253.678, 1050.65
24.46 1	3.90 15	¹⁰¹ Pd(8.47 h) - 296.29, 590.44, 269.67	40.84 3	25.5 13	⁶² Zn(9.186 h) - 596.56, 548.35, 507.60
24.5 2		²²⁷ Ac(21.773 y) - 100, 69.21, 160.26	40.928 4	1.147 15	¹⁶⁴ Yb(75.8 m) - 675.41, 390.6, 446.74
24.889 21	0.0389 12	⁵⁸ Co(9.04 h)	40.98 10	0.257 16	¹⁴⁴ Ce(284.893 d) - 133.515, 80.120, 33.568
25.271 1	14.3 3	¹¹⁹ Sn(293.1 d) - 23.870, 65.66	41		²³⁹ Cm(2.9 h) - 187.1, 146.4
25.646 4	14.5 3	²³¹ Th(25.52 h) - 84.216, 89.944, 81.227	41	0.006	²⁴³ Bk(4.5 h) - 187.1, 536, 146.4
25.646 4	12	²³¹ U(4.2 d) - 84.216, 217.940, 58.570	41.4 2	9.2 9	¹⁸⁴ Hf(4.12 h) - 139.1, 344.9, 181.0
25.646 4	0.00041 5	²³⁵ Np(396.1 d) - 84.216, 81.227, 58.570	41.53 6		²⁴⁸ Bk(23.7 h) - 592.2, 550.7, 43.38
25.65150 7	23.2 10	¹⁶¹ Tb(6.88 d) - 48.91562, 74.56711, 57.196	41.53 6	0.011	²⁵² Fm(25.39 h) - 96.28
25.65150 7	27 3	¹⁶¹ Ho(2.48 h) - 103.062, 77.414, 59.235	41.79 5	~0.050	²⁵³ Es(20.47 d) - 389.11, 387.1, 42.98
26.3 1	0.00010	¹⁹⁰ Ir(1.2 h)	41.8 2	0.76 7	²⁴³ Pu(4.956 h) - 84.0, 381.7, 67
26.3448 2	2.43 6	²³⁷ U(6.75 d) - 59.5412, 208.00, 164.61	41.86 2	0.00513 23	¹⁹¹ Os(15.4 d) - 129.421, 82.407, 47.05
26.3448 2	0.221 7	²³⁷ Pu(45.2 d) - 59.5412, 33.1964, 43.423	41.938 20	0.045	¹⁰² Rh(2.9 y) - 475.10, 631.28, 697.49
26.3448 2	2.40 2	²⁴¹ Am(432.2 y) - 59.5412, 33.1964, 43.423	41.95 3	0.350 17	²⁴⁵ Cm(8500 y) - 174.94, 132.99, 189.82
27.36 1	10.3 4	²³¹ Pa(32760 y) - 300.07, 302.65, 283.69	42.10 2	7.0 4	¹⁰⁰ Pd(3.63 d) - 84.02, 74.78, 126.05
27.58 2	3.5 4	²⁴⁶ Pu(10.84 d) - 43.81, 223.75, 179.94	42.13 1		²⁴² Am(16.02 h) - 44.54
27.81 5	16.3 16	¹²⁹ Te(69.6 m) - 459.60, 487.39, 278.43	42.13 1	0.014	²⁴⁶ Cf(35.7 h) - 96, 146
28.242 9	1.13 8	¹⁶⁶ Dy(81.6 h) - 82.471, 54.2400, 426.00	42.4	†6.7	¹⁷⁸ Yb(74 m) - 390.8, 348.4
29.10 10	21.6 15	⁸⁶ Zr(16.5 h) - 242.80, 612.00, 135.6	42.44 2	0.044 3	²²⁹ Pa(1.50 d) - 40.09, 64.70, 75.12
29.192 1	0.0120 3	²³³ U(1.592×10 ⁵ y) - 42.44, 97.134, 54.699	42.44 2	0.0862 13	²³³ U(1.592×10 ⁵ y) - 97.134, 54.699, 29.192
29.374 20	15.0 10	²³⁷ Np(2.144×10 ⁶ y) - 86.477, 94.66, 143.249	42.723 5	0.0130 10	²⁵⁴ Fm(3.240 h) - 99.163, 154.35
29.8 1	0.056 6	²²⁸ Pa(22 h) - 308.0, 43.3, 316.8	42.824 8	0.09 1	²⁴⁰ Am(50.8 h) - 987.76, 888.80, 98.860

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
42.824 8	0.0240 24	²⁴⁴ Cm(18.10 y) - 98.860, 152.63, 554.60	58.570 3	0.44	²³¹ U(4.2 d) - 25.646, 84.216, 217.940
42.852 5	0.014 calc	²⁵⁰ Cf(13.08 y)	58.570 3	1.6×10 ⁻⁵ 5	²³⁵ Np(396.1 d) - 25.646, 84.216, 81.227
42.88 2	0.06 calc	²⁴⁵ Am(2.05 h) - 252.80, 240.86, 295.72	58.603 7	1.98	⁶⁰ Fe(1.5×10 ⁶ y)
42.98 3	-0.009	²⁵³ Es(20.47 d) - 41.79, 389.11, 387.1	59.009 4	17.83 18	¹⁸⁶ Re(2.0×10 ⁵ y) - 40.350, 99.362, 87.266
43.119 1	5	¹⁹⁴ Os(6.0 y) - 82.339	59.053 15	1.20 12	¹⁸⁹ Ir(13.2 d) - 245.09, 69.537, 36.202
43.3 1	0.048 6	²²⁸ Pa(22 h) - 308.0, 29.8, 316.8	59.08 2	0.0288 11	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 176.645
43.38 3	0.007 calc	²⁴⁸ Bk(23.7 h) - 592.2, 550.7	59.235 2	0.60 5	¹⁶¹ Ho(2.48 h) - 25.65150, 103.062, 77.414
43.38 3	0.0148 9	²⁵² Cf(2.645 y) - 100.4, 155.0	59.5412 2	34.5 8	²³⁷ U(6.75 d) - 208.00, 26.3448, 164.61
43.423 10	-0.0039	²³⁷ Pu(45.2 d) - 280.40, 298.89, 320.75	59.5412 2	3.28 10	²³⁷ Pu(45.2 d) - 26.3448, 33.1964, 43.423
43.423 10	0.073 8	²⁴¹ Am(432.2 y) - 59.5412, 26.3448, 33.1964	59.5412 2	35.9 4	²⁴¹ Am(432.2 y) - 26.3448, 33.1964, 43.423
43.498 1	0.0395 8	²³⁸ Pu(87.7 y) - 99.853, 152.720, 766.38	59.97 3	2.30 13	²⁰⁰ Pt(12.5 h) - 76.21, 135.90, 243.71
43.533 1	5.93 13	²⁴³ Am(7370 y) - 74.664, 117.84, 86.71	59.97 3	2.9 6	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 133.23
43.81 3	28.7 8	⁶⁶ Ge(2.26 h) - 381.85, 272.97, 108.90	59.98 3	0.0689 19	¹⁶⁰ Ho(5.02 h) - 728.18, 879.383, 962.317
43.81 2	25.0 13	²⁴⁹ Pu(10.84 d) - 223.75, 179.94, 27.58	59.98 3	0.069 4	¹⁶⁰ Er(28.58 h) - 7.133
44.08 3	0.0325 12	²⁴² Cm(162.8 d) - 101.90, 157.42, 561.11	60.0086 10	1.13 5	¹⁵⁵ Eu(4.7611 y) - 86.545, 105.305, 45.2972
44.10 7	1.05 5	²⁴⁰ U(14.1 h) - 189.7, 66.5, 169.2	60.0 1	5.7 12	¹⁸⁵ Ir(14.4 h) - 254.4, 1828.8, 97.4
44.54 2		²⁴² Am(16.02 h)	60.82 7	0.5 3	¹⁵⁷ Dy(8.14 h) - 326.16, 182.20, 83.01
44.54 2		²⁴⁶ Cm(4730 y)	61.25 5	12	¹⁴⁵ Sm(340 d) - 492.31, 431.4
44.60 5	0.558 20	²²⁰ Fr(27.4 s) - 413.0, 234.5, 178.4	61.29	†152	¹⁷⁶ W(2.5 h) - 100.20, 94.86, 84.14
44.63 10	0.011	²³⁶ Np(22.5 h) - 642.35, 687.59, 538.11	61.46 3	6.2 4	¹⁹⁵ Hg(9.9 h) - 779.80, 585.13, 180.11
44.63 10	0.0167 6	²³⁶ Np(1.54×10 ⁵ y) - 160.308, 104.234, 45.242	61.5 3	0.56 22	²⁵¹ Cf(898 y) - 176.6, 227.0, 285.0
44.697 2	12.4 3	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 176.645	61.6 1	1.45 8	²⁵⁷ Fm(100.5 d) - 241.0, 179.4, 104.4
44.915 13	0.036	²⁴² Pu(3.733×10 ⁵ y) - 103.50, 158.80	62.2		¹⁴⁸ Pm(41.29 d) - 75.7
45.242 3	0.13 3	²³⁶ Np(1.54×10 ⁵ y) - 160.308, 104.234, 104.1	62.47 5	0.16	²⁵³ Fm(3.00 d) - 271.8, 144.99, 405
45.242 3	0.0450 8	²⁴⁰ Pu(6563 y) - 104.234, 160.308, 212.46	62.6 2	0.9 4	¹⁷³ Tm(8.24 h) - 398.9, 461.4
45.2972 13	1.326 25	¹⁵⁵ Eu(4.7611 y) - 86.545, 105.305, 60.0086	63.0 1	†40 2	²³⁰ Ra(93 m) - 72.0, 202.8, 469.7
45.48 2	19.5 20	⁷⁶ Kr(14.8 h) - 315.7, 270.2, 406.5	63.0 20	2.0 2	²⁵⁴ Es(275.7 d) - 316, 304, 385
45.5 2	2.9 10	¹⁵⁸ Er(2.29 h) - 71.91, 386.84, 248.58	63.12077 9	44.2 6	¹⁶⁹ Yb(32.026 d) - 197.95788, 177.21402, 109.77987
45.85 9	58	⁷² Se(8.40 d)	63.29 2	4.8 5	²³⁴ Th(24.10 d) - 92.38, 92.80, 112.81
46.3 2	†~0.12	²⁵³ Cf(17.81 d)	63.582 3	0.109 16	¹⁸⁸ W(69.4 d) - 290.669, 227.083, 207.849
46.4839 4	7.97 12	¹⁸³ Re(70.0 d) - 162.3219, 291.7238, 208.8057	63.83 2	0.263 13	²³² Th(1.405×10 ¹⁰ y) - 140.86
46.539 1	4.25 4	²¹⁰ Pb(22.3 y)	63.929 8	23.0 23	¹⁵⁷ Eu(15.18 h) - 410.723, 370.509, 54.548
47.05 3	0.00270 20	¹⁹¹ Os(15.4 d) - 129.421, 82.407, 41.86	64.28 1	9.6 11	¹²⁶ Sn(1×10 ⁵ y) - 87.57, 86.94, 23.28
47.155 6	16.9 4	¹⁶⁵ Tm(30.06 h) - 242.917, 297.369, 806.372	64.42 5	0.274 23	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09
47.574 9	0.066 calc	²³⁸ Pu(2.858 y) - 108.96, 166.0, 643.5	64.70 5	0.045 4	²²⁹ Pa(1.50 d) - 40.09, 75.12, 115.55
48.63 5	0.00013	²⁴⁷ Am(141 y) - 49.367, 86.68, 109.69	65.548 13	0.259 9	¹²¹ Te(16.78 d) - 573.139, 507.591, 470.472
48.786 5	0.317 9	⁸⁰ Br(4.4205 h) - 37.052	65.66 1	0.0198 6	¹¹⁹ Sn(293.1 d) - 23.870, 25.271
48.91562 14	17.0 4	¹⁶¹ Tb(6.88 d) - 25.65150, 74.56711, 57.196	66.5 1	0.154 15	²⁴⁰ U(14.1 h) - 44.10, 189.7, 169.2
49.10 10	0.005 1	²³⁹ Am(11.9 h) - 277.599, 228.183, 226.378	66.720 10	0.14	¹⁷¹ Tm(1.92 y)
49.369 9	0.078 calc	²³⁶ U(2.342×10 ⁷ y) - 112.75	67 1	0.23 11	²⁴³ Pu(4.956 h) - 84.0, 41.8, 381.7
49.367 4	0.19	²⁴² Am(141 y) - 86.68, 109.69, 163.24	67.03 1	78 9	⁷³ Se(7.15 h) - 360.80, 865.09, 510
49.55 6	0.064 8	²³⁸ U(4.468×10 ⁹ y) - 113.5	67.058 3	7.25 15	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 176.645
49.630 10	74	¹⁵⁶ Tb(24.4 h) - 0	67.22 2	0.553 15	¹⁴⁵ Pm(17.7 y) - 72.500
49.72 1	15.0 3	¹³² Te(3.204 d) - 228.16, 116.30, 111.76	67.35 10	5.3 6	¹⁷² Hf(1.87 y) - 23.9331, 125.812, 81.7513
49.82680 16	0.360 9	¹⁹⁹ Au(3.139 d) - 158.37947, 208.20597	67.412 3	85	⁶¹ Co(1.650 h) - 908.631, 841.211
49.89 7	2.7 9	²²³ Fr(21.8 m) - 50.13, 79.72, 234.81	67.412 3	4.23 13	⁶¹ Cu(3.333 h) - 282.956, 656.008, 1185.234
50.13 1	36.0 21	²²³ Fr(21.8 m) - 79.72, 234.81, 49.89	67.67 1	0.11 3	²²⁶ Ac(29.37 h) - 253.73, 186.05
50.13 1	8.0 4	²²⁷ Th(18.72 d) - 235.971, 256.25, 329.851	67.67 1	0.377 21	²³⁰ Th(7.538×10 ⁴ y) - 143.87, 253.73, 186.05
51.624 1	0.0271 5	²³⁸ Pu(24110 y) - 38.661, 129.297, 375.045	67.74970 10	41.2 6	¹⁸² Ta(114.43 d) - 1121.3007, 1221.4066, 1189.0503
51.72 4	0.026 3	²³⁰ Pa(17.4 d) - 951.95, 918.48, 454.95	67.74970 10	38.2 13	¹⁸² Re(12.7 h) - 1121.3007, 1221.4066, 1189.0503
52.33 5	0.55 5	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09	67.74970 10	22.2 22	¹⁸² Re(64.0 h) - 229.3207, 1121.3007, 1221.4066
53.10 2	1.09 3	¹⁹⁷ Pt(95.41 m) - 346.5	67.875	94.4 14	⁴⁴ Ti(63 y) - 78.337, 146.212
53.20 2	0.123 2	²³⁴ U(2.455×10 ⁵ y) - 120.90, 454.95, 508.20	68.107 4	3.29 7	¹⁷² Er(49.3 h) - 610.062, 407.338, 446.025
53.29 3	0.0092 7	¹⁹⁵ Hg(41.6 h) - 261.75, 560.27, 387.87	68.573 14	0.42 3	²¹¹ Rn(14.6 h) - 167.90, 236.48
53.440 9	10.34 calc	⁷³ As(80.30 d) - 13.271	69.21 4	0.0065 6	²²⁷ Ac(21.773 y) - 100, 160.26, 147.48
54.2400 7	0.81 12	¹⁶⁶ Dy(81.6 h) - 82.471, 28.242, 426.00	69.229 3	11.6 3	¹⁶³ Tm(1.810 h) - 104.320, 241.305, 1434.45
54.548 9	3.7 3	¹⁵⁷ Eu(15.18 h) - 63.929, 410.723, 370.509	69.537 15	3.5 4	¹⁸⁹ Ir(13.2 d) - 245.09, 59.537, 36.202
54.548 9	0.0084 8	¹⁵⁷ Tb(71 y)	69.67300 13	4.85 6	¹⁵³ Sm(46.284 h) - 103.18012, 97.43100, 75.42213
54.699 1	0.0182 3	²³³ U(1.592×10 ⁵ y) - 42.44, 97.134, 29.192	69.67300 13	2.419 23	¹⁵³ Gd(240.4 d) - 97.43100, 103.18012, 83.36717
54.968 4	6.81 17	¹²⁵ Xe(16.9 h) - 188.418, 243.378, 453.796	69.70 5	5.9 7	¹⁷³ Ta(3.14 h) - 172.2, 90.3, 160.4
55.506 8	5.8 3	¹⁸² Os(22.10 h) - 510.056, 180.230, 263.285	70.44 5	2.14 15	¹¹¹ Pd(5.5 h) - 172.18
57.0723 12	4.6 8	¹⁶⁷ Tm(9.25 d) - 207.801, 531.54, 264.9	71.1 1	†8.0 5	²⁵⁸ Md(51.5 d) - 367.8, 447.9, 276.8
57.196 1	1.79 5	¹⁶¹ Tb(6.88 d) - 25.65150, 48.91562, 74.56711	71.30 5	0.043 4	²⁵⁴ Es(39.3 h) - 648.80, 693.79, 688.68
57.356 7	11.7 3	¹⁴³ Ce(33.039 h) - 293.266, 664.571, 721.929	71.91 1	9.99 13	¹⁵⁸ Er(2.29 h) - 386.84, 248.58, 45.5
57.555 17	48.0 9	¹⁸⁰ Hf(5.5 h) - 332.277, 443.09, 215.256	72.001 4	11.14 22	¹⁸⁷ W(23.72 h) - 685.774, 479.531, 134.243
57.61 2	0.50 5	¹²⁷ Te(109 d) - 88.26	72.0 1	†113 6	²³⁰ Ra(93 m) - 63.0, 202.8, 469.7
57.766 5	0.1999 18	²³² U(68.9 y) - 129.065, 270.245, 328.000	72.20 4	0.56 13	²²⁶ Ac(29.37 h) - 253.73, 186.05, 67.67
57.8 1	4.4	¹⁶² Ho(67.0 m) - 185.005, 1220.0, 282.864	72.20 4	0.60 4	²³⁰ U(20.8 d) - 154.23, 230.37, 158.18
58.00 1	2.15 10	¹⁵⁹ Gd(18.479 h) - 363.55, 348.16, 226.01	72.500 4	0.261 14	¹⁴⁵ Pr(5.984 h) - 748.278, 675.795, 978.969
58.00 1	2.22 13	¹⁵⁹ Dy(144.4 d) - 348.16, 79.45, 290.27	72.500 4	1.9	¹⁴⁵ Pm(17.7 y) - 67.22
58.39 3	19.2 4	¹³³ Ce(4.9 h) - 477.22, 510.36, 130.803	72.70 7	0.59 3	²¹⁰ Rn(2.4 h) - 458.25, 648.70, 570.95
58.477 15	0.67	²⁵⁵ Fm(20.07 h) - 81.477, 80.92, 23.001	73.042 11	3.2 5	¹⁹³ Os(30.11 h) - 138.938, 460.547, 557.429

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
73.174 12	38 4	¹⁸³ Hf(1.067 h) - 783.754, 459.069, 397.859	86.71 2	0.338 7	²⁴³ Am(7370 y) - 74.664, 43.533, 117.84
74.379 9	0.07	¹⁹¹ Os(13.10 h)	86.814 3	1.97 12	²³³ Pa(26.967 d) - 312.17, 300.34, 340.81
74.56711 22	10.2 2	¹⁶¹ Tb(6.88 d) - 25.65150, 48.91562, 57.196	86.94 1	8.9 9	¹²⁶ Sn(1×10 ⁵ y) - 87.57, 64.28, 23.28
74.664 1	68	²⁴³ Am(7370 y) - 43.533, 117.84, 86.71	87.266 4	0.053 18	¹⁸⁶ Re(2.0×10 ⁵ y) - 59.009, 40.350, 99.362
74.78 2	48 3	¹⁰⁰ Pd(3.63 d) - 84.02, 126.05, 42.10	87.4 1		²⁴³ Bk(4.5 h) - 187.1, 536, 146.4
75.12 5	0.035 3	²²⁹ Pa(1.50 d) - 40.09, 64.70, 115.55	87.4897 3	24 7	¹⁵⁶ Sm(9.4 h) - 203.818, 165.8452, 37.9681
75.42213 23	0.349 15	¹⁵³ Sm(46.284 h) - 103.18012, 69.67300, 97.43100	87.57 1	37	¹²⁶ Sn(1×10 ⁵ y) - 87.57, 64.28, 23.28
75.7 1	1.11 3	¹⁴⁸ Pm(41.29 d) - 62.2	87.73 1	1.6×10 ⁻⁵ 10	¹⁶⁸ Tm(93.1 d) - 198.241, 815.990, 447.515
75.878 5	6.08 8	¹⁷¹ Lu(8.24 d) - 739.78, 19.394, 667.404	87.8671 11	0.202 11	⁷⁷ As(38.83 h) - 238.9963, 520.639, 249.7862
76.073 10	1.17×10 ⁻⁸ 20	¹⁴⁷ Pm(2.6234 y) - 121.220, 197.299	88.04 5	3.6 3	¹⁰⁹ Pd(13.7012 h) - 311.4, 647.3, 781.4
76.21 4	13	²⁰⁰ Pt(12.5 h) - 135.90, 243.71, 59.97	88.04 5	3.61 10	¹⁰⁹ Cd(462.6 d)
76.471 1	5.9 3	¹⁷⁴ Lu(3.31 y) - 1241.847, 1318.296, 1065.04	88.26 8	0.084 3	¹²⁷ Te(109 d)
76.471 1	0.0638 16	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 176.645	88.34 3	13.3 13	¹⁷⁶ Lu(3.78×10 ¹⁰ y) - 306.78, 201.83, 400.99
76.9 5	15.8 23	¹³⁹ Ce(97 m) - 97.261, 557.7, 376.7	88.34 3	8.9 4	¹⁷⁶ Lu(3.635 h) - 1159.28, 1061.61, 201.83
77.10 10	2.11×10 ⁻⁵ 7	²⁴¹ Pu(14.35 y) - 148.567, 103.680, 159.955	88.34 3	12	¹⁷⁶ Ta(8.09 h) - 1159.28, 1224.93, 201.83
77.2583 6	0.69 5	¹⁵² Eu(96 m) - 89.8492, 18.265, 12.598	88.4		¹⁵⁶ Tb(5.3 h)
77.351 2	0.0111 16	¹⁹⁷ Pt(95.41 m) - 346.5, 53.10	88.46 3	0.092 3	¹²³ Te(119.7 d) - 158.97, 247.5
77.351 2	17.0 16	¹⁹⁷ Pt(19.8915 h) - 191.437, 268.78	88.867 1	64.4 10	¹⁷⁸ Ta(2.36 h) - 426.383, 325.562, 213.440
77.351 2	0.029 4	¹⁹⁷ Hg(23.8 h) - 279.01, 130.2, 201.6	88.9667 14	8.4 9	¹⁵⁶ Eu(15.19 d) - 811.79, 1230.68, 1153.67
77.351 2	18.7 4	¹⁹⁷ Hg(64.14 h) - 191.437, 268.78	88.9667 14	17.7 19	¹⁵⁶ Tb(5.35 d) - 534.318, 199.2132, 1222.36
77.414 1	1.91 16	¹⁶¹ Ho(2.48 h) - 25.65150, 103.062, 59.235	89.36 1	2.40 18	¹⁷⁵ Hf(70 d) - 343.40, 433.0, 229.6
78.337	96	⁴⁴ Ti(63 y) - 67.875, 146.212	89.65 7	0.0006	⁹⁹ Tc(2.11×10 ⁵ y)
78.63 3	0.00347 17	¹⁷⁰ Tm(128.6 d)	89.65 7		⁹⁹ Tc(6.01 h) - 322.41, 232.72
78.63 3	11.87 17	¹⁷³ Lu(1.37 y) - 272.105, 100.724, 171.393	89.65 7	33.4 15	⁹⁹ Rh(16.1 d) - 528.24, 353.05, 322.41
78.7426 6	6.5 5	¹⁷² Tm(63.6 h) - 1093.657, 1387.093, 1529.72	89.8492 7	70	¹⁵² Eu(96 m) - 18.265, 77.2583, 12.598
79.138 3	6.63 5	¹⁰⁸ Ag(418 y) - 722.907, 433.937, 614.276	89.9 2	79.5 16	¹²⁰ Sb(5.76 d) - 1171.3, 1023.1, 197.3
79.45 2	0.00048 13	¹⁵⁹ Dy(144.4 d) - 58.00, 348.16, 290.27	89.944 5	0.94 6	²³¹ Th(25.52 h) - 25.646, 84.216, 81.227
79.5104 14	11.6 4	¹⁵⁸ Tb(180 y) - 944.09, 962.06, 181.930	90.3 1	5.0 5	¹⁷³ Ta(3.14 h) - 172.2, 69.70, 160.4
79.6139 26	0.27 3	¹³³ Xe(5.243 d) - 80.9971, 160.613, 302.853	90.596 7	0.563 19	¹²² Xe(20.1 h) - 350.065, 148.612, 416.633
79.72 1	9.1 4	²²³ Fr(21.8 m) - 50.13, 234.81, 49.89	91.00 2	16.0 12	¹⁷⁴ Ta(1.05 h) - 206.50, 1205.92, 1228.33
80.120 5	1.36 6	¹⁴⁴ Ce(284.893 d) - 133.515, 40.98, 33.568	91.105 2	28	¹⁴⁷ Nd(10.98 d) - 531.016, 319.411, 439.895
80.185 2	2.62 3	¹³¹ I(8.02070 d) - 364.489, 636.989, 284.305	91.266 5	7.0 1	⁶⁷ Cu(61.83 h) - 184.577, 93.311, 300.219
80.236 7	0.0047	¹⁹³ Ir(10.53 d)	91.40 2	7	¹⁶⁴ Tm(2.0 m) - 1154.66, 768.91, 208.08
80.574 8	6.71 8	¹⁶⁶ Ho(26.83 h) - 1379.40, 1581.89, 1662.48	92.38 1	2.81 15	²³⁴ Th(24.10 d) - 63.29, 92.80, 112.81
80.723 2	11.10 22	¹⁵³ Dy(6.4 h) - 213.754, 99.659, 254.259	92.80 2	2.77 15	²³⁴ Th(24.10 d) - 63.29, 92.38, 112.81
80.92 5	0.27	²⁵⁶ Fm(20.07 h) - 81.477, 58.477, 23.001	93.124 20	4.8 3	¹⁰⁷ Cd(6.50 h) - 828.93, 796.462, 324.81
80.9971 14	38.0 7	¹³³ Xe(5.243 d) - 79.6139, 160.613, 302.853	93.180 1	6.0 15	¹⁷⁸ Lu(28.4 m) - 1340.8, 1310.05, 1269.34
80.9971 14	34.06 27	¹³¹ Ba(10.51 y) - 356.017, 302.853, 383.851	93.311 5	16.1 2	⁶⁷ Cu(61.83 h) - 184.577, 91.266, 300.219
81.227 3	0.89 5	²³¹ Th(25.52 h) - 25.646, 84.216, 89.944	93.311 5	39.2 10	⁶⁷ Ga(3.2612 d) - 184.577, 300.219, 393.529
81.227 3	3.9×10 ⁻⁵ 3	²³⁵ Np(396.1 d) - 25.646, 84.216, 58.570	93.326 2	4.5	¹⁸⁰ Ta(8.152 h)
81.477 20	0.81	²⁵⁶ Fm(20.07 h) - 58.477, 80.92, 23.001	93.88 3	33.1 14	¹¹⁶ Te(2.49 h) - 628.66, 103.01, 637.9
81.5 1	6 1	¹⁷⁵ Ta(10.5 h) - 207.4, 348.5, 266.9	94.33 3	7.6 6	¹⁸⁹ Pt(10.87 h) - 721.41, 568.84, 243.37
81.7513 5	4.52 23	¹⁷² Hf(1.87 y) - 23.9331, 125.812, 67.35	94.60 5	0.6 2	²³⁷ Np(2.144×10 ⁶ y) - 29.374, 86.477, 143.249
81.788 15	0.0478 14	¹²¹ Te(154 d) - 1102.149, 37.138, 998.291	94.700 3	3.58 18	¹⁶⁵ Dy(2.334 h) - 361.68, 633.415, 715.328
81.99 2	0.0034 23	¹⁵⁴ Eu(8.593 y) - 184.810	94.86	†153	¹⁷⁶ W(2.5 h) - 100.20, 61.29, 84.14
82.13 2	0.0070 14	¹⁷⁶ Lu(3.635 h)	96 3	0.012	²⁴⁶ Cf(35.7 h) - 42.13, 146
82.29 2		¹⁶⁶ Yb(56.7 h)	96.28 6	0.036 3	²⁵² Fm(25.39 h) - 41.53
82.339 2	>0.011	¹⁹⁴ Os(6.0 y) - 43.119	96.5 1	0.31	⁹⁷ Tc(90.1 d)
82.407 14	0.0255 20	¹⁹¹ Os(15.4 d) - 129.421, 41.86, 47.05	96.75 2	0.116 6	¹¹¹ Ag(7.45 d) - 342.13, 245.395, 620.26
82.407 14	4.9 5	¹⁹¹ Pt(2.802 d) - 538.90, 409.44, 359.90	97.134 1	0.020 3	²³³ U(1.592×10 ⁵ y) - 42.44, 54.699, 29.192
82.471 2	14	¹⁶⁹ Dy(81.6 h) - 28.242, 54.2400, 426.00	97.1949 17	69.3 23	¹⁹⁸ Au(2.27 d) - 214.841, 180.31, 204.10
82.802 22	0.012	²¹⁰ At(8.1 h) - 106, 167, 141.2	97.261 10	45 7	¹³³ Ce(97 m) - 76.9, 557.7, 376.7
83.01 4	0.62 18	¹⁸⁷ Dy(8.14 h) - 326.16, 182.20, 60.82	97.4 2	4.2 8	¹⁸⁵ Ir(14.4 h) - 254.4, 1828.8, 60.0
83.28 4	0.00539 20	¹⁸⁴ Re(169 d) - 252.848, 216.548, 920.932	97.43100 21	0.846 12	¹⁵³ Sm(46.284 h) - 103.18012, 69.67300, 75.42213
83.36717 21	0.196 4	¹⁵³ Gd(240.4 d) - 97.43100, 103.18012, 69.67300	97.43100 21	29	¹⁵³ Gd(240.4 d) - 103.18012, 69.67300, 83.36717
84.0 2	23	²⁴³ Pu(4.956 h) - 41.8, 381.7, 67	98.0 10	3.72 9	¹³² I(1.387 h) - 22
84.0 2	-40	²⁴⁷ Bk(1380 y) - 265	98.8 1	0.0007	¹⁰² Rh(2.9 y) - 475.10, 631.28, 697.49
84.02 2	52 3	¹⁰⁰ Pd(3.63 d) - 74.78, 126.05, 42.10	98.85 5	10 calc	¹⁹⁵ Ir(2.5 h) - 211.407, 30.898, 129.70
84.14	†81	¹⁷⁸ W(2.5 h) - 100.20, 94.86, 61.29	98.85 5	10 calc	¹⁹⁵ Ir(3.8 h) - 684.88, 432.86, 319.90
84.216 3	6.6 3	²³¹ Th(25.52 h) - 25.646, 89.944, 81.227	98.85 5	11.4 6	¹⁹⁵ Pt(4.02 d) - 129.70, 30.898, 129.5
84.216 3	7	²³¹ U(4.2 d) - 25.646, 217.940, 58.570	98.85 5	10.9 5	¹⁹⁵ Au(186.09 d) - 129.70, 30.898, 211.407
84.216 3	0.000179 10	²³⁵ Np(396.1 d) - 25.646, 81.227, 58.570	98.860 13	1.5 2	²⁴⁰ Am(50.8 h) - 987.76, 888.80, 42.824
84.25474 8	2.5	¹⁷⁰ Tm(128.6 d) - 78.63	98.860 13	0.00162 15	²⁴⁴ Cm(18.10 y) - 42.824, 152.63, 554.60
84.25474 8	9.0 5	¹⁷⁴ Lu(2.012 d) - 1280.25, 2041.88, 985.10	98.918 1	4.29 13	¹⁵⁸ Tb(180 y) - 944.09, 962.06, 79.5104
84.373 3	1.52 6	²²⁴ Ac(2.78 h) - 156.82, 140.7, 144.44	98.918 1	†700 50	¹⁵⁸ Ho(11.3 m) - 218.221, 945.61, 948.78
84.373 3	1.22 2	²²⁸ Th(1.9131 y) - 215.983, 131.613, 166.410	99.163 6	0.031 3	²⁵⁴ Fm(3.240 h) - 42.723, 154.35
86.25 4	1.33 10	²²⁹ Th(7340 y) - 193.509, 210.853, 86.40	99.362 4	1.07 4	¹⁸⁶ Re(2.0×10 ⁵ y) - 59.009, 40.350, 87.266
86.40 5	2.57 10	²²⁹ Th(7340 y) - 193.509, 210.853, 86.25	99.383 4	4.6 8	²⁴⁴ Am(10.1 h) - 743.971, 897.848, 153.863
86.477 10	12.4 4	²³⁷ Np(2.144×10 ⁶ y) - 29.374, 94.66, 143.249	99.5 2	0.11 4	²²¹ Fr(4.9 m) - 218.19, 410.7, 150.0
86.545 3	30.7 6	¹⁵⁵ Eu(4.7611 y) - 105.305, 45.2972, 60.0086	99.63 5	0.62 3	²²⁵ Ac(10.0 d) - 99.91, 150.04, 188.00
86.545 3	32.0 6	¹⁵⁵ Tb(5.32 d) - 105.305, 180.103, 262.322	99.659 2	10.51 10	¹⁵³ Dy(6.4 h) - 80.723, 213.754, 254.259
86.68 4	0.037	²⁴² Am(141 y) - 49.367, 109.69, 163.24	99.853 3	0.00735 8	²³⁸ Pu(87.7 y) - 43.498, 152.720, 766.38

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
99.91 5	1.01 6	²²⁵ Ac(10.0 d) - 150.04, 99.63, 188.00	116.30 8	1.96 5	¹³² Te(3.204 d) - 228.16, 49.72, 111.76
100 5	0.0009	¹⁹⁵ Ir(3.8 h)	116.48 5	0.008	¹¹⁰ Ag(249.79 d) - 1.113
~100	-0.009	²²⁷ Ac(21.773 y) - 69.21, 160.26, 147.48	117.159 2	0.047 3	²²⁹ Pa(1.50 d) - 40.09, 64.70, 75.12
100.20	†1816	¹⁷⁶ W(2.5 h) - 94.86, 61.29, 84.14	117.84 2	0.57 8	²⁴³ Am(7370 y) - 74.664, 43.533, 86.71
100.4 3	-0.013	²⁵² Cf(2.645 y) - 43.38, 155.0	118.03 4	12.9 14	¹⁸¹ Os(105 m) - 238.75, 826.77, 831.62
100.70 5	0.017	¹⁸⁰ Hf(5.5 h) - 332.277, 443.09, 215.256	118.19018 18	0.00014 4	¹⁶⁹ Er(9.40 d) - 8.41031, 109.77987
100.724 20	5.24 9	¹⁷³ Lu(1.37 y) - 272.105, 78.63, 171.393	118.72 3	31.2 7	¹⁰³ Ag(65.7 m) - 148.193, 266.86, 1273.83
101.25 4	0.0012	¹⁹³ Hg(11.8 h) - 257.99, 407.63, 573.25	118.968 2	0.130 6	²²⁹ Pa(1.50 d) - 40.09, 64.70, 75.12
101.90 3	0.0025 4	²⁴² Cm(162.8 d) - 44.08, 157.42, 561.11	119.12 5	11.3 10	¹⁹⁰ Re(3.2 h) - 0
102.2564 13	6.4 4	¹⁵³ Tb(2.34 d) - 212.0040, 109.7601, 170.4511	119.7 1	6.1 6	¹⁴⁷ Tb(1.7 h) - 1152.4, 694.4, 139.9
102.32 5	1.88 13	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09	119.80 9	†449 31	¹⁸⁴ Ir(3.09 h) - 263.97, 390.38, 961.22
102.82 2	0.85 6	²³⁶ Np(1.54×10 ⁵ y) - 160.308, 104.234, 45.242	120.1 3		¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 695.6
103.01 2	1.98 11	¹¹⁶ Te(2.49 h) - 93.88, 628.66, 637.9	120.19 10	15	¹⁷⁰ Hf(16.01 h) - 164.71, 620.7, 572.9
103.062 1	3.9	¹⁶³ Ho(2.48 h) - 25.65150, 77.414, 59.235	120.90 2	0.0342 5	²³⁴ U(2.455×10 ⁵ y) - 53.20, 454.95, 508.20
103.1 1	0.39	²⁴⁵ Bk(4.94 d) - 205.879, 471.805, 164.8	121.1155 11	17.2 3	⁷⁵ Se(119.779 d) - 264.6576, 136.0001, 279.5422
103.14 17	2.32 8	⁷² Zn(46.5 h) - 145.04, 191.96, 16.4	121.220 17	0.0028	¹⁴⁷ Pm(2.6234 y) - 197.299, 76.073
103.18012 17	30	¹⁵³ Sm(46.284 h) - 69.67300, 97.43100, 75.42213	121.220 17	22.9 8	¹⁴⁷ Eu(24.1 d) - 197.299, 677.516, 1077.043
103.18012 17	21.11 23	¹⁵³ Gd(240.4 d) - 97.43100, 69.67300, 83.36717	121.6211 5	3.42 22	¹⁷⁷ Yb(1.911 h) - 150.392, 1080.21, 1241.2
103.50 4	0.0078 8	²⁴² Pu(3.733×10 ⁵ y) - 44.915, 158.80	121.6211 5	5.91 15	¹⁷⁷ Lu(160.4 d) - 413.6636, 319.0205, 171.8576
103.557 7	0.81 16	¹⁸⁰ Ta(8.152 h) - 93.326	121.7817 3	28.58 6	¹⁵² Eu(13.537 y) - 1408.006, 964.079, 1112.074
103.680 5	.0001017 12	²⁴¹ Pu(14.35 y) - 148.567, 77.10, 159.955	121.7817 3	7.00 21	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 1389.00
104.0 2	0.0102 10	²⁵⁴ Es(39.3 h) - 211.80, 177.30, 71.30	122.0 1	†-320	¹⁷¹ Hf(12.1 h) - 662.2, 347.18, 1071.8
104.1 10		²³⁶ Np(1.54×10 ⁵ y) - 160.308, 104.234, 45.242	122.0614 4	85.60 17	⁵⁷ Co(271.79 d) - 136.4743, 14.41300, 692.03
104.234 6		²³⁶ Np(22.5 h) - 44.63	122.30 7	0.603 6	¹⁸⁶ Re(3.7183 d)
104.234 6	7.2 3	²³⁶ Np(1.54×10 ⁵ y) - 158.35, 102.82, 44.63	122.370 22	64.2 23	⁹⁰ Mo(5.56 h) - 257.34, 203.13, 323.20
104.234 6	0.00708 10	²⁴⁰ Pu(6563 y) - 45.242, 160.308, 212.46	122.78 3	0.0283 8	¹⁹⁵ Hg(41.6 h) - 261.75, 560.27, 387.87
104.320 3	18.6 4	¹⁶³ Tm(1.810 h) - 69.229, 241.305, 1434.45	122.793 3	27.6 11	¹⁷⁹ Hf(25.05 d) - 453.43, 362.39, 146.15
104.4 1	0.62 5	²⁵⁷ Fm(100.5 d) - 241.0, 179.4, 61.6	123.071 1	40.79 25	¹⁵⁴ Eu(8.593 y) - 184.810, 81.99
104.62 5	0.539 19	⁹¹ Nb(60.86 d) - 1204.77	123.071 1	30 4	¹⁵⁴ Tb(9.4 h) - 247.925, 540.18, 649.564
104.729 7	13.4 4	¹⁸⁴ Re(169 d) - 252.848, 216.548, 920.932	123.071 1	26 4	¹⁵⁴ Tb(21.5 h) - 1274.436, 2187.10, 722.12
105.305 3	21.2 5	¹⁵³ Eu(4.7611 y) - 86.545, 45.2972, 60.0086	123.071 1	43 8	¹⁵⁴ Tb(22.7 h) - 247.925, 346.643, 1419.81
105.305 3	25	¹⁵⁵ Tb(5.32 d) - 86.545, 180.103, 262.322	123.3790 20	0.45 5	¹⁷⁹ Lu(4.59 h) - 214.335, 214.930, 337.713
105.50 5	0.145 6	¹²⁹ Te(33.6 d)	123.672 13	83 3	¹⁷³ Hf(23.6 h) - 296.974, 139.634, 311.239
105.88 5	0.299 20	²²⁰ Fr(27.4 s) - 413.0, 234.5, 178.4	123.805 3	28.97 23	¹³¹ Ba(11.50 d) - 496.326, 216.078, 373.246
106 1	0.0044	²¹⁰ At(8.1 h) - 82.802, 167, 141.2	124.015 6	9.1 3	¹⁷¹ Er(7.516 h) - 308.31, 295.901, 111.621
106.125 2	27.2 4	²³⁹ Np(2.3565 d) - 277.599, 228.183, 209.753	124.70 5	11.37 13	¹²⁷ Cs(6.25 h) - 411.95, 462.31, 587.01
106.46 3	9	¹⁸⁷ Pt(2.35 h) - 201.52, 110.04, 709.17	125.3581 9	0.019	¹⁸⁵ W(75.1 d)
107.9322 4	11.0 4	¹⁸³ Ta(5.1 d) - 246.0591, 353.9912, 161.3467	125.812 3	11.3 6	¹⁷² Hf(1.87 y) - 23.9331, 67.35, 81.7513
108.088 10	24.3 9	¹⁵¹ Tb(17.609 h) - 287.357, 251.863, 587.46	125.95 1	1.28×10 ⁻⁷ 2	⁵⁵ Fe(2.73 y)
108.90 2	10.4 3	⁶⁶ Ge(2.26 h) - 43.81, 381.85, 272.97	126.05 3	7.8 5	¹⁰⁰ Pd(3.63 d) - 84.02, 74.78, 42.10
108.96 5	0.012	²³⁶ Pu(2.858 y) - 47.574, 166.0, 643.5	127.164 3	16.7 3	⁵⁷ Ni(35.60 h) - 1377.63, 1919.52, 1757.55
109.276 15	0.274 9	¹²⁵ Te(57.40 d) - 35.4919, 144.780	127.226 9	68.0 7	¹⁰¹ Rh(3.3 y) - 197.99, 325.23, 295.01
109.69 4	0.024	²⁴² Am(141 y) - 49.367, 86.68, 163.24	127.226 9	0.637 16	¹⁰¹ Rh(4.34 d) - 306.857, 545.117, 179.636
109.7601 14	6.76 25	¹⁵³ Tb(2.34 d) - 212.0040, 102.2564, 170.4511	127.5021 28	13	¹³⁴ Cs(2.903 h) - 11.242, 138.733
109.77987 6	0.0013 3	¹⁶⁹ Er(9.40 d) - 8.41031, 118.19018	129.065 1	0.0682 4	²³² U(68.9 y) - 57.766, 270.245, 328.000
109.77987 6	17.47 18	¹⁶⁹ Yb(32.026 d) - 63.12077, 197.95788, 177.21402	129.14 9	5.51 17	¹²⁹ Ba(2.23 h) - 214.30, 220.83, 554.1
110.04 3	5.7 5	¹⁸⁷ Pt(2.35 h) - 106.46, 201.52, 709.17	129.297 2	0.00631 6	²³⁹ Pu(24110 y) - 51.624, 38.661, 375.045
111.12 2	13.1 13	²²² Rn(14.2 m) - 206.17, 242.11, 131.00	129.421 15	29.0 17	¹⁹¹ Os(15.4 d) - 82.407, 41.86, 47.05
111.12 2	3.29 20	²²⁶ Th(30.57 m) - 242.11, 131.00, 206.17	129.5 2	0.084 5	¹⁹⁵ Pt(4.02 d) - 98.85, 129.70, 30.898
111.208 4	23.7 10	¹⁸⁴ Ta(8.7 h) - 414.03, 252.848, 920.932	129.64 4	81	⁷⁷ Kr(74.4 m) - 146.59, 311.86, 276.0
111.208 4	17.1 6	¹⁸⁴ Re(38.0 d) - 903.279, 792.071, 894.757	129.70 5	1.2 calc	¹⁹⁵ Ir(2.5 h) - 98.85, 211.407, 30.898
111.621 4	20.5 8	¹⁷¹ Er(7.516 h) - 308.31, 295.901, 124.015	129.70 5	2.83 15	¹⁹⁵ Pt(4.02 d) - 98.85, 30.898, 129.5
111.73 2	0.298 8	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 176.645	129.70 5	0.818 22	¹⁹⁵ Au(186.09 d) - 98.85, 30.898, 211.407
111.76 8	1.74 4	¹³² Te(3.204 d) - 228.16, 49.72, 116.30	129.820 12	0.300 8	⁸⁵ Kr(4.480 h) - 304.87
112.36 6	96.0 6	⁴⁸ Cr(21.56 h) - 308.25, 420.5	129.820 12	>4.3×10 ⁻⁷	⁸⁵ Kr(10.756 y) - 514.0067, 362.81, 151.159
112.75 2	0.019 2	²³⁶ U(2.342×10 ⁷ y) - 49.369	129.820 12	0.15 4	⁸⁵ Sr(67.63 m) - 151.159, 731.812, 450.85
112.81 5	0.277 20	²³⁴ Th(24.10 d) - 63.29, 92.38, 92.80	130.1 3	3.4 7	²⁵¹ Bk(55.6 m) - 177.7, 152.8, 163.8
112.9498 5	6.4 3	¹⁷⁷ Lu(6.734 d) - 208.3664, 321.3162, 249.6741	130.2 1	0.105 4	¹⁹⁷ Pt(95.41 m) - 346.5, 53.10
112.9498 5	7.2 8	¹⁷⁷ Ta(56.56 h) - 208.3664, 1057.8, 745.9	130.2 1	0.273 9	¹⁹⁷ Hg(23.8 h) - 279.01, 201.6, 77.351
113.5 1	0.0102 15	²³⁸ U(4.468×10 ⁹ y) - 49.55	130.414 15	0.209 15	¹³⁴ Ce(3.16 d) - 162.306, 300.884, 31.89
113.805 4	1.88 3	¹⁷⁵ Yb(4.185 d) - 396.329, 282.522, 144.863	130.59 3	0.119 11	²¹⁹ Rn(3.96 s) - 271.23, 401.81, 293.54
113.94 5	40 5	¹³⁹ Nd(5.50 h) - 737.96, 982.2, 708.06	130.803 10	17.9 4	¹³³ Ce(4.9 h) - 477.22, 510.36, 58.39
114.314 11	19.2 13	¹⁴⁹ Nd(1.728 h) - 211.309, 270.166, 654.831	131.00 2	0.63 6	²²² Fr(14.2 m) - 206.17, 111.12, 242.11
114.3152 16	2.6 4	¹⁸² Hf(9×10 ⁶ y) - 270.4031, 156.088, 172.5708	131.00 2	0.278 13	²²⁶ Th(30.57 m) - 111.12, 242.11, 206.17
114.3152 16	6.2 6	¹⁸² Hf(61.5 m) - 942.80, 799.64, 339.65	131.30 1	18	²³⁴ Pa(6.70 h) - 946.00, 883.24, 569.5
114.463 5	20.63 8	¹⁸³ Os(13.0 h) - 381.768, 167.844, 851.474	131.613 4	16.3 8	²²⁴ Fr(3.33 m) - 215.983, 836.90, 1340.70
114.71 2	44.0 5	¹⁴⁶ Gd(48.27 d) - 154.57, 115.51, 576.0	131.613 4	26.9 6	²²⁴ Ac(2.78 h) - 215.983, 84.373, 205.93
115.05 5	8.6 16	¹⁷⁷ W(135 m) - 115.65, 426.98, 1036.4	131.613 4	0.1305 18	²²⁸ Th(1.9131 y) - 84.373, 215.983, 166.410
115.183 5	0.592 7	²¹² Pb(10.64 h) - 238.632, 300.087, 415.2	132.413 7	3.86 20	²⁴¹ Cm(32.8 d) - 471.805, 430.634, 205.879
115.51 2	44.0 5	¹⁴⁶ Gd(48.27 d) - 154.57, 114.71, 576.0	132.99 3	2.77 14	²⁴⁵ Cm(8500 y) - 174.94, 41.95, 189.82
115.55 5	0.0182 14	²²⁹ Pa(1.50 d) - 40.09, 64.70, 75.12	133.024 17	43.3 5	¹⁸¹ Hf(42.39 d) - 482.182, 345.916, 136.266
115.65 5	51 4	¹⁷⁷ W(135 m) - 426.98, 1036.4, 115.05	133.23 12	2.9 5	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 59.97

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
133.515 2	11.09 11	¹⁴⁴ Ce(284.893 d) - 80.120, 40.98, 33.568	152.63 2	0.00098 5	²⁴⁴ Cm(18.10 y) - 42.824, 98.860, 554.60
133.99 7	33	¹⁹⁷ Hg(23.8 h) - 279.01, 130.2, 201.6	152.720 2	0.000937 10	²³⁸ Pu(87.7 y) - 43.498, 99.853, 766.38
134.243 6	8.85 16	¹⁸⁷ W(23.72 h) - 685.774, 479.531, 72.001	152.8 2	2.23 15	²⁵¹ Bk(55.6 m) - 177.7, 130.1, 163.8
135.34 4	2.565 18	²⁰¹ Tl(72.912 h) - 167.43, 32.19, 30.60	152.8 2	0.91 10	²⁵¹ Es(33 h) - 177.7, 163.8, 34.0
135.50 3	0.112	¹⁹³ Pt(4.33 d) - 12.634, 1.642	152.9 2	25 3	²⁴⁶ Am(39 m) - 679.0, 205.0, 756
135.6 1	0.47 5	⁸⁶ Zr(16.5 h) - 242.80, 29.10, 612.00	153.4 1	0.259 20	²²⁰ Fr(27.4 s) - 413.0, 234.5, 178.4
135.90 9	3.24 19	²⁰⁰ Pt(12.5 h) - 76.21, 243.71, 59.97	153.59 3	66 3	¹¹⁹ Te(4.30 d) - 1212.73, 270.53, 1136.75
136.0001 6	58.3 7	⁷⁵ Se(119.779 d) - 264.6576, 279.5422, 121.1155	153.60 1	6.20 3	¹⁵¹ Gd(124 d) - 243.282, 174.70, 21.542
136.266 13	5.85 19	¹⁸¹ Hf(42.39 d) - 482.182, 133.024, 345.916	153.863 2	16 3	²⁴⁴ Am(10.1 h) - 743.971, 897.848, 99.383
136.266 13	0.0311 10	¹⁸¹ W(121.2 d) - 6.238, 152.315	154.21 1	5.62 14	²²³ Ra(11.435 d) - 269.459, 323.871, 144.232
136.4743 5	10.68 8	⁵⁷ Co(271.79 d) - 122.0614, 14.41300, 692.03	154.23 3	0.125 7	²³⁰ U(20.8 d) - 72.20, 230.37, 158.18
137.157 8	9.42 6	¹⁸⁶ Re(3.7183 d) - 122.30	154.35 6	0.0010 3	²⁵⁴ Fm(3.240 h) - 99.163, 42.723
137.157 8	41	¹⁸⁶ Ir(16.64 h) - 296.90, 434.84, 773.28	154.57 2	47	¹⁴⁶ Gd(48.27 d) - 115.51, 114.71, 576.0
137.157 8	23.0 23	¹⁸⁶ Rf(1.90 h) - 1.5, 767.497, 630.34	155.0 4	~0.0019	²⁵² Cf(2.645 y) - 43.38, 100.4
138.733 11	0.00391 25	¹³⁴ Cs(2.903 h) - 127.5021, 11.242	155.032 12	15.1 5	¹⁸⁸ Re(17.005 h) - 632.99, 477.99, 931.34
138.938 5	4.27 20	¹⁹⁰ Os(30.11 h) - 460.547, 73.042, 557.429	155.032 12	29.7 24	¹⁸⁸ Ir(41.5 h) - 2214.62, 632.99, 477.99
139.03 5	13.9 10	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09	155.16 12	0.097	¹⁹² Ir(241 y)
139.1 2	44.6 20	¹⁸⁴ Hf(4.12 h) - 344.9, 181.0, 41.4	155.37 4	10.5 5	¹³² Ce(3.51 h) - 182.11, 216.83, 190.04
139.634 8	12.7 3	¹⁷³ Hf(23.6 h) - 123.672, 296.974, 311.239	156.02 3	2.113 6	¹¹⁷ Sn(13.60 d) - 158.562, 314.3
139.9 1	27.46 20	¹⁴⁷ Tb(1.7 h) - 1152.4, 694.4, 119.7	156.088 2	7.0 10	¹⁸² Hf(9.10 ⁶ y) - 270.4031, 114.3152, 172.5708
140.511 1	89.43 23	⁹⁹ Mo(65.94 h) - 739.50, 181.063, 777.921	156.82 5	0.74 5	²²⁴ Ac(2.78 h) - 140.7, 144.44, 261.3
140.511 1	89	⁹⁹ Tc(6.01 h) - 142.628, 2.1726	157.2 3	7	¹⁹² Hg(4.85 h) - 274.8, 306.5, 186.4
140.7 1	0.32 3	²²⁴ Ac(2.78 h) - 156.82, 144.44, 261.3	157.41 4	0.241 4	¹⁰¹ Rh(4.34 d) - 306.857, 545.117, 127.226
140.86 2	0.021 4	²³² Th(1.405 \times 10 ¹⁰ y) - 63.83	157.42 5	0.0014 2	²⁴² Cm(162.8 d) - 44.08, 101.90, 561.11
141.178 15	66.8 7	⁹⁰ Nb(14.60 h) - 1129.224, 2318.968, 2186.242	158.18 3	17.5 5	²²⁶ Ac(29.37 h) - 253.73, 186.05, 67.67
141.2	0.0016	²¹⁰ At(8.1 h) - 82.802, 106, 167	158.18 3	0.070 5	²³⁰ U(20.8 d) - 72.20, 154.23, 230.37
141.3147 22	6.6 5	⁷⁵ Br(96.7 m) - 286.572, 427.883, 377.385	158.260 4	0.290 10	¹³⁵ Xe(9.14 h) - 249.770, 608.151, 408.009
142.628 29	0.0187 18	⁹⁹ Tc(6.01 h) - 140.511, 2.1726	158.35 2	4.0	²³⁶ Np(1.54 \times 10 ⁵ y) - 160.308, 104.234, 45.242
142.652 2	1.02 4	⁵⁹ Fe(44.503 d) - 1099.251, 1291.596, 192.349	158.37947 9	40.0 3	¹⁹⁹ Au(3.139 d) - 208.20597, 49.82680
143.249 20	0.43 2	²³⁷ Np(2.144 \times 10 ⁶ y) - 29.374, 86.477, 94.66	158.37947 9	4.96 25	¹⁹⁹ Tl(7.42 h) - 455.46, 208.20597, 247.26
143.764 2	10.96 8	²³⁰ U(7.038 \times 10 ⁸ y) - 185.712, 163.358, 205.309	158.38 3	98.8 10	⁵⁶ Ni(6.077 d) - 811.85, 749.95, 269.50
143.87 1	0.0488 22	²³⁰ Th(7.538 \times 10 ⁴ y) - 67.67, 253.73, 186.05	158.562 12	16	¹¹⁷ In(116.2 m) - 315.302
144.232 10	3.22 7	²²³ Ra(11.435 d) - 269.459, 154.21, 323.871	158.562 12	86	¹¹⁷ Sn(13.60 d) - 156.02, 314.3
144.44 5	0.205 18	²²⁴ Ac(2.78 h) - 156.82, 140.7, 261.3	158.562 12	86	¹¹⁷ Sb(2.80 h) - 861.35, 1004.51, 1021.0
144.780 25	3.9 \times 10 ⁻⁷	¹²⁵ Te(57.40 d) - 35.4919, 109.276	158.80 8	0.00045 15	²⁴² Pu(3.733 \times 10 ⁵ y) - 44.915, 103.50
144.863 5	0.328 11	¹⁷⁵ Yb(4.185 d) - 396.329, 282.522, 113.805	158.97 5	84	¹²³ Te(119.7 d) - 88.46, 247.5
144.99 6	0.192 24	²⁵³ Fm(3.00 d) - 271.8, 62.47, 405	158.97 5	83	¹²³ I(13.27 h) - 528.96, 440.02, 538.54
145.04 13	83	⁷² Zn(46.5 h) - 191.96, 16.4, 103.14	159.377 12	68.3 4	⁴⁷ Sc(3.3492 d)
145.252 10	4.29 13	¹²⁷ Xe(36.4 d) - 202.860, 172.132, 374.991	159.955 20	6.54 \times 10 ⁻⁶ 15	²⁴¹ Pu(14.35 y) - 148.567, 103.680, 77.10
145.4405 28	48.2 3	¹⁴¹ Ce(32.501 d)	160.26 5	0.0058 6	²²⁷ Ac(21.773 y) - 100, 69.21, 147.48
145.4405 28	0.239 24	¹⁴¹ Nd(2.49 h) - 1126.8, 1292.6, 1147.2	160.308 3	32	²³⁶ Np(1.54 \times 10 ⁵ y) - 104.234, 45.242, 104.1
145.544 10		²⁴¹ Cm(32.8 d) - 471.805, 430.634, 205.879	160.308 3	0.000402 3	²⁴⁰ Pu(6563 y) - 45.242, 104.234, 212.46
146 5	0.0035	²⁴⁶ Cf(35.7 h) - 42.13, 96	160.32 9	0.97 11	¹³⁷ Pr(1.28 h) - 836.7, 433.9, 514.0
146.07 20	3.5 5	²⁰⁰ Au(18.7 h) - 332.82, 59.97, 133.23	160.33 5	0.00191 9	¹²³ Sn(129.2 d) - 1088.64, 1030.23, 1021.00
146.15 7	27.0 11	¹⁷⁹ Hf(25.05 d) - 453.43, 362.39, 122.793	160.4 1	4.9 5	¹⁷³ Ta(3.14 h) - 172.2, 69.70, 90.3
146.212	0.089 6	⁴⁴ Ti(63 y) - 78.337, 67.875	160.613 8	0.066 5	¹³³ Xe(5.243 d) - 80.9971, 79.6139, 302.853
146.345 2	†35 5	²²⁹ Ac(62.7 m) - 164.522, 569.1, 261.92	160.7 1	0.379 20	²²⁰ Fr(27.4 s) - 413.0, 234.5, 178.4
146.345 2	0.098 6	²²⁹ Pa(1.50 d) - 40.09, 64.70, 75.12	161.269 9	6.49 12	¹⁸⁴ Re(169 d) - 252.848, 216.548, 920.932
146.4 5	0.21 3	¹⁴⁶ Pm(5.53 y) - 453.88, 735.72, 589.3	161.3467 5	8.9 3	¹⁸³ Ta(5.1 d) - 246.0591, 353.9912, 107.9322
146.4 5		²³⁹ Cm(2.9 h) - 187.1, 41	162.306 10	0.230 16	¹³⁴ Ce(3.16 d) - 130.414, 300.884, 31.89
146.4 5	0.012 5	²⁴³ Bk(4.5 h) - 187.1, 536, 41	162.3219 5	23.3 4	¹⁸³ Re(70.0 d) - 46.4839, 291.7238, 208.8057
146.59 4	37.3 16	⁷⁷ Kr(74.4 m) - 129.64, 311.86, 276.0	162.660 1	6.22 7	¹⁴⁰ Ba(12.752 d) - 537.261, 29.9640, 304.849
147.48 4	0.0031 3	²²⁷ Ac(21.773 y) - 100, 69.21, 160.26	163.24 4	0.024	²⁴² Am(141 y) - 49.367, 86.68, 109.69
147.63 2	37.7 10	²⁰⁰ Pb(21.5 h) - 257.17, 235.63, 268.38	163.358 2	5.08 4	²³⁵ U(7.038 \times 10 ⁸ y) - 185.712, 143.764, 205.309
147.81 2	43	¹⁹⁶ Au(9.6 h) - 188.27, 168.37, 285.49	163.8 2	0.35 7	²⁵¹ Bk(55.6 m) - 177.7, 130.1, 152.8
148.193 27	28.3 5	¹⁰³ Ag(65.7 m) - 118.72, 266.86, 1273.83	163.8 2	~0.10	²⁵¹ Es(33 h) - 177.7, 152.8, 34.0
148.567 10	.0001855 20	²⁴¹ Pu(14.35 y) - 103.680, 77.10, 159.955	163.930 8	1.91 6	¹³¹ Xe(11.84 d)
148.612 4	2.62 9	¹²² Xe(20.1 h) - 350.065, 416.633, 90.596	164.522 2	†100 10	²²⁹ Ac(62.7 m) - 569.1, 261.92, 146.345
148.7 1	0.011	¹⁹⁰ Ir(3.25 h) - 616.08, 502.53, 361.136	164.61 2	1.86 3	²³⁷ U(6.75 d) - 59.5412, 208.00, 26.3448
148.9 2	49	¹²³ Xe(2.08 h) - 178.1, 330.2, 1093.4	164.71 10	26	¹⁷⁰ Hf(16.01 h) - 620.7, 120.19, 572.9
149.735 3	48.2 3	¹⁴⁹ Gd(9.28 d) - 298.634, 346.651, 748.601	164.8 2	0.0084 18	²⁴⁵ Bk(4.94 d) - 205.879, 471.805, 430.634
150.0 2	0.07 3	²²¹ Fr(4.9 m) - 218.19, 410.7, 99.5	164.97 7	0.26	¹⁹⁷ Hg(23.8 h) - 279.01, 130.2, 201.6
150.04 2	0.80 3	²²⁵ Ac(10.0 d) - 99.91, 99.63, 188.00	164.98 2	26.4 3	¹⁴⁹ Tb(4.118 h) - 352.24, 388.57, 652.12
150.059 3	10.8 5	²³³ Pa(1.31 d) - 969.315, 894.351, 453.655	165.049 8	2.97 20	²⁴¹ Cm(32.8 d) - 471.805, 430.634, 205.879
150.392 3	20.3 11	¹⁷⁷ Yb(1.911 h) - 1080.21, 1241.2, 121.6211	165.8452 24	12.7 20	¹⁵⁶ Sm(9.4 h) - 87.4897, 203.818, 37.9681
150.824 13	0.0028	¹¹¹ In(2.8047 d) - 245.395, 171.28	165.864 6	23.7 24	¹³⁹ Ba(83.06 m) - 1420.5, 1254.7, 1310.6
151.159 6	75.0 4	⁸⁵ Kr(4.480 h) - 304.87	165.864 6	80 calc	¹³⁹ Ce(137.640 d)
151.159 6	2.2 \times 10 ⁻⁶ 13	⁸⁵ Kr(10.756 y) - 514.0067, 362.81, 129.820	166.0 3	0.00066	²³⁶ Pu(2.858 y) - 47.574, 108.96, 643.5
151.159 6	0.0012 9	⁸⁵ Sr(64.84 d) - 514.0067, 868.5, 362.81	166.10 2	0.1036 15	²²⁸ Th(1.9131 y) - 84.373, 215.983, 131.613
151.159 6	12.9 3	⁸⁵ Sr(67.63 m) - 129.820, 731.812, 450.85	167.47 4	0.0028	²¹⁰ At(8.1 h) - 82.802, 106, 141.2
152.22 7	7.3 5	¹⁹⁷ Tl(2.84 h) - 425.84, 1411.34, 577.97	167.43 7	10	²⁰¹ Tl(72.912 h) - 135.34, 32.19, 30.60
152.315 17	0.0083 3	¹⁸¹ W(121.2 d) - 6.238, 136.266	167.75 2	8.3 5	¹⁵¹ Pm(28.40 h) - 340.08, 275.21, 717.72

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
167.844 12	8.81 8	¹⁸³ Os(13.0 h) - 381.768, 114.463, 851.474	188.27 3	37.4 17	¹⁹⁶ Au(9.6 h) - 147.81, 168.37, 285.49
167.90 2	0.07	²¹¹ Rn(14.6 h) - 68.573, 236.48	188.418 4	54	¹²⁵ Xe(16.9 h) - 243.378, 54.968, 453.796
168.37 2	7.6 4	¹⁹⁶ Au(9.6 h) - 147.81, 188.27, 285.49	189.7 1	0.24 1	²⁴⁰ U(14.1 h) - 44.10, 66.5, 169.2
168.688 2	99.2 19	⁵² Fe(8.275 h) - 377.748, 1727.57, 1039.928	189.82 6	0.193 12	²⁴⁵ Cm(8500 y) - 174.94, 132.99, 41.95
169.2 1	0.115 8	²⁴⁰ U(14.1 h) - 44.10, 189.7, 66.5	190.04 5	2.67 12	¹³² Ce(3.51 h) - 182.11, 155.37, 216.83
169.26 4	0.44 3	¹³⁷ Ce(34.4 h) - 824.82, 762.3, 835.38	190.29 3	15.56 15	¹¹⁴ In(49.51 d) - 725.298, 558.456
170.4511 16	6.3 3	¹⁵³ Tb(2.34 d) - 212.0040, 109.7601, 102.2564	190.46 16	64.0 14	⁸¹ Rb(4.576 h) - 446.15, 510.31, 456.76
170.71 5	0.0697 21	¹⁸³ Os(9.9 h) - 1101.94, 1107.92, 1034.85	191.2137 15	20.6 5	¹⁶⁹ Lu(34.06 h) - 960.622, 1449.74, 889.753
171.28 3	90 calc	¹¹¹ In(2.8047 d) - 245.395, 150.824	191.437 10	3.7	¹⁹⁷ Pt(19.8915 h) - 77.351, 268.78
171.393 13	2.90 11	¹⁷³ Lu(1.37 y) - 272.105, 78.63, 100.724	191.437 10	0.632 21	¹⁹⁷ Hg(64.14 h) - 77.351, 268.78
171.8576 8	4.81 12	¹⁷⁷ Lu(160.4 d) - 413.6636, 319.0205, 121.6211	191.96 9	9.37 17	⁷² Zn(46.5 h) - 145.04, 16.4, 103.14
172.132 10	25.5 8	¹²⁷ Xe(36.4 d) - 202.860, 374.991, 145.252	192.349 5	3.08 10	⁵⁹ Fe(44.503 d) - 1099.251, 1291.596, 142.652
172.18 8	34	¹¹¹ Pd(5.5 h)	193.509 4	4.4	²²⁹ Th(7340 y) - 210.853, 86.40, 86.25
172.2 1	18	¹⁷³ Ta(3.14 h) - 69.70, 90.3, 160.4	195.0 1	22.6 10	²⁰⁹ At(5.41 h) - 545.0, 781.9, 790.2
172.5708 22	0.20 4	¹⁸² Hf(9×10 ⁶ y) - 270.4031, 156.088, 114.3152	195.05 10	18.6 10	¹⁸⁸ Pt(10.2 d) - 187.59, 381.43, 423.34
172.6 2	16	²⁵⁶ Es(7.6 h) - 861.8, 231.1, 1092.9	196.301 10	25.98 17	⁸⁸ Kr(2.84 h) - 2392.11, 2195.842, 834.830
173.4 1	18	¹⁹⁸ Pb(2.40 h) - 290.3, 365.4, 865.3	196.56 3	4.59 14	¹²⁹ Xe(8.88 d) - 39.578
173.52 5	2.7	¹⁹³ Au(17.65 h) - 186.17, 255.57, 268.22	197.299 12	3.4×10 ⁻⁷ 6	¹⁴⁷ Pm(2.6234 y) - 121.220, 76.073
173.7 1	8.8 6	¹³² I(1.387 h) - 98.0, 22	197.299 12	27	¹⁴⁷ Eu(24.1 d) - 121.220, 677.516, 1077.043
174.70 1	2.96 6	¹⁵⁷ Gd(124 d) - 153.60, 243.282, 21.542	197.3 3	87.0 11	¹²⁰ Sb(5.76 d) - 1171.3, 1023.1, 89.9
174.94 4	10	²⁴⁵ Cm(8500 y) - 132.99, 41.95, 189.82	197.95788 6	35.8 3	¹⁶⁹ Yb(32.026 d) - 63.12077, 177.21402, 109.77987
174.954 5	82.00 25	⁷¹ As(65.28 h) - 1095.490, 499.876, 326.785	197.99 6	73	¹⁰¹ Rh(3.3 y) - 127.226, 325.23, 295.01
175.361 5	7.48 9	⁴⁸ Sc(43.67 h) - 1312.096, 983.517, 1037.599	198.241 1	52.39 16	¹⁶⁸ Tm(93.1 d) - 815.990, 447.515, 184.285
175.4 3	10.1 12	⁸⁰ Sr(106.3 m) - 589.0, 553.4, 378.8	198.6060 12	1.19 3	⁷⁵ Ge(82.78 m) - 264.6576, 468.6, 419.1
176.6 1	17.7 15	²⁵¹ Cf(898 y) - 227.0, 285.0, 61.5	199.2132 10	40.9 22	¹⁵⁶ Tb(5.35 d) - 534.318, 1222.36, 88.9667
176.645 2	0.470 11	¹⁷⁴ Lu(142 d) - 272.918, 992.128, 76.471	199.50 5	0.55 3	¹³⁸ Nd(5.04 h) - 325.76, 341.65, 215.31
177.21402 6	22.16 18	¹⁶⁹ Yb(32.026 d) - 63.12077, 197.95788, 109.77987	200.38 4	0.79 8	¹⁹⁵ Hg(41.6 h) - 261.75, 560.27, 387.87
177.30 10	0.056 6	²⁵⁴ Es(39.3 h) - 211.80, 71.30, 104.0	201.3112 7	0.472 6	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 374.4852
177.595 17	48.6 20	²⁰⁸ At(1.63 h) - 686.527, 660.040, 845.044	201.52 6	6.4 18	¹⁸⁷ Pt(2.35 h) - 106.46, 110.04, 709.17
177.7 2	6	²⁵¹ Bk(55.6 m) - 130.1, 152.8, 163.8	201.6 3	0.034 5	¹⁹⁷ Pt(95.41 m) - 346.5, 53.10
177.7 2	2.4	²⁵¹ Es(33 h) - 152.8, 163.8, 34.0	201.6 3	0.089 13	¹⁹⁷ Hg(23.8 h) - 279.01, 130.2, 77.351
178.1 2	14.9 7	¹²³ Xe(2.08 h) - 148.9, 330.2, 1093.4	201.83 3	86 5	¹⁷⁶ Lu(3.78×10 ¹⁰ y) - 306.78, 88.34, 400.99
178.4 2	0.025 3	²²⁹ Fr(27.4 s) - 413.0, 234.5, 44.60	201.83 3	>0.0007	¹⁷⁶ Lu(3.635 h) - 88.34, 1159.28, 1061.61
179.4 1	8.7 7	²⁵⁷ Fm(100.5 d) - 241.0, 61.6, 104.4	201.83 3	6	¹⁷⁶ Ta(8.09 h) - 1159.28, 88.34, 1224.93
179.636 15	0.532 12	¹⁰¹ Rh(4.34 d) - 306.857, 545.117, 127.226	202.21 5	†4.7 5	²²⁴ Rn(107 m) - 260.581, 265.806, 328.331
179.92 2	9.7 5	²⁴² Pu(10.84 d) - 43.81, 223.75, 27.58	202.38 7	†33.7 6	¹²⁹ Ba(2.16 h) - 182.32, 1459.1, 419.83
180.103 1	7.45 15	¹⁵⁵ Tb(5.32 d) - 86.545, 105.305, 262.322	202.51 3	97.3 4	⁹⁰ Y(3.19 h) - 479.17, 681.8
180.11 4	1.90 9	¹⁹⁵ Hg(9.9 h) - 779.80, 61.46, 585.13	202.8 1	†30.8 10	²³⁰ Ra(93 m) - 72.0, 63.0, 469.7
180.230 11	33.5 16	¹⁸² Os(22.10 h) - 510.056, 263.285, 55.506	202.860 10	0.0580 21	¹²⁷ Te(9.35 h) - 417.95, 360.32, 215.17
180.31 5	50 3	¹⁹⁸ Au(2.27 d) - 214.841, 97.1949, 204.10	202.860 10	68	¹²⁷ Xe(36.4 d) - 172.132, 374.991, 145.252
181.0 2	13.8 13	¹⁸⁴ Hf(4.12 h) - 139.1, 344.9, 41.4	203.13 10	6.4 5	⁹⁰ Mo(5.56 h) - 257.34, 122.370, 323.20
181.063 8	5.99 7	⁹⁹ Mo(65.94 h) - 140.511, 739.50, 777.921	203.5 2	74	¹⁰⁹ In(4.2 h) - 623.7, 1148.9, 426.25
181.3 5	0.41 11	²⁵⁷ Md(5.52 h) - 371.4, 325.1, 388.5	203.818 3	20.6 20	¹⁵⁶ Sm(9.4 h) - 87.4897, 165.8452, 37.9681
181.528 4	20.6 4	¹⁷² Lu(6.70 d) - 1093.657, 900.724, 810.064	204.10 6	40.8 23	¹⁹⁸ Au(2.27 d) - 214.841, 97.1949, 180.31
181.930 4	9.9 3	¹⁵⁸ Tb(180 y) - 944.09, 962.06, 79.5104	204.117 2	0.028 9	⁹⁵ Nb(34.975 d) - 765.794, 561.67
182.11 3	77	¹³² Ce(3.51 h) - 155.37, 216.83, 190.04	204.117 2	2.33 7	⁹⁵ Nb(86.6 h) - 582.082, 786.198, 820.624
182.20 20	1.84 18	¹⁵⁷ Dy(8.14 h) - 326.16, 83.01, 60.82	204.117 2	63.25 13	⁹⁵ Tc(61 d) - 582.082, 835.149, 786.198
182.25 2	0.9 calc	¹³¹ Te(30 h)	205.0 10	36 4	²⁴⁶ Am(39 m) - 679.0, 152.9, 756
182.32 5	†100	¹²⁹ Ba(2.16 h) - 1459.1, 202.38, 419.83	205.309 2	5.01 5	²³⁵ U(7.038×10 ⁸ y) - 185.712, 143.764, 163.358
184.285 1	17.45 16	¹⁶⁸ Tm(93.1 d) - 198.241, 815.990, 447.515	205.79549 6	3.300 17	¹⁹² Ir(73.831 d) - 484.5780, 374.4852, 201.3112
184.410 6	72.6 7	¹⁶⁶ Ho(1200 y) - 810.276, 716.683, 280.459	205.879 13	0.040 6	²⁴⁵ Bk(4.94 d) - 471.805, 164.8, 430.634
184.410 6	16.1 3	¹⁶⁶ Tm(7.70 h) - 778.817, 2052.36, 1273.540	205.93 5	>0.32	²²⁴ Ac(2.78 h) - 156.82, 140.7, 144.44
184.564 4	3.37 6	¹⁵⁹ Dy(9.9 h) - 226.918, 1089.8, 1090.0	206.17 5	50 5	²²² Fr(14.2 m) - 111.12, 242.11, 131.00
184.577 10	48.7 3	⁶⁷ Cu(61.83 h) - 93.311, 91.266, 300.219	206.17 5	0.189 8	²²⁶ Th(30.57 m) - 111.12, 242.11, 131.00
184.577 10	21.2 3	⁶⁷ Ga(3.2612 d) - 93.311, 300.219, 393.529	206.50 4	58	¹⁷⁴ Ta(1.05 h) - 91.00, 1205.92, 1228.33
184.810 25	0.0042 11	¹⁵⁴ Eu(8.593 y) - 81.99	207.4 3	14.0 8	¹⁷⁵ Ta(10.5 h) - 348.5, 266.9, 81.5
185.005 3	28.6 17	¹⁶² Ho(67.0 m) - 1220.0, 282.864, 937.2	207.801 5	4.9 3	¹⁶⁷ Ho(3.1 h) - 346.547, 321.336, 237.873
185.712 1	57.2 5	²³⁵ U(7.038×10 ⁸ y) - 143.764, 163.358, 205.309	207.801 5	41 6	¹⁶⁷ Tm(9.25 d) - 57.0723, 531.54, 264.9
185.85 3	1.89 4	¹⁸⁹ Re(24.3 h) - 216.663, 219.395, 245.09	207.849 5	0.0080 16	¹⁸⁸ W(69.4 d) - 290.669, 227.083, 63.582
186.05 1	4.8 3	²²⁶ Ac(29.37 h) - 253.73, 67.67	208.00 1	21.2 3	²³⁷ U(6.75 d) - 59.5412, 26.3448, 164.61
186.05 1	0.0088 4	²³⁰ Th(7.538×10 ⁴ y) - 67.67, 143.87, 253.73	208.08 3	1.14 9	¹⁶⁴ Tm(2.0 m) - 91.40, 1154.66, 768.91
186.17 3	9.4 5	¹⁹⁹ Au(17.65 h) - 255.57, 268.22, 173.52	208.20597 11	8.732 12	¹⁹⁹ Au(3.139 d) - 158.37947, 49.82680
186.211 13	3.59 6	²²⁶ Ra(1600 y) - 262.27, 600.66, 414.60	208.20597 11	12.3 6	¹⁹⁹ Tl(7.42 h) - 455.46, 247.26, 158.37947
186.4 3	3.3 6	¹⁹² Hg(4.85 h) - 274.8, 157.2, 306.5	208.3664 5	11.0 6	¹⁷⁷ Lu(6.734 d) - 112.9498, 321.3162, 249.6741
186.718 2	27.8 12	¹⁹⁰ Re(3.2 h) - 119.12, 0	208.3664 5	57.7 11	¹⁷⁷ Lu(160.4 d) - 228.4838, 378.5029, 418.5391
186.718 2	52.4 21	¹⁹⁰ Ir(1.78 d) - 605.24, 518.55, 557.972	208.3664 5	0.94 8	¹⁷⁷ Ta(56.56 h) - 112.9498, 1057.8, 745.9
186.718 2	66.3 6	¹⁹⁰ Ir(3.25 h) - 616.08, 502.53, 361.136	208.8057 6	2.95 5	¹⁸³ Re(70.0 d) - 162.3219, 46.4839, 291.7238
187.1 5		²³⁸ Cm(2.9 h) - 146.4, 41	209.753 2	3.42 5	²³⁹ Np(2.3565 d) - 106.125, 277.599, 228.183
187.1 5	0.060 15	²⁴³ Bk(4.5 h) - 536, 146.4, 41	209.753 2	3.50 20	²³⁹ Am(11.9 h) - 49.10, 277.599, 228.183
187.59 10	19.4 10	¹⁸⁸ Pt(10.2 d) - 195.05, 381.43, 423.34	209.753 2	3.29 10	²⁴³ Cm(29.1 y) - 47.7, 277.599, 228.183, 285.460
188.00 5	0.54 3	²²⁵ Ac(10.0 d) - 99.91, 150.04, 99.63	210.4 1	2.8	¹⁸⁶ Pt(2.2 h) - 689.4, 611.5, 635.3
188.01 4	0.00023 12	¹⁸⁴ Re(169 d) - 252.848, 216.548, 920.932	210.853 3	2.8 3	²²⁹ Th(7340 y) - 193.509, 86.40, 86.25

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
211.03 3	30.8 9	⁷⁷ Ge(11.30 h) - 264.44, 215.51, 416.33	235.69 2	24.9 8	⁹⁵ Nb(86.6 h)
211.15 3	12.2 5	¹⁶¹ Er(3.21 h) - 826.6, 592.6, 314.77	235.971 20	12.3 9	²²⁷ Th(18.72 d) - 50.13, 256.25, 329.851
211.309 7	25.9 10	¹⁴⁸ Nd(1.728 h) - 114.314, 270.166, 654.831	236.48 1	0.063 9	²¹¹ Rn(14.6 h) - 68.573, 167.90
211.407 2	2.4 <i>calc</i>	¹⁹⁵ Ir(2.5 h) - 98.85, 30.898, 129.70	237.873 15	5.0 3	¹⁶⁷ Ho(3.1 h) - 346.547, 321.336, 207.801
211.407 2	0.0109 11	¹⁹⁵ Au(186.09 d) - 98.85, 129.70, 30.898	238.632 2	43.3 4	²¹² Pb(10.64 h) - 300.087, 115.183, 415.2
211.80 10	0.096 10	²⁵⁴ Es(39.3 h) - 177.30, 71.30, 104.0	238.75 9	44 4	¹⁸¹ Os(105 m) - 826.77, 118.03, 831.62
212.0040 14	31.0 15	¹⁵³ Tb(2.34 d) - 109.7601, 102.2564, 170.4511	238.9 4	0.277 5	⁸⁵ Sr(67.63 m) - 151.159, 129.820, 731.812
212.189 27	81	¹²¹ Te(154 d) - 1102.149, 37.138, 998.291	238.9963 18	1.6	⁷⁷ As(38.83 h) - 520.639, 249.7862, 87.8671
212.189 27	84	¹²¹ I(2.12 h) - 532.08, 598.74, 475.28	238.9963 18	23	⁷⁷ Br(57.036 h) - 520.639, 297.2151, 249.7862
212.46 5	2.9×10 ⁻⁵ 3	²⁴⁰ Pu(6563 y) - 45.242, 104.234, 160.308	240.0 5		¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 695.6
213.440 3	81.4 11	¹⁷⁸ Hf(31 y) - 426.383, 325.562, 574.215	240.86 2	0.34 7	²⁴⁵ Am(2.05 h) - 252.80, 295.72, 42.88
213.440 3	81.4 11	¹⁷⁸ Ta(2.36 h) - 426.383, 325.562, 88.867	240.986 6	4.10 5	²²⁴ Ra(3.66 d) - 292.70, 645.50, 422.04
213.754 5	10.90 22	¹⁵³ Dy(6.4 h) - 80.723, 99.659, 254.259	241.0 1	6.0 5	¹²⁶ Ba(100 m) - 233.6, 257.6, 681.8
214.30 7	13.4 4	¹²⁹ Ba(2.23 h) - 220.83, 129.14, 554.1	241.0 1	11.0 6	²⁵⁷ Fm(100.5 d) - 179.4, 61.6, 104.4
214.335 3	11.3 11	¹⁷⁹ Lu(4.59 h) - 214.930, 123.3790, 337.713	241.1 1	0.84 15	²⁰² Pb(3.53 h) - 490.47, 459.72, 389.94
214.841 3	77	¹⁹⁸ Au(2.27 d) - 97.1949, 180.31, 204.10	241.305 5	10.9 3	¹⁶³ Tm(1.810 h) - 104.320, 69.229, 1434.45
214.930 3	0.46 16	¹⁷⁹ Lu(4.59 h) - 214.335, 123.3790, 337.713	241.56 5	2.92 12	⁹² Sr(2.71 h) - 1383.93, 953.31, 430.49
215.17 13	0.0387 17	¹²⁷ Te(9.35 h) - 417.95, 360.32, 202.867	242.11 2	1.95 20	²²² Fr(14.2 m) - 206.17, 111.12, 131.00
215.256 2	81.3 7	¹⁸⁰ Hf(5.5 h) - 332.277, 443.09, 57.555	242.11 2	0.866 40	²²⁶ Th(30.57 m) - 111.12, 131.00, 206.17
215.31 6	0.29 3	¹³³ Nd(5.04 h) - 325.76, 199.50, 341.65	242.15 5	4.3 3	¹⁹⁵ Tl(1.16 h) - 563.52, 884.47, 1363.88
215.51 3	28.6 9	⁷⁷ Ge(11.30 h) - 264.44, 211.03, 416.33	242.80 10	96	⁸⁶ Zr(16.5 h) - 29.10, 612.00, 135.6
215.718 24	86	⁹⁷ Ru(2.9 d) - 324.48, 569.31, 460.57	242.917 7	35.5 7	¹⁶⁵ Tm(30.06 h) - 47.155, 297.369, 806.372
215.983 5	33.1 16	²²⁴ Fr(3.33 m) - 131.613, 836.90, 1340.70	243.282 12	5.60 3	¹⁵¹ Gd(124 d) - 153.60, 174.70, 21.542
215.983 5	52.3 12	²²⁴ Ac(2.78 h) - 131.613, 84.373, 205.93	243.378 5	30.1 6	¹²⁵ Xe(16.9 h) - 188.418, 54.968, 453.796
215.983 5	0.254 3	²²⁸ Th(1.9131 y) - 84.373, 131.613, 166.410	243.37 6	7.0 10	¹⁸⁹ Pt(10.87 h) - 721.41, 94.33, 568.84
216.078 8	19.66 23	¹³¹ Ba(11.50 d) - 496.326, 123.805, 373.246	243.71 3	2.49 16	²⁰⁰ Pt(12.5 h) - 76.21, 135.90, 59.97
216.548 9	9.43 20	¹⁸⁴ Re(169 d) - 252.848, 920.932, 161.269	244		²⁰² Pt(44 h) - 228
216.663 24	5.50 14	¹⁸⁹ Re(24.3 h) - 219.395, 245.09, 185.85	245.09 3	3.5 4	¹⁸⁹ Re(24.3 h) - 216.663, 219.395, 185.85
216.83 4	4.95 23	¹³² Ce(3.51 h) - 182.11, 155.37, 190.04	245.09 3	6	¹⁸⁹ Ir(13.2 d) - 69.537, 59.053, 36.202
217.6 3	†100	²⁴⁴ Bk(4.35 h) - 891.5, 921.5, 490.5	245.31 1	79 4	²¹⁰ At(8.1 h) - 82.802, 106, 167
217.940 18	-0.8	²³¹ U(4.2 d) - 25.646, 84.216, 58.570	245.395 20	1.33 4	¹¹¹ Ag(7.45 d) - 342.13, 96.75, 620.26
218.19 5	11.6 4	²²¹ Fr(4.9 m) - 410.7, 99.5, 150.0	245.395 20	94	¹¹¹ In(2.8047 d) - 171.28, 150.824
218.221 4	0.933 18	¹⁵⁸ Tb(180 y) - 944.09, 962.06, 79.5104	246.0591 5	27 4	¹⁸³ Ta(5.1 d) - 353.9912, 107.9322, 161.3467
218.221 4	†1000 4	¹⁵⁸ Ho(11.3 m) - 98.918, 945.61, 948.78	247.26 3	9.3 5	¹⁹⁹ Tl(7.42 h) - 455.46, 208.20597, 158.37947
219.395 21	4.54 10	¹⁸⁹ Re(24.3 h) - 216.663, 245.09, 185.85	247.5 2	0.00034 3	¹²³ Te(119.7 d) - 158.97, 88.46
220.83 7	8.5 3	¹²⁹ Ba(2.23 h) - 214.30, 129.14, 554.1	247.925 6	22.1 20	¹⁵⁴ Tb(9.4 h) - 123.071, 540.18, 649.564
220.94 2	0.0541 6	¹³⁵ La(19.5 h) - 480.51, 874.51, 587.83	247.925 6	79 9	¹⁵⁴ Tb(22.7 h) - 346.643, 149.81, 123.071
223.75 2	23.5 18	²⁴⁶ Pu(10.84 d) - 43.81, 179.94, 27.58	248.58 1	3.42 22	¹⁵⁸ Er(2.29 h) - 71.91, 386.84, 45.5
224.38 10	35	¹⁸² Hf(61.5 m) - 344.1, 506.60, 455.80	249.6741 10	0.212 11	¹⁷⁷ Lu(6.734 d) - 208.3664, 112.9498, 321.3162
226.01 4	0.215 5	¹⁵⁹ Gd(18.479 h) - 363.55, 58.00, 348.16	249.770 4	90	¹³⁵ Xe(9.14 h) - 608.151, 408.009, 158.260
226.2 3	5.4 8	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 587.2	249.7862 21	0.394 16	⁷⁷ As(38.83 h) - 238.9963, 520.639, 87.8671
226.378 8	3.30 20	²³⁸ Am(11.9 h) - 49.10, 277.599, 228.183	249.7862 21	2.98 7	⁷⁷ Br(57.036 h) - 238.9963, 520.639, 297.2151
226.918 4	68.4 12	¹⁵⁵ Dy(9.9 h) - 184.564, 1089.8, 1090.0	251.863 10	26.3 9	¹⁵¹ Tb(17.609 h) - 287.357, 108.088, 587.46
227.0 10	5.8 16	²⁴⁷ Am(23.0 m) - 285.0	252.4 3	8.5 3	¹²⁷ Sb(3.85 d) - 685.7, 473.0, 783.7
227.0 10	6.3 11	²⁵¹ Cf(898 y) - 176.6, 285.0, 61.5	252.80 2	6	²⁴⁵ Am(2.05 h) - 240.86, 295.72, 42.88
227.083 7	0.221 8	¹⁸⁸ W(69.4 d) - 290.669, 63.582, 207.849	252.80 2	29.1 19	²⁴⁵ Bk(4.94 d) - 380.8, 385.0, 103.1
228		²⁰² Pt(44 h) - 244	252.80 2	2.50 8	²⁴⁹ Cf(351 y) - 388.16, 333.37, 266.62
228.16 6	88.0 18	¹³² Te(3.204 d) - 49.72, 116.30, 111.76	252.848 5	43 3	¹⁸⁴ Ta(8.7 h) - 414.03, 920.932, 111.208
228.183 1	10.76 18	²³⁹ Np(2.3565 d) - 106.125, 277.599, 209.753	252.848 5	10.7 3	¹⁸⁴ Re(169 d) - 216.548, 920.932, 161.269
228.183 1	11.3 6	²³⁹ Am(11.9 h) - 49.10, 277.599, 226.378	253.678 10	99 6	¹¹⁸ Sb(5.00 h) - 1229.68, 1050.65, 40.8
228.183 1	10.6 3	²⁴³ Cm(29.1 y) - 277.599, 209.753, 285.460	253.73 1	5.7 4	²²⁶ Ac(29.37 h) - 186.05, 67.67
228.4838 6	37.0 7	¹⁷⁷ Lu(160.4 d) - 413.6636, 319.0205, 121.6211	253.73 1	0.0111 5	²³⁰ Th(7.538×10 ⁴ y) - 67.67, 143.87, 186.05
228.56 20	0.000331 14	²³⁷ Pu(45.2 d) - 280.40, 298.89, 320.75	254.259 17	8.58 22	¹⁵³ Dy(6.4 h) - 80.723, 213.754, 99.659
229.32 2	63 3	¹⁴⁷ Gd(38.06 h) - 396.00, 929.01, 370.0	254.29 5	11.0 4	¹³⁷ Ce(34.4 h) - 824.82, 169.26, 762.3
229.3207 6	26	¹⁸² Re(64.0 h) - 67.74970, 1121.3007, 1221.4066	254.4 2	13.3 13	¹⁸⁵ Br(14.4 h) - 1828.8, 60.0, 97.4
229.50 6	0.106 9	¹²⁸ Ba(2.43 d) - 273.44, 374.99, 359.10	254.566 23	0.636 12	¹⁴⁹ Eu(93.1 d) - 327.526, 277.089, 22.510
229.6 6	0.683 17	¹⁷⁵ Hf(70 d) - 343.40, 89.36, 433.0	255.05 3	1.82 6	¹¹³ Sn(115.09 d) - 391.690, 638.02, 382.9
230.37 5	27	²²⁶ Ac(29.37 h) - 253.73, 186.05, 67.67	255.11 2	0.236 7	¹³⁹ Pr(4.41 h) - 1347.33, 1630.67, 1375.56
230.37 5	0.122 6	²³⁸ U(20.8 d) - 72.20, 154.23, 158.18	255.57 4	6.2 5	¹⁹³ Au(17.65 h) - 186.17, 268.22, 173.52
231.1 2	19	²⁵⁶ Es(7.6 h) - 861.8, 172.6, 1092.9	255.87 8	71 5	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 59.97
231.15 5	0.7 <i>calc</i>	¹³⁹ Nd(5.50 h) - 113.94, 737.96, 982.2	256.25 2	7.0 4	²²⁷ Th(18.72 d) - 235.971, 50.13, 329.851
231.67 1	84.4 16	⁸⁵ Sr(67.63 m) - 151.159, 129.820, 731.812	256.93 13	98	¹⁵² Dy(2.38 h)
231.67 1	84 6	⁸⁵ Y(2.68 h) - 504.45, 913.93, 409.5	257.17 2	4.46 13	²⁰⁰ Pb(21.5 h) - 147.63, 235.63, 268.38
231.67 1	22.8 14	⁸⁵ Y(4.86 h) - 2123.8, 767.40, 535.61	257.34 4	78 3	⁹⁰ Mo(5.56 h) - 122.370, 203.13, 323.20
232.72 12	8.5×10 ⁻⁶ 15	⁹⁹ Tc(6.01 h) - 140.511, 142.628, 2.1726	257.6 1	7.6 4	¹²⁶ Ba(100 m) - 233.6, 241.0, 681.8
233.221 18	10	¹³³ Xe(2.19 d)	257.99 3	9.0 21	¹⁹³ Hg(3.80 h) - 381.60, 861.11, 1118.84
233.6 1	19.6 10	¹²⁶ Ba(100 m) - 257.6, 241.0, 681.8	257.99 3	49 5	¹⁹³ Hg(11.8 h) - 407.63, 573.25, 932.37
233.6 3		²⁵⁵ Es(39.8 d) - 269.1, 35.7	258.72 2	1.64 3	¹¹³ Ag(5.37 h) - 298.60, 316.21, 672.34
234.5 1	0.011 3	²²⁰ Fr(27.4 s) - 413.0, 178.4, 44.60	259.5 1	2.9 5	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 587.2
234.81 9	3.0	²²³ Fr(21.8 m) - 50.13, 79.72, 49.89	260.48 3	0.7	²⁰⁹ Po(102 y) - 262.81
235.63 2	4.30 13	²⁰⁰ Pb(21.5 h) - 147.63, 257.17, 268.38	260.581 17	†21.5 10	²²⁴ Rn(107 m) - 265.806, 202.21, 328.331
235.69 2	0.294 16	⁹⁵ Zr(64.02 d) - 756.729, 724.199	260.890 30	1.94 1	¹¹⁵ Cd(53.46 h) - 336.240, 527.900, 492.3

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ-rays	Energy	Intensity	Parent - Associated γ-rays
260.9 3	1.29 22	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 587.2	280.40 20	0.000916 18	²³⁷ Pu(45.2 d) - 298.89, 320.75, 228.56
261.3 2	0.173 14	²²⁴ Ac(2.78 h) - 156.82, 140.7, 144.44	280.41 6	0.167 13	¹⁰⁵ Rh(35.36 h) - 319.14, 306.25, 442.37
261.35 7	13	⁷⁹ Kr(35.04 h) - 397.54, 606.09, 306.47	280.41 6	30.2 17	¹⁰⁵ Ag(41.29 d) - 344.520, 644.55, 443.37
261.75 4	30.9 25	¹⁹⁵ Hg(41.6 h) - 560.27, 387.87, 200.38	280.459 8	29.77 22	¹⁶⁶ Ho(1200 y) - 184.410, 810.276, 711.683
261.92 5	†39 5	²²⁸ Ac(62.7 m) - 164.522, 569.1, 146.345	280.462 9		¹¹⁰ Sn(4.11 h)
262.27 5	0.0050 5	²²⁶ Ra(1600 y) - 186.211, 600.66, 414.60	282.522 14	3.01 5	¹⁷⁵ Yb(4.185 d) - 396.329, 113.805, 144.863
262.322 2	5.29 5	¹⁵⁵ Tb(5.32 d) - 86.545, 105.305, 180.103	282.8 2	28 3	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 587.2
262.81 3	0.225 11	²⁰⁹ Po(102 y) - 260.48	282.864 8	11.3 4	¹⁶² Ho(67.0 m) - 185.005, 1220.0, 937.2
263.062 5	56.7 14	⁹³ Mo(6.85 h) - 949.82, 689.07, 541.22	282.956 2	12.2 3	⁶¹ Cu(3.333 h) - 656.008, 67.412, 1185.234
263.285 10	6.71 21	¹⁸² Os(22.10 h) - 510.056, 180.230, 55.506	283.53 4	0.00058 8	¹³⁷ Cs(30.07 y) - 661.657
263.7 3	0.0230 7	¹¹³ Cd(14.1 y)	283.69 1	1.7	²³¹ Pa(32760 y) - 27.36, 300.07, 302.65
263.97 7	†1000	¹⁸⁴ Ir(3.09 h) - 119.80, 390.38, 961.22	283.91 2	6.7 4	¹⁹¹ Au(3.18 h) - 586.45, 277.88, 674.19
264.44 3	54	⁷⁷ Ge(11.30 h) - 211.03, 215.51, 416.33	284.305 5	6.14 5	¹³¹ I(8.02070 d) - 364.489, 636.989, 80.185
264.6576 9	11	⁷⁵ Ge(82.78 m) - 198.6060, 468.6, 419.1	285.0 2	23	²⁴⁷ Am(23.0 m) - 227.0
264.6576 9	58.90 18	⁷⁵ Se(119.779 d) - 136.0001, 279.5422, 121.1155	285.0 2	1.4 3	²⁵¹ Cf(898 y) - 176.6, 227.0, 61.5
264.9	>0.07	¹⁶⁷ Tm(9.25 d) - 207.801, 57.0723, 531.54	285.460 2	0.728 20	²⁴³ Cm(29.1 y) - 277.599, 228.183, 209.753
265 10	~30	²⁴⁷ Bk(1380 y) - 84.0	285.49 7	4.3 4	¹⁹⁶ Au(9.6 h) - 147.81, 188.27, 168.37
265.56 2	41.8 13	¹³⁵ Ce(17.7 h) - 300.07, 606.76, 518.05	285.95 1	3.1	¹⁴⁹ Pm(53.08 h) - 859.46, 590.88, 22.510
265.806 17	†20.1 10	²²⁴ Rn(107 m) - 260.581, 202.21, 328.331	286.410 26	23.8 5	²⁰⁶ Po(8.8 d) - 1032.26, 511.36, 807.38
265.832 5		²¹⁰ Bi(5.013 d) - 304.896	286.572 5	88	⁷⁵ Br(96.7 m) - 141.3147, 427.883, 377.385
265.832 5	50	²¹⁰ Bi(3.04×10 ⁶ y) - 304.896, 649.42, 344.52	287.357 10	28.3 9	¹⁵¹ Tb(17.609 h) - 251.863, 108.088, 587.46
266.62 2	0.69 3	²⁴⁹ Cf(351 y) - 388.16, 333.37, 252.80	287.4 3	2.0 3	²⁴⁷ Cm(1.56×10 ⁷ y) - 402.6, 278.0, 344.5
266.86 4	13.3 4	¹⁰³ Ag(65.7 m) - 118.72, 148.193, 1273.83	288	6.0×10 ⁻⁵ 4	¹³³ Ba(38.9 h) - 632.56
266.9 1	7.3 4	⁹³ Y(10.18 h) - 947.1, 1917.8, 680.2	288.07 7	0.31 4	²¹² Bi(60.55 m) - 727.330, 1620.50, 785.37
266.9 4	10.8 13	¹⁷⁵ Ta(10.5 h) - 207.4, 348.5, 81.5	290.06 5	0.904 8	¹³³ La(3.912 h) - 278.835, 302.353, 632.765
268.218 20	15.6 4	¹³⁵ Ba(28.7 h)	290.27 17	0.00014 5	¹⁵⁹ Dy(144.4 d) - 58.00, 348.16, 79.45
268.22 5	3.6 3	¹⁹³ Au(17.65 h) - 186.17, 255.57, 173.52	290.3 1	36 5	¹⁹⁸ Pb(2.40 h) - 365.4, 173.4, 865.3
268.38 2	3.96 17	²⁰⁰ Pb(21.5 h) - 147.63, 257.17, 235.63	290.669 13	0.402 12	¹⁸⁸ W(69.4 d) - 227.083, 63.582, 207.849
268.78 5	0.231 22	¹⁹⁷ Pt(19.8915 h) - 77.351, 191.437	291.7 1	0.0011	²⁰⁸ Po(2.898 y) - 570.4, 601.6, 861.9
268.78 5	0.0393 19	¹⁹⁷ Hg(64.14 h) - 77.351, 191.437	291.7238 5	3.05 16	¹⁸³ Re(70.0 d) - 162.3219, 46.4839, 208.8057
~269.1		²⁵⁵ Es(39.8 d) - 233.6, 35.7	292.70 10	0.0062 7	²²⁴ Ra(3.66 d) - 240.986, 645.50, 422.04
269.459 10	13.7 3	²²³ Ra(11.435 d) - 154.21, 323.871, 144.232	293.266 2	42.80 13	¹⁴³ Ce(33.039 h) - 57.356, 664.571, 721.929
269.50 2	36.5 8	⁵⁶ Ni(6.077 d) - 158.38, 811.85, 749.95	293.545 13	2.52 9	¹⁹⁴ Ir(19.28 h) - 328.455, 645.157, 1150.76
269.67 7	6.43 12	¹⁰¹ Pd(8.47 h) - 296.29, 590.44, 24.46	293.545 13	10.4 6	¹⁹⁴ Au(38.02 h) - 328.455, 1468.91, 2043.67
270.068 11	27.8 9	²⁰⁴ Po(3.53 h) - 883.984, 1016.31, 534.90	293.54 4	0.073 4	²¹⁹ Rn(3.96 s) - 271.23, 401.81, 130.59
270.166 7	10.7 3	¹⁴⁹ Nd(1.728 h) - 211.309, 114.314, 654.831	293.9 5	4.0 8	⁷⁸ Ge(88.0 m) - 277.3
270.2 2	21.1 23	⁷⁶ Kr(14.8 h) - 315.7, 45.48, 406.5	294.1 1	0.98 7	²⁴⁷ Cf(3.11 h) - 447.8, 417.9, 407.0
270.245 2	0.00316 5	²³² U(68.9 y) - 57.766, 129.065, 328.000	294.978 20	0.00280 7	¹⁰³ Pd(16.991 d) - 39.757, 357.47, 497.080
270.4031 20	80 5	¹⁸² Hf(9×10 ⁶ y) - 156.088, 114.3152, 172.5708	295.01 3	0.595 18	¹⁰¹ Rh(3.3 y) - 197.99, 127.226, 325.23
270.53 4	28.0 4	¹¹⁹ Te(4.70 d) - 153.59, 1212.73, 1136.75	295.72 2	0.22 7	²⁴⁵ Am(2.05 h) - 252.80, 240.86, 42.88
271.13	86.7 3	⁴⁴ Sc(58.6 h) - 1001.85, 1126.08, 1157.031	295.901 13	28.9 8	¹⁷¹ Er(7.516 h) - 308.31, 111.621, 124.015
271.131 8	0.074 3	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 121.7817	295.95827 12	28.67 9	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 374.4852
271.131 8	8.6 6	¹⁵² Tb(17.5 h) - 344.2785, 586.2648, 778.9040	295.95827 12	22.3 3	¹⁹² Au(4.94 h) - 316.50791, 2236.89, 612.46564
271.21 1	10.8 3	²¹⁹ Rn(3.96 s) - 401.81, 130.59, 293.54	296.29 3	19 3	¹⁰¹ Pd(8.47 h) - 590.44, 269.67, 24.46
271.8 4	2.6	²⁵³ Fm(3.00 d) - 144.99, 62.47, 405	296.90 3	62.3 15	¹⁸⁶ Ir(16.64 h) - 137.157, 434.84, 773.28
272.105 15	21.2 3	¹⁷⁴ Lu(1.37 y) - 78.63, 100.724, 171.393	296.974 9	33.9 7	¹⁷³ Hf(23.6 h) - 123.672, 139.634, 311.239
272.918 6	0.550 17	¹⁷⁴ Lu(142 d) - 992.128, 176.645, 76.471	297.2151 20	4.16 18	⁷⁷ Br(5.036 h) - 238.9963, 520.639, 249.7862
272.97 4	10.4 4	⁶⁶ Ge(2.26 h) - 43.81, 381.85, 108.90	297.32 5	79.8 16	⁷³ Ga(4.86 h) - 325.70, 739.42, 767.8
273.349 18	28	¹¹⁷ Cd(2.49 h) - 1303.27, 344.459, 1576.62	297.369 6	12.71 25	¹⁶⁵ Tm(30.06 h) - 242.917, 47.155, 806.372
273.44 1	15	¹²⁸ Ba(2.43 d) - 374.99, 229.50, 359.10	297.88 10	0.012	¹⁶³ Er(75.0 m) - 1113.5, 436.1, 439.94
274.6 6		¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 695.6	298.580 2	26.13 18	¹⁶⁰ Tb(72.3 d) - 879.383, 966.171, 1177.962
274.8 3	50.4 20	¹⁹² Hg(4.85 h) - 157.2, 306.5, 186.4	298.60 1	10	¹¹³ Ag(5.37 h) - 258.72, 316.21, 672.34
275.21 2	6.8 5	¹⁵¹ Pm(28.40 h) - 340.08, 167.75, 717.72	298.634 5	28.6 7	¹⁴⁹ Gd(9.28 d) - 149.735, 346.651, 748.601
275.925 7	17.8 3	¹³³ Ba(38.9 h) - 632.56	298.89 20	0.44 5	²³³ Np(36.2 m) - 312.17, 546.9, 506.5
275.988 12	0.30	⁸¹ Kr(2.29×10 ⁵ y)	298.89 20	0.000661 16	²³⁷ Pu(45.2 d) - 280.40, 320.75, 228.56
276.0 2	2.92 16	⁷⁷ Kr(74.4 m) - 129.64, 146.59, 311.86	300.07 2	23.5 3	¹³⁵ Ce(17.7 h) - 265.56, 606.76, 518.05
276.8 1	†20.2 19	²⁵⁹ Md(51.5 d) - 367.8, 447.9, 71.1	300.07 1	2.46 7	²³¹ Pa(32760 y) - 27.36, 302.65, 283.69
277.089 10	3.56 6	¹⁴⁹ Eu(93.1 d) - 327.526, 22.510, 254.566	300.087 10	3.28 3	²¹² Pb(10.64 h) - 238.632, 115.183, 415.2
277.3 3	96	⁷⁸ Ge(88.0 m) - 293.9	300.219 10	0.797 11	⁶⁷ Cu(61.83 h) - 184.577, 93.311, 91.266
277.599 1	14.38 21	²³⁹ Np(2.3565 d) - 106.125, 228.183, 209.753	300.219 10	16.80 22	⁶⁷ Ga(3.2612 d) - 93.311, 184.577, 393.529
277.599 1	15.0 7	²³⁹ Am(11.9 h) - 49.10, 228.183, 226.378	300.34 2	6.62 6	²³³ Pa(26.967 d) - 312.17, 340.81, 86.814
277.599 1	14.0 4	²⁴³ Cm(29.1 y) - 228.183, 209.753, 285.460	300.654 12	12.8 6	²⁰⁷ At(1.80 h) - 814.41, 588.33, 467.12
277.88 2	7.2 5	¹⁹¹ Au(3.18 h) - 586.45, 674.19, 283.91	300.884 15	0.088 7	¹³⁴ Ce(3.16 d) - 162.306, 130.414, 31.89
278.0 8	3.4 7	²⁴⁷ Cm(1.56×10 ⁷ y) - 402.6, 287.4, 344.5	302.353 8	1.05 3	¹³³ La(3.912 h) - 278.835, 290.06, 632.765
278.43 5	0.567 17	¹²⁹ Te(69.6 m) - 27.81, 459.60, 487.39	302.65 1	2.2 3	²³¹ Pa(32760 y) - 27.36, 300.07, 283.69
278.835 17	1.60 5	¹³³ La(3.912 h) - 302.353, 290.06, 632.765	302.7 1	80 5	¹³⁸ Pr(2.12 h) - 1037.8, 788.742, 390.9
279.01 5	2.4	¹⁹⁷ Pt(95.41 m) - 346.5, 53.10	302.853 1	0.0048 3	¹³³ Xe(5.243 d) - 80.9971, 79.6139, 160.613
279.01 5	6	¹⁹⁷ Hg(23.8 h) - 130.2, 201.6, 77.351	302.853 1	18.33 6	¹³³ Ba(10.51 y) - 356.017, 80.9971, 383.851
279.1967 12	81	²⁰³ Hg(46.612 d)	303.41 3	21.6 11	²⁵⁰ Es(8.6 h) - 828.82, 349.4, 383.7
279.1967 12	81	²⁰³ Pb(51.873 h) - 401.323, 680.516	304 2	0.07 1	²⁵⁴ Es(275.7 d) - 63.0, 316, 385
279.5422 10	24.99 5	⁷⁵ Se(119.779 d) - 264.6576, 136.0001, 121.1155	304.849 3	4.29 5	¹⁴⁰ Ba(12.752 d) - 537.261, 29.9640, 162.660
280.23 2	47.3 20	²³⁷ Am(73.0 m) - 438.4, 473.5, 908.8	304.87 2	14	⁸⁵ Kr(4.480 h)

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
304.896 6	31	²⁰⁶ Hg(8.15 m) - 649.42, 344.52	333.4 4	6.2×10 ⁻⁵ 15	¹⁸⁶ Re(3.7183 d) - 122.30
304.896 6		²¹⁰ Bi(5.013 d) - 265.832	333.971 12	68	¹⁵⁰ Pm(2.68 h) - 1324.51, 1165.74, 831.92
304.896 6	28	²¹⁰ Bi(3.04×10 ⁶ y) - 265.832, 649.42, 344.52	333.971 12	4.0 3	¹⁵⁰ Eu(12.8 h) - 406.52, 1165.74, 921.2
306.25 3	5.1 3	¹⁰⁵ Rh(35.36 h) - 319.14, 280.41, 442.37	333.971 12	96	¹⁵⁰ Eu(36.9 y) - 439.401, 584.274, 737.455
306.47 10	2.6 1	⁷⁹ Kr(35.04 h) - 261.35, 397.54, 606.09	336.240 12	45.9 1	¹¹⁵ Cd(53.46 h) - 527.900, 492.3, 260.890
306.5 3	5.4 6	¹⁹² Hg(4.85 h) - 274.8, 157.2, 186.4	336.240 12	45.83 10	¹¹⁵ In(4.486 h)
306.78 4	94	¹⁷⁶ Lu(3.78×10 ¹⁰ y) - 201.83, 88.34, 400.99	336.43 3	70.2 5	⁹⁵ Ru(1.643 h) - 1096.76, 626.77, 1178.66
306.857 5	81 4	¹⁰¹ Rh(4.34 d) - 545.117, 127.226, 179.636	337.713 5	0.181 19	¹⁷⁹ Lu(4.59 h) - 214.335, 214.930, 123.3790
306.9 2	0.150 15	¹⁴⁰ Pr(3.39 m) - 1596.210, 751.637, 925.189	338.320 3	11.27 19	²²⁸ Ac(6.15 h) - 911.204, 968.971, 964.766
308.0 1	0.080 8	²⁴⁸ Pa(22 h) - 29.8, 43.3, 316.8	339.65 6	5.6 5	¹⁸² Hf(61.5 m) - 344.1, 224.38, 506.60
308.222 8	4.9 5	²⁴⁵ Pu(10.5 h) - 327.428, 560.13, 376.676	340.08 1	23	¹⁵¹ Pm(28.40 h) - 167.75, 275.21, 717.72
308.222 8	3.2×10 ⁻⁶ 9	²⁴⁹ Bk(320 d) - 327.428	340.547 8	42.2 13	¹³⁶ Cs(13.16 d) - 818.514, 1048.073, 1235.362
308.25 5	100	⁴⁸ Cr(21.56 h) - 112.36, 420.5	340.71 13	70 3	⁹⁹ Rh(4.7 h) - 617.8, 1261.2, 936.7
308.31 3	64.4 16	¹⁷¹ Er(7.516 h) - 295.901, 111.621, 124.015	340.81 3	4.47 4	²³³ Pa(26.967 d) - 312.17, 300.34, 86.814
308.45692 13	30.00 8	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 374.4852	341.65 5	0.41 4	¹³⁸ Nd(5.04 h) - 325.76, 199.50, 215.31
311.239 8	10.75 20	¹⁷³ Hf(23.6 h) - 123.672, 296.974, 139.634	342.13 2	7	¹¹¹ Ag(7.45 d) - 245.395, 96.75, 620.26
311.4 1	0.032 3	¹⁰⁹ Pd(13.7012 h) - 88.04, 647.3, 781.4	343.40 8	84	¹⁷⁵ Hf(70 d) - 89.36, 433.0, 229.6
311.86 14	3.7 5	⁷⁷ Kr(74.4 m) - 129.64, 146.59, 276.0	344.1 1	42 4	¹⁸² Hf(61.5 m) - 224.38, 506.60, 455.80
312.17 2	38.6 4	²³³ Pa(26.967 d) - 300.34, 340.81, 86.814	344.2785 12	26.5 4	¹⁵² Eu(13.537 y) - 121.7817, 1408.006, 964.079
312.17 2	0.7	²³² Np(36.2 m) - 298.89, 546.9, 506.5	344.2785 12	2.38 3	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 121.7817
312.6	0.336 20	⁴²³ K(12.360 h) - 1524.70, 899.43, 1922.18	344.2785 12	65	¹⁵² Tb(17.5 h) - 586.2648, 271.131, 778.9040
314.12 2	61 3	¹²⁸ Sb(9.01 h) - 753.82, 743.22, 526.57	344.459 10	17.9 4	¹¹⁷ Cd(2.49 h) - 273.349, 1303.27, 1576.62
314.3 3	0.000423 10	¹¹⁷ Sn(13.60 d) - 158.562, 156.02	344.5 5	-1.3	²⁴⁷ Cm(1.56×10 ⁷ y) - 402.6, 278.0, 287.4
314.77 4	2.49 10	¹⁶¹ Er(3.21 h) - 826.6, 211.15, 592.6	344.520 21	41	¹⁰⁵ Ag(41.29 d) - 280.41, 644.55, 443.37
314.8 3	0.094 12	²³⁰ Pa(17.4 d) - 951.95, 918.48, 454.95	344.52 17	0.7	²⁰⁶ Hg(8.15 m) - 304.896, 649.42
315.302 13	19	¹¹⁷ In(116.2 m)	344.52 17	0.7	²¹⁰ Bi(3.04×10 ⁶ y) - 265.832, 304.896, 649.42
315.7 2	39 4	⁷⁶ Kr(14.8 h) - 270.2, 45.48, 406.5	344.9 2	35.2 14	¹⁸⁴ Hf(4.12 h) - 139.1, 181.0, 41.4
316 2	0.15 2	²⁵⁴ Es(275.7 d) - 63.0, 304, 385	344.95 20	0.0030 3	⁶⁵ Zn(244.26 d) - 1115.546, 770.6
316.21 2	1.343 20	¹¹³ Ag(5.37 h) - 298.60, 258.72, 672.34	345.916 25	15.12 10	¹⁸¹ Hf(4.239 d) - 482.182, 133.024, 136.266
316.44 15	11.1 4	¹⁰⁵ Ru(4.44 h) - 724.21, 469.37, 676.36	346.5 2	11.1 3	¹⁹⁷ Pt(95.41 m) - 53.10
316.50791 13	82.81 21	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 374.4852	346.547 15	56	¹⁶⁷ Ho(3.1 h) - 321.336, 237.873, 207.801
316.50791 13	58.0 8	¹⁹² Au(4.94 h) - 295.95827, 2236.89, 612.46564	346.643 5	69 5	¹⁵⁴ Tb(22.7 h) - 247.925, 1419.81, 123.071
316.8 1	0.044 6	²²⁸ Pa(22 h) - 308.0, 29.8, 43.3	346.651 3	23.9 3	¹⁴⁹ Gd(9.28 d) - 149.735, 298.634, 748.601
319.0205 8	10.5 3	¹⁷⁷ Lu(160.4 d) - 413.6636, 121.6211, 171.8576	346.93 7	0.0076 5	⁶⁰ Co(5.2714 y) - 1332.501, 1173.237, 826.06
319.14 6	19	¹⁰⁵ Rh(35.36 h) - 306.25, 280.41, 442.37	347.18 10	†150 20	¹⁷¹ Hf(12.1 h) - 122.0, 662.2, 1071.8
319.411 18	1.95 11	¹⁴⁷ Nd(10.98 d) - 91.105, 531.016, 439.895	348.16 7	0.234 5	¹⁵⁹ Gd(18.479 h) - 363.55, 58.00, 226.01
319.90 7	9.4 5	¹⁹⁵ Ir(3.8 h) - 100	348.16 7	0.00095 10	¹⁵⁹ Dy(144.4 d) - 58.00, 79.45, 290.27
320.0824 4	10	⁵¹ Cr(27.7025 d)	348.4	†64	¹⁷⁸ Yb(74 m) - 390.8, 42.4
320.75 20	0.000546 16	²³⁷ Pu(45.2 d) - 280.40, 298.89, 228.56	348.5 5	12.0 6	¹⁷⁵ Ta(10.5 h) - 207.4, 266.9, 81.5
321.3162 16	0.219 11	¹⁷⁷ Lu(6.734 d) - 208.3664, 112.9498, 249.6741	349.4 1	19.8 9	²⁵⁰ Es(8.6 h) - 828.82, 303.41, 383.7
321.336 24	23.5 8	¹⁶⁷ Ho(3.1 h) - 346.547, 237.873, 207.801	349.9 1	0.82 4	²⁵¹ Fm(5.30 h) - 880.8, 453.1, 405.6
322.41 8	9.7×10 ⁻⁵ 5	⁹⁹ Tc(6.01 h) - 140.511, 142.628, 2.1726	350.065 10	7.80 15	¹²² Xe(20.1 h) - 148.612, 416.633, 90.596
322.41 8	6.2 3	⁹⁹ Rh(16.1 d) - 528.24, 353.05, 89.65	352.24 2	29.43 9	¹⁴⁹ Tb(4.118 h) - 164.98, 388.57, 652.12
323.20 18	6.3 5	⁹⁰ Mo(5.56 h) - 257.34, 122.370, 203.13	353.05 6	34.6 10	⁹⁹ Rh(16.1 d) - 528.24, 89.65, 322.41
323.871 10	3.93 7	²²³ Ra(11.435 d) - 269.459, 154.21, 144.232	353.39 6	9.5 5	¹⁹⁹ Pb(90 m) - 366.90, 1135.04, 720.24
324.48 3	10.79 17	⁹⁷ Ru(2.9 d) - 215.718, 569.31, 460.57	353.9912 5	11.2 3	¹⁸³ Ta(5.1 d) - 246.0591, 107.9322, 161.3467
324.81 3	0.0314 15	¹⁰⁷ Cd(6.50 h) - 93.124, 828.93, 796.462	355.40 9	2.09 9	⁹⁷ Zr(16.91 h) - 743.36, 507.64, 1147.97
325.1 2	2.5 3	²⁵⁷ Md(5.52 h) - 371.4, 181.3, 388.5	355.684 2	94 3	¹⁹⁶ Ir(1.40 h) - 393.346, 521.175, 447.1
325.23 3	11.83 11	¹⁰¹ Rh(3.3 y) - 197.99, 127.226, 295.01	355.684 2	87	¹⁹⁶ Au(6.183 d) - 332.983, 521.175, 1091.331
325.562 4	94.1 11	¹⁷⁸ Hf(31 y) - 426.383, 574.215, 213.440	356.017 2	62.05 19	¹³³ Ba(10.51 y) - 80.9971, 302.853, 383.851
325.562 4	94.1 11	¹⁷⁸ Ta(2.36 h) - 426.383, 213.440, 88.867	357.47 5	0.0221 7	¹⁰³ Pd(16.991 d) - 39.757, 497.080, 294.978
325.70 7	11.17 24	⁷³ Ga(4.86 h) - 297.32, 739.42, 767.8	358.3 1	0.315 20	²⁵¹ Fm(5.30 h) - 425.4, 480.4, 383.2
325.76 5	2.93 7	¹³⁸ Nd(5.04 h) - 199.50, 341.65, 215.31	359.10 4	0.096 9	¹²⁸ Ba(2.43 d) - 273.44, 374.99, 229.50
326.16 20	92	¹⁵⁷ Dy(8.14 h) - 182.20, 83.01, 60.82	359.90 9	6.0 3	¹⁹¹ Pt(2.802 d) - 538.90, 409.44, 82.407
326.785 15	3.034 25	⁷¹ As(65.28 h) - 174.954, 1095.490, 499.876	360.32 10	0.1346 10	¹²⁷ Te(9.35 h) - 417.95, 202.860, 215.17
327.428 8	25.4 25	²⁴⁵ Pu(10.5 h) - 560.13, 308.222, 376.676	360.70 11	20 4	¹⁸¹ Re(19.9 h) - 365.57, 639.30, 953.42
327.428 8	1.7×10 ⁻⁵ 3	²⁴⁹ Bk(320 d) - 308.222	360.80 10	108	⁷³ Se(7.15 h) - 67.03, 865.09, 510
327.526 10	4.03 12	¹⁴⁹ Eu(93.1 d) - 277.089, 22.510, 254.566	361.136 6	89.57 9	¹⁹⁰ Ir(3.25 h) - 616.08, 502.53, 186.718
327.96 10	0.139 11	²¹² Bi(60.55 m) - 727.330, 1620.50, 785.37	361.27 5	9.9 5	²⁰¹ Pb(9.33 h) - 331.19, 945.96, 907.56
328.000 6	0.00283 6	²³² U(68.9 y) - 57.766, 129.065, 270.245	361.68 2	0.84 4	¹⁶⁵ Dy(2.334 h) - 94.700, 633.415, 715.328
328.331 21	†3.7 3	²²⁴ Rn(107 m) - 260.581, 265.806, 202.21	362	<0.00026	²⁰⁶ Tl(4.199 m) - 803.10, 1166
328.455 11	93 5	¹⁹⁴ Ir(171 d) - 482.833, 600.5, 687.7	362.39 13	39.5 9	¹⁷⁹ Hf(25.05 d) - 453.43, 122.793, 146.15
328.455 11	13.1 4	¹⁹⁴ Ir(19.28 h) - 293.545, 645.157, 1150.76	362.81 4	2.2×10 ⁻⁶ 4	⁸⁵ Kr(10.756 y) - 514.0067, 151.159, 129.820
328.455 11	61 3	¹⁹⁴ Au(38.02 h) - 293.545, 1468.91, 2043.67	362.81 4	>0.0010	⁸⁵ Sr(64.84 d) - 514.0067, 868.5, 151.159
328.762 8	20.3 3	¹⁴⁰ La(1.6781 d) - 1596.210, 487.021, 815.772	363.55 4	11.4 6	¹⁵⁹ Gd(18.479 h) - 58.00, 348.16, 226.01
329.851 20	2.7 3	²²⁷ Th(18.72 d) - 235.971, 50.13, 256.25	364.489 5	81.7 6	¹³¹ I(8.02070 d) - 636.989, 284.305, 80.185
330.2 2	8.6 5	¹²³ Xe(2.08 h) - 148.9, 178.1, 1093.4	365.4 1	19 3	¹⁹⁸ Pb(2.40 h) - 290.3, 173.4, 865.3
331.19 3	79 5	²⁰¹ Pb(9.33 h) - 361.27, 945.96, 907.56	365.57 12	56 6	¹⁸¹ Re(19.9 h) - 360.70, 639.30, 953.42
332.277 10	94.1 8	¹⁸⁰ Hf(5.5 h) - 443.09, 215.256, 57.555	366.27 3	4.81 5	⁶⁵ Ni(2.5172 h) - 1481.84, 1115.546, 1623.42
332.82 40	12.1 23	²⁰⁰ Au(18.7 h) - 146.07, 59.97, 133.23	366.56 10	0.076 12	²³⁰ Pa(17.4 d) - 951.95, 918.48, 454.95
332.983 24	22.9 5	¹⁹⁶ Au(6.183 d) - 355.684, 521.175, 1091.331	366.90 6	44.2 22	¹⁹⁹ Pb(90 m) - 363.39, 1135.04, 720.24
333.37 2	14.6 4	²⁴⁹ Cf(351 y) - 388.16, 252.80, 266.62	367.8 1	†100 7	²⁵⁸ Md(51.5 d) - 447.9, 276.8, 71.1

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
367.943 10	73	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 59.97	400.56 5	36.6 10	²⁸ Mg(20.91 h) - 30.6383, 1342.27, 941.72
367.943 10	87	²⁰⁰ Tl(26.1 h) - 1205.717, 579.298, 828.320	400.89 7	3.94 13	¹⁸⁷ Ir(10.5 h) - 912.95, 427.12, 610.68
368.76 6	0.35 2	²⁴⁹ Cm(64.15 m) - 634.31, 560.45, 621.87	400.99 4	0.329 19	¹⁷⁶ Lu(3.78×10 ¹⁰ y) - 306.78, 201.83, 88.34
370.0 1	17.2 6	¹⁴⁷ Gd(38.06 h) - 229.32, 396.00, 929.01	401.323 10	3.35 7	²⁰³ Pb(51.873 h) - 279.1967, 680.516
370.509 8	11.0 6	¹⁵⁷ Eu(15.18 h) - 63.929, 410.723, 54.548	401.81 1	6.37 22	²¹⁹ Rn(3.96 s) - 271.23, 130.59, 293.54
371.4 1	11.7 6	²⁵⁷ Md(5.52 h) - 325.1, 181.3, 388.5	402.586 10	49.6 20	⁸⁷ Kr(76.3 m) - 2554.8, 845.43, 2558.1
371.918 2	30.60 9	¹²⁹ Cs(32.06 h) - 411.490, 548.945, 39.578	402.6 3	72 6	²⁴⁷ Cm(1.56×10 ⁷ y) - 278.0, 287.4, 344.5
372.760	87	⁴³ K(22.3 h) - 617.490, 396.861, 593.390	405 2	~0.08	²⁵³ Fm(3.00 d) - 271.8, 144.99, 62.47
372.760	23	⁴³ Sc(3.891 h) - 1931.3, 1558.5, 593.390	405.6 1	0.99 5	²⁵¹ Fm(5.30 h) - 880.8, 453.1, 349.9
373.246 11	14.04 19	¹³¹ Ba(11.50 d) - 496.326, 123.805, 216.078	405.75 6	9.7 5	²⁰⁷ Po(5.80 h) - 992.33, 742.64, 911.79
374.4852 8	0.721 5	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 201.3112	406.5 2	12.1 12	⁷⁶ Kr(14.8 h) - 315.7, 270.2, 45.48
374.72 7	89 15	²⁰⁴ Pb(67.2 m) - 899.15, 911.78, 622.53	406.52 5	2.81 24	¹⁵⁰ Eu(12.8 h) - 333.971, 1165.74, 921.2
374.72 7	82 4	²⁰⁴ Bi(11.22 h) - 899.15, 984.02, 911.78	407.0 1	0.190 20	²⁴⁷ Cf(3.11 h) - 294.1, 447.8, 417.9
374.991 12	17.2 6	¹²⁹ Cs(36.4 d) - 202.860, 172.132, 145.252	407.338 3	42.1 8	¹⁷² Er(49.3 h) - 610.062, 68.107, 446.025
374.99 2	0.309 15	¹²⁸ Ba(2.43 d) - 273.44, 229.50, 359.10	407.351 15	38.8 3	¹¹⁶ Sb(60.3 m) - 1293.558, 972.564, 542.867
375.045 6	0.001554 9	²³⁹ Pu(24110 y) - 51.624, 38.661, 129.297	407.63 4	32 5	¹⁹³ Hg(11.8 h) - 257.99, 573.25, 932.37
375.1 1	3.3 3	²⁴⁹ Es(102.2 m) - 379.5, 813.2, 1218.5	408.009 8	0.359 12	¹³⁵ Xe(9.14 h) - 249.770, 608.151, 158.260
376.676 3	3.2 3	²⁴⁵ Pu(10.5 h) - 327.428, 560.13, 308.222	409.44 2	8.0 4	¹⁹¹ Pt(2.802 d) - 538.90, 359.90, 82.407
376.7 3	~0.9	¹³³ Ce(97 m) - 97.261, 76.9, 557.7	409.5 3	0.84 6	⁸⁵ Y(2.68 h) - 231.67, 504.45, 913.93
377.385 4	3.93 4	⁷⁵ Br(96.7 m) - 286.572, 141.3147, 427.883	410.7 2	0.14 4	²²¹ Fr(4.9 m) - 218.19, 99.5, 150.0
377.4 3	0.122 15	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09	410.723 9	17.5 9	¹⁵⁷ Eu(15.18 h) - 63.929, 370.509, 54.548
377.748 5	1.643 19	⁵² Fe(8.275 h) - 168.688, 1727.57, 1039.928	411.1163 11	2.234 4	¹⁵² Eu(13.537 y) - 121.7817, 1408.006, 964.079
378.5029 7	29.7 12	¹⁷⁷ Lu(160.4 d) - 413.6636, 319.0205, 121.6211	411.490 2	22.31 9	¹²⁹ Cs(32.06 h) - 371.918, 548.945, 39.578
378.5 5	4.2 4	⁸⁰ Sr(106.3 m) - 589.0, 175.4, 553.4	411.80205 17	96	¹⁹⁸ Au(2.69517 d) - 675.8836, 1087.684
379.5 1	40.4 25	²⁴⁹ Es(102.2 m) - 813.2, 375.1, 1218.5	411.80205 17	82 7	¹⁹⁸ Tl(5.3 h) - 675.8836, 636.4, 1200.6
380.79 7	78	⁸⁷ Y(13.37 h)	411.80205 17	57 5	¹⁹⁸ Tl(1.87 h) - 636.4, 587.2, 226.2
380.8 1	2.40 17	²⁴⁵ Bk(4.94 d) - 205.879, 471.805, 164.8	411.95 5	63	¹²⁷ Cs(6.25 h) - 124.70, 462.31, 587.01
381.17 3	2.49 24	⁸³ Sr(32.41 h) - 762.65, 381.53, 418.37	413.0 1	0.0147 20	²²⁰ Fr(27.4 s) - 234.5, 178.4, 44.60
381.43 10	7.5 4	¹⁸⁸ Pt(10.2 d) - 187.59, 195.05, 423.34	413.6636 7	17.4 6	¹⁷⁷ Lu(160.4 d) - 319.0205, 121.6211, 171.8576
381.53 3	14.1 5	⁸³ Sr(32.41 h) - 762.65, 418.37, 381.17	414.03 4	72	¹⁸⁴ Ta(8.7 h) - 252.848, 920.932, 111.208
381.60 4	16 5	¹⁹³ Hg(3.80 h) - 861.11, 257.99, 1118.84	414.60 5	0.00030	²²⁶ Ra(1600 y) - 186.211, 262.27, 600.66
381.7 3	0.56 5	²⁴³ Pu(4.956 h) - 84.0, 41.8, 67	414.81 2	83.3 21	¹²⁶ Sb(12.46 d) - 695.03, 666.331, 720.64
381.768 12	89.6 9	¹⁸³ Os(13.0 h) - 114.463, 167.844, 851.474	415.2	0.143 22	²¹² Pb(10.64 h) - 238.632, 300.087, 115.183
381.85 5	28	⁶⁶ Ge(2.26 h) - 43.81, 272.97, 108.90	416.33 3	21.8 5	⁷⁷ Ge(11.30 h) - 264.44, 211.03, 215.51
382.9 1	>6.0×10 ⁻⁵	¹¹³ Sn(115.09 d) - 391.690, 255.05, 638.02	416.633 25	1.87 4	¹²² Xe(20.1 h) - 350.065, 148.612, 90.596
383.2 3	0.0196 20	²⁵¹ Fm(5.30 h) - 425.4, 480.4, 358.3	417.9 1	0.34 3	²⁴⁷ Cf(3.11 h) - 294.1, 447.8, 407.0
383.6 5	0.036 3	²³⁰ Pa(17.4 d) - 951.95, 918.48, 454.95	417.95 10	1.0	¹²⁷ Te(9.35 h) - 360.32, 202.860, 215.17
383.7 1	13.6 7	²⁵⁰ Es(8.6 h) - 828.82, 303.41, 349.4	418.01 3	34.2 10	¹³⁰ I(12.36 h) - 536.09, 668.54, 739.48
383.851 3	8.94 3	¹³³ Ba(10.51 y) - 356.017, 80.9971, 302.853	418.37 3	4.41 15	⁸³ Sr(32.41 h) - 762.65, 381.53, 381.17
385.0 1	0.57 4	²⁴⁵ Bk(4.94 d) - 205.879, 471.805, 164.8	418.5 3	0.220 23	²⁵² Es(471.7 d) - 924.12, 800.01, 785.09
385 2	0.05 1	²⁵⁴ Es(275.7 d) - 63.0, 316, 304	418.5391 7	21.3 8	¹⁷⁷ Lu(160.4 d) - 413.6636, 319.0205, 121.6211
385.31 13	0.060 10	⁹³ Mo(6.85 h) - 949.82, 689.07, 541.22	419.1 3	0.185 7	⁷⁵ Ge(82.78 m) - 264.6576, 198.6060, 468.6
386.28 5	93	⁷¹ Zn(3.96 h) - 487.38, 620.18, 511.56	419.83 7	†<2.6 7	¹²⁹ Ba(2.16 h) - 182.32, 1459.1, 202.38
386.84 4	9.0 4	¹⁵⁸ Er(2.29 h) - 71.91, 248.58, 45.5	420.5	<0.03	⁴⁸ Cr(21.56 h) - 308.25, 112.36
387.1 5	0.0181 18	²⁵³ Es(20.47 d) - 41.79, 389.11, 42.98	422.04 10	0.0030 5	²²⁴ Ra(3.66 d) - 240.986, 292.70, 645.50
387.87 5	2.15 8	¹⁹³ Hg(41.6 h) - 261.75, 560.27, 200.38	422.18 4	86 5	²⁰² Pb(3.53 h) - 490.47, 459.72, 389.94
388.16 2	66	²⁴⁹ Cf(351 y) - 333.37, 252.80, 266.62	422.18 4	83.7 25	²⁰² Bi(1.72 h) - 960.67, 657.49, 954.45
388.5 15	~0.07	²⁵⁷ Md(5.52 h) - 371.4, 325.1, 181.3	423.34 10	4.36 23	¹⁸⁸ Pt(10.2 d) - 187.59, 195.05, 381.43
388.531 3	81.9 5	⁸⁷ Sr(2.803 h)	425.1 3	0.0137 20	⁴⁵ Ti(184.8 m) - 720.22, 1408.6, 1662.4
388.531 3	82	⁸⁷ Y(79.8 h) - 484.805	425.4 1	0.95 5	²⁵¹ Fm(5.30 h) - 480.4, 358.3, 383.2
388.57 2	18.37 13	¹⁴⁹ Tb(4.118 h) - 352.24, 164.98, 652.12	425.84 10	13.0 9	¹⁹⁷ Tl(2.84 h) - 152.22, 141.34, 577.97
388.633 11	34.1 7	¹²⁶ I(13.11 d) - 666.331, 753.819, 1420.17	426.00 3	0.58 12	¹⁶⁶ Dy(81.6 h) - 82.471, 28.242, 54.2400
388.633 11	41	¹²⁵ Cs(1.64 m) - 491.243, 925.24, 879.876	426.0 1	7	¹⁹⁶ Au(6.183 d) - 355.684, 332.983, 521.175
389.11 8	0.0264 3	²⁵³ Es(20.47 d) - 41.79, 387.1, 42.98	426.0 1	84 5	¹⁹⁶ Tl(1.84 h) - 610.5, 635.5, 1495.8
389.94 7	6.2 5	²⁰² Pb(3.53 h) - 490.47, 459.72, 241.1	426.0 1	91 14	¹⁹⁶ Tl(1.41 h) - 635.5, 695.6, 505.2
390.38 7	†381 27	¹⁸⁴ Ir(3.09 h) - 263.97, 119.80, 961.22	426.25 21	4.12 15	¹⁰⁹ In(4.2 h) - 203.5, 623.7, 1148.9
390.6 2	0.31 3	¹⁶⁴ Yb(75.8 m) - 40.928, 675.41, 446.74	426.383 6	97.0 13	¹⁷⁸ Hf(31 y) - 325.562, 574.215, 213.440
390.8	†100	¹⁷⁸ Yb(74 m) - 348.4, 42.4	426.383 6	97.0 13	¹⁷⁸ Ta(2.36 h) - 325.562, 213.440, 88.867
390.9 1	6.1 3	¹³⁸ Pr(2.12 h) - 1037.8, 788.742, 302.7	426.98 5	13.2 6	¹⁷⁷ W(135 m) - 115.65, 1036.4, 115.05
391.28 6	1.53 12	¹¹¹ Pd(5.5 h) - 172.18	427.12 4	4.12 13	¹⁸⁷ Ir(10.5 h) - 912.95, 400.89, 610.68
391.690 15	64.2	¹¹³ In(1.6582 h)	427.875 6	30	¹²⁵ Sb(2.7582 y) - 600.600, 635.954, 463.365
391.690 15	64	¹¹³ Sn(115.09 d) - 255.05, 638.02, 382.9	427.883 4	4.4 4	⁷⁵ Br(96.7 m) - 286.572, 141.3147, 377.385
392.87 9		⁸⁸ Zr(83.4 d)	430.49 3	3.28 15	⁹² Sr(2.71 h) - 1383.93, 953.31, 241.56
393.346 7	97.0 19	¹⁹⁹ Ir(1.40 h) - 521.175, 447.1, 355.684	430.634 20	4.06 20	²⁴¹ Cm(32.8 d) - 471.805, 205.879, 165.049
393.529 10	4.68 6	⁶⁷ Ga(3.2612 d) - 93.311, 184.577, 300.219	430.634 20	0.0015 3	²⁴⁵ Bk(4.94 d) - 205.879, 471.805, 164.8
396.00 10	34.3 16	¹⁴⁷ Gd(38.06 h) - 229.32, 929.01, 370.0	431.4 5	5.2×10 ⁻⁵ 4	¹⁴⁵ Sm(340 d) - 61.25, 492.31
396.329 20	6.40 10	¹⁷⁵ Yb(4.185 d) - 282.522, 113.805, 144.863	432.86 7	9	¹⁹⁵ Ir(3.8 h) - 100
396.861	11.85 8	⁴³ K(22.3 h) - 372.760, 617.490, 593.390	433.0 5	1.436 25	¹⁷⁵ Hf(70 d) - 343.40, 89.36, 229.6
397.54 10	9.3 3	⁷⁹ Kr(35.04 h) - 261.35, 606.09, 306.47	433.22 9	0.0518 9	¹³⁷ Ce(9.0 h) - 447.15, 10.6, 436.59
397.859 12	2.9 3	¹⁸³ Hf(1.067 h) - 783.754, 73.174, 459.069	433.9 2	1.28 11	¹³⁷ Pr(1.28 h) - 836.7, 514.0, 160.32
398.9 6	88	¹⁷³ Tm(8.24 h) - 461.4, 62.6	433.937 4	90	¹⁰⁸ Ag(418 y) - 722.907, 614.276
400 20		²⁵⁶ Md(78.1 m)	434.84 3	33.9 9	¹⁸⁶ Ir(16.64 h) - 296.90, 137.157, 773.28

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
436.1 1	0.0285 6	¹⁶³ Er(75.0 m) - 1113.5, 439.94, 297.88	477.99 2	1.02 3	¹⁸⁸ Re(17.005 h) - 155.032, 632.99, 931.34
436.59 9	0.265 9	¹³⁷ Ce(9.0 h) - 447.15, 10.6, 433.22	477.99 2	15	¹⁸⁸ Ir(41.5 h) - 155.032, 2214.62, 632.99
438.4 1	8.3 4	²³⁷ Am(73.0 m) - 280.23, 473.5, 908.8	479.17 9	90.74 3	⁹⁰ Y(3.19 h) - 202.51, 681.8
438.63 2	94.77 20	⁶⁹ Zn(13.76 h)	479.531 17	21.8 4	¹⁸⁷ W(23.72 h) - 685.774, 72.001, 134.243
439.401 15	80.4 16	¹⁵⁰ Eu(36.9 y) - 333.971, 584.274, 737.455	480.4 1	0.392 20	²⁵¹ Fm(5.30 h) - 425.4, 358.3, 383.2
439.56 1	10.0 5	²⁰² Au(28.8 s) - 1125.25, 1306.5, 1204.1	480.51 2	1.5	¹³⁵ La(19.5 h) - 874.51, 587.83, 220.94
439.56 1	91	²⁰² Tl(12.23 d) - 520.2, 960.1	482.182 23	80.50 11	¹⁸¹ Hf(42.39 h) - 133.024, 345.916, 136.266
439.895 22	1.20 8	¹⁴⁷ Nd(10.98 d) - 91.105, 531.016, 319.411	482.833 22	97 5	¹⁹⁴ Ir(171 d) - 328.455, 600.5, 687.7
439.94 10	0.0276 6	¹⁶³ Er(75.0 m) - 1113.5, 436.1, 297.88	484.40 4	2.21 11	¹⁸³ Os(9.9 h) - 1101.94, 1107.92, 1034.85
440.02 5	0.428 14	¹²³ I(13.27 h) - 158.97, 528.96, 538.54	484.470 20	0.290 2	¹¹⁵ Cd(44.6 d) - 933.8, 1290.580, 1132.570
442.2 1	23.0 14	²¹¹ Rn(14.6 h) - 68.573, 167.90, 236.48	484.5780 4	3.184 11	¹⁹² Ir(73.831 d) - 205.79549, 374.4852, 201.3112
442.37 5	0.042 6	¹⁰⁵ Rh(35.36 h) - 319.14, 306.25, 280.41	484.805 5	89.7 3	⁸⁷ Y(79.8 h) - 388.531
442.901 10	26.8 3	¹²⁸ Cs(3.66 m) - 526.557, 1140.079, 969.458	487.021 12	45.5 6	¹⁴⁰ La(1.6781 d) - 1596.210, 815.772, 328.762
443.09 4	81.9 9	¹⁸⁰ Hf(5.5 h) - 332.277, 215.256, 57.555	487.38 4	62 3	⁷¹ Zn(3.96 h) - 386.28, 620.18, 511.56
443.37 7	10.5 5	¹⁰⁵ Ag(41.29 d) - 344.520, 280.41, 644.55	487.39 5	1.42 5	¹²⁹ Te(69.6 m) - 27.81, 459.60, 278.43
443.799 19	3.27 9	¹⁰² Ru(39.26 d) - 497.080, 610.33, 557.039	489.23 10	6.2 4	⁴⁷ Ca(4.536 d) - 1297.09, 807.86, 767.1
446.025 9	2.96 7	¹⁷² Er(49.3 h) - 610.062, 407.338, 68.107	490.47 7	9.1 5	²⁰² Pb(3.53 h) - 459.72, 389.94, 241.1
446.15 2	23.2 7	⁸¹ Rb(4.576 h) - 190.46, 510.31, 456.76	490.5 5	†18 2	²⁴⁴ Bk(4.35 h) - 891.5, 217.6, 921.5
446.74 26	0.28 3	¹⁶⁴ Yb(75.8 m) - 40.928, 675.41, 390.6	491.243 11	2.85 6	¹²⁶ I(13.11 d) - 666.331, 753.819, 1420.17
447.1 2	94.1 19	¹⁹⁹ Ir(1.40 h) - 393.346, 521.175, 355.684	491.243 11	5.0 4	¹²⁶ Cs(1.64 m) - 388.633, 925.24, 879.876
447.15 8	1.8	¹³⁷ Ce(9.0 h) - 10.6, 436.59, 433.22	492.3 6	8.03 9	¹¹⁵ Cd(53.46 h) - 336.240, 527.900, 260.890
447.515 3	23.05 10	¹⁶⁸ Tm(93.1 d) - 198.241, 815.990, 184.285	492.31 15	0.00328 12	¹⁴⁵ Sm(340 d) - 61.25, 431.4
447.8 1	0.55 4	²⁴⁷ Cf(3.11 h) - 294.1, 417.9, 407.0	496.242 15	0.146 7	¹⁵⁰ Tb(3.48 h) - 638.050, 511, 3383.6
447.9 1	†37 4	²⁵⁸ Md(51.5 d) - 367.8, 276.8, 71.1	496.326 13	47	¹³¹ Ba(11.50 d) - 123.805, 216.078, 373.246
448.34 9	2.34 14	⁹² Y(3.54 h) - 934.46, 1405.28, 561.03	497.080 7	90.9 10	¹⁰³ Ru(39.26 d) - 610.33, 443.799, 557.039
450.85 2	0.011 4	⁸⁵ Kr(4.480 h) - 304.87	497.080 7	0.00396 14	¹⁰³ Pd(16.991 d) - 39.757, 357.47, 294.978
450.85 2	0.0108 5	⁸⁵ Sr(67.63 m) - 151.159, 129.820, 731.812	497.358 24	0.047 1	¹¹⁵ In(4.486 h) - 336.240
450.97 3	24.2 13	¹⁰⁶ Rh(131 m) - 511.842, 1045.83, 717.24	497.77 10	73 5	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 59.97
450.97 3	28.2 7	¹⁰⁵ Ag(8.28 d) - 511.842, 1045.83, 717.24	499.876 10	3.624 16	⁷¹ As(65.28 h) - 174.954, 1095.490, 326.785
452.83 10	0.31 6	²¹² Bi(60.55 m) - 727.330, 1620.50, 785.37	502.53 7	92.31 4	¹⁹⁰ Ir(3.25 h) - 616.08, 361.136, 186.718
453.1 1	1.45 8	²⁵¹ Fm(5.30 h) - 425.4, 480.4, 358.3	504.45 10	60	⁸⁵ Y(2.68 h) - 231.67, 913.93, 409.5
453.43 17	68 3	¹⁷⁹ Hf(25.05 d) - 362.39, 122.793, 146.15	505.5 7	6 3	¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 695.6
453.655 5	8.61 19	²³² Pa(1.31 d) - 969.315, 894.351, 150.059	505.79 3	0.73 5	¹³² Cs(6.479 d) - 667.718, 630.19, 1317.927
453.796 11	4.69 10	¹²⁵ Xe(16.9 h) - 188.418, 243.378, 54.968	506.5 5	0.154 21	²³³ Np(36.2 m) - 312.17, 298.89, 546.9
453.88 6	65 2	¹⁴⁹ Pm(5.53 y) - 735.72, 589.3, 146.4	506.60 8	21.6 17	¹⁸² Hf(61.5 m) - 344.1, 224.38, 455.80
454.95 5	8	²³⁰ Ac(122 s) - 508.20, 1243.9, 1347.7	507.4 7	85 7	⁸⁹ Nb(1.18 h) - 587.83, 769.69, 611.5
454.95 5	6.27 16	²³⁰ Pa(17.4 d) - 951.95, 918.48, 898.68	507.591 11	17.7 4	¹²¹ Te(16.78 d) - 573.139, 470.472, 65.548
454.95 5	2.5×10 ⁻⁵ 7	²³⁴ U(2.455×10 ⁵ y) - 53.20, 120.90, 508.20	507.60 10	14.8 8	⁶² Zn(9.186 h) - 596.56, 40.84, 548.35
455.46 3	12.4 6	¹⁹⁹ Tl(7.42 h) - 208.20597, 247.26, 158.37947	507.64 8	5.03 19	⁹⁷ Zr(16.91 h) - 743.36, 1147.97, 355.40
455.80 8	18.5 14	¹⁸² Hf(61.5 m) - 344.1, 224.38, 506.60	508.20 10	5.15 16	²³⁰ Ac(122 s) - 454.95, 1243.9, 1347.7
456.76 5	3.02 9	⁸¹ Rb(4.576 h) - 190.46, 446.15, 510.31	508.20 10	1.5×10 ⁻⁵ 4	²³⁴ U(2.455×10 ⁵ y) - 53.20, 120.90, 454.95
458.25 7	1.7	²¹⁰ Rn(2.4 h) - 648.70, 570.95, 72.70	508.8 5	0.0228 18	¹⁴² Pr(19.12 h) - 641.285
459.069 11	27 3	¹⁸³ Hf(1.067 h) - 783.754, 73.174, 397.859	-510	0.296 9	⁷³ Se(7.15 h) - 360.80, 67.03, 865.09
459.60 5	7.70 23	¹²⁹ Te(69.6 m) - 27.81, 487.39, 278.43	510.056 10	52	¹⁸² Os(22.10 h) - 180.230, 263.285, 55.506
459.72 7	8.6 5	²⁰² Pb(3.53 h) - 490.47, 389.94, 241.1	510.31 9	5.3 9	⁸¹ Rb(4.576 h) - 190.46, 446.15, 456.76
459.88 12	26.62 19	⁹⁶ Nb(23.35 h) - 778.224, 568.80, 849.929	510.36 7	20.7 5	¹³³ Ce(4.9 h) - 477.22, 58.39, 130.803
460.547 7	3.95 20	¹⁹³ Os(30.11 h) - 138.938, 73.042, 557.429	510.530 11	1.83 4	¹³³ I(20.8 h) - 529.872, 875.329, 1298.223
460.57 3	0.121 3	⁹⁷ Ru(2.9 d) - 215.718, 324.48, 569.31	510.77 10	22.6 3	²⁰⁸ Tl(3.053 m) - 2614.533, 583.191, 860.564
461.4 8	6.9 3	¹⁷³ Tm(8.24 h) - 398.9, 62.6	511	0.449 22	¹⁵⁰ Tb(3.48 h) - 638.050, 496.242, 3383.6
462.31 5	5.07 5	¹²⁷ Cs(6.25 h) - 411.95, 124.70, 587.01	511 2	0.076	²²² Rn(3.8235 d)
463.004 6	20.9 10	²²⁸ Pa(22 h) - 308.0, 29.8, 43.3	511.36 5	24.1 5	²⁰⁶ Po(8.8 d) - 1032.26, 286.410, 807.38
463.365 4	10.493 15	¹²⁵ Sb(2.7582 y) - 427.875, 600.600, 635.954	511.56 4	28.4 19	⁷¹ Zn(3.96 h) - 386.28, 487.38, 620.18
464.55 4	1.73 8	¹³² Cs(6.479 d) - 667.718, 630.19, 505.79	511.842 28	86 4	¹⁰⁶ Rh(131 m) - 1045.83, 717.24, 450.97
464.55 4	76 5	¹³² La(4.8 h) - 567.14, 1909.91, 663.07	511.842 28	88 3	¹⁰⁶ Ag(8.28 d) - 1045.83, 717.24, 450.97
467.12 1	7.1 5	²⁰⁷ At(1.80 h) - 814.41, 588.33, 300.654	514.0067 19	0.43	⁸⁵ Kr(10.756 y) - 362.81, 151.159, 129.820
468.07152 24	47.83 17	¹⁹² Ir(73.831 d) - 205.79549, 484.5780, 374.4852	514.0 2	1.08 11	¹³⁷ Pr(1.28 h) - 836.7, 433.9, 160.32
468.58 4	2.42 17	¹⁰² Rh(207 d) - 475.10, 628.05, 1103.16	514.0067 19	96	⁸⁵ Sr(64.84 d) - 868.5, 151.159, 362.81
468.6 4	0.223 9	⁷⁵ Ge(82.78 m) - 264.6576, 198.6060, 419.1	516.18 4	40.7 4	²⁰⁶ Pb(3.243 d) - 803.10, 881.01, 1718.70
469.37 10	17.5 5	¹⁰⁵ Ru(4.44 h) - 724.21, 676.36, 316.44	518.05 2	13.6 5	¹³⁵ Ce(17.7 h) - 265.56, 300.07, 606.76
469.7 1	†29.3 10	²³⁰ Ra(93 m) - 72.0, 63.0, 202.8	518.55 7	34.0 11	¹⁹⁰ Ir(11.78 d) - 186.718, 605.24, 557.972
470.472 13	1.41 3	¹²¹ Te(16.78 d) - 573.139, 507.591, 65.548	520.2 1	0.58 4	²⁰² Tl(12.23 d) - 439.56, 960.1
471.805 20	71 3	²⁴¹ Cm(32.8 d) - 430.634, 205.879, 165.049	520.39 1	0.0576 18	⁸³ Br(2.40 h) - 529.635, 552.63, 648.9
471.805 20	0.026 5	²⁴⁵ Bk(4.94 d) - 205.879, 164.8, 430.634	520.39 1	44.7 22	⁸³ Rb(86.2 d) - 529.635, 552.63, 790.0
473.0 4	25.8 7	¹²⁷ Sb(3.85 d) - 685.7, 783.7, 252.4	520.639 4	0.558 22	⁷⁷ As(38.83 h) - 238.9963, 249.7862, 87.8671
473.5 1	4.3 3	²³⁷ Am(73.0 m) - 280.23, 438.4, 908.8	520.639 4	22.4 4	⁷⁷ Br(57.036 h) - 238.9963, 297.2151, 249.7862
475.10 3	95 4	¹⁰² Rh(2.9 y) - 631.28, 697.49, 766.84	521.175 5	96	¹⁹⁶ Ir(1.40 h) - 393.346, 447.1, 355.684
475.10 3	38.4 25	¹⁰² Rh(207 d) - 628.05, 1103.16, 468.58	521.175 5	0.389 9	¹⁹⁶ Au(6.183 d) - 355.684, 332.983, 1091.331
475.28 4	1.02 4	¹²¹ I(2.12 h) - 212.189, 532.08, 598.74	522.65 9	16.0 5	¹³² I(2.295 h) - 667.718, 772.60, 954.55
476.8 1	42.0 8	¹⁴⁴ Pm(363 d) - 696.510, 618.01, 778.5	526.557 14	2.41 3	¹²⁸ Cs(3.66 m) - 442.901, 1140.079, 969.458
477.2 2	20.2 14	⁵⁵ Co(17.53 h) - 931.3, 1408.4, 1316.4	526.57 4	45 2	¹²⁸ Sb(9.01 h) - 753.82, 743.22, 314.12
477.22 4	39	¹³³ Ce(4.9 h) - 510.36, 58.39, 130.803	527.900 10	27.45 18	¹¹⁵ Cd(53.46 h) - 336.240, 492.3, 260.890
477.595	10.52 6	⁷ Be(53.12 d)	528.24 7	38	⁹⁹ Rh(16.1 d) - 353.05, 89.65, 322.41

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
528.96 5	1.39 4	¹²³ I(13.27 h) - 158.97, 440.02, 538.54	569.310 14	13.7 10	¹⁹⁰ Re(3.2 h) - 119.12, 0
529.635 9	1.200 17	⁸³ Br(2.40 h) - 520.39, 552.63, 648.9	569.331 3	15.38 6	¹³⁴ Cs(2.0648 y) - 847.025
529.635 9	29.3 13	⁸³ Rb(86.2 d) - 520.39, 552.63, 790.0	569.5 1	8.2 8	²³⁴ Pa(6.70 h) - 131.30, 946.00, 883.24
529.872 11	87.0 17	¹³³ I(20.8 h) - 875.329, 1298.223, 510.530	569.702 2	97.74 3	²⁰⁷ Bi(31.55 y) - 1063.662, 1770.237, 1442.20
531.016 22	13.1 7	¹⁴⁷ Nd(10.98 d) - 91.105, 319.411, 439.895	570.4 3	0.0006	²⁰⁸ Po(2.898 y) - 291.7, 601.6, 861.9
531.54 4	1.6	¹⁶⁷ Tm(9.25 d) - 207.801, 57.0723, 264.9	570.95 7	0.840 22	²¹⁰ Rn(2.4 h) - 458.25, 648.70, 72.70
532.08 4	6.07 25	¹²¹ I(2.12 h) - 212.189, 598.74, 475.28	572.9 1	15	¹⁷⁰ Hf(16.01 h) - 164.71, 620.7, 120.19
534.318 11	66.6 3	¹⁵⁶ Tb(5.35 d) - 199.2132, 1222.36, 88.9667	573.139 11	80.3 17	¹²¹ Te(16.78 d) - 507.591, 470.472, 65.548
534.90 2	13.2 7	²⁰⁸ Po(3.53 h) - 883.984, 270.068, 1016.31	573.25 6	26 3	¹⁹³ Hg(11.8 h) - 257.99, 407.63, 932.37
535.61 18	3.46 14	⁸⁵ Y(4.86 h) - 231.67, 2123.8, 767.40	574.17 3	0.033	⁶⁹ Zn(13.76 h) - 438.63
536 10	>0.015	²⁴³ Bk(4.5 h) - 187.1, 146.4, 41	574.17 3	13.3 11	⁶⁹ Ge(39.05 h) - 1107.01, 872.14, 1336.72
536.09 3	99	¹³⁰ I(12.36 h) - 668.54, 739.48, 418.01	574.215 21	88 3	¹⁷⁸ Hf(31 y) - 426.383, 325.562, 213.440
537.261 9	24.39 7	¹⁴⁰ Ba(12.752 d) - 29.9640, 162.660, 304.849	574.8 3	0.070 8	²²⁶ Ac(29.37 h) - 253.73, 186.05, 67.67
538.11 10	0.0110 9	²³⁹ Np(22.5 h) - 642.35, 687.59, 104.234	575.10 10	0.90 9	¹¹¹ Pd(5.5 h) - 172.18
538.54 5	0.382 12	¹²³ I(13.27 h) - 158.97, 528.96, 440.02	576.0 2	0.065 9	¹⁴⁶ Gd(48.27 d) - 154.57, 115.51, 114.71
538.90 5	13.7 7	¹⁹¹ Pt(2.802 d) - 409.44, 359.90, 82.407	577.97 10	4.5 3	¹⁹⁷ Tl(2.84 h) - 425.84, 152.22, 1411.34
539.512 5		¹⁰⁰ Mo(1.00×10 ¹⁹ y) - 590.792	579.298 13	72 5	²⁰⁰ Au(18.7 h) - 332.82, 146.07, 59.97
539.512 5	80.6 4	¹⁰⁰ Rh(20.8 h) - 2375.976, 822.654, 1553.348	579.298 13	13.8 7	²⁰⁰ Tl(26.1 h) - 367.943, 1205.717, 828.320
540.18 6	20	¹⁵⁴ Tb(9.4 h) - 123.071, 247.925, 649.564	582.082 3	0.055 7	⁹⁵ Nb(86.6 h) - 235.69
541.22 7	0.060 10	⁹³ Mo(6.85 h) - 949.82, 689.07, 385.31	582.082 3	29.96 5	⁹⁵ Tc(61 d) - 204.117, 835.149, 786.198
542.867 15	48.1 4	¹¹⁶ Sb(60.3 m) - 1293.558, 972.564, 407.351	583.191 2	84.5 7	²⁰⁸ Tl(3.053 m) - 2614.533, 510.77, 860.564
544.7 3	17.9 9	¹²⁸ Sb(4.40 h) - 812.8, 914.6, 1030.1	584.274 12	52.6 14	¹⁵⁰ Eu(36.9 y) - 333.971, 439.401, 737.455
545.0 1	91	²⁰⁹ At(5.41 h) - 781.9, 790.2, 195.0	584.32 2	2.84 20	²⁵⁴ Es(39.3 h) - 211.80, 177.30, 71.30
545.117 7	4.27 24	¹⁰¹ Rh(4.34 d) - 306.857, 127.226, 179.636	585.13 5	1.99 8	¹⁹⁵ Hg(9.9 h) - 779.80, 61.46, 180.11
546.9 4	0.280 14	²³³ Np(36.2 m) - 312.17, 298.89, 506.5	586.2648 25	9.4 6	¹⁵² Tb(17.5 h) - 344.2785, 271.131, 778.9040
548.35 11	15.3 8	⁶² Zn(9.186 h) - 596.56, 40.84, 507.60	586.45 3	17	¹⁹¹ Au(3.18 h) - 277.88, 674.19, 283.91
548.945 8	3.40 3	¹²² Cs(32.06 h) - 371.918, 411.490, 39.578	587.01 5	4.21 6	¹²⁷ Cs(6.25 h) - 411.95, 124.70, 462.31
549.76 4	0.114 17	²²⁰ Rn(55.6 s)	587.2 3	52	¹⁹⁸ Tl(1.87 h) - 636.4, 411.80205, 226.2
550.284 12	94.5 7	¹⁴⁸ Pm(41.29 d) - 75.7, 62.2	587.46 2	15.6 5	¹⁵¹ Tb(17.609 h) - 287.357, 251.863, 108.088
550.284 12	22.00 16	¹⁴⁸ Pm(5.370 d) - 1465.12, 914.85, 611.293	587.83 9	100	⁸⁹ Nb(1.18 h) - 507.4, 769.69, 1277.5
550.284 12	98.5 22	¹⁴⁸ Eu(54.5 d) - 629.987, 611.293, 553.231	587.83 2	0.1108 8	¹³⁵ La(19.5 h) - 480.51, 874.51, 220.94
550.7 1	5.0	²⁴⁸ Bk(23.7 h) - 592.2, 43.38	588.33 2	19.2 10	²⁰⁷ At(1.80 h) - 814.41, 300.654, 467.12
552.63 2	0.0200 11	⁸³ Br(2.40 h) - 529.635, 520.39, 648.9	589.0 5	39 4	⁸⁰ Sr(106.3 m) - 175.4, 553.4, 378.8
552.63 2	16.0 7	⁸³ Rb(86.2 d) - 520.39, 529.635, 790.0	589.3 1	0.42 9	¹⁴⁶ Pm(5.53 y) - 453.88, 735.72, 146.4
553.231 14	12.9 22	¹⁴⁸ Eu(54.5 d) - 550.284, 629.987, 611.293	590.44 6	12.06 19	¹⁰¹ Pd(8.47 h) - 296.29, 269.67, 24.46
553.4 5	6.9 7	⁸⁰ Sr(106.3 m) - 589.0, 175.4, 378.8	590.792 6		¹⁰⁰ Mo(1.00×10 ¹⁹ y) - 539.512
554.1 5	2.94 9	¹²⁹ Ba(2.23 h) - 214.30, 220.83, 129.14	590.88 1	0.069 3	¹⁴⁹ Pm(53.08 h) - 285.95, 859.46, 22.510
554.348 2	70.8 7	⁸² Br(35.30 h) - 776.517, 619.106, 698.374	592.2	>0.015	²⁴⁸ Bk(23.7 h) - 550.7, 43.38
554.348 2	62.4 8	⁸² Rb(6.472 h) - 776.517, 619.106, 1044.002	592.6 1	3.7 4	¹⁶¹ Er(3.21 h) - 826.6, 211.15, 314.77
554.60 7	7.9×10 ⁻⁵ 5	²⁴⁴ Cm(18.10 y) - 42.824, 98.860, 152.63	593.31 9	0.00228 19	¹²⁷ Te(109 d) - 88.26
555.796 23	92.6 9	¹⁰⁴ Ag(69.2 m) - 767.72, 941.7, 926.2	593.390	11.26 8	⁴³ K(22.3 h) - 372.760, 617.490, 396.861
556.41 5	96 10	¹²⁹ Rh(207 d) - 475.10, 628.05, 1103.16	593.390	0.0022 7	⁴³ Sc(3.891 h) - 372.760, 1931.3, 1558.5
556.65 5	0.121 4	¹²⁹ Te(33.6 d) - 105.50	595.847 6	59 3	⁷⁴ As(17.77 d) - 608.353, 1204.208, 887.19
557.039 20	0.8672 9	¹⁰³ Ru(39.26 d) - 497.080, 610.33, 443.799	596.56 13	26	⁶² Zn(9.186 h) - 40.84, 548.35, 507.60
557.429 21	1.30 12	¹⁹³ Os(30.11 h) - 138.938, 460.547, 73.042	598.74 5	1.47 6	¹²¹ I(2.12 h) - 212.189, 532.08, 475.28
557.7 3	11.3 23	¹³³ Ce(97 m) - 97.261, 76.9, 376.7	600.1 1	14.0 7	¹³² I(1.387 h) - 98.0, 22
557.972 14	14.3 10	¹⁹² Re(3.2 h) - 119.12, 0	600.5 1	62 3	¹⁹⁴ Ir(171 d) - 482.833, 328.455, 687.7
557.972 14	30.1 9	¹⁹⁰ Ir(1.78 d) - 186.718, 605.24, 518.55	600.57 6	18.4 9	²⁴⁰ Np(61.9 m) - 566.34, 973.9, 895.8
558.456 2	3.24 23	¹¹⁴ In(49.51 d) - 725.298	600.600 4	17.86 5	¹²⁵ Sb(2.7582 y) - 427.875, 635.954, 463.365
559.101 5	45	⁷⁶ As(1.0778 d) - 657.041, 1216.104, 1212.94	600.66 5	0.00049	²²⁶ Ra(1600 y) - 186.211, 262.27, 414.60
559.101 5	74	⁷⁶ Br(16.2 h) - 657.041, 1853.67, 1216.104	601.11 2	5.8 12	¹²⁰ I(81.0 m) - 560.44, 1523.0, 640.85
560.13 5	5.4 5	²⁴⁵ Pu(10.5 h) - 327.428, 308.222, 376.676	601.6 2	0.00049	²⁰⁸ Po(2.898 y) - 291.7, 570.4, 861.9
560.27 4	7	¹⁹⁵ Hg(41.6 h) - 261.75, 387.87, 200.38	602.729 3	98.26 23	¹²⁴ Sb(60.20 d) - 1690.983, 722.786, 645.8549
560.44 2	73	¹²⁰ I(81.0 m) - 1523.0, 640.85, 601.11	602.729 3	63	¹²⁴ I(4.1760 d) - 1690.983, 722.786, 1509.47
560.45 3	0.84 6	²⁴⁹ Cm(64.15 m) - 634.31, 368.76, 621.87	604.721 2	97.62 3	¹³⁴ Cs(2.0648 y) - 847.025
561.03 6	2.40 14	⁹² Y(3.54 h) - 934.46, 1405.28, 448.34	604.721 2	5.04 10	¹³⁴ La(6.45 m) - 1554.946, 563.246, 1732.12
561.03 6	100	⁹² Nb(3.47×10 ⁷ y) - 934.46	605.13 9	7.6 5	²³⁸ Am(98 m) - 962.77, 918.69, 561.11
561.11 7	10.9 6	²³⁸ Am(98 m) - 962.77, 918.69, 605.13	605.24 5	14.9 10	¹⁹⁰ Re(3.2 h) - 119.12, 0
561.11 7	0.00015 4	²⁴² Cm(162.8 d) - 44.08, 101.90, 157.42	605.24 5	39.9 14	¹⁹⁰ Ir(11.78 d) - 186.718, 518.55, 557.972
561.67 10	0.013 3	⁹⁵ Nb(34.975 d) - 765.794, 204.117	606.09 10	8.12 20	⁷⁹ Kr(35.04 h) - 261.35, 397.54, 306.47
563.246 5	0.362 6	¹³⁴ La(6.45 m) - 604.721, 1554.946, 1732.12	606.76 2	18.8 5	¹³⁵ Ce(17.7 h) - 265.56, 300.07, 518.05
563.52 5	10.5 5	¹⁹⁵ Tl(1.16 h) - 884.47, 1363.88, 242.15	606.88 15	3.1 3	¹¹² Ag(3.130 h) - 617.516, 1387.67, 694.863
564.119 17	71	¹²² Sb(2.7238 d) - 1140.55	608.151 12	2.90 9	¹³⁵ Xe(9.14 h) - 249.770, 408.009, 158.260
564.119 17	18	¹²² I(3.63 m) - 692.794, 793.278, 683.647	608.353 5	0.552 12	⁷⁴ As(17.77 d) - 595.847, 1204.208, 887.19
564.397 16	14.7 8	¹¹⁷ Cd(3.36 h) - 1997.33, 1065.98, 1432.91	610.0 8	1.47 21	¹³² I(1.387 h) - 98.0, 22
566.34 6	25.3 13	²⁴⁰ Np(61.9 m) - 973.9, 600.57, 895.8	610.062 2	44.2 10	¹⁷² Er(49.3 h) - 407.338, 68.107, 446.025
567.14 3	0.234 9	¹³² Cs(6.479 d) - 667.718, 630.19, 505.79	610.33 20	5.75 5	¹⁰³ Ru(39.26 d) - 497.080, 443.799, 557.039
567.14 3	15.7 12	¹³² La(4.8 h) - 464.55, 1909.91, 663.07	610.5 5	11.9 12	¹⁹⁶ Tl(1.84 h) - 426.0, 635.5, 1495.8
568.80 12	58.0 3	⁹⁶ Nb(23.35 h) - 778.224, 459.88, 849.929	610.68 11	3.93 15	¹⁸⁷ Ir(10.5 h) - 912.95, 427.12, 400.89
568.84 5	7.1 3	¹⁸⁸ Pt(10.87 h) - 721.41, 94.33, 243.37	611.293 8	1.021 11	¹⁴⁸ Pm(5.370 d) - 1465.12, 550.284, 914.85
569.1 2	†91 12	²²⁹ Ac(62.7 m) - 164.522, 261.92, 146.345	611.293 8	20.5 4	¹⁴⁸ Eu(54.5 d) - 550.284, 629.987, 553.231
569.31 4	0.873 17	⁹⁷ Ru(2.9 d) - 215.718, 324.48, 460.57	611.5 1	5.7 9	¹⁸⁶ Pt(2.2 h) - 689.4, 210.4, 635.3

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
612.00 10	5.7 3	⁸⁶ Zr(16.5 h) - 242.80, 29.10, 135.6	649.42 5	2.6	²⁰⁶ Hg(8.15 m) - 304.896, 344.52
612.46564 20	4.34 4	¹⁹² Au(4.94 h) - 316.50791, 295.95827, 2236.89	649.42 5	3.8	²¹⁰ Bi(3.04 \times 10 ⁶ y) - 265.832, 304.896, 344.52
613.725 3	54	⁷⁸ As(90.7 m) - 694.916, 1308.59, 828.189	649.564 11	10.9 6	¹⁵⁴ Tb(9.4 h) - 123.071, 247.925, 540.18
614.0 8	2.5 7	¹³² I(1.387 h) - 98.0, 22	650.91 13	0.00028 10	¹²⁷ Te(109 d) - 88.26
614.276 4	89.8 18	¹⁰⁸ Ag(418 y) - 722.907, 433.937	652.12 2	16.25 22	¹⁴⁹ Tb(4.118 h) - 352.24, 164.98, 388.57
616.08 14	93.10 3	¹⁹⁰ Ir(3.25 h) - 502.53, 361.136, 186.718	652.43 4	100	⁹⁸ Tc(4.2 \times 10 ⁶ y) - 745.36
616.6 1	25	⁸⁰ Rb(34 s) - 703.9, 639.6, 1256.3	652.9 2	8.0 3	⁹¹ Sr(9.63 h) - 1024.3, 749.8, 925.8
617.490	79.2 6	⁴³ K(22.3 h) - 372.760, 396.861, 593.390	653.512 25	15.0 7	¹⁴⁵ Eu(5.93 d) - 893.73, 1658.53, 1997.00
617.516 11	43	¹¹² Ag(3.130 h) - 1387.67, 606.88, 694.863	654.831 13	8.0 4	¹⁴⁹ Nd(1.728 h) - 211.309, 114.314, 270.166
617.8 3	12.0 10	⁹⁹ Rh(4.7 h) - 340.71, 1261.2, 936.7	656.008 4	10.77 18	⁶¹ Cu(3.333 h) - 282.956, 67.412, 1185.234
618.01 3	98.6 10	¹⁴⁴ Pm(363 d) - 696.510, 476.8, 778.5	657.041 5	6.2 3	⁷⁶ As(1.0778 d) - 559.101, 1216.104, 1212.94
619.106 4	43.4 4	⁸² Br(35.30 h) - 776.517, 554.348, 698.374	657.041 5	15.9 7	⁷⁶ Br(16.2 h) - 559.101, 1853.67, 1216.104
619.106 4	37.976 8	⁸² Rb(6.472 h) - 776.517, 554.348, 1044.002	657.49 3	32.4 15	²⁰² Pb(3.53 h) - 490.47, 459.72, 389.94
620.18 4	57.3	⁷¹ Zn(3.96 h) - 386.28, 487.38, 511.56	657.49 3	60.6 18	²⁰² Bi(1.72 m) - 960.67, 422.18, 954.45
620.26 13	0.0110 8	¹¹¹ Ag(7.45 d) - 342.13, 245.395, 96.75	657.7622 21	94.0 4	¹¹⁰ Ag(249.79 d) - 116.48, 1.113
620.7 1	18	¹⁷⁹ Hf(16.01 h) - 164.71, 120.19, 572.9	657.7622 21	98 5	¹¹⁰ In(69.1 m) - 2129.53, 2211.49, 2317.54
621.87 6	0.182 13	²⁴⁹ Cm(64.15 m) - 634.31, 560.45, 368.76	657.7622 21	98.3 20	¹¹⁰ In(4.9 h) - 884.685, 937.493, 707.40
622.53 8	0.268 20	²⁰⁴ Pb(67.2 m) - 899.15, 911.78, 374.72	658.08 6	98	⁹⁷ Nb(1.21 m) - 1024.49, 1268.68, 1515.59
623.7 3	5.5 3	¹⁰⁹ In(4.2 h) - 203.5, 1148.9, 426.25	658.89 6	0.0123 10	¹²⁷ Te(109 d) - 88.26
626.77 3	17.8 5	⁹⁵ Ru(1.643 h) - 336.43, 1096.76, 1178.66	660.040 17	89 4	²⁰⁸ At(1.63 h) - 686.527, 177.595, 845.044
627.72 10	32.6 10	⁸⁶ Y(14.74 h) - 1076.64, 1153.01, 777.35	661.657 3	85.1 2	¹³⁷ Cs(30.07 y) - 283.53
628.05 5	3.8 3	¹⁰² Rh(207 d) - 475.10, 1103.16, 468.58	662.06 5	0.0259 15	¹⁴¹ La(3.92 h) - 1354.52, 1693.3, 2267.0
628.66 3	3.212 21	¹¹⁰ Te(2.49 h) - 93.88, 103.01, 637.9	662.2 1	†266 30	¹⁷¹ Hf(12.1 h) - 122.0, 347.18, 1071.8
629.1 2	24.0 12	²⁰¹ Bi(108 m) - 936.2, 1014.1, 786.4	663.07 3	9.0 6	¹³² La(4.8 h) - 464.55, 567.14, 1909.91
629.95 3	24.8 5	⁷² Ga(14.10 h) - 834.01, 2201.69, 2507.82	664.571 15	5.69 4	¹⁴³ Ce(33.039 h) - 293.266, 57.356, 721.929
629.95 3	7.92 14	⁷² As(26.0 h) - 834.01, 1463.95, 1050.73	665.424 15	7.23 15	¹⁴⁶ Eu(4.61 d) - 747.159, 634.137, 633.083
629.987 8	89	¹⁴⁸ Pm(41.29 d) - 75.7, 62.2	666.331 12	100	¹²⁶ Sb(12.46 d) - 695.03, 414.81, 720.64
629.987 8	71.9 16	¹⁴⁸ Eu(54.5 d) - 550.284, 611.293, 553.231	666.331 12	33.1 7	¹²⁶ I(13.11 d) - 753.819, 1420.17, 2045.17
630.19 2	0.95 3	¹³² Cs(6.479 d) - 667.718, 505.79, 1317.927	667.404 20	11.04 19	¹⁷¹ Lu(8.24 d) - 739.78, 19.394, 75.878
630.34 3	0.0293 6	¹⁸⁶ Re(3.7183 d) - 122.30	667.718 3	99	¹³² I(2.295 h) - 772.60, 954.55, 522.65
630.34 3	15.6 12	¹⁸⁰ Ir(1.90 h) - 1.5, 767.497, 773.28	667.718 3	98	¹³² Cs(6.479 d) - 630.19, 505.79, 1317.927
631.28 5	56 2	¹⁰² Rh(2.9 y) - 475.10, 697.49, 766.84	668.54 3	96 3	¹³⁰ I(12.36 h) - 536.09, 739.48, 418.01
632.56 10	0.010	¹³³ Ba(38.9 h)	669.60 7	0.0035 6	²¹¹ At(7.214 h) - 687.0, 742.64
632.76 10	1.01 9	¹¹¹ Pd(5.5 h) - 172.18	672.34 2	0.87 3	¹¹³ Ag(5.37 h) - 298.60, 258.72, 316.21
632.765 8	0.624 19	¹³³ La(3.912 h) - 278.835, 302.353, 290.06	674.1 1	45	²¹¹ Rn(14.6 h) - 68.573, 167.90, 236.48
632.99 2	1.273 12	¹⁸⁸ Re(17.005 h) - 155.032, 477.99, 931.34	674.19 3	6.8 5	¹⁹¹ Au(3.18 h) - 586.45, 277.88, 283.91
632.99 2	18 3	¹⁸⁸ Ir(41.5 h) - 155.032, 2214.62, 477.99	675.41 22	0.38 3	¹⁶⁴ Yb(75.8 m) - 40.928, 390.6, 446.74
633.083 23	2.15 20	¹⁴⁶ Pm(5.53 y) - 453.88, 735.72, 589.3	675.795 5	0.514 7	¹⁴⁵ Pr(5.984 h) - 748.278, 72.500, 978.969
633.083 23	35.9 8	¹⁴⁶ Eu(4.61 d) - 747.159, 634.137, 665.424	675.8836 7	0.804 3	¹⁹⁸ Au(2.69517 d) - 411.80205, 1087.684
633.415 20	0.568 12	¹⁶³ Dy(2.334 h) - 94.700, 361.68, 715.328	675.8836 7	11	¹⁹⁸ Tl(5.3 h) - 411.80205, 636.4, 1200.6
634.137 21	45.0 10	¹⁴⁶ Eu(4.61 d) - 747.159, 633.083, 665.424	676.36 8	15.7 5	¹⁰⁵ Ru(4.44 h) - 724.21, 469.37, 316.44
634.31 2	1.5 1	²⁴⁹ Cm(64.15 m) - 560.45, 368.76, 621.87	677.516 7	9.8 3	¹⁴⁷ Eu(24.1 d) - 197.299, 121.220, 1077.043
634.32 10	-0.036	⁷⁴ As(17.77 d) - 595.847, 608.353, 1204.208	678.4 1	28.9 14	²¹¹ Rn(14.6 h) - 68.573, 167.90, 236.48
634.78 10	15.4 5	⁷⁴ As(17.77 d) - 595.847, 608.353, 1204.208	679.0 10	53	²⁴⁶ Am(39 m) - 205.0, 152.9, 756
635.3 1	2.6 4	¹⁸⁶ Pt(2.2 h) - 689.4, 611.5, 210.4	680.2 1	0.658 14	⁹³ Y(10.18 h) - 266.9, 947.1, 1917.8
635.5 1	9.8 10	¹⁹⁶ Tl(1.84 h) - 426.0, 610.5, 1495.8	680.516 10	0.753 18	²⁰³ Pb(51.873 h) - 279.1967, 401.323
635.5 1	51 8	¹⁹⁶ Tl(1.41 h) - 426.0, 695.6, 505.2	681.8 6	0.32 3	⁹⁰ Y(3.19 h) - 202.51, 479.17
635.954 5	11.31 9	¹²⁵ Sb(2.7582 y) - 427.875, 600.600, 463.365	681.8 2	4.4 5	¹²⁶ Ba(100 m) - 233.6, 257.6, 241.0
636.4 3	10.1 7	¹⁹⁸ Tl(5.3 h) - 411.80205, 675.8836, 1200.6	683.647 19	0.796 16	¹²² I(3.63 m) - 564.119, 692.794, 793.278
636.4 3	57 5	¹⁹⁸ Tl(1.87 h) - 411.80205, 587.2, 226.2	684.672 9	99.7 20	⁹³ Mo(6.85 h) - 949.82, 689.07, 541.22
636.989 4	7.17 9	¹³¹ I(8.02070 d) - 364.489, 284.305, 80.185	684.88 7	9.4 5	¹⁹⁵ Ir(3.8 h) - 100
637.9 2	0.753 21	¹¹⁶ Te(2.49 h) - 93.88, 628.66, 103.01	685.7 5	37	¹²⁷ Sb(3.85 d) - 473.0, 783.7, 252.4
638.02 6	0.00095 4	¹¹³ Sn(115.09 d) - 391.690, 255.05, 382.9	685.774 18	27.3 6	¹⁸⁷ W(23.72 h) - 479.531, 72.001, 134.243
638.050 16	0.72 4	¹⁵⁰ Tb(3.48 h) - 511, 496.242, 3383.6	686.527 20	98	²⁰⁸ At(1.63 h) - 660.040, 177.595, 845.044
639.30 14	6.4 13	¹⁸¹ Re(19.9 h) - 365.57, 360.70, 953.42	687.0	0.261 6	²¹¹ At(7.214 h) - 669.60, 742.64
639.6 1	1.50 15	⁸⁰ Rb(34 s) - 616.6, 703.9, 1256.3	687.59 9	0.250 5	²³⁶ Np(22.5 h) - 642.35, 538.11, 104.234
640.85 5	9.1 4	¹²⁰ I(81.0 m) - 560.44, 1523.0, 601.11	687.7 1	59 3	¹⁹⁴ Ir(171 d) - 482.833, 328.455, 600.5
641.285 9	47	¹⁴² La(91.1 m) - 2397.8, 2542.7, 894.9	688.68 2	12.3 9	²⁵⁴ Es(39.3 h) - 211.80, 177.30, 71.30
641.285 9	0.0022	¹⁴² Pr(19.12 h)	689.07 5	0.070 10	⁹³ Mo(6.85 h) - 949.82, 541.22, 385.31
641.4 5	0.384 20	¹⁴² Pm(40.5 s) - 1575.85, 2384.3, 2845.9	689.4 1	70 11	¹⁸⁶ Pt(2.2 h) - 611.5, 210.4, 635.3
642.35 9	0.9	²³⁶ Np(22.5 h) - 687.59, 538.11, 104.234	692.03 2	0.157 9	⁵⁷ Co(271.79 d) - 122.0614, 136.4743, 14.41300
643.5 5	0.00024	²³⁸ Pu(2.858 y) - 47.574, 108.96, 166.0	692.794 17	3.85 13	¹²² Sb(2.7238 d) - 1140.55
644.01 4	84	¹¹⁹ Te(16.03 h) - 699.85, 1749.65, 1413.19	692.794 17	1.355 25	¹²² I(3.63 m) - 564.119, 793.278, 683.647
644.55 7	11.1 5	¹⁰⁵ Ag(41.29 d) - 344.520, 280.41, 443.37	693.79 2	24.3 17	²⁵⁴ Es(39.3 h) - 211.80, 177.30, 71.30
645.157 16	1.18 3	¹⁹⁴ Ir(19.28 h) - 328.455, 293.545, 1150.76	694.4 10	43	¹⁴⁷ Tb(1.7 h) - 1152.4, 139.9, 119.7
645.50 10	0.0054 9	²²⁴ Ra(3.66 d) - 240.986, 292.70, 422.04	694.863 12	3.0 3	¹¹² Ag(3.130 h) - 617.516, 1387.67, 606.88
645.8549 20	7.456 24	¹²⁴ Sb(60.20 d) - 602.729, 1690.983, 722.786	694.916 4	16.7 11	⁷⁸ As(90.7 m) - 613.725, 1308.59, 828.189
646.116 9	78.0 8	¹⁸⁰ Os(93.6 d) - 874.813, 880.523, 717.424	695.03 2	100	¹²⁶ Sb(12.46 d) - 666.331, 414.81, 720.64
647.3 1	0.024	¹⁰⁹ Pd(13.7012 h) - 88.04, 311.4, 781.4	695.6 1	41 6	¹⁹⁶ Tl(1.41 h) - 426.0, 635.5, 505.2
648.70 7	0.843 22	²¹⁰ Rn(2.4 h) - 458.25, 570.95, 72.70	695.88 6	3.071 12	¹²⁹ Te(33.6 d) - 105.50
648.80 2	28.4 20	²⁵⁴ Es(39.3 h) - 211.80, 177.30, 71.30	696.510 5	1.3	¹⁴⁴ Pr(17.28 m) - 2185.662, 1489.160, 1387.9
648.9 1	0.0124 10	⁸³ Br(2.40 h) - 529.635, 520.39, 552.63	696.510 5	99	¹⁴⁴ Pm(363 d) - 618.01, 476.8, 778.5

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
697.49 8	44 2	¹⁰² Rh(2.9 y) - 475.10, 631.28, 766.84	767.40 19	3.6 4	⁸⁵ Y(4.86 h) - 231.67, 2123.8, 535.61
698.374 5	28.49 25	⁸² Br(35.30 h) - 776.517, 554.348, 619.106	767.497 25	0.0327 6	¹⁸⁶ Re(3.7183 d) - 122.30
699.85 6	10.1 5	¹¹⁹ Te(16.03 h) - 644.01, 1749.65, 1413.19	767.497 25	18.4 15	¹⁸⁶ Ir(1.90 h) - 1.5, 630.34, 773.28
702.622 19	97.9 20	⁹⁴ Nb(2.03×10 ⁴ y) - 871.091	767.72 8	65.7 19	¹⁰⁴ Ag(69.2 m) - 555.796, 941.7, 926.2
702.622 19	99.6 18	⁹⁴ Tc(293 m) - 871.091, 849.74, 916.10	767.8 1	1.44 8	⁷³ Ga(4.86 h) - 297.32, 325.70, 739.42
703.44 3	31	²⁰⁵ Bi(15.31 d) - 1764.36, 987.62, 1043.72	768.91 8	1.25 10	¹⁶⁴ Tm(2.0 m) - 91.40, 1154.66, 208.08
703.9 2	1.88 20	⁸⁰ Rb(34 s) - 616.6, 639.6, 1256.3	769.69 19	6.5 6	⁸⁹ Nb(1.18 h) - 587.83, 507.4, 1277.5
707.40 2	29.5 10	¹¹⁰ In(4.9 h) - 657.7622, 884.685, 937.493	770.6 2	0.0030 3	⁶⁵ Zn(244.26 d) - 1115.546, 344.95
708.06 6	26.4 11	¹³⁹ Nd(5.50 h) - 113.94, 737.96, 982.2	772.60 1	75.6 13	¹³² I(2.295 h) - 667.718, 954.55, 522.65
709.17 7	5.2 4	¹⁸⁷ Pt(2.35 h) - 106.46, 201.52, 110.04	773.28 3	8.9 4	¹⁸⁶ Ir(16.64 h) - 296.90, 137.157, 434.84
711.683 8	55.32 22	¹⁶⁸ Ho(1200 y) - 184.410, 810.276, 280.459	773.28 3	11.7 10	¹⁸⁶ Ir(1.90 h) - 1.5, 767.497, 630.34
715.328 20	0.534 11	¹⁶⁵ Dy(2.334 h) - 94.700, 361.68, 633.415	773.67 3	49.9 5	¹³¹ Te(30 h) - 182.25
717.24 6	28.9 15	¹⁰⁶ Rh(131 m) - 511.842, 1045.83, 450.97	776.517 3	83.5 8	⁸² Br(35.30 h) - 554.348, 619.106, 698.374
717.24 6	28.9 8	¹⁰⁸ Ag(8.28 d) - 511.842, 1045.83, 450.97	776.517 3	84	⁸² Rb(6.472 h) - 554.348, 619.106, 1044.002
717.424 12	3.94 4	¹⁸⁵ Os(93.6 d) - 646.116, 874.813, 880.523	777.35 10	22.4 6	⁸⁶ Y(14.74 h) - 1076.64, 627.72, 1153.01
717.72 8	4.05 22	¹⁵⁷ Pm(28.40 h) - 340.08, 167.75, 275.21	777.921 20	4.26 5	⁹⁹ Mo(65.94 h) - 140.511, 739.50, 181.063
719.7 7	65	¹¹⁷ Te(62 m) - 1716.4, 2300.0, 1090.7	778.224 15	96.45 19	⁹⁶ Nb(23.35 h) - 568.80, 459.88, 849.929
720.22 17	0.154 12	⁴⁵ Ti(184.8 m) - 1408.6, 1662.4, 425.1	778.224 15	100	⁹⁶ Tc(4.28 d) - 849.929, 812.581, 1126.965
720.24 6	6.5 3	¹⁹⁹ Pb(90 m) - 366.90, 353.39, 1135.04	778.5 1	1.51 5	¹⁴⁴ Pm(363 d) - 696.510, 618.01, 476.8
720.64 4	53.8 24	¹²⁶ Sb(12.46 d) - 695.03, 666.331, 414.81	778.817 10	18.9 4	¹⁶⁶ Tm(7.70 h) - 2052.36, 184.410, 1273.540
721.41 3	9.3 4	¹⁸⁹ Pt(10.87 h) - 94.33, 568.84, 243.37	778.9040 18	12.942 19	¹⁵² Eu(13.537 y) - 121.7817, 1408.006, 964.079
721.929 13	5.39 4	¹⁴³ Ce(33.039 h) - 293.266, 57.356, 664.571	778.9040 18	5.8 4	¹⁵² Tb(17.5 h) - 344.2785, 586.2648, 271.131
722.12 8	7.7 5	¹⁵⁴ Tb(21.5 h) - 123.071, 1274.436, 2187.10	779.80 5	7	¹⁹⁵ Hg(9.9 h) - 61.46, 585.13, 180.11
722.786 4	10.81 4	¹²⁴ Sb(60.20 d) - 602.729, 1690.983, 645.8549	781.4 2	0.0112 12	¹⁰⁹ Pd(13.7012 h) - 88.04, 311.4, 647.3
722.786 4	10.35 11	¹²⁴ I(4.1760 d) - 602.729, 1690.983, 1509.47	781.9 1	83.5 22	²⁰⁹ At(5.41 h) - 545.0, 790.2, 195.0
722.907 10	90.8 18	¹⁰⁸ Ag(418 y) - 433.937, 614.276	783.29 9	17	⁵⁰ V(1.4×10 ¹⁷ y) - 1553.768
723.304 5	20.22 9	¹⁵⁴ Eu(8.593 y) - 184.810, 81.99	783.7 5	15.1 3	¹²⁷ Sb(3.85 d) - 685.7, 473.0, 252.4
724.199 5	44.17 13	⁹⁵ Zr(64.02 d) - 756.729, 235.69	783.754 14	66 7	¹⁸³ Hf(1.067 h) - 73.174, 459.069, 397.859
724.21 8	47	¹⁰⁸ Ru(4.44 h) - 469.37, 676.36, 316.44	785.09 6	18.3 10	²⁵² Es(471.7 d) - 924.12, 800.01, 139.03
725.298 9	3.24 23	¹¹⁴ In(49.51 d) - 558.456	785.37 8	1.102 13	²¹² Bi(60.55 m) - 727.330, 1620.50, 1078.62
725.673 9	32.7 3	¹⁴⁸ Pm(41.29 d) - 75.7, 62.2	786.198 4	0.0158 21	⁹⁵ Nb(86.6 h) - 235.69
727.330 9	6.58 5	²¹² Bi(60.55 m) - 1620.50, 785.37, 1078.62	786.198 4	8.66 4	⁹⁵ Tc(61 d) - 204.117, 582.082, 835.149
728.18 2	†2200 60	¹⁶⁰ Ho(5.02 h) - 879.383, 962.317, 966.171	786.4 5	9.5 5	²⁰¹ Bi(108 m) - 629.1, 936.2, 1014.1
729.57 5	0.72 3	¹²⁹ Te(33.6 d) - 105.50	786.99 6	50	²⁰² Pb(3.53 h) - 490.47, 459.72, 389.94
731.812 13	0.007 3	⁸⁵ Kr(4.480 h) - 304.87	788.742 8	34	¹³⁸ La(1.05×10 ¹¹ y) - 1435.795
731.812 13	0.0147 8	⁸⁵ Sr(67.63 m) - 151.159, 129.820, 450.85	788.742 8	100 5	¹³⁸ Pr(2.12 h) - 1037.8, 302.7, 390.9
735.72 6	22.5 15	¹⁴⁶ Pm(5.53 y) - 453.88, 589.3, 146.4	790.0 4	0.657 18	⁸³ Rb(86.2 d) - 520.39, 529.635, 552.63
737.455 15	9.60 19	¹⁵⁰ Eu(36.9 y) - 333.971, 439.401, 584.274	790.2 1	63.5 17	²⁰⁹ At(5.41 h) - 545.0, 781.9, 195.0
737.96 8	35	¹³⁹ Nd(5.50 h) - 113.94, 982.2, 708.06	792.071 6	37.5 6	¹⁸⁴ Re(38.0 d) - 903.279, 111.208, 894.757
739.42 5	4.23 24	⁷³ Ga(4.86 h) - 297.32, 325.70, 767.8	793.278 25	0.016 4	¹²² Sb(2.7238 d) - 1140.55
739.48 3	82 3	¹³⁰ I(12.36 h) - 536.09, 668.54, 418.01	793.278 25	1.327 25	¹²² I(3.63 m) - 564.119, 692.794, 683.647
739.50 2	12.13 12	⁹⁹ Mo(65.94 h) - 140.511, 181.063, 777.921	793.60 9	0.10 2	⁸⁷ Zr(1.68 h) - 1227, 1209.8, 1024
739.78 2	47.8 7	¹⁷¹ Lu(8.24 d) - 19.394, 667.404, 75.878	793.75 3	18.10 25	¹³¹ Te(30 h) - 182.25
741.98 4	1.2×10 ⁻⁶ 4	¹⁴³ Pr(13.57 d)	795.864 4	85.53 4	¹³⁴ Cs(2.0648 y) - 847.025
741.98 4	39	¹⁴³ Pm(265 d)	796.462 25	0.0665 20	¹⁰⁷ Cd(6.50 h) - 93.124, 828.93, 324.81
742.64 8	28.2 4	²⁰⁷ Po(5.80 h) - 992.33, 911.79, 405.75	798.80 4	61 4	²⁴⁶ Bk(1.80 d) - 1081.40, 833.60, 1124.29
742.64 8	0.0010 3	²¹¹ At(7.214 h) - 687.0, 669.60	799.64 6	9.4 10	¹⁸² Hf(61.5 m) - 344.1, 224.38, 506.60
743.22 2	100 5	¹²⁸ Sb(9.01 h) - 753.82, 314.12, 526.57	801.953 4	8.69 4	¹³⁴ Cs(2.0648 y) - 847.025
743.36 3	93	⁹⁷ Zr(16.91 h) - 507.64, 1147.97, 355.40	803.10 5	0.0050 8	²⁰⁶ Tl(4.199 m) - 362, 1166
743.971 5	66 18	²⁴⁴ Am(10.1 h) - 897.848, 153.863, 99.383	803.10 5	99	²⁰⁶ Bi(6.243 d) - 881.01, 516.18, 1718.70
744.233 13	90.0 8	⁵² Mn(5.591 d) - 1434.068, 935.538, 1333.649	803.10 5	0.00121 4	²¹⁰ Po(138.376 d)
745.36 4	102 7	⁹⁸ Tc(4.2×10 ⁶ y) - 652.43	805.75 6	0.084 4	⁶⁸ Ga(67.629 m) - 1077.35, 1883.09, 1260.97
745.9 1	0.207 17	¹⁷⁷ Ta(56.56 h) - 112.9498, 208.3664, 1057.8	805.9 4	8.4 9	¹²⁷ Sn(2.10 h) - 1114.3, 1095.6, 823.1
747.159 16	34.0 16	¹⁴⁶ Pm(5.53 y) - 453.88, 735.72, 589.3	806.372 17	9.5 3	¹⁶⁵ Tm(30.06 h) - 242.917, 47.155, 297.369
747.159 16	98.5 20	¹⁴⁸ Eu(4.61 d) - 634.137, 633.083, 665.424	807.38 8	22.7 5	²⁰⁶ Po(8.8 d) - 1032.26, 511.36, 286.410
748.278 5	0.5250 21	¹⁴⁵ Pr(5.984 h) - 675.795, 72.500, 978.969	807.86 10	6.2 4	⁴⁷ Ca(4.536 d) - 1297.09, 489.23, 767.1
748.601 2	8.22 10	¹⁴⁹ Gd(9.28 d) - 149.735, 298.634, 346.651	810.064 15	16.63 25	¹⁷² Lu(6.70 d) - 1093.657, 900.724, 181.528
749.8 1	23.61 17	⁹¹ Sr(9.63 h) - 1024.3, 652.9, 925.8	810.276 8	58.08 22	¹⁶⁶ Ho(1200 y) - 184.410, 711.683, 280.459
749.95 3	49.5 12	⁵⁶ Ni(6.077 d) - 158.38, 811.85, 269.50	810.775 9	99	⁵⁸ Co(70.86 d) - 863.959, 1674.730
751.637 18	0.032 3	¹⁴⁰ Pr(3.39 m) - 1596.210, 306.9, 925.189	811.79 5	9.70 4	¹⁵⁶ Eu(15.19 d) - 88.9667, 1230.68, 1153.67
753.819 13	4.16 9	¹²⁶ I(13.11 d) - 666.331, 1420.17, 2045.17	811.85 3	86.0 9	⁵⁶ Ni(6.077 d) - 158.38, 749.95, 269.50
753.82 2	100 5	¹²⁸ Sb(9.01 h) - 743.22, 314.12, 526.57	812.581 15	82 4	⁹⁶ Tc(4.28 d) - 778.224, 849.929, 1126.965
755 2	†10	²⁴³ Bk(4.5 h) - 187.1, 536, 146.4	812.8 5	43	¹²⁹ Sb(4.40 h) - 914.6, 544.7, 1030.1
756 1	13.3 11	²⁴⁶ Am(39 m) - 679.0, 205.0, 152.9	813.2 1	9.2 6	²⁴⁹ Es(102.2 m) - 379.5, 375.1, 1218.5
756.729 12	54	⁹⁵ Zr(64.02 d) - 724.199, 235.69	814.41 3	44.5 22	²⁰⁷ At(1.80 h) - 588.33, 300.654, 467.12
762.3 1	0.192 9	¹³⁷ Ce(34.4 h) - 824.82, 169.26, 835.38	815.772 19	23.28 19	¹⁴⁰ La(1.6781 d) - 1596.210, 487.021, 328.762
762.65 10	30	⁸³ Sr(32.41 h) - 381.53, 418.37, 381.17	815.990 4	48.99 16	¹⁶⁸ Tm(93.1 d) - 198.241, 447.515, 184.285
765.794 7	100	⁹⁵ Nb(34.975 d) - 204.117, 561.67	817.04 5	0.093 3	¹²⁹ Te(33.6 d) - 105.50
765.794 7	93.82 19	⁹⁵ Tc(20.0 h) - 1073.71, 947.67, 869.60	818.514 12	100	¹³⁶ Cs(13.16 d) - 1048.073, 340.547, 1235.362
766.38 2	2.2×10 ⁻⁵ 2	²³⁸ Pu(87.7 y) - 43.498, 99.853, 152.720	820.3 3	30	²⁰³ Bi(11.76 h) - 825.2, 896.9, 1847.4
766.84 6	34 2	¹⁰² Rh(2.9 y) - 475.10, 631.28, 697.49	820.624 5	0.00037 21	⁹⁵ Nb(86.6 h) - 235.69
767.1 3	0.191 13	⁴⁷ Ca(4.536 d) - 1297.09, 489.23, 807.86	822.48 5	4.28 16	¹²⁵ Sn(9.64 d) - 1067.10, 1089.15, 915.55

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
822.654 7	21.09 6	¹⁰⁰ Rh(20.8 h) - 539.512, 2375.976, 1553.348	884.685 3	72.2 3	¹¹⁰ Ag(249.79 d) - 116.48, 1.113
823.1 4	10.9 23	¹²⁷ Sn(2.10 h) - 1114.3, 1095.6, 805.9	884.685 3	92.9 19	¹¹⁰ In(4.9 h) - 657.7622, 937.493, 707.40
824.82 12	0.44	¹³⁷ Ce(34.4 h) - 169.26, 762.3, 835.38	887.19 7	0.0255 12	⁷⁴ As(17.77 d) - 595.847, 608.353, 1204.208
825.2 1	14.6 7	²⁰³ Bi(11.76 h) - 820.3, 896.9, 1847.4	888.80 5	25.1 4	²⁴⁰ Am(50.8 h) - 987.76, 98.860, 42.824
826.06 3	0.0076 8	⁶⁰ Co(5.2714 y) - 1332.501, 1173.237, 346.93	889.277 3	99.984 1	⁴⁶ Sc(83.79 d) - 1120.545, 2010
826.6 1	64 3	¹⁶¹ Er(3.21 h) - 211.15, 592.6, 314.77	889.753 21	5.36 14	¹⁶⁹ Lu(34.06 h) - 960.622, 191.2137, 1449.74
826.77 22	20	¹⁸¹ Os(105 m) - 238.75, 118.03, 831.62	889.96 2	1.530 23	²⁵⁰ Bk(3.217 h) - 989.12, 1031.85, 1028.65
828.189 13	8.1 5	⁷⁸ As(90.7 m) - 613.725, 694.916, 1308.59	891.5 10	†114 12	²⁴⁴ Bk(4.35 h) - 217.6, 921.5, 490.5
828.320 12	10.8 6	²⁰⁰ Tl(26.1 h) - 367.943, 1205.717, 579.298	893.73 3	66 3	¹⁴⁵ Eu(5.93 d) - 653.512, 1658.53, 1997.00
828.82 3	5.5 9	²⁵⁰ Es(2.22 h) - 989.12, 1031.85, 1167.25	894.351 12	19.8 3	²³² Pa(1.31 d) - 969.315, 150.059, 453.655
828.82 3	72 4	²⁵⁰ Es(8.6 h) - 303.41, 349.4, 383.7	894.757 6	15.6 3	¹⁸⁴ Re(38.0 d) - 893.279, 372.071, 111.208
828.93 3	0.17	¹⁰⁷ Cd(6.50 h) - 93.124, 796.462, 324.81	894.9 4	8.34 14	¹⁴² La(91.1 m) - 641.285, 2397.8, 2542.7
831.62 22	7.7 10	¹⁸¹ Os(105 m) - 238.75, 826.77, 118.03	895.8 1	13.6 6	²⁴⁰ Np(61.9 m) - 566.34, 973.9, 600.57
831.92 25	11.9 5	¹⁵⁰ Pm(2.68 h) - 333.971, 1324.51, 1165.74	896.28 6	0.47	²⁰⁹ Po(102 y) - 260.48, 262.81
833.537 3	0.220 4	⁶⁶ Cu(5.120 m) - 1039.231, 1333.120, 1872.753	896.9 3	13	²⁰³ Bi(11.76 h) - 820.3, 825.2, 1847.4
833.537 3	5.89 6	⁶⁶ Ga(9.49 h) - 1039.231, 2751.852, 2189.631	897.848 7	28 8	²⁴⁴ Am(10.1 h) - 743.971, 153.863, 99.383
833.60 4	5.0 3	²⁴⁶ Bk(1.80 d) - 798.80, 1081.40, 1124.29	898.042 3	14.04 9	⁸⁸ Rb(17.78 m) - 1836.063, 2677.892, 1382.406
834.01 2	96	⁷² Ga(14.10 h) - 2201.69, 629.95, 2507.82	898.042 3	93.7 3	⁸⁸ Y(106.65 d) - 1836.063, 2734.086, 850.647
834.01 2	80	⁷² As(26.0 h) - 629.95, 1463.95, 1050.73	898.68 10	5.8 3	²³⁰ Pa(17.4 d) - 951.95, 918.48, 454.95
834.830 3	12.98 14	⁸⁸ Kr(2.84 h) - 2392.11, 196.301, 2195.842	899.15 3	99	²⁰⁴ Pb(67.2 m) - 911.78, 374.72, 622.53
834.848 3	99.976 1	⁵⁵ Mn(312.3 d)	899.15 3	98 8	²⁰⁴ Bi(11.22 h) - 374.72, 984.02, 911.78
835.149 5	26.63 19	⁹⁵ Tc(61 d) - 204.117, 582.082, 786.198	899.43	0.0515 25	⁴² K(12.360 h) - 1524.70, 312.6, 1922.18
835.38 12	0.103 4	¹³⁷ Ce(34.4 h) - 824.82, 169.26, 762.3	900.724 20	29.8 4	¹⁷² Lu(6.70 d) - 1093.657, 181.528, 810.064
836.7 1	1.8	¹³⁷ Pr(1.28 h) - 433.9, 514.0, 160.32	903.279 7	37.9 6	¹⁸⁴ Re(38.0 d) - 792.071, 111.208, 894.757
836.79 6	19.2 11	²⁰⁵ Po(1.66 h) - 872.39, 1001.21, 849.83	907.56 11	5.7 3	²⁰¹ Pb(9.33 h) - 331.19, 361.27, 945.96
836.90 7	9.8 5	²²⁴ Fr(3.33 m) - 215.983, 131.613, 1340.70	908.631 17	3.6 3	⁶¹ Co(1.650 h) - 67.412, 841.211
840 40	†3	²⁴³ Bk(4.5 h) - 187.1, 536, 146.4	908.8 2	2.60 15	²³⁷ Am(73.0 m) - 280.23, 438.4, 473.5
841.211 17	0.79 7	⁶¹ Co(1.650 h) - 67.412, 908.631	908.96 4	0.010	⁸⁹ Sr(50.53 d)
841.570 5	14.2 3	¹⁵² Eu(9.3116 h) - 963.390, 121.7817, 1389.00	908.96 4	100	⁸⁹ Zr(78.41 h) - 1713.06, 1744.52, 1657.28
845.044 20	19.7 9	²⁰⁸ At(1.63 h) - 686.527, 660.040, 177.595	909.847 18	0.0703 15	¹²¹ Te(154 d) - 1102.149, 37.138, 998.291
845.43 4	7.34 20	⁸⁷ Kr(76.3 m) - 402.586, 2554.8, 2558.1	911.204 4	25.8 4	²²⁸ Ac(6.15 h) - 968.971, 338.320, 964.766
846.771 5	98.9 3	⁵⁶ Mn(2.5785 h) - 1810.772, 2113.123, 2522.88	911.204 4	23.0 11	²²⁸ Pa(22 h) - 463.004, 968.971, 964.766
846.771 5	100	⁵⁶ Co(77.27 d) - 1238.282, 2598.459, 1771.351	911.78 7	90.69 10	²⁰⁴ Pb(67.2 m) - 911.78, 374.72, 622.53
847.025 25	0.00030 10	¹³⁴ Cs(2.0648 y)	911.78 7	13.5 16	²⁰⁴ Bi(11.22 h) - 899.15, 374.72, 984.02
849.74 7	95.7 18	⁹⁴ Tc(293 m) - 871.091, 702.622, 916.10	911.79 9	16.95 24	²⁰⁷ Po(5.80 h) - 992.33, 742.64, 405.75
849.83 7	25.5 15	²⁰⁵ Po(1.66 h) - 872.39, 1001.21, 836.79	912.73 9	1.78 10	⁹² Nb(10.15 d) - 934.46, 1847.27, 1132.24
849.929 13	20.45 19	⁹⁶ Nb(23.35 h) - 778.224, 568.80, 459.88	912.95 4	4.79 18	¹⁸⁷ Ir(10.5 h) - 427.12, 400.89, 610.68
849.929 13	98 4	⁹⁶ Tc(4.28 d) - 778.224, 812.581, 1126.965	913.93 11	9.0 5	⁸⁵ Y(2.68 h) - 231.67, 504.45, 409.5
850.647 24	0.065 13	⁸⁸ Y(106.65 d) - 1836.063, 898.042, 2734.086	914.6 5	20.0 11	¹²⁹ Sb(4.40 h) - 812.8, 544.7, 1030.1
851.474 17	4.56 3	¹⁸³ Os(13.0 h) - 381.768, 114.463, 167.844	914.85 3	11.46 9	¹⁴⁸ Pm(5.370 d) - 1465.12, 550.284, 611.293
852.21 3	27.0 6	¹³¹ Te(30 h) - 182.25	915.55 5	4.13 16	¹²⁵ Sn(9.64 d) - 1067.10, 1089.15, 822.48
859.46 6	0.109 3	¹⁴⁹ Pm(53.08 h) - 285.95, 590.88, 22.510	916.10 15	7.6 4	⁹⁴ Tc(293 m) - 871.091, 702.622, 849.74
860.564 5	12.42 10	²⁰⁸ Tl(3.053 m) - 2614.533, 583.191, 510.77	918.48 10	8.2 4	²³⁰ Pa(17.4 d) - 951.95, 454.95, 898.68
861.11 17	12.4 21	¹⁹³ Hg(3.80 h) - 381.60, 257.99, 1118.84	918.69 4	23.0 14	²³⁸ Am(98 m) - 962.77, 561.11, 605.13
861.35 5	0.019 3	¹¹⁷ In(116.2 m) - 315.302	920.932 9	32.0 8	¹⁸⁴ Ta(8.7 h) - 414.03, 252.848, 111.208
861.35 5	0.31 3	¹¹⁷ Sb(2.80 h) - 158.562, 1004.51, 1021.0	920.932 9	8.14 12	¹⁸⁴ Re(169 d) - 252.848, 216.548, 161.269
861.8	32	²⁵⁸ Es(7.6 h) - 231.1, 172.6, 1092.9	921.2 3	0.210 16	¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 1165.74
861.9 2	0.00034	²⁰⁸ Po(2.898 y) - 291.7, 570.4, 601.6	921.5 10	†22 3	²⁴⁴ Bk(4.35 h) - 891.5, 217.6, 490.5
863.959 9	0.683 11	⁵⁸ Co(70.86 d) - 810.775, 1674.730	923.98 2	2.86 9	²³⁸ Np(2.117 d) - 984.45, 1028.54, 1025.87
865.09 12	0.584 18	⁷³ Se(7.15 h) - 360.80, 67.03, 510	924.12 5	2.41 16	²⁵² Es(471.7 d) - 800.01, 785.09, 139.03
865.3 1	5.9 5	¹⁹⁸ Pb(2.40 h) - 290.3, 365.4, 173.4	925.189 21	0.0260 25	¹⁴⁰ Pr(3.39 m) - 1596.210, 306.9, 751.637
868.5 4	0.0120 5	⁸⁵ Sr(64.84 d) - 514.0067, 151.159, 362.81	925.24 5	4.56 8	¹²⁶ Cs(1.64 m) - 388.633, 491.243, 879.876
869.60 3	0.317 8	⁹⁵ Tc(20.0 h) - 765.794, 1073.71, 947.67	925.8 2	3.84 3	⁹¹ Sr(9.63 h) - 1024.3, 749.8, 652.9
871.091 18	100	⁹⁴ Nb(2.03×10 ⁴ y) - 702.622	926.1 1	12.5 15	¹⁰⁴ Ag(69.2 m) - 555.796, 767.72, 941.7
871.091 18	100	⁹⁴ Tc(293 m) - 702.622, 849.74, 916.10	929.01 7	20.2 8	¹⁴⁷ Gd(38.06 h) - 229.32, 396.00, 370.0
872.14 3	11.9 9	⁶⁹ Ge(39.05 h) - 1107.01, 574.17, 1336.72	931.3 2	75	⁵⁵ Co(17.53 h) - 477.2, 1408.4, 1316.4
872.39 7	37	²⁰⁵ Po(1.66 h) - 1001.21, 849.83, 836.79	931.34 2	0.553 5	¹⁸⁸ Re(17.005 h) - 155.032, 632.99, 477.99
874.51 2	0.164 3	¹³⁵ La(19.5 h) - 480.51, 587.83, 220.94	932.37 15	12.5 13	¹⁹³ Hg(11.8 h) - 257.99, 407.63, 573.25
874.813 13	6.29 6	¹⁸⁵ Os(93.6 d) - 646.116, 880.523, 717.424	933.8 7	2.000 6	¹¹⁵ Cd(44.6 d) - 1290.580, 484.470, 1132.570
875.329 11	4.51 10	¹³³ I(20.8 h) - 529.872, 1298.223, 510.530	934.46 5	13.9 8	⁹² Y(3.54 h) - 1405.28, 561.03, 448.34
875.68 5	0.150 7	⁶² Cu(9.74 m) - 1172.9, 2301.8, 1128.9	934.46 5	99	⁹² Nb(10.15 d) - 912.73, 1847.27, 1132.24
879.383 3	30.10 6	¹⁶⁰ Tb(72.3 d) - 298.580, 966.171, 1177.962	934.46 5	100	⁹² Nb(3.39 y) - 561.03
879.383 3	†1450 50	¹⁶⁰ Ho(5.02 h) - 728.18, 962.317, 966.171	935.538 11	94.5 9	⁵² Mn(5.591 d) - 1434.068, 744.233, 1333.649
879.876 13	0.754 17	¹²⁶ I(13.11 d) - 666.331, 753.819, 1420.17	936.2 5	11.3 6	²⁰¹ Bi(108 m) - 629.1, 1014.1, 786.4
879.876 13	1.29 3	¹²⁶ Cs(1.64 m) - 388.633, 491.243, 925.24	936.7 4	2.20 6	⁹⁹ Rh(4.7 h) - 340.71, 617.8, 1261.2
880.523 13	5.17 6	¹⁸⁵ Os(93.6 d) - 646.116, 874.813, 717.424	937.2 2	10.8 4	¹⁶² Nb(67.0 m) - 185.005, 1220.0, 282.864
880.8 1	2.19 11	²⁵¹ Fm(5.30 h) - 425.4, 480.4, 358.3	937.493 4	34.13 11	¹¹⁰ Ag(249.79 d) - 116.48, 1.113
881.01 5	66.2 7	²⁰⁸ Pb(6.243 d) - 803.10, 516.18, 1718.70	937.493 4	68.4 14	¹¹⁰ In(4.9 h) - 657.7622, 884.685, 707.40
881.610 3	69	⁸⁴ Rb(32.77 d) - 1897.761, 1016.162	941.7 1	25.0 23	¹⁰⁴ Ag(69.2 m) - 555.796, 767.72, 926.2
883.24 4	9.6 6	²³⁴ Pa(6.70 h) - 131.30, 946.00, 569.5	941.72 5	38.3 10	²⁸ Mg(20.91 h) - 30.6383, 1342.27, 400.56
883.984 20	29.9 6	²⁰⁴ Po(3.53 h) - 270.068, 1016.31, 534.90	942.80 11	18.8 17	¹⁸² Hf(61.5 m) - 344.1, 224.38, 506.60
884.47 5	10.0 5	¹⁹⁵ Tl(1.16 h) - 563.52, 1363.88, 242.15	944.09 5	44	¹⁵⁸ Tb(180 y) - 962.06, 79.5104, 181.930

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
944.104 7	7.76 9	⁴⁸ V(15.9735 d) - 983.517, 1312.096, 2240.375	1031.85 2	35.6 5	²⁵⁰ Bk(3.217 h) - 989.12, 1028.65, 889.96
945.61 4	†366 40	¹⁵⁸ Ho(11.3 m) - 218.221, 98.918, 948.78	1031.85 2	10.6 8	²⁵⁰ Es(2.22 h) - 989.12, 828.82, 1167.25
945.96 8	7.4 6	²⁰¹ Pb(9.33 h) - 331.19, 361.27, 907.56	1032.26 10	32.9 7	²⁰⁶ Po(8.8 d) - 511.36, 286.410, 807.38
946.00 3	13.4 8	²³⁴ Pa(6.70 h) - 131.30, 883.24, 569.5	1034.85 5	6.02 6	¹⁸³ Os(9.9 h) - 1101.94, 1107.92, 484.40
946 2	†-8	²⁴³ Bk(4.5 h) - 187.1, 536, 146.4	1036.4 3	10.3 2	¹⁷⁷ W(135 m) - 115.65, 426.98, 115.05
947.1 1	2.09 11	⁹³ Y(10.18 h) - 266.9, 1917.8, 680.2	1037.599 26	97.6 5	⁴⁸ Sc(43.67 h) - 1312.096, 983.517, 175.361
947.67 2	1.951 19	⁹⁵ Tc(20.0 h) - 765.794, 1073.71, 869.60	1037.8 1	101 5	¹³⁸ Pr(2.12 h) - 788.742, 302.7, 390.9
948.78 5	†345 10	¹⁵⁸ Ho(11.3 m) - 218.221, 98.918, 945.61	1039.231 6	9	⁶⁶ Cu(5.120 m) - 833.537, 1333.120, 1872.753
949.82 3	0.120 10	⁹³ Mo(6.85 h) - 689.07, 541.22, 385.31	1039.231 6	37	⁶⁶ Ga(9.49 h) - 2751.852, 833.537, 2189.631
951.95 5	29.1 14	²³⁰ Pa(17.4 d) - 918.48, 454.95, 898.68	1039.928 17	0.095 4	⁵² Fe(8.275 h) - 168.688, 377.748, 1727.57
953.31 7	3.52 14	⁹² Sr(2.71 h) - 1383.93, 430.49, 241.56	1043.72 3	7.51 9	²⁰⁵ Bi(15.31 d) - 1764.36, 703.44, 987.62
953.42 16	3.6 9	¹⁸¹ Re(19.9 h) - 365.57, 360.70, 639.30	1044.002 5	32.068 8	⁸² Rb(6.472 h) - 776.517, 554.348, 619.106
954.45 4	7.8 5	²⁰² Bi(1.72 h) - 960.67, 422.18, 657.49	1045.83 8	30.4 15	¹⁰⁶ Rh(131 m) - 511.842, 717.24, 450.97
954.55 9	17.6 5	¹³² I(2.295 h) - 667.718, 772.60, 522.65	1045.83 8	29.6 10	¹⁰⁶ Ag(8.28 d) - 511.842, 717.24, 450.97
960.1 1	0.069 6	²⁰² Tl(12.23 d) - 439.56, 520.2	1048.073 20	80 3	¹³⁶ Cs(13.16 d) - 818.514, 340.547, 1235.362
960.622 20	23.4 5	¹⁶⁸ Lu(34.06 h) - 191.2137, 1449.74, 889.753	1050.65 3	97 5	¹¹⁸ Sb(5.00 h) - 1229.68, 253.678, 40.8
960.67 5	92 8	²⁰² Pb(3.53 h) - 490.47, 459.72, 389.94	1050.73 4	0.984 21	⁷² As(26.0 h) - 834.01, 629.95, 1463.95
960.67 5	99	²⁰² Bi(1.72 h) - 422.18, 657.49, 954.45	1057.8 1	0.29 3	¹⁷⁷ Ta(56.56 h) - 112.9498, 208.3664, 745.9
961.22 8	†183 13	¹⁸⁴ Ir(3.09 h) - 263.97, 119.80, 390.38	1061.61 9	0.000762 25	¹⁷⁶ Lu(3.635 h) - 82.13
962.06 4	20.3 4	¹⁵⁸ Tb(180 y) - 944.09, 79.5104, 181.930	1063.662 4	74.5 2	²⁰⁷ Bi(31.55 y) - 569.702, 1770.237, 1442.20
962.317 4	†1300 50	¹⁶⁰ Ho(5.02 h) - 728.18, 879.383, 966.171	1065.04 8	0.0164 21	¹⁷⁴ Lu(3.31 y) - 76.471, 1241.847, 1318.296
962.77 3	28	²³⁸ Am(98 m) - 918.69, 561.11, 605.13	1065.98 3	23.1 5	¹¹⁷ Cd(3.36 h) - 1997.33, 564.397, 1432.91
963.390 12	11.67 10	¹⁵² Eu(9.3116 h) - 841.570, 121.7817, 1389.00	1067.10 5	10	¹²⁵ Sn(9.64 d) - 1089.15, 822.48, 915.55
964.079 18	14.605 21	¹⁵² Eu(13.537 y) - 344.2785, 778.9040, 411.1163	1071.8 1	†148 15	¹⁷¹ Hf(12.1 h) - 122.0, 662.2, 347.18
964.766 10	4.99 9	²²⁸ Ac(6.15 h) - 911.204, 968.971, 338.320	1073.71 2	3.74 4	⁹⁵ Tc(20.0 h) - 765.794, 947.67, 869.60
964.766 10	11.4 6	²²⁸ Pa(22 h) - 911.204, 463.004, 968.971	1076.64 4	9	⁸⁶ Rb(18.631 d)
966.171 3	25.10 12	¹⁶⁰ Tb(72.3 d) - 879.383, 298.580, 1177.962	1076.64 4	83	⁸⁶ Y(14.74 h) - 627.72, 1153.01, 777.35
966.171 3	†1200 50	¹⁶⁰ Ho(5.02 h) - 728.18, 879.383, 962.317	1077.043 6	6.15 19	¹⁴⁷ Eu(24.1 d) - 197.299, 121.220, 677.516
968.971 17	15.8 3	²²⁸ Ac(6.15 h) - 911.204, 338.320, 964.766	1077.35 4	3.0	⁶⁸ Ga(67.629 m) - 1883.09, 805.75, 1260.97
968.971 17	13.9 8	²²⁸ Pa(22 h) - 911.204, 463.004, 964.766	1078.62 10	0.564 19	²¹² Bi(60.55 m) - 727.330, 1620.50, 785.37
969.315 11	41.6 19	²³² Pa(1.31 d) - 894.351, 150.059, 453.655	1080.21 8	5.6 3	¹⁷⁷ Yb(1.911 h) - 150.392, 1241.2, 121.6211
969.458 20	0.630 19	¹²⁸ Cs(3.66 m) - 442.901, 526.557, 1140.079	1081.40 6	5.8 4	²⁴⁶ Bk(1.80 d) - 798.80, 833.60, 1124.29
970.350 9	0.588 20	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 121.7817	1087.684 3	0.159 2	¹⁹⁸ Au(2.69517 d) - 411.80205, 675.8836
972.564 19	74.2 7	¹¹⁶ Sb(60.3 m) - 1293.558, 542.867, 407.351	1088.64 10	0.6	¹²³ Sn(129.2 d) - 1030.23, 1021.00, 160.33
973.9 1	23.8 12	²⁴⁰ Np(61.9 m) - 566.34, 600.57, 895.8	1089.15 10	4.59 16	¹²⁵ Su(9.64 d) - 1067.10, 822.48, 915.55
978.969 15	0.256 5	¹⁴⁵ Pr(5.984 h) - 748.278, 675.795, 72.500	1089.737 5	1.727 6	¹⁵² Eu(13.537 y) - 121.7817, 1408.006, 964.079
982.2 2	26.4 8	¹³⁹ Nd(5.50 h) - 113.94, 737.96, 708.06	1089.8	>2.8	¹⁵⁵ Dy(9.9 h) - 226.918, 184.564, 1090.0
983.517 5	100.1 3	⁴⁸ Sc(43.67 h) - 1312.096, 1037.599, 175.361	1090.0	>2.8	¹⁵⁵ Dy(9.9 h) - 226.918, 184.564, 1089.8
983.517 5	99.98 20	⁴⁸ V(15.9735 d) - 1312.096, 944.104, 2240.375	1090.7 7	6.9 7	¹¹⁷ Te(62 m) - 719.7, 1716.4, 2300.0
984.02 2	59 3	²⁰¹ Bi(11.22 h) - 899.15, 374.72, 911.78	1091.331 17	0.149 6	¹⁹⁶ Au(6.183 d) - 355.684, 332.983, 521.175
984.45 2	27.8	²³⁸ Np(2.117 d) - 1028.54, 1025.87, 923.98	1092.9	15	²⁵⁶ Es(7.6 h) - 861.8, 231.1, 172.6
985.10 10	5.54 18	¹⁷⁰ Lu(2.012 d) - 84.25474, 1280.25, 2041.88	1093.4 3	2.79 24	¹²³ Xe(2.08 h) - 148.9, 178.1, 330.2
987.62 3	16.13 16	²⁰⁵ Bi(15.31 d) - 1764.36, 703.44, 1043.72	1093.657 13	6.0 3	¹⁷² Tm(63.6 h) - 78.7426, 1387.093, 1529.72
987.76 6	73.2 10	²⁴⁰ Am(50.8 h) - 888.80, 98.860, 42.824	1093.657 13	62.5 13	¹⁷² Lu(6.70 d) - 900.724, 181.528, 810.064
989.12 2	45	²⁵⁰ Bk(3.217 h) - 1031.85, 1028.65, 889.96	1095.490 10	4.08 6	⁷¹ As(65.28 h) - 174.954, 499.876, 326.785
989.12 2	13.3 9	²⁵⁰ Es(2.22 h) - 1031.85, 828.82, 1167.25	1095.6 4	20 4	¹²⁷ Sn(2.10 h) - 1114.3, 823.1, 805.9
992.128 13	0.546 11	¹⁷⁴ Lu(142 d) - 272.918, 176.645, 76.471	1096.76 6	21.0 10	⁹⁵ Ru(1.643 h) - 336.43, 626.77, 1178.66
992.33 9	59.3 7	²⁰⁷ Po(5.80 h) - 742.64, 911.79, 405.75	1099.251 4	56.5 15	⁵⁹ Fe(44.503 d) - 1291.596, 192.349, 142.652
996.82	0.0014 2	²⁴ Na(14.9590 h) - 1368.633, 2754.028, 3866.19	1101.94 4	49.0 5	¹⁸³ Os(9.9 h) - 1107.92, 1034.85, 484.40
998.291 11	0.0796 18	¹²¹ Te(154 d) - 1102.149, 37.138, 909.847	1102.149 18	2.54 6	¹²¹ Te(154 d) - 37.138, 998.291, 909.847
1001.21 7	28.8 15	²⁰⁵ Po(1.66 h) - 872.39, 849.83, 836.79	1103.16 4	2.42 8	¹⁰² Rh(207 d) - 475.10, 628.05, 468.58
1001.85	1.2	⁴⁴ Sc(58.6 h) - 1126.08, 1157.031	1107.01 6	36	⁶⁹ Ge(39.05 h) - 574.17, 872.14, 1336.72
1004.51 15	0.0062 13	¹¹⁷ In(116.2 m) - 315.302	1107.92 4	22.36 20	¹⁸³ Os(9.9 h) - 1101.94, 1034.85, 484.40
1004.51 15	0.21 3	¹¹⁷ Sb(2.80 h) - 158.562, 861.35, 1021.0	1112.074 4	13.644 21	¹⁵² Eu(13.537 y) - 121.7817, 1408.006, 964.079
1004.725 6	18.01 5	¹⁵⁴ Eu(8.593 y) - 184.810, 81.99	1113.5 3	0.0490 14	¹⁶³ Er(75.0 m) - 436.1, 439.94, 297.88
1013.808 11	20.20 17	¹⁴⁸ Pm(41.29 d) - 75.7, 62.2	1114.3 4	39 4	¹²⁷ Sn(2.10 h) - 1095.6, 823.1, 805.9
1014.1 5	10.7 5	²⁰¹ Bi(108 m) - 629.1, 936.2, 786.4	1115.546 4	15.43 9	⁶⁵ Ni(2.5172 h) - 1481.84, 366.27, 1623.42
1016.162 13	0.349 10	⁸⁴ Rb(32.77 d) - 881.610, 1897.761	1115.546 4	50.60 24	⁶⁵ Zn(244.26 d) - 344.95, 770.6
1016.31 2	24.1 5	²⁰⁴ Po(3.53 h) - 883.984, 270.068, 534.90	1118.84 17	8.0 12	¹⁹³ Hg(3.80 h) - 381.60, 861.11, 257.99
1020.6 5	0.0068 14	¹¹⁷ In(116.2 m) - 315.302	1120.545 4	99.987 1	⁴⁶ Sc(83.79 d) - 889.277, 2010
1021.0 5	0.112 17	¹¹⁷ Sb(2.80 h) - 158.562, 861.35, 1004.51	1121.3007 5	34.9 1	¹⁸² Ta(114.43 d) - 67.74970, 1221.4066, 1189.0503
1021.00 20	0.00193 10	¹²³ Sn(129.2 d) - 1088.64, 1030.23, 160.33	1121.3007 5	32	¹⁸² Re(12.7 h) - 67.74970, 1221.4066, 1189.0503
1023.1 2	99.4 3	¹²⁰ Sb(5.76 d) - 1171.3, 197.3, 89.9	1121.3007 5	22.0 6	¹⁸² Re(64.0 h) - 229.3207, 67.74970, 1221.4066
1024 1	0.28 2	⁸⁷ Zr(1.68 h) - 1227, 1209.8, 793.60	1124.29 4	~4.4	²⁴⁶ Bk(1.80 d) - 798.80, 1081.40, 833.60
1024.3 1	33	⁹¹ Sr(9.63 h) - 749.8, 652.9, 925.8	1125.25 8	2.30 8	²⁰² Au(28.8 s) - 439.56, 1306.5, 1204.1
1024.49 11	1.09 7	⁹⁷ Nb(72.1 m) - 658.08, 1268.68, 1515.59	1125.46 4	14.9 3	¹³¹ Te(30 h) - 182.25
1025.87 2	9.6 5	²³⁸ Np(2.117 d) - 984.45, 1028.54, 923.98	1126.08	1.2	⁴⁴ Sc(58.6 h) - 1001.85, 1157.031
1028.54 2	20.3 8	²³⁸ Np(2.117 d) - 984.45, 1025.87, 923.98	1126.8 2	0.8	¹⁴¹ Nd(2.49 h) - 1292.6, 1147.2, 145.4405
1028.65 2	4.90 13	²⁵⁰ Bk(3.217 h) - 989.12, 1031.85, 889.96	1126.965 21	15.2 12	⁹⁶ Tc(4.28 d) - 778.224, 849.929, 812.581
1030.1 6	12.6 8	¹²⁸ Sb(4.40 h) - 812.8, 914.6, 544.7	1128.9 1	0.0324 17	⁶² Cu(9.74 m) - 1172.9, 875.68, 2301.8
1030.23 10	0.0310 12	¹²³ Sn(129.2 d) - 1088.64, 1021.00, 160.33	1129.224 15	92.7 4	⁹⁰ Nb(14.60 h) - 2318.968, 141.178, 2186.242
1031.70 3	0.125 5	¹³² Cs(6.479 d) - 667.718, 630.19, 505.79	1129.67 10	2.5 2	²⁶ Al(7.17×10 ⁵ y) - 1808.65, 2938

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Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
1131.511 18	22.74 14	¹³⁵ I(6.57 h) - 1260.409, 1678.027, 1457.56	1274.436 6	35.19 18	¹⁵⁴ Eu(8.593 y) - 184.810, 81.99
1132.24 8	0.005	⁹² Nb(10.15 d) - 934.46, 912.73, 1847.27	1274.436 6	10.5 7	¹⁵⁴ Tb(21.5 h) - 123.071, 2187.10, 722.12
1132.570 10	0.0856 10	¹¹⁸ Cd(44.6 d) - 933.8, 1290.580, 484.470	1274.53 2	99.944 14	²² Na(2.6019 y)
1135.04 8	7.8 4	¹⁹⁹ Pb(90 m) - 366.90, 353.39, 720.24	1277.5 15	1.6 5	⁸⁹ Nb(1.18 h) - 587.83, 507.4, 769.69
1136.75 7	7.66 7	¹¹⁹ Te(4.70 d) - 153.59, 1212.73, 270.53	1280.25 10	8.18 23	¹⁷⁰ Lu(2.012 d) - 84.25474, 2041.88, 985.10
1140.079 23	1.168 11	¹²⁸ Cs(3.66 m) - 442.901, 526.557, 969.458	1290.580 10	0.890 14	¹¹⁵ Cd(44.6 d) - 933.8, 484.470, 1132.570
1140.55 3	0.76 4	¹²² Sb(2.7238 d)	1291.596 7	43.2 11	⁵⁹ Fe(44.503 d) - 1099.251, 192.349, 142.652
1147.2 2	0.306 12	¹⁴¹ Nd(2.49 h) - 1126.8, 1292.6, 145.4405	1292.6 2	0.46 4	¹⁴¹ Nd(2.49 h) - 1126.8, 1147.2, 145.4405
1147.97 8	2.61 10	⁹⁷ Zr(16.91 h) - 743.36, 507.64, 355.40	1293.558 15	100.0 9	¹¹⁶ Sb(60.3 m) - 972.564, 542.867, 407.351
1148.9 4	4.3 4	¹⁰⁹ In(4.2 h) - 203.5, 623.7, 426.25	1293.587	99.1	⁴¹ Ar(109.34 m) - 1677.198
1150.76 4	0.601 17	¹⁹⁴ Ir(19.28 h) - 328.455, 293.545, 645.157	1297.09 10	71	⁴⁷ Ca(4.536 d) - 489.23, 807.86, 767.1
1152.4 1	100 8	¹⁴⁷ Tb(1.7 h) - 694.4, 139.9, 119.7	1298.223 11	2.35 5	¹³³ I(20.8 h) - 529.872, 875.329, 510.530
1153.01 4	30.5 9	⁸⁶ Y(14.74 h) - 1076.64, 627.72, 777.35	1303.27 3	18.4 4	¹¹⁷ Cd(2.49 h) - 273.349, 344.459, 1576.62
1153.67 10	6.79 6	¹⁵⁸ Eu(15.19 d) - 811.79, 88.9667, 1230.68	1306.5 1	2.25 7	²⁰² Au(28.8 s) - 439.56, 1125.25, 1204.1
1154.66 5	1.64 13	¹⁶⁴ Tm(2.0 m) - 91.40, 768.91, 208.08	1308.59 4	13.0 11	⁷⁸ As(90.7 m) - 613.725, 694.916, 828.189
1157.031	99.9	⁴⁴ Sc(3.927 h) - 1499.43, 2656.41, 2144.2	1310.05 4	1.40 5	¹⁷⁸ Lu(28.4 m) - 93.180, 1340.8, 1269.34
1157.031	1.2	⁴⁴ Sc(58.6 h) - 1001.85, 1126.08	1310.6 2	0.0159 8	¹³⁹ Ba(83.06 m) - 165.864, 1420.5, 1254.7
1159.28 9	0.00139 4	¹⁷⁸ Lu(3.635 h) - 82.13	1312.096 6	100.1 5	⁴⁸ Sc(43.67 h) - 983.517, 1037.599, 175.361
1159.28 9	25	¹⁷⁶ Ta(8.09 h) - 88.34, 1224.93, 201.83	1312.096 6	97.5 8	⁴⁸ V(15.9735 d) - 983.517, 944.104, 2240.375
1165.74 3	15.8 6	¹⁵⁰ Pm(2.68 h) - 333.971, 1324.51, 831.92	1314.67 1	0.931 14	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 121.7817
1165.74 3	0.257 24	¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 921.2	1316.4 2	7.09 10	⁵⁵ Co(17.53 h) - 931.3, 477.2, 1408.4
1166 3		²⁰⁸ Tl(4.199 m) - 803.10, 362	1317.927 7	0.585 20	¹³² Cs(6.479 d) - 667.718, 630.19, 505.79
1167.25 3	2.94 20	²⁵⁰ Es(2.22 h) - 989.12, 1031.85, 828.82	1318.296 10	0.035 3	¹⁷⁴ Lu(3.31 y) - 76.471, 1241.847, 1065.04
1171.3 2	100	¹²⁰ Sb(5.76 d) - 1023.1, 197.3, 89.9	1324.51 6	17.5 7	¹⁵⁰ Pm(2.68 h) - 333.971, 1165.74, 831.92
1172.9 1	0.34	⁶² Cu(9.74 m) - 875.68, 2301.8, 1128.9	1332.501 5	99.9856 4	⁶⁰ Co(5.2714 y) - 1173.237, 346.93, 826.06
1173.237 4	99.9736 7	⁶⁰ Co(5.2714 y) - 1332.501, 346.93, 826.06	1333.120 6	0.0037 3	⁶⁶ Cu(5.120 m) - 1039.231, 833.537, 1872.753
1177.962 4	14.87 6	¹⁶⁰ Tb(72.3 d) - 879.383, 298.580, 966.171	1333.649 17	5.07 5	⁵² Mn(5.591 d) - 1434.068, 935.538, 744.233
1178.66 6	5.16 25	⁹⁵ Ru(1.643 h) - 336.43, 1096.76, 626.77	1336.72 6	4.5 4	⁶⁹ Ge(39.05 h) - 1107.01, 574.17, 872.14
1181.39 1	99.3 25	²¹⁹ At(8.1 h) - 82.802, 106, 167	1340.70 10	4.8 5	²²⁴ Fr(3.33 m) - 215.983, 131.613, 836.90
1185.234 15	3.75 7	⁶¹ Cu(3.333 h) - 282.956, 656.008, 67.412	1340.8 2	3.22 14	¹⁷⁸ Lu(28.4 m) - 93.180, 1310.05, 1269.34
1189.0503 5	16.23 4	¹⁸² Ta(114.43 d) - 67.74970, 1121.3007, 1221.4066	1342.27 4	52.6 16	²⁶ Mg(20.91 h) - 30.6383, 941.72, 400.56
1189.0503 5	15.0 6	¹⁸² Re(12.7 h) - 67.74970, 1121.3007, 1221.4066	1345.84 4	0.473 10	⁶⁴ Cu(12.700 h)
1200.6 2	9.7 10	¹⁹⁸ Tl(5.3 h) - 411.80205, 675.8836, 636.4	1347.33 1	0.47	¹³⁹ Pr(4.41 h) - 1630.67, 255.11, 1375.56
1204.1 1	2.01 16	²⁰² Au(28.8 s) - 439.56, 1125.25, 1306.5	1347.7 1	1.57 4	²³⁰ Ac(122 s) - 454.95, 508.20, 1243.9
1204.208 12	0.285 18	⁷⁴ As(17.77 d) - 595.847, 608.353, 887.19	1354.52 9	1.64 9	¹⁴¹ La(3.92 h) - 1693.3, 2267.0, 662.06
1204.77 6	0.30	⁹¹ Y(58.51 d)	1362.9 1	32.5 18	²¹¹ Rn(14.6 h) - 68.573, 167.90, 236.48
1204.77 6	2.9	⁹¹ Nb(60.86 d)	1363.02 4	0.787 20	⁹³ Mo(6.85 h) - 949.82, 689.07, 541.22
1205.717 14	29.9 17	²⁰⁰ Tl(26.1 h) - 367.943, 579.298, 828.320	1363.02 4	66	⁹³ Tc(2.75 h) - 1520.37, 1477.13, 1539.01
1205.92 4	4.9 4	¹⁷⁴ Ta(1.05 h) - 206.50, 91.00, 1228.33	1363.88 10	8.4 4	¹⁹⁵ Tl(1.16 h) - 563.52, 884.47, 242.15
1209.8 7	0.33 2	⁸⁷ Zr(1.68 h) - 1227, 1024, 793.60	1368.633	100	²⁴ Na(14.9590 h) - 2754.028, 3866.19, 996.82
1212.73 7	66	¹¹⁹ Te(4.70 d) - 153.59, 270.53, 1136.75	1375.56 3	0.154 7	¹³⁹ Pr(4.41 h) - 1347.33, 1630.67, 255.11
1212.94 4	1.44 9	⁷⁶ As(1.0778 d) - 559.101, 657.041, 1216.104	1377.63 3	81.7 16	⁵⁷ Ni(35.60 h) - 127.164, 1919.52, 1757.55
1216.104 20	3.42 18	⁷⁶ As(1.0778 d) - 559.101, 657.041, 1212.94	1379.40 6	0.93 3	¹⁶⁶ Ho(26.83 h) - 80.574, 1581.89, 1662.48
1216.104 20	8.8 4	⁷⁶ Br(16.2 h) - 559.101, 657.041, 1853.67	1382.406 26	0.74 3	⁸⁸ Rb(17.78 m) - 1836.063, 898.042, 2677.892
1218.5 1	1.5 1	²⁴⁹ Es(102.2 m) - 379.5, 813.2, 375.1	1383.93 5	90 3	⁹² Sr(2.71 h) - 953.31, 430.49, 241.56
1220.0 2	22.5 12	¹⁶² Hol(67.0 m) - 185.005, 282.864, 937.2	1384.300 5	24.12 8	¹¹⁰ Ag(249.79 d) - 116.48, 1.113
1221.4066 5	26.98 10	¹⁸² Ta(114.43 d) - 67.74970, 1121.3007, 1189.0503	1387.093 4	5.6 3	¹⁷² Tm(63.6 h) - 78.7426, 1093.657, 1529.72
1221.4066 5	24.8 10	¹⁸² Re(12.7 h) - 67.74970, 1121.3007, 1189.0503	1387.67 17	5.4 6	¹¹² Ag(3.130 h) - 617.516, 606.88, 694.863
1221.4066 5	17.4 4	¹⁸² Re(64.0 h) - 229.3207, 67.74970, 1121.3007	1387.9 1	0.00672 5	¹⁴⁴ Pr(17.28 m) - 696.510, 2185.662, 1489.160
1222.36 7	31.00 12	¹⁵⁶ Tb(5.35 d) - 534.318, 199.2132, 88.9667	1389.00 1	0.748 23	¹⁵² Eu(9.3116 h) - 841.570, 963.390, 121.7817
1224.93 7	6	¹⁷⁶ Ta(8.09 h) - 1159.28, 88.34, 201.83	1405.28 9	4.8 3	⁹² Y(3.54 h) - 934.46, 561.03, 448.34
1227 1	1.0	⁸⁷ Zr(1.68 h) - 1209.8, 1024, 793.60	1408.006 3	21.005 24	¹⁵² Eu(13.537 y) - 121.7817, 964.079, 1112.074
1228.33 7	1.4 4	¹⁷⁴ Ta(1.05 h) - 206.50, 91.00, 1205.92	1408.4 2	16.88 8	⁵⁵ Co(17.53 h) - 931.3, 477.2, 1316.4
1229.68 2	100 5	¹¹⁸ Sb(5.00 h) - 253.678, 1050.65, 40.8	1408.6 5	0.085 9	⁴⁵ Ti(184.8 m) - 720.22, 1662.4, 425.1
1230.68 6	7.98 3	¹⁵⁸ Eu(15.19 d) - 811.79, 88.9667, 1153.67	1411.34 10	4.6 4	¹⁹⁷ Tl(2.84 h) - 425.84, 152.22, 577.97
1235.362 23	20.0 7	¹³⁶ Cs(13.16 d) - 818.514, 1048.073, 340.547	1413.19 8	1.09 8	¹¹⁹ Te(16.03 h) - 644.01, 699.85, 1749.65
1238.282 7	67.6 4	⁵⁶ Co(77.27 d) - 846.771, 2598.459, 1771.351	1419.81 8	46 3	¹⁵⁴ Tb(22.7 h) - 247.925, 346.643, 123.071
1241.2 2	3.47 17	¹⁷⁷ Yb(1.911 h) - 150.392, 1080.21, 121.6211	1420.17 2	0.295 6	¹²⁶ I(13.11 d) - 666.331, 753.819, 2045.17
1241.847 6	5.14 10	¹⁷⁴ Lu(3.31 y) - 76.471, 1318.296, 1065.04	1420.5 2	0.26 3	¹³⁹ Ba(83.06 m) - 165.864, 1254.7, 1310.6
1243.9 1	3.50 8	²³⁰ Ac(122 s) - 454.95, 508.20, 1347.7	1432.91 3	13.4 3	¹¹⁷ Cd(3.36 h) - 1997.33, 1065.98, 564.397
1254.7 2	0.026 3	¹³⁹ Ba(83.06 m) - 165.864, 1420.5, 1310.6	1434.068 14	100.0 5	⁵² Mn(5.591 d) - 935.538, 744.233, 1333.649
1256.3 2	0.57 8	⁸⁰ Rb(34 s) - 616.6, 703.9, 639.6	1434.45 3	7.96 19	¹⁶³ Tm(1.810 h) - 104.320, 69.229, 241.305
1256.901 19	0.81 4	¹²² Sb(2.7238 d) - 1140.55	1435.36 4	6.38 25	²³⁴ Np(4.4 d) - 1558.31, 1527.21, 1601.80
1260.409 17	28.90 17	¹³⁵ I(6.57 h) - 1131.511, 1678.027, 1457.56	1435.795 10	66	¹³⁸ La(1.05x10 ¹¹ y)
1260.97 5	0.083 4	⁶⁸ Ga(67.629 m) - 1077.35, 1883.09, 805.75	1436.70 2	29.0 13	²¹⁰ At(8.1 h) - 82.802, 106, 167
1261.2 4	11	⁹⁹ Rh(4.7 h) - 340.71, 617.8, 936.7	1442.20 9	0.130 3	²⁰⁷ Bi(31.55 y) - 569.702, 1063.662, 1770.237
1266.12 11	0.07	³¹ Si(157.3 m)	1449.74 4	9.92 21	¹⁶⁹ Lu(34.06 h) - 960.622, 191.2137, 889.753
1268.68 9	0.148 20	⁹⁷ Nb(72.1 m) - 658.08, 1024.49, 1515.59	1457.56 3	8.73 6	¹³⁵ I(6.57 h) - 1260.409, 1131.511, 1678.027
1269.06 10	0.0018 6	⁷⁴ As(17.77 d) - 595.847, 608.353, 1204.208	1459.1 2	†50.0 20	¹²⁹ Ba(2.16 h) - 182.32, 202.38, 419.83
1269.34 2	0.93 4	¹⁷⁸ Lu(28.4 m) - 93.180, 1340.8, 1310.05	1460.830	11	⁴⁰ K(1.277x10 ⁹ y)
1273.540 16	14.9 3	¹⁶⁶ Tm(7.70 h) - 778.817, 2052.36, 184.410	1463.95 15	1.107 19	⁷² As(26.0 h) - 834.01, 629.95, 1050.73
1273.83 8	9.3 3	¹⁰³ Ag(65.7 m) - 118.72, 148.193, 266.86	1465.12 3	22	¹⁴⁸ Pm(5.370 d) - 550.284, 914.85, 611.293

8th Edition of the Table of Isotopes: 1999 Update - Energy-Ordered Decay Gamma-Ray Table

Energy	Intensity	Parent - Associated γ -rays	Energy	Intensity	Parent - Associated γ -rays
1468.91 4	6.4 4	¹⁹⁴ Au(38.02 h) - 328.455, 293.545, 2043.67	1919.52 5	12.26 25	⁵⁷ Ni(35.60 h) - 1377.63, 127.164, 1757.55
1477.13 4	99.1 25	⁹³ Mo(6.85 h) - 949.82, 689.07, 541.22	1922.18	0.041 4	⁴² K(12.360 h) - 1524.70, 312.6, 899.43
1477.13 4	8.7 5	⁹³ Tc(2.75 h) - 1363.02, 1520.37, 1539.01	1931.3	0.0151 9	⁴³ Sc(3.891 h) - 372.760, 1558.5, 593.390
1481.84 5	24	⁶⁵ Ni(2.5172 h) - 1115.546, 366.27, 1623.42	1941.944	83	³⁸ S(170.3 m) - 1745.77, 2750.97, 1692.420
1483.39 2	46.5 20	²¹⁰ At(8.1 h) - 82.802, 106, 167	1997.00 4	7.2 4	¹⁴⁵ Eu(5.93 d) - 893.73, 653.512, 1658.53
1489.160 5	0.278 4	¹⁴⁴ Pr(17.28 m) - 696.510, 2185.662, 1387.9	1997.33 3	26	¹¹⁷ Cd(3.36 h) - 1065.98, 564.397, 1432.91
1495.8 5	8.2 9	¹⁹⁶ Tl(1.84 h) - 426.0, 610.5, 635.5	2010	1.3×10 ⁻⁵ 10	⁴⁶ Sc(83.79 d) - 1120.545, 889.277
1499.43	0.912 15	⁴⁴ Sc(3.927 h) - 1157.031, 2656.41, 2144.2	2041.88 10	6.10 18	¹⁷⁰ Lu(2.012 d) - 84.25474, 1280.25, 985.10
1509.47 4	3.13 5	¹²⁴ I(4.1760 d) - 602.729, 1690.983, 722.786	2043.67 5	3.60 18	¹⁹⁴ Au(38.02 h) - 328.455, 293.545, 1468.91
1515.59 12	0.122 13	⁹⁷ Nb(72.1 m) - 658.08, 1024.49, 1268.68	2045.17 2	0.0046 3	¹²⁶ I(13.11 d) - 666.331, 753.819, 1420.17
1520.37 9	24.4 8	⁹³ Tc(2.75 h) - 1363.02, 1477.13, 1539.01	2052.36 3	17.2 3	¹⁶⁶ Tm(7.70 h) - 778.817, 184.410, 1273.540
1523.0 4	11.2 7	¹²⁰ I(81.0 m) - 560.44, 640.85, 601.11	2113.123 10	14.3 4	⁵⁶ Mn(2.5785 h) - 846.771, 1810.772, 2522.88
1524.70	18	⁴² K(12.360 h) - 312.6, 899.43, 1922.18	2123.8 2	5.0 3	⁸⁵ Y(4.86 h) - 231.67, 767.40, 535.61
1527.21 4	11.2 5	²³⁴ Np(4.4 d) - 1558.31, 1601.80, 1435.36	2129.53 16	2.13 9	¹¹⁰ In(69.1 m) - 657.7622, 2211.49, 2317.54
1529.72 4	5.1 3	¹⁷² Tm(63.6 h) - 78.7426, 1093.657, 1387.093	2144.2	0.0069 15	⁴⁴ Sc(3.927 h) - 1157.031, 1499.43, 2656.41
1539.01 10	0.76 4	⁹³ Tc(2.75 h) - 1363.02, 1520.37, 1477.13	2167.405	42.4 11	³⁸ Cl(37.24 m) - 1642.714
1553.348 10	20.67 8	¹⁰⁰ Rh(20.8 h) - 539.512, 2375.976, 822.654	2185.662 7	0.694 13	¹⁴⁴ Pr(17.28 m) - 696.510, 1489.160, 1387.9
1553.768 8	83	⁵⁰ Y(1.4×10 ¹⁷ y)	2186.242 25	1.4×10 ⁻⁶ 3	⁹⁰ Y(64.00 h) - 1760.70
1554.946 24	0.412 8	¹³⁴ La(6.45 m) - 604.721, 563.246, 1732.12	2186.242 25	17.96 16	⁹⁰ Nb(14.60 h) - 1129.224, 2318.968, 141.178
1558.31 4	18.72 20	²³⁴ Np(4.4 d) - 1527.21, 1601.80, 1435.36	2187.10 16	9.9 6	¹⁵⁴ Tb(21.5 h) - 123.071, 1274.436, 722.12
1558.5	0.0084 5	⁴³ Sc(3.891 h) - 372.760, 1931.3, 593.390	2189.631 9	5.58 6	⁶⁶ Ga(9.49 h) - 1039.231, 2751.852, 833.537
1575.85 15	3.7	¹⁴² Pr(19.12 h) - 641.285	2195.842 7	13.18 10	⁸⁸ Kr(2.84 h) - 2392.11, 196.301, 834.830
1575.85 15	2.0	¹⁴² Pm(40.5 s) - 641.4, 2384.3, 2845.9	2201.69 5	25.9 5	⁷² Ga(14.10 h) - 834.01, 629.95, 2507.82
1576.62 3	11.19 22	¹¹⁷ Cd(2.49 h) - 273.349, 1303.27, 344.459	2211.49 10	1.76 7	¹¹⁰ In(69.1 m) - 657.7622, 2129.53, 2317.54
1581.89 8	0.187 4	¹⁶⁶ Ho(26.83 h) - 80.574, 1379.40, 1662.48	2214.62 20	18.7 13	¹⁸⁸ Ir(41.5 h) - 155.032, 632.99, 477.99
1596.210 35	95.4 14	¹⁴⁰ La(1.6781 d) - 487.021, 815.772, 328.762	2236.89 17	5.6 6	¹⁹² Au(4.94 h) - 316.50791, 295.95827, 612.46564
1596.210 35	0.50	¹⁴⁰ Pr(3.39 m) - 306.9, 751.637, 925.189	2240.375 19	2.41 4	⁴⁸ V(15.9735 d) - 983.517, 1312.096, 944.104
1601.80 4	9.1 4	²³⁴ Np(4.4 d) - 1558.31, 1527.21, 1435.36	2267.0 2	0.0413 25	¹⁴¹ La(3.92 h) - 1354.52, 1693.3, 662.06
1620.50 10	1.49 3	²¹² Pb(60.55 m) - 727.330, 785.37, 1078.62	2300.0 7	11.2 12	¹¹⁷ Te(62 m) - 719.7, 1716.4, 1090.7
1623.42 6	0.498 14	⁶⁵ Ni(2.5172 h) - 1481.84, 1115.546, 366.27	2301.8 2	0.0414 20	⁶² Cu(9.74 m) - 1172.9, 875.68, 1128.9
1627.20 20	3.4	⁸⁹ Nb(1.9 h) - 1833.46, 3092.7, 2572.3	2317.54 10	1.31 5	¹¹⁰ In(69.1 m) - 657.7622, 2129.53, 2211.49
1630.67 2	0.343 10	⁹³ Pr(4.41 h) - 1347.33, 255.11, 1375.56	2318.968 10	0.0018	⁹⁰ Y(3.19 h) - 202.51, 479.17, 681.8
1642.714	31.9 10	³⁸ Cl(37.24 m) - 2167.405	2318.968 10	82.03 16	⁹⁰ Nb(14.60 h) - 1129.224, 141.178, 2186.242
1657.28 14	0.107 4	⁸⁹ Zr(78.41 h) - 908.96, 1713.06, 1744.52	2375.976 16	32.64 24	¹⁰⁰ Rh(20.8 h) - 539.512, 822.654, 1553.348
1658.53 5	14.9 8	¹⁴⁵ Eu(5.93 d) - 893.73, 653.512, 1997.00	2384.3 6	0.067 6	¹⁴² Pm(40.5 s) - 1575.85, 641.4, 2845.9
1662.4 6	0.041 4	⁴⁶ Ti(184.8 m) - 720.22, 1408.6, 425.1	2392.11 4	34.6 1	⁸⁸ Kr(2.84 h) - 196.301, 2195.842, 834.830
1662.48 8	0.120 2	¹⁶⁶ Ho(26.83 h) - 80.574, 1379.40, 1581.89	2397.8 9	13.3 3	¹⁴² La(91.1 m) - 641.285, 2542.7, 894.9
1674.730 10	0.518 8	⁵⁸ Co(70.86 d) - 810.775, 863.959	2507.82 6	12.78 23	⁷² Ga(14.10 h) - 834.01, 2201.69, 629.95
1677.198	0.052 5	⁴¹ Ar(109.34 m) - 1293.587	2522.88 6	0.99 3	⁵⁶ Mn(2.5785 h) - 846.771, 1810.772, 2113.123
1678.027 21	9.62 20	¹³⁹ I(6.57 h) - 1260.409, 1131.511, 1457.56	2542.7 10	10.00 24	¹⁴² La(91.1 m) - 641.285, 2397.8, 894.9
1690.983 7	47.79 15	¹²⁴ Sb(60.20 d) - 602.729, 722.786, 645.8549	2554.8 2	9.2 5	⁸⁷ Kr(76.3 m) - 402.586, 845.43, 2558.1
1690.983 7	10.88 13	¹²⁴ I(4.1760 d) - 602.729, 722.786, 1509.47	2558.1 2	3.92 25	⁸⁷ Kr(76.3 m) - 402.586, 2554.8, 845.43
1692.420	0.166 17	³⁸ S(170.3 m) - 1941.944, 1745.77, 2750.97	2572.3 4	2.58 20	⁸⁹ Nb(1.9 h) - 1627.20, 1833.46, 3092.7
1693.3 1	0.074 4	¹⁴¹ La(3.92 h) - 1354.52, 2267.0, 662.06	2598.459 13	17.28 15	⁵⁶ Co(77.27 d) - 846.771, 1238.282, 1771.351
1713.06 24	0.763 13	⁸⁹ Zr(78.41 h) - 908.96, 1744.52, 1657.28	2614.533 13	99	²⁰⁸ Tl(3.053 m) - 583.191, 510.77, 860.564
1716.4 7	15.9 16	¹¹⁷ Te(62 m) - 719.7, 2300.0, 1090.7	2614.533 13	100	²⁰⁸ Bi(3.68×10 ⁵ y)
1718.70 7	31.8 4	²⁰⁶ Pb(6.243 d) - 803.10, 881.01, 516.18	2656.41	0.115 6	⁴⁴ Sc(3.927 h) - 1157.031, 1499.43, 2144.2
1727.57 8	0.211 10	⁵² Fe(8.275 h) - 168.688, 377.748, 1039.928	2677.892 21	1.96 3	⁸⁸ Rb(17.78 m) - 1836.063, 898.042, 1382.406
1732.12 3	0.234 5	¹³⁴ La(6.45 m) - 604.721, 1554.946, 563.246	2734.086 13	0.71 7	⁸⁸ Y(106.65 d) - 1836.063, 898.042, 850.647
1744.52 15	0.129 3	⁸⁹ Zr(78.41 h) - 908.96, 1713.06, 1657.28	2750.97	1.38 5	³⁸ S(170.3 m) - 1941.944, 1745.77, 1692.420
1745.77	2.44 8	³⁸ S(170.3 m) - 1941.944, 2750.97, 1692.420	2751.852 6	23.28 18	⁶⁶ Ga(9.49 h) - 1039.231, 833.537, 2189.631
1749.65 8	3.95 25	¹¹⁹ Te(16.03 h) - 644.01, 699.85, 1413.19	2754.028	99.944 4	²⁴ Na(14.9590 h) - 1368.633, 3866.19, 996.82
1757.55 3	5.75 16	⁵⁷ Ni(35.60 h) - 1377.63, 127.164, 1919.52	2845.9 8	0.047 4	¹⁴² Pm(40.5 s) - 1575.85, 641.4, 2384.3
1760.70 20		⁹⁰ Y(64.00 h) - 2186.242	2938	0.24 4	²⁶ Al(7.17×10 ⁵ y) - 1808.65, 1129.67
1764.36 4	32.5 6	²⁰⁵ Pb(15.31 d) - 703.44, 987.62, 1043.72	3092.7 2	3.0 3	⁸⁹ Nb(1.9 h) - 1627.20, 1833.46, 2572.3
1770.237 10	6.87 4	²⁰⁷ Pb(31.55 y) - 569.702, 1063.662, 1442.20	3383.6 5	0.06 3	¹⁵⁰ Tb(3.48 h) - 638.050, 511, 496.242
1771.351 16	15.69 15	⁵⁶ Co(77.27 d) - 846.771, 1238.282, 2598.459	3817 2		¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 1165.74
1778.969 12	100	²⁸ Al(2.2414 m)	3836 2		¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 1165.74
1808.65 7	99.76 4	²⁶ Al(7.17×10 ⁵ y) - 1129.67, 2938	3846 2		¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 1165.74
1810.772 17	27.2 8	⁵⁶ Mn(2.5785 h) - 846.771, 2113.123, 2522.88	3866.19	0.052 4	²⁴ Na(14.9590 h) - 1368.633, 2754.028, 996.82
1828.8	10	¹⁸⁵ Ir(14.4 h) - 254.4, 60.0, 97.4	3927 2		¹⁵⁰ Eu(12.8 h) - 333.971, 406.52, 1165.74
1833.46 17	3.16 24	⁸⁹ Nb(1.9 h) - 1627.20, 3092.7, 2572.3			
1836.063 12	21.40 24	⁸⁸ Rb(17.78 m) - 898.042, 2677.892, 1382.406			
1836.063 12	99.2 3	⁸⁸ Y(106.65 d) - 898.042, 2734.086, 850.647			
1847.27 8	0.85 4	⁹² Nb(10.15 d) - 934.46, 912.73, 1132.24			
1847.4 3	11.4 6	²⁰³ Bi(11.76 h) - 820.3, 825.2, 896.9			
1853.67 5	14.7 7	⁷⁶ Br(16.2 h) - 559.101, 657.041, 1216.104			
1872.753 6	<0	⁶⁶ Cu(5.120 m) - 1039.231, 833.537, 1333.120			
1883.09 7	0.138 6	⁶⁸ Ga(67.629 m) - 1077.35, 805.75, 1260.97			
1897.761 14	0.738 21	⁸⁴ Rb(32.77 d) - 881.610, 1016.162			
1909.91 4	9.0 6	¹³² La(4.8 h) - 464.55, 567.14, 663.07			
1917.8 1	1.55 3	⁹³ Y(10.18 h) - 266.9, 947.1, 680.2			