

# List of Commonly Observed Gamma Energies

This is a table of commonly-observed gamma energies, arranged by increasing gamma energy. The parent isotope and its half life are listed with the gamma energy. The key gamma energy for an isotope has an asterisk following it. Each isotope is listed once with its complete set of gamma energies. The gamma decay fraction is listed in parentheses. It represents the number of gammas of that energy emitted per decay of the parent nucleus (as a percentage and not a fraction in this table).

Energy	Element	Half Life	Associated gammas
35.5 (4.1)	Sb-125		427.9*(30)
44.8 (31)	Pu-241		148.6*(96)
<b>46.5*(3.9)</b>	<b>Pb-210</b>	<b>22.3 y</b>	(U-238)
56.3 (9)	Pu-241		148.6*(96)
<b>59.5*(35)</b>	<b>Am-241</b>	<b>433 y</b>	<b>26.3</b>
63.3 (3.8)	Th-234		(U-238) 92.6*(5.4)
67.8 (42)	Ta-182		1221.4*(27)
69.7 (2.6)	Gd-153		97.4*(31)
79.1 (7.1)	Ag-108m		722.9*(91)
80.1 (2)	Ce-144		133.5*(11)
81.0 (33)	Ba-133		356.0*(62)
<b>84.4*(1.2)</b>	<b>Th-228</b>	<b>1.913 y</b>	<b>(Th-232)</b>
<b>86.5*(31)</b>	<b>Eu-155</b>	<b>4.71 y</b>	<b>105.3</b>
<b>88.0*(3.7)</b>	<b>Cd-109</b>	<b>462.0 d</b>	
88.4 (13)	La-138		1435.8*(68)
<b>92.6*(5.4)</b>	<b>Th-234</b>	<b>24.1 d</b>	<b>(U-238) 63.3</b>
<b>93.3*(38)</b>	<b>Ga-67</b>	<b>3.260 d</b>	<b>184.6 300.2 393.5 209</b>
93.4 (3.5)	Ac-228		(Th-232) 911.1*(27.7)
<b>97.4*(31)</b>	<b>Gd-153</b>	<b>241.6 d</b>	<b>103.2 69.7</b>
<b>98.9*(11)</b>	<b>Au-195</b>	<b>186.12 d</b>	<b>129.8</b>
100.1 (14)	Ta-182		1221.4*(27)
103.2 (22)	Gd-153		97.4*(31)
103.7 (30)	Pu-241		148.6*(96)
105.3 (20)	Eu-155		86.5*(31)
121.1 (17)	Se-75		264.7*(60)
121.8 (28)	Eu-152		1408.0*(21)
<b>122.1*(86)</b>	<b>Co-57</b>	<b>271.8 d</b>	<b>136.5 14.4</b>
<b>123.1*(40)</b>	<b>Eu-154</b>	<b>8.59 y</b>	<b>1274.5 723.3 1004.8 873.2 996.3 247.9</b>
129.8 (0.8)	Au-195		98.9*(11)
<b>133.5*(11)</b>	<b>Ce-144</b>	<b>284.6 d</b>	<b>80.1 696.5 (Pr-144)</b>
136 (57)	Se-75		264.7*(60)
136.5 (11)	Co-57		122.1*(86)
<b>140.5*(90)</b>	<b>Tc-99m</b>	<b>6.01 h</b>	
<b>148.6*(94)</b>	<b>Pu-241</b>	<b>14.4 y</b>	<b>44.8 103.7 44.2 56.3</b>
176.3 (6.9)	Sb-125		427.9*(30)
184.6 (20)	Ga-67	3.260 d	93.3*(38)
<b>185.7*(54)</b>	<b>U-235</b>	<b>7.04 x 10<sup>8</sup> y</b>	<b>194.9 205.3 163.4</b>
<b>190.3*(16)</b>	<b>In-114 m</b>	<b>49.51 d</b>	<b>558.4 725.2</b>
192.3 (3.1)	Fe-59		1099.2*(56)

Energy	Element	Half Life	Associated gammas
201.3 (84)	Lu-176		308.9*(93)
209 (2.2)	Ga-67		93.3*(38)
209.3 (4.4)	Ac-228		(Th-232) 911.1*(27.7)
210.6 (11.3)	Th-227		(U-235) 236*(11.5)
222.1 (7.6)	Ta-182		1221.4*(27)
<b>236*(11.5)</b>	<b>Th-227</b>	<b>18.72 d</b>	<b>(U-235) 210.6</b>
<b>238.6*(45)</b>	<b>Pb-212</b>	<b>10.64 h</b>	<b>(Th-232)</b>
<b>241.0*(4)</b>	<b>Ra-226</b>	<b>3.66 d</b>	<b>(Th-232)</b>
244.7 (7)	Eu-152		1408.0*(21)
247.9 (6.6)	Eu-154		123.1*(40)
<b>255.1*(1.9)</b>	<b>Sn-113</b>	<b>115.1 d</b>	<b>391.7 (In-113m)</b>
<b>264.7*(60)</b>	<b>Se-75</b>	<b>119.78 d</b>	<b>121.1 136 279.5 400.7</b>
<b>269.5*(13.6)</b>	<b>Ra-223</b>	<b>11.435 d</b>	<b>(U-235)</b>
<b>271.2*(10.6)</b>	<b>Rn-219</b>	<b>3.96 s</b>	<b>(U-235) 401.8</b>
276.4 (6.9)	Ba-133		356.0*(62)
277.4 (6.8)	Tl-208		(Th-232) 2614.7*(100)
<b>279.2*(77)</b>	<b>Hg-203</b>	<b>46.61 d</b>	
279.5 (25)	Se-75		264.7*(60)
284.3 (6)	I-131		364.5*(81)
295.2 (19.2)	Pb-214		(U-238) 351.9*(37.2)
300.1 (4)	Th-228		2614.5*
300.2 (16)	Ga-67		93.3*(38)
302.8 (19)	Ba-133		356.0*(62)
<b>308.9*(93)</b>	<b>Lu-176</b>	<b>3.6 x 10<sup>10</sup> y</b>	<b>201.8</b>
<b>320.1*(9.8)</b>	<b>Cr-51</b>	<b>27.7 d</b>	
338.3 (11.4)	Ac-228		(Th-232) 911.1*(27.7)
344.3 (27)	Eu-152		1408.0*(21)
<b>351.1*(12.9)</b>	<b>Bi-211</b>	<b>2.14 m</b>	<b>(U-235)</b>
<b>352.0*(37.2)</b>	<b>Pb-214</b>	<b>26.8 m</b>	<b>(U-238) 295.2</b>
<b>356.0*(62)</b>	<b>Ba-133</b>	<b>10.53 y</b>	<b>81 302.8 383.9 276.4</b>
<b>364.5*(81)</b>	<b>I-131</b>	<b>8.04 d</b>	<b>637 284.3 722.9</b>
383.9 (8.7)	Ba-133		356.0*(62)
<b>391.7*(65)</b>	<b>In-113m</b>	<b>1.658 hr</b>	
393.5 (4.5)	Ga-67		93.3*(38)
400.7 (12)	Se-75		264.7*(60)
401.8 (6.5)	Rn-219		(U-235) 271.2*(10.6)
416.9 (32)	In-116		1293.6*(75)
<b>427.9*(30)</b>	<b>Sb-125</b>	<b>2.758 y</b>	<b>600.6 635.9 463.4 176.3 35.5 606.6</b>
433.9 (90)	Ag-108m		722.9*(91)
<b>442.9*(16)</b>	<b>I-128</b>	<b>25 m</b>	<b>526.6</b>
463.4 (10)	Sb-125		427.9*(30)
<b>477.6 (10)</b>	<b>Be-7*</b>	<b>53.3 d</b>	
510.8 (21.6)	Tl-208		(Th-232) 2614.7*(100)
511.0 (180)	Na-22		1274.5*(100)
511.0 (30)	Co-58		810.8*(99)
511.0 (2.8)	Zn-65		1115.5*(50.8)
511.0 (0.6)	Ag-108		633*(1.8)
526.6 (1.5)	I-128		442.9*(16)
558.4 (4.5)	In-114 m		190.3*(16)
563.2 (8.4)	Cs-134		795.8*(85.4)
569.3 (15.4)	Cs-134		795.8*(85.4)
<b>569.7*(98)</b>	<b>Bi-207</b>	<b>38.0 y</b>	<b>1063.6 1770.2</b>
583.1 (84.2)	Ti-208		(Th-232) 2617.5*(100)
600.6 (18)	Sb-125		427.9*(30)
<b>602.7*(98)</b>	<b>Sb-124</b>	<b>60.2 d</b>	<b>1691 722.8 645.9 2091 1368.2</b>
604.7 (97.6)	Cs-134		795.8*(85.4)
606.6 (5)	Sb-125		427.9*(30)
<b>609.3*(46.3)</b>	<b>Bi-214</b>	<b>19.9 m</b>	<b>(U-238) 1764.5 1120.3 1238.1 2204.2</b>
614.4 (91)	Ag-108m		722.9*(91)
<b>633*(1.8)</b>	<b>Ag-108</b>	<b>2.39 m</b>	<b>433.9 511</b>
635.9 (11)	Sb-125		427.9*(30)
637.0 (7.3)	I-131		364.5*(81)

Energy	Element	Half Life	Associated gammas
645.9 (7.3)	Sb-124		602.7*(98)
<b>657.8 (4.4)</b>	<b>Ag-110</b>	<b>24.6 s</b>	
<b>661.6*(90)</b>	<b>Ba-137m</b>	<b>2.55 m</b>	
<b>661.6*(85)</b>	<b>Cs-137</b>	<b>30.17 y</b>	
<b>696.5 (1.5)</b>	<b>Pr-144</b>	<b>17.3 m</b>	<b>133.5*(11) (Ce-144)</b>
722.8 (11)	Sb-124		602.7*(98)
<b>722.9*(91)</b>	<b>Ag-108m</b>	<b>130 y</b>	<b>614.4 433.9 79.2</b>
722.9 (1.8)	I-131		364.5*(81)
723.3 (19)	Eu-154		123.1*(40)
725.2 (4.5)	In-114 m		190.3*(16)
<b>727.2*(11.8)</b>	<b>Bi-212</b>	<b>60.6 m</b>	<b>(Th-232)</b>
778.9 (13)	Eu-152		1408.0*(21)
<b>788.7 (32)</b>	<b>La-138</b>	<b><math>1.05 \times 10^{11}y</math></b>	
<b>795.8*(85.4)</b>	<b>Cs-134</b>	<b>2.065 y</b>	<b>604.7 801.9 569.3 563.3</b>
801.9 (8.7)	Cs-134		795.8*(85.4)
<b>810.8*(99)</b>	<b>Co-58</b>	<b>70.88 d</b>	<b>863.9 511</b>
818.7 (15)	In-116	54.2 m	1293.6*(75)
<b>834.8*(100)</b>	<b>Mn-54</b>	<b>312.2 d</b>	
860.4 (12.5)	Tl-208		(Th-232) 2614.7*(100)
863.9 (1.8)	Co-58		810.8*(99)
873.2 (12)	Eu-154		123.1*(40)
889.3 (100)	Sc-46		1120.5*(100)
898.0 (93)	Y-88		1836.0*(99)
<b>911.1*(27.7)</b>	<b>Ac-228</b>	<b>6.15 h</b>	<b>(Th-232) 969.1 338.3 209.3 93.4</b>
964.0 (15)	Eu-152		1408.1*(21)
969.1 (16.6)	Ac-228		(Th-232) 911.1*(27.7)
996.3 (11)	Eu-154		123.1*(40)
1004.8 (18)	Eu-154		123.1*(40)
1063.6 (75)	Bi-207		569.7*(98)
1085.8 (10)	Eu-152		1408.0*(21)
1097.3 (54)	In-116		1293.6*(75)
<b>1099.2*(56)</b>	<b>Fe-59</b>	<b>44.51 d</b>	<b>1291.6 192.3</b>
1112.0 (13)	Eu-152		1408.0*(21)
<b>1115.5*(50.8)</b>	<b>Zn-65</b>	<b>243.8 d</b>	<b>511</b>
1120.3 (15.1)	Bi-214		(U-238) 609.3*(46.3)
1120.5 (100)	Sc-46		889.3*(100)
1121.3 (35)	Ta-182		1221.4*(27)
1173.2 (100)	Co-60		1332.5*(100)
1189.1 (16)	Ta-182		1221.4*(27)
1221.4*(27)	<b>Ta-182</b>	<b>114.43 d</b>	<b>67.8 1121.3 1189.1 100.1 222.1 1230.9</b>
1238.1 (5.9)	Bi-214		(U-238) 609.3*(46.3)
1274.5*(100)	<b>Na-22</b>	<b>2.605 y</b>	<b>511</b>
1274.5 (36)	Eu-154		123.1*(40)
1291.6 (43)	Fe-59		1099.2*(56)
<b>1293.6*(75)</b>	<b>In-116</b>	<b>54.2 min</b>	<b>1097.3 416.9 2112.1 818.7 1507</b>
<b>1332.5*(100)</b>	<b>Co-60</b>	<b>5.271 y</b>	<b>1173.2*(100)</b>
1368.2 (2.5)	Sb-124		602.7*(98)
<b>1408.0*(21)</b>	<b>Eu-152</b>	<b>13.48 y</b>	<b>121.8 344.3 964 1112 778.9 1085.8 244.7</b>
<b>1434.1*(100)</b>	<b>V-52</b>	<b>3.76 m</b>	
<b>1435.8*(68)</b>	<b>La-138</b>	<b><math>1.05 \times 10^{11} y</math></b>	<b>88.4 788.7</b>
<b>1460.8*(11)</b>	<b>K-40</b>	<b><math>1.28 \times 10^9 y</math></b>	
1507.4 (10)	In-116	54.2 m	1293.6*(75)
<b>1691*(49)</b>	<b>Sb-124</b>		<b>602.7*(98)</b>
1764.5 (15.8)	Bi-214		(U-238) 609.3*(46.3)
1770.2 (6.8)	Bi-207		569.7*(98)
<b>1779*(100)</b>	<b>Al-28</b>	<b>2.25 m</b>	
<b>1836.1*(99)</b>	<b>Y-88</b>	<b>106.6 d</b>	<b>898.1</b>
2091 (5.7)	Sb-124	60.2 d	602.7*(98)
2112.1 (18)	In-116		1293.6*(75)
2204.2 (5)	Bi-214		(U-238) 609.3*(46.3)
<b>2614.7*(100)</b>	<b>Tl-208</b>	<b>183 s</b>	<b>(Th-232) 583.1 510.8 860.5 277.4</b>
2677.9 (2)	Rb-88		1836.0*