

Thorium Gamma Intensities				A = 4n				13.52 1.600 16.2 0.72 12.75 0.304 15.5 0.16	Ra 228 5.75 a	← 63.823 0.264 204.68 0.021	Th 232 1.405x10 ¹⁰ a			
								911.204 25.8 968.971 15.8 338.320 11.27 964.766 4.99 463.004 4.40 794.947 4.25 209.253 3.89	Ac 228 6.15 h					
	238.632 43.3 300.087 3.28 115.183 0.592	Pb 212 10.64(1) h	← 804.9 0.0019	Po 216 145(2) ms	← 549.76 0.114	Rn 220 55.6(1) s	← 240.986 4.10	Ra 224 3.66(4) d	84.373 1.220 215.983 0.254 ← 131.613 0.131 166.410 0.104	Th 228 1.9116(16) a				
2614.533 99.0 583.191 84.5 510.77 22.6 860.564 12.42 277.351 6.31 763.13 1.81		Tl 208 3.053(4) m	← 39.858 1.091	Bi 212 60.55(6) m	β 227.330 6.58 1620.50 1.49 785.37 1.102									
		Pb 208 stable	← 35.94% 64.06%	Po 212 299(2) ns										
Actinium Gamma Intensities				A = 4n + 3						25.64 14.5 84.214 6.6	Th 231 1.0633 d	185.715 57.2 143.76 10.96 163.33 5.08 ← 205.311 5.01 109.16 1.54 202.11 1.08	U 235 7.028x10 ⁸ a	
		293.56 100 271.23 8.2 517.60 4.3 776.90 3.4 1988.8 3.4 564.09 2.8 608.30 2.8 835.32 2.6 +	Bi 215 7.6 m	α none β none	At 219 56 s	α none β 50.13 36.0 79.72 9.1 ← 234.81 3.0 49.89 2.7	Fr 223 21.8 m	α 160.26 0.0059 β none	Ac 227 21.773(3) a	27.36 10.29 300.07 2.47 302.65 2.19 ← 283.69 1.70 330.06 1.40 19.00 0.374	Pa 231 3.276x10 ⁴ a			
	404.853 3.78 832.01 3.52 427.088 1.76	Pb 211 36.1(2) m	← 438.8 -0.040	Po 215 1.781(4) ms	← 271.23 10.8 401.81 6.37	Rn 219 3.96(1) s	← 269.459 13.70 154.21 5.62 323.871 3.93 ← 144.232 3.22 338.281 2.79 445.031 1.27	Ra 223 11.435(4) d	235.971 12.3 30.13 8.26 256.25 7.01 ← 329.85 2.69 300.00 2.32 286.12 1.53	Th 227 18.72(2) d				
897.80 0.260 569.702 0.00159 328.12 0.00140		Tl 207 4.77 m	α 351.059 12.91 β none	Bi 211 2.14(2) m	← 99.724% 0.276%									
		Pb 207 stable	← 897.80 0.561 569.702 0.5	Po 211 516 ms										
Uranium – Radium Gamma Intensities				A = 4n + 2						63.29 4.84 92.38 2.81 92.80 2.77 112.81 0.28	Th 234 24.10 d	← 49.55 0.064 113.5 0.010	U 238 4.468x10 ⁹ a	
										1001.03 0.837 766.38 0.294	Pa 234^m 1.17 m 6.7 h	← 2.269 98.2%		
	351.932 37.6 295.224 19.3 241.997 7.43 53.2275 1.2 785.96 1.07	Pb 214 26.8(9) m	α none β none	Po 218 3.10(1) m	← 511 0.076	Rn 222 3.8235(3) d	← 186.211 3.59	Ra 226 1600(1) a	← 67.672 0.378	Th 230 7.538x10 ⁴ a	← 53.20 0.123	U 234 7.455x10 ⁵ a		
799 99 298 79 1316 21 1210 17 1070 12 1110 6.9 2010 6.9		Tl 210 1.30(3) m	α none β 609.312 46.1 1764.494 15.4 1130.287 15.1 1238.110 5.79 2204.21 5.08 768.356 4.94 1377.669 4.00 934.061 3.03	Bi 214 19.9(4) m	← none	At 218 1.5 s								
	46.539 4.25	Pb 210 22.3(2) a	← 799.7 0.0104	Po 214 164.3(20) us										
		Pb 206 stable	← 803.10 0.00121	Po 210 138.376 d										
		Bi 210 5.013 d												
Neptunium Gamma Intensities				A = 4n + 1							312.17 38.6 300.34 6.62 340.81 4.47 86.814 1.97 415.76 1.75	Pa 233 26.967 d	← 29.374 15.0 86.477 12.4	Np 237 2.144x10 ⁶ a
							40.09 30.00	Ra 225 14.9 d	193.509 4.41 210.853 2.77 86.40 2.56 ← 86.25 1.57 156.409 1.40 31.50 1.40	Th 229 7340 a	← 42.44 0.09	U 233 1.592x10 ⁵ a		
1567.09 99.8 465.130 96.9 117.211 84.3		Tl 209 2.20 m	α 323.81 0.16 β 440.46 26.1 β 292.80 0.429	Bi 213 45.59 m	α 258.5 0.056 α 593.1 0.012 β none	At 217 32.3 ms	← 218.19 11.6 410.7 0.14	Fr 221 4.9 m	99.91 1.01 150.04 0.80 ← 188.00 0.54 62.95 0.45	Ac 225 10.0 d				
		Pb 209 3.25 h	← 778.8 0.0048	Po 213 4.2 us	← none	Rn 217 0.54 ms								
		Tl 205 stable	← none	Bi 209 1.9x10 ¹⁹ a										
										E(keV) R1% for (α or β) ← α				
											T _{1/2}	A Z α% BR β%		